

**WETLAND EVALUATION REPORT
FOR THE WILTON IV WIND ENERGY CENTER
BURLEIGH COUNTY, NORTH DAKOTA**



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ACCRONYMS AND ABBREVIATIONS

CRP	Conservation Reserve Program
CWA	Clean Water Act
DS	drainage swale
EPA	Environmental Protection Agency
GE	General Electric
GIS	Geographic Information System
GPS	global positioning system
HDD	horizontal directional drilling
ID	identification
JD	Jurisdictional Determination
msl	mean sea level
MW	megawatt
NHD	National Hydrography Dataset
NRCS	Natural Resource Conservation Service
NRPW	non-relatively permanent water
NWI	National Wetlands Inventory
NWP	nationwide permit
O&M	operations and maintenance
OHWM	ordinary high water mark
PCN	pre-construction notification
RPW	relatively permanent water
SSURGO	Soil Survey Geographic (database)
TNW	traditional navigable water
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
W	wetland
WOUS	waters of the United States

1.0 INTRODUCTION

Wilton Wind IV, LLC (Wilton IV), a subsidiary of NextEra Energy Resources, LLC, contracted with Tetra Tech EC, Inc., (Tetra Tech) to conduct a wetland evaluation survey of its proposed Wilton IV Wind Energy Center (Project) located in Burleigh County, North Dakota. This Wetland Evaluation Report provides a description of wetlands and surface water bodies identified within the survey corridor. The report includes a description of the Project Area, methods used to evaluate and delineate wetlands and waterbodies, survey results, and references used to support the conclusions. Appendices include figures illustrating the Project and survey results, field data forms (Jurisdictional Determination (JD) Forms [Wetland Field Data Evaluation Sheets] and Wetland Determination Data Forms), and site photographs.

1.1. Project Location and Description

The Project Area consists of approximately 15,752 acres (24.6 square miles) located within the northwestern portion of Burleigh County, North Dakota, approximately 18 miles north-northeast of Bismarck, North Dakota (**Figure 1**). The Project will be located in Crofte, Ghylin, and Ecklund Townships within privately owned cattle pastureland and agricultural cropland (**Table 1**). There are no turbines proposed within Ecklund Township.

Table 1: Project Area

County	Township Name	Township	Range	Section(s)
Burleigh	Crofte	T141N	R79W	1-5, 8-15
Burleigh	Ghylin	T142N	R78W	13-14, 19-27, and 35-36
Burleigh	Ecklund	T142N	R79W	24-26, 35-36

The Project will have a nameplate capacity of approximately 99 megawatts (MW) consisting of 62 GE 1.6 MW xle wind turbine generators. Facilities planned for construction and operation include:

- Turbines
- Turbine service roads and access roads;
- Underground electrical collection lines;
- Junction boxes;
- Substation; and
- Temporary lay-down yard.

1.2. Physical Setting and Hydrology

The Project Area is located within the Missouri Coteau Slope ecoregion. This region declines in elevation from the Missouri Coteau to the east to the Missouri River to the west. Unlike the Missouri Coteau to the west that has few streams, the Missouri Coteau Slope has a simple drainage system and fewer wetland depressions. Topography in the Missouri Coteau Slope region is generally level to gently rolling and is well suited to crop production (Bryce et al. 1998). Land elevations in Burleigh County range from about 1,600 feet above mean sea level (msl) on the Missouri River flood plain to more than 2,000 feet above msl on exposed bedrock formations in the western, west-central, and southern parts of the county (USDA NRCS 1974).

The climate of the region is continental. The area is usually warm in the summer, while winters are long and cold with several mild periods where temperatures are above freezing. The average annual total precipitation in Burleigh County ranges from 15 inches in the southwest corner to 17 inches in the northeast. Of the total average annual precipitation, about 80 percent usually falls during the warm season from April through September (USDA NRCS 1974).

Those portions of the Project in eastern Crofte Township, southeastern Ecklund Township and southern Ghylin Township are located in the Apple Creek watershed basin and the remainder of the Project is located in the Painted Woods-Square Butte watershed basin. West Branch Apple Creek originates in the southeast portion of Ecklund Township and flows southeast toward Apple Creek. Apple Creek flows southwest into the Missouri River. The northern portions of Ecklund Township and Ghylin Township in the Painted Woods-Square Butte watershed are drained by unnamed creeks and intermittent streams that flow north toward Painted Woods Creek. Painted Woods Creek flows west into the Missouri River. The western portions of Crofte Township and Ecklund Township are drained by unnamed creeks and intermittent streams that flow generally west toward Burnt Creek. Burnt Creek flows south-southwest into the Missouri River.

1.3. Regulatory Framework

Tetra Tech completed a wetland evaluation survey to determine if any jurisdictional wetlands or other waters of the United States (WOUS) exist within the survey corridor that may be regulated by the United States Army Corps of Engineers (USACE) Omaha District. Potential temporary and permanent impacts to these wetlands or WOUS resulting from the Project were examined.

Wetlands with “jurisdictional” status are WOUS as defined by Section 404 of the Clean Water Act (CWA). These types of wetlands are regulated by the USACE and the U.S. Environmental Protection Agency (EPA). Several classes of water bodies are subject to federal jurisdiction under the CWA, including: traditional navigable waters (TNWs); non-navigable tributaries of TNWs that are relatively permanent (RPWs); and wetlands that directly abut RPWs (USACE 2008)¹.

The EPA and the USACE are required to assert jurisdiction over other certain types of waters based on a fact-specific analysis as to whether they have a significant nexus with a TNW (USACE 2007). These types of waters include:

- Non-navigable tributaries that are relatively non-permanent (NRPW);
- Wetlands adjacent to NRPWs; and,
- Wetlands adjacent to, but not directly abutting, an RPW.

The regulations define adjacent as “bordering, contiguous, or neighboring,” and state that wetlands separated from other WOUS by barriers such as natural river berms, man-made dikes and beach dunes may be considered adjacent wetlands. The ruling also requires that agencies not generally assert jurisdiction over the following features:

- Swales or erosional features (e.g. gullies, small washes characterized by low volume, infrequent or short duration of flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

¹ Draft revised guidance regarding jurisdiction of waters under the CWA was issued by the USACE and EPA on June 27, 2011 (EPA 2011). The draft guidance provides clarification on waters not regulated by the CWA.

Guidance issued jointly by the EPA and USACE states that agencies will apply the significant nexus standards as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecological factors.

The regulations specify that tributaries to WOUS should be considered WOUS. In the absence of adjacent wetlands, lateral jurisdiction over non-tidal waters extends to the ordinary high water mark (OHWM). The definition of the OHWM is “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” (65 *Fed. Reg.* 12823, 2000).

Only the USACE can make a final determination on the jurisdiction of a wetland at a site. Jurisdictional determinations provided in this report are preliminary and are based on application of the above guidance following desk top review of relevant information and field inspection. If development is to occur, the USACE also determines the type of permit, if any, that may be required under the CWA.

The Lake Ilo National Wildlife Refuge of the U.S. Fish and Wildlife Service (USFWS) manages wetland easements west of the Missouri River in the state of North Dakota. Wetlands within USFWS easements on private property are held in perpetual easement under USFWS jurisdiction. The easements afford protection to wetland basins that provide important seasonal habitat to waterfowl and shorebird species during the spring migration and nesting seasons. The easements do not allow the burning, leveling, filling, and/or draining of easement wetlands or established buffers without a permit from the USFWS. However, landowners are permitted to till and farm these areas when they are not wet. No permanent impacts to these basins are allowed from wind farm construction activities. If impacts to USFWS easement wetlands occur, the landowner is responsible for ensuring that all impacts are mitigated and the wetland is restored to the preexisting conditions. Tetra Tech requested review of the Project Area from the USFWS to identify any wetland easements within the Project Area. The USFWS responded via e-mail on August 17, 2011 that there are no wetland easements located within the Project Area. Additionally, the USFWS responded in a letter dated August 25, 2011 to the National Environmental Policy Act scoping for the Project that there are no USFWS property interests located in the Project Area.

2.0 METHODS

Tetra Tech used a tiered approach to evaluate wetlands and WOUS within the Project Area. Utilizing this approach, general wetland features were first identified during a desktop data review. The desktop data was used to guide a facility micro-siting field visit with Wilton IV personnel to avoid and reduce impacts to wetlands and waters followed by a full wetland evaluation survey including identification of jurisdictional and non-jurisdictional wetlands as well as non-wetland WOUS features (e.g. RPWs, NRPWs, drainage swales) within the survey corridor based on the preliminary Project layout (turbines, collection lines, service roads, and substation).

2.1. Areas of Analysis and Impact

2.1.1. Area of Analysis

The locations of proposed Project facilities (layout dated September 21, 2011 [turbines] and October 3, 2011 [substation, service roads and collection lines]) were surveyed to determine the presence of potential jurisdictional wetlands or other WOUS following USACE definitions. Geographic Information System (GIS) files of the facility layout provided by Wilton IV were used to define the survey corridor.

The survey corridor is defined as the area specifically surveyed for wetlands and WOUS for this wetland evaluation report and includes:

- 64 wind turbine locations (62 turbines plus 2 alternative locations) with a 250-foot radius buffer for a turbine pad;
- Approximately 24.6 miles of access and service roads with a 250-foot wide corridor (125 feet on either side of the centerline);
- Approximately 45.8 miles of electrical collection lines with a 100-foot wide corridor (50 feet on either side of the centerline); and,
- Approximately 5-acre substation.

2.1.2. Area of Impact

For the purposes of this investigation, permanent impacts are considered to be the Project footprint during operation. Temporary impacts are considered to be those impacts that result during construction to accommodate equipment and temporary activities outside of the areas that will remain as the Project footprint during operation. **Table 2** outlines the temporary and permanent impacts anticipated for the Project.

Table 2: Project Impact Assumptions

Project Facility	Total Impacts	
	Permanent Impact	Temporary Impact
Turbines	0.5 acres	
	0.2 acres	0.3 acres
Service Roads	50 foot wide corridor	
	36 foot corridor	7 foot wide margin on either side of permanent impact area (14 foot wide area total)
Collection Lines	50 foot wide corridor	
	None	50 foot wide corridor
Substation	5 acres	
	5 acres	None

After construction, the temporary construction areas adjacent to the turbine pads, service roads, collection lines and construction laydown area will be restored. The site will be graded to pre-construction contours, soil will be loosened if needed, and the site will be seeded if necessary.

2.2. Data Review

Prior to and during the wetland evaluation survey, available information was reviewed to identify areas that may exhibit characteristics of jurisdictional wetlands and other WOUS including review of aerial photographs, U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), National Wetlands Inventory (NWI), NRCS Soil Survey Geographic (SSURGO) Database, and the Burleigh County Soil Survey.

2.2.1. Aerial Photograph Review

Recent aerial photography for the Project was obtained from the USDA (2010). The reviewed 2010 aerial photography showed the Project and surrounding area to be agricultural with a mix of cultivated fields and grasslands (pasture, hay or Conservation Reserve Program [CRP] land). The region appears to have a well-established drainage system with numerous streams and intermittent drainages, and few apparent isolated wetlands. Most potential wetland areas identified during review of the aerial photography coincided with NWI and NHD data features (see sections 2.1.2 and 2.1.3 below). Potential wetlands identified during review of the aerial photography within the survey corridor were investigated during the wetland evaluation survey. Reviewed aerial photography is presented on **Figure 2**.

2.2.2. National Hydrography Dataset

The NHD was downloaded from the USGS NHD website (<http://nhd.usgs.gov/data.html>). There are numerous unnamed streams depicted in the Project vicinity in the NHD. The Project is located within two watersheds; the Apple Creek watershed and the Painted Woods-Square Butte watershed. It appears that

all NHD stream features depicted within the Project vicinity are hydrologically connected to the Missouri River. Perennial, intermittent, and ephemeral streams and drainages identified within the survey corridor were investigated for the presence of wetlands and non-wetland WOUS during the wetland evaluation survey. The NHD data are presented on **Figure 2**.

2.2.3. Topographic Maps

The Baldwin (1979) Regan Southeast (1975) and Wing Southwest (1975) 7.5-Minute USGS Topographic Quadrangles were downloaded from the USGS Topographic Map website. Perennial, intermittent, and ephemeral streams that could possibly be affected by the Project were identified and investigated for the presence of wetlands and non-wetland WOUS during the wetland evaluation survey. The topographic map data are presented on **Figure 1**.

2.2.4. National Wetlands Inventory Review

The NWI data for the Project vicinity was downloaded from the USFWS NWI website (<http://www.fws.gov/wetlands/Data/DataDownload.html>). The NWI data indicated the presence of 20 freshwater emergent wetlands (PEMA and PEMC) in the survey corridor. Approximately 200 additional NWI wetlands are present within 0.25 mile of the survey corridor. NWI wetlands identified within the survey corridor were field-verified during the wetland evaluation survey. The NWI data are presented on **Figure 2**.

2.2.5. Soil Survey Review

Soils data for Burleigh County were obtained from the USDA NRCS Burleigh County Soil Survey and the NRCS SSURGO Database. This information was used to study the distribution of hydric soils within the Project vicinity. According to reviewed data, there are 16 soil series represented within the survey corridor. Soil, as it relates to wetland delineations, must be classified as a hydric soil for the area to qualify as a wetland in accordance with the USACE 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Regional Supplement) (USACE 2010). Hydric soils are defined as soils that are formed under conditions of saturation, flooding, or ponding that occurs long enough during the growing season to develop anerobic conditions. In the SSURGO dataset, soils may be classified as not hydric (all series components rated as not hydric), partially hydric (at least one component rated as hydric and at least one component rated as not hydric) or all hydric (all series components rated as hydric). In the survey corridor, approximately 37 percent of soils are classified as not hydric, 63 percent are classified as partially hydric, and less than 1 percent are classified as all hydric. **Table 3** summarizes the type and extent of soils found in the survey corridor. The distribution of hydric soils within the Project Area is depicted on **Figure 3**.

Table 3: Soil Series in the Survey Corridor

Symbol	Soil Series	Hydric Class	Area (acres)
WsA, WsB, WsC, WsD	Williams loam	Partially Hydric	606.98
AgA, AgB	Arnegard and Grassna silt loams	Not Hydric	133.52
SnB, SnC	Sen silt loam	Not Hydric	79.85
WzE	Williams-Zahl loams	Partially Hydric	49.35
WeE	Werner-Morton-Sen complex	Not Hydric	49.18
FmE	Flasher-Vebar complex	Not Hydric	31.74
FrF	Flasher-Vebar-Rock outcrop complex	Not Hydric	25.02
VbB, VbC	Vebar fine sandy loam	Not Hydric	22.32
RwA	Roseglen-Tansem silt loams	Not Hydric	20.69
RhB	Regent-Grail silty clay loams	Not Hydric	7.85
GIA, GIB	Grail silt loam	Not Hydric	5.39
TgB	Tansem-Roseglen silt loams	Not Hydric	5.11
Tp	Tonka and Parnell soils	All Hydric	1.51
TeA	Tansem-Lehr loams	Not Hydric	0.89
WIC	Werner-Sen loams	Not hydric	0.69
GrA	Grail silty clay loam	Not Hydric	0.20

2.3. Previous Surveys

Routine wetland delineations were conducted by Tetra Tech in September 2009 for the Baldwin Wind Energy Center and the results were summarized in a December 2009 report titled *Jurisdiction Determination Report for the Baldwin Wind Energy Center Project* (Baldwin Survey). This report included assessment of Project facilities in Crofte and Ecklund Townships that were not developed as part of the Baldwin Wind Energy Center and have become a part of the Wilton IV Wind Energy Center. Wetland and WOUS features identified during the Baldwin Survey that fall within the Wilton IV survey corridor are considered as part of the assessment in this report and are included in **Table 4**.

2.4. Micrositing

A micrositing effort was undertaken by Wilton IV personnel in September 2011. The purpose of micrositing is to view the preliminary proposed Project facilities' locations and make adjustments as necessary to meet regulatory and setback requirements. This included consideration of wetland and WOUS features identified during the previous wetland surveys conducted for the Project. A Tetra Tech wetland biologist met with representatives of Wilton IV to review the preliminary proposed Project facilities including turbines, service roads and collection lines. The previously reviewed data including aerial photographs, NHD and NWI were utilized in addition to previous survey information and limited field observations to determine if jurisdictional wetlands or WOUS were located within the Project Area and recommendations were made in the field to modify the proposed Project layout to avoid impacts to wetland and WOUS features.

3.0 ON-SITE SURVEY AND DELINEATION

A wetland evaluation survey of those portions of the survey corridor in Ghylin Township was conducted from August 17, 2011 through August 19, 2011. An additional survey was conducted from October 4, 2011 through October 5, 2011 to evaluate modifications to Project facility locations.

The purpose of the wetland evaluation surveys was to identify the presence and location of wetlands and non-wetland WOUS that may be subject to USACE jurisdiction. When a wetland or water feature was encountered in the survey corridor, a USACE JD Form (Wetland Field Data Evaluation Sheet) was completed. Based on Wilton IV's commitment to avoid wetland impacts, only wetlands determined to be jurisdictional were delineated in accordance with the three-parameter approach outlined in the 1987 Manual (Environmental Laboratory 1987) and the Regional Supplement (USACE 2010). Therefore, data forms documenting hydrology, vegetation, and soils at potential wetland areas were not completed using the USACE three-parameter approach for features that were determined to be isolated and non-jurisdictional. If visual indications consisting of hydrophytic vegetation and hydrology were observed in the field, the areas were identified as potential (or assumed) wetlands based on these indicators only. Field data forms and photo documentation are presented in **Appendix B**.

3.1. Digital Capture of Data

A GIS specialist designed a geodatabase specifically for the Project that was used to capture wetland and non-wetland WOUS feature location data in the field using Trimble GPS technology, as well as to manage and display features for quality control and electronic deliverables. The geodatabase prepared by the GIS specialist contains three types of feature classes for data capture: wetland points, wetland lines, and wetland polygons. Additional attribute data collected in the field at the time the feature was collected included:

- Date feature was collected;
- Wetland specialist who evaluated and collected the feature;
- Feature type: seasonally flooded wetland (Type 1), shallow marsh wetland (Type 3), relatively permanent water (RPW), non-relatively permanent water (NRPW), drainage swale, pond, filled feature, etc.;
- Notes if the feature extends beyond what was collected, in what direction and approximately how far;
- Other feature issues (i.e. impacts by landowner, road crossing, or other noted disturbances);
- Jurisdictional status;
- Recommendation for Project facilities (no modification or avoidance); and
- Width and depth of the feature.

The geodatabase was loaded on a Trimble GeoXT handheld GPS unit, which has an accuracy of one meter or less, and ran both ESRI's ArcPad 7 and Trimble GPS Correct Software Packages. Upon return from the field, the field-modified geodatabase was imported back into GIS. The worst estimated accuracy value and the average estimated accuracy value were both less than one meter.

3.2. Jurisdictional Determinations

Tetra Tech completed JD Forms (Wetland Field Data Evaluation Sheets) for each wetland and water feature identified during the wetland evaluation survey to assist in determining jurisdictional status of

field identified wetland and waters. The forms were designed following USACE and EPA guidance (USACE 2007; USACE and EPA 2007). In order to evaluate the significant nexus of field identified NRPWs, drainage swales, ponds, and wetlands, the following questions were considered:

Does the tributary, in combination with its adjacent wetlands (if any):²

- Have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW?
- Provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Have the capacity to transfer nutrients and organic carbon that support downstream food webs?
- Have other relationships to the physical, chemical, or biological integrity of the TNW?

The wetland evaluation survey followed this guidance to determine hydrologic connectivity (i.e. nexus determinations) between WOUS and wetland areas. Assumptions made for the nexus determinations included:

- Named streams were considered to be RPWs (perennial or seasonal flow);
- Features in the NHD dataset that were field confirmed³ to be present were considered to be RPWs, NRPWs, or drainage swales;
- Field identified RPWs, NRPWs, or drainage swales that were not indicated in the NHD dataset were considered isolated or jurisdictional based on the JD Form (Field Data Evaluation Sheet) completed; and,
- Wetlands were considered potentially jurisdictional or jurisdictional if they were adjacent to a potentially jurisdictional or jurisdictional RPW or NRPW as determined on the JD Form (Field Data Evaluation Sheet).

3.3. Field Delineations

Tetra Tech biologists conducted wetland delineations in accordance with the three-parameter approach outlined in the 1987 Manual (Environmental Laboratory 1987) and the Regional Supplement (USACE 2010) for wetlands determined to be potentially jurisdictional or jurisdictional based on the criteria described in Section 3.2.

Upon identifying a potentially jurisdictional or jurisdictional wetland, a transect was established perpendicular to the wetland being investigated nearest the location of potential impacts that would result from development of the Project. Sample plots were then placed along the transect. These plots were the points in the field at which wetland characteristics were studied in accordance with the 1987 Manual and Regional Supplement. Typically, sample plot “W” was oriented within the feature being investigated at the location determined to have the highest potential to exhibit wetland characteristics. This determination was based on local topography and the presence of wetland hydrology and wetland vegetation. If positive indicators of wetland vegetation, hydrology, and hydric soils were present at plot “W”, data was collected from additional sample plots placed to delineate the transition from wetland to non-wetland habitats. The

² These questions were answered using visual indications, as well as desktop sources, such as aerial photography and the NHD dataset. Limitations to the nexus determination include: (1) one-time evaluation of the area, which limits understanding of the hydrology of the potential tributary; and (2) limited areal extent of the evaluation, which limits investigation of downstream mechanics and potential for the water body to reach tributaries to TNWs.

³ Not all features depicted in the NHD dataset were confirmed in the field. If an NHD feature is depicted in the survey corridor and no corresponding field evaluation feature is present, this indicates the field reconnaissance did not confirm the presence of a wetland or water features at that specific location.

boundary of each wetland delineated was determined as the location where at least one of the above three parameters failed to meet wetland criteria.

Vegetation within each sample plot was characterized to determine dominance of either hydrophytic or non-hydrophytic vegetation. Dominance was estimated based on the percent coverage within sample plots with a 5-foot radius for herbaceous vegetation and a 30-foot radius for trees and shrubs. Wetland indicator status for all plant species followed the USFWS Region 4 *National List of Plant Species that Occur in Wetlands* (Reed 1988). Soils at each sample plot were evaluated and determined to be hydric or not hydric according to the guidelines put forth in the USDA NRCS *Field Indicators of Hydric Soils in the U.S.* (2006) and the Regional Supplement. Hydrology was assessed by evaluating each sample plot for field indicators of wetland hydrology such as inundation, soil saturation, water marks, drainage patterns, and topographic position as described in the Regional Supplement.

3.4. Data and Area of Impact Analysis

After the field data were post-processed, the biologists who captured the field data conducted a quality control review of the geodatabase and maps to ensure the features collected corresponded with field observations. Tetra Tech biologists also conducted an analysis of the identified features in relation to permitting requirements. The wetland and waters features identified in the survey corridor were categorized into (1) jurisdictional areas and potentially jurisdictional areas, which are assumed jurisdictional WOUS based on the significant nexus determination completed during field evaluations, but may or may not be determined jurisdictional by the USACE, and (2) assumed isolated, non-jurisdictional waters.

All wetland and water features within the survey corridor were further evaluated for temporary and permanent impacts to determine if construction impacts will fall under USACE Nationwide Permit thresholds. Temporary and permanent impact areas were established for the Project as described in **Table 2**.

Wetland and non-wetland WOUS features identified in the survey corridor that were not intersected by the impact corridor were assumed to have no impacts, therefore no temporary or permanent impacts were calculated for these features.

4.0 RESULTS

The following sections describe conditions at the Project site based on data collected during the wetland evaluation survey. Wetland and non-wetland water features collected during the wetland evaluation survey using GPS technology were assigned a feature identification number (ID) consisting of a label identifying it as a wetland (W) or drainage swale (DS) feature followed by a feature number. Wetland features identified during the Baldwin Survey located within the Wilton IV survey corridor were also assigned IDs in this manner.

Copies of field data forms and site photographs taken of the investigated areas to document the wetland evaluation survey activities are included as **Appendix B** and are organized by feature ID as described above. **Figure 2** depicts the identified wetland and non-wetland water features, Project facility layout, NHD data, and NWI data. A summary of wetland and non-wetland water features including feature ID, feature type, jurisdictional opinion, and potential impacts is presented in **Table 4**.

4.1. Vegetation Evaluation

The vegetation encountered in the survey corridor outside of cultivated areas consisted primarily of upland native and non-native pasture and prairie species. Areas identified as non-wetland drainage features were commonly vegetated with a mix of native and non-native grasses and forbs. Wetlands were typically vegetated with a variety of wetland plants typical of the central North Dakota ecotone and comprised of a variety of sedge, grass, forb, shrub, and tree species. The most common wetland species identified were sedges (*Carex* spp.), cattails (*Typha* spp.), and various wetland grasses and forbs. Dominant vegetation identified at each delineation plot is presented on the wetland determination data forms in **Appendix B**.

4.2. Soils Evaluation

Six hydric soils were identified at ten wetland delineation locations during the wetland evaluation survey and were generally consistent with soil series descriptions from the Burleigh County Soil Survey and NRCS SSURGO Dataset. These soils included: BnD-Buse-Barnes loam (9 to 20 percent slopes), BpE-Buse-Barnes-Parnell complex (0 to 25 percent slopes), Arnegard and Grassna silt loams (AgA, AgB), Grail silty clay loam (GrA), Sen silt loam (SnC), Tonka and Parnell soils (Tp), Williams loam (WsB, WsC), and Williams-Zahl loams (WzE).

The most common hydric soil indicators observed at soil test plot locations included depleted below dark surface, loamy mucky mineral and redox depressions. A complete description of the hydric soil types identified and the hydric soil indicators observed at delineation plots are presented on the wetland determination data forms in **Appendix B**. **Figure 3** depicts hydric soil classifications in the Project vicinity based on SSURGO.

4.3. Hydrologic Evaluation

No TNWs were identified within the survey corridor. The nearest TNW is the Missouri River located approximately eight miles west of the Project. Drainage in the Project Area is well developed with numerous drainage swales and intermittent streams, and few isolated wetlands or ponds. All drainages appear to be hydrologically connected to the Missouri River. Modifications to the hydrology have

occurred in portions of the Project Area. Some intermittent streams and drainage swales were observed to have been dammed to create livestock ponds.

The most common hydrology indicators observed at test plot locations included the surface water and saturation primary indicators and the drainage patterns and Fac-neutral test secondary indicators. A complete description of the hydrology observations and hydrology indicators observed at delineation plots are presented on the wetland determination data forms in **Appendix B**.

4.4. Wetlands and Waters

Tetra Tech identified 21 hydrologic features within the survey corridor. Specifically, this included 5 drainage swales, 13 seasonally flooded wetlands, and 3 shallow marsh wetlands. Of these features, 6 seasonally flooded wetlands and 2 shallow marsh wetlands were preliminarily determined to be USACE jurisdictional waters. Additionally, one seasonally flooded wetland was determined to potentially be a USACE jurisdictional water. The remaining 5 drainage swales, 6 seasonally flooded wetlands and 1 shallow marsh wetland were determined to be non-jurisdictional isolated wetlands, drainages, or ponds based on the significant nexus determinations completed. All wetland and waters features identified during the wetland evaluation survey are summarized in **Table 4** and shown on **Figure 2**.

Table 4: Hydrologic Features Summary and Potential Impacts

Feature ID	Figure 2 Map Book Page	Feature Type	Jurisdiction ^a	Facility Type	Potential Area of Impact (acre) ^{b, c, d}		
					Permanent	Temporary	Total
W-21	A08, A09	Seasonally Flooded Wetland	USACE Wetland	Service road and collection line between Turbine 37 and Turbine 38, collection line along platted 145th St NE ~0.2 mile south of platted 279th Ave NE	0.000	0.368	0.368
W-17	A05	Seasonally Flooded Wetland	USACE Wetland	Collection line along platted 279th Ave NE ~0.25 miles west of platted 106th St NE	0.000	0.202	0.202
W-15	A06	Seasonally Flooded Wetland	None	Collection line along platted 279th Ave NE ~430 feet west of platted 119th St NE	0.000	0.130	0.130
W-24 [*]	B02	Shallow Marsh	USACE Wetland	Collection line along 266th Ave NE ~0.43 mile east of 52nd St NE	0.000	0.089	0.089
W-19	A04	Seasonally Flooded Wetland	USACE Wetland	Collection line along platted 279th Ave NE ~0.1 mile west of 80th St NE	0.000	0.080	0.080
W-16	A06	Seasonally Flooded Wetland	None	Collection line along platted 279th Ave NE ~370 feet east of platted 106th St NE	0.000	<0.001	0.000
W-04	A08	Shallow Marsh	None	Collection line along platted 279th Ave NE ~170 feet west of platted 145th St NE	0.000	0.000	0.000
W-05	A09	Seasonally Flooded Wetland	Potential USACE Wetland	Turbine 41, and service road between Turbine 40 and Turbine 41	0.000	0.000	0.000

Feature ID	Figure 2 Map Book Page	Feature Type	Jurisdiction ^a	Facility Type	Potential Area of Impact (acre) ^{b, c, d}		
					Permanent	Temporary	Total
W-06	A09	Seasonally Flooded Wetland	None	Service road between Turbine 38 and Turbine 39	0.000	0.000	0.000
W-10	A10	Seasonally Flooded Wetland	None	Service road and collection line between Turbine 52 and Turbine 53	0.000	0.000	0.000
W-11	A10	Seasonally Flooded Wetland	None	Service road and collection line between Turbine 52 and Turbine 53	0.000	0.000	0.000
W-18	A05	Seasonally Flooded Wetland	USACE Wetland	Collection line along platted 279th Ave NE ~0.25 miles west of platted 106th St NE	0.000	0.000	0.000
W-20	A04	Seasonally Flooded Wetland	USACE Wetland	Collection line along platted 279th Ave NE ~0.1 mile west of 80th St NE	0.000	0.000	0.000
W-22	B10	Seasonally Flooded Wetland	USACE Wetland	Turbine 50	0.000	0.000	0.000
W-23	B11	Seasonally Flooded Wetland	None	Collection line and service road between Turbine Alt 2 and Turbine 60	0.000	0.000	0.000
W-25*	B02	Shallow Marsh	USACE Wetland	Collection line along 266th Ave NE ~0.43 mile east of 52nd St NE	0.000	0.000	0.000
DS-01	C11	Drainage Swale	None	Service road between 266th St NE and Turbine 62	n/a	n/a	n/a
DS-02	C10	Drainage Swale	None	Turbine 48, and collection line between Turbine 48 and Turbine 49	n/a	n/a	n/a
DS-04	D10	Drainage Swale	None	Service road and collection line between Turbine 45 and Turbine 46	n/a	n/a	n/a
DS-05	A08	Drainage Swale	None	Collection line along platted 279th Ave NE ~0.45 mile west of platted 145th St NE	n/a	n/a	n/a
DS-06	F03	Drainage Swale	None	Turbine Alt 1	n/a	n/a	n/a
Potential Project impacts for non-jurisdictional hydrologic features					0.000	0.130	0.130
Potential Project impacts for jurisdictional hydrologic features					0.000	0.739	0.739
Potential total Project impacts					0.000	0.869	0.869

* Feature collected during the September 2009 Baldwin Survey

a Jurisdictional status of features were based on nexus determination completed during the wetland evaluation survey, but would require final decision of significant nexus from USACE.

b Temporary impacts assumed to be 0.5 acres for turbines, 50 feet for access roads, and 50 feet for collection lines. Of these temporary impacts, 0.2 acres will be permanent for turbines, and 36 feet will be permanent for access roads. The entire substation will be a permanent impact.

c Impact calculations are rounded to three significant digits.

d Impacts were not calculated for drainage swales or drainage ditches as these features are not generally considered USACE jurisdictional and impacts to these features do not require notification to the USACE.

5.0 CONCLUSIONS

During this investigation, Tetra Tech identified four probable USACE jurisdictional wetlands and two probable non-jurisdictional wetlands that may be impacted by development of the Project. These features are identified on **Table 4** and depicted on **Figure 2**.

No permanent impacts wetlands or WOUS are anticipated as a result of this Project. A total of approximately 0.869 acres of temporary wetland loss are estimated. All of these temporary impacts are the result of collection line installation. These impacts should be able to be avoided completely during construction by utilizing horizontal directional drilling (HDD) for collection line installation.

6.0 REFERENCES

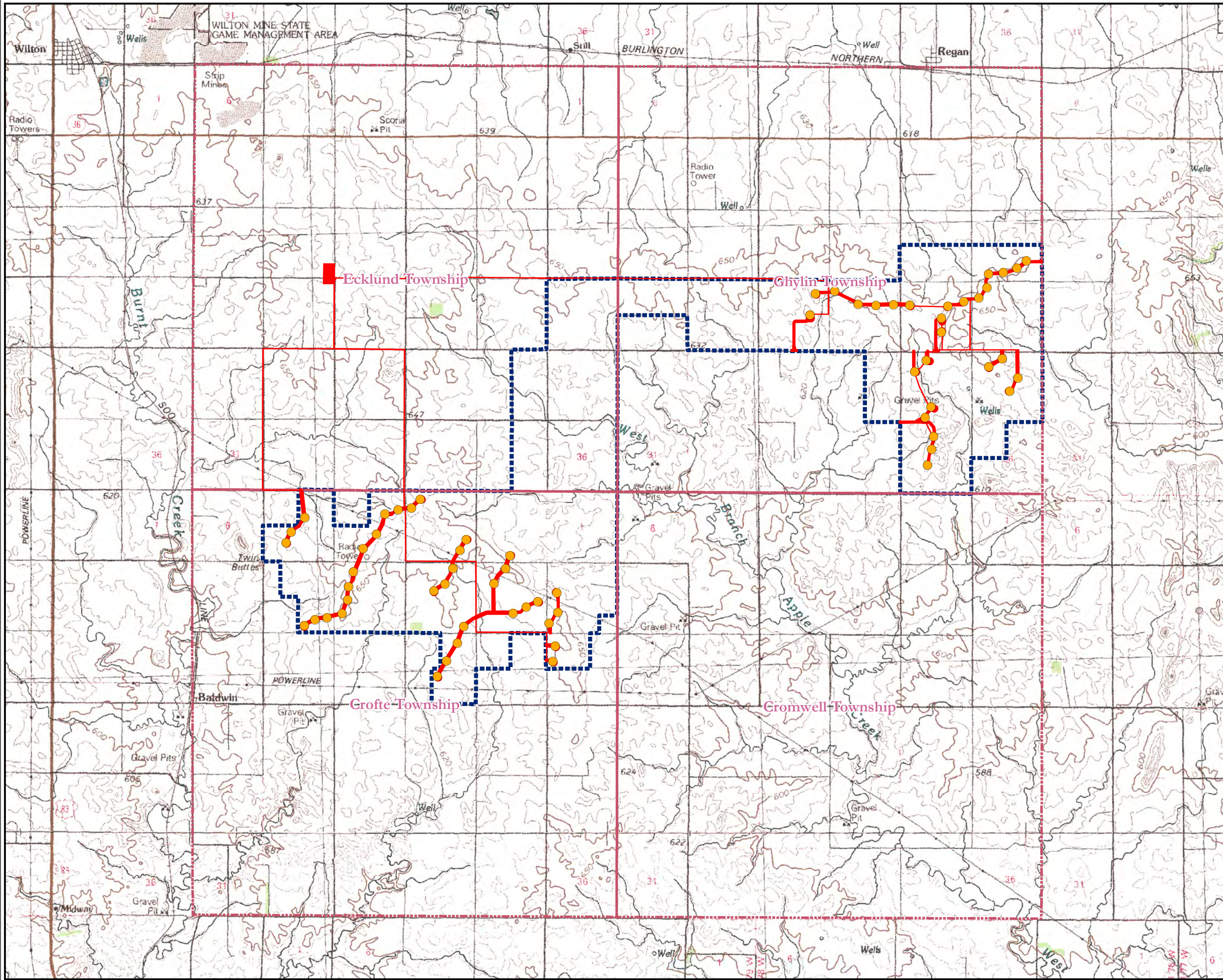
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NHD High Resolution dataset for the Painted Woods-Square Butte Subbasin (10130101)

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- 1975. Regan SE, North Dakota
- 1975. Wing SW, North Dakota

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APPENDIX A – FIGURES



- Proposed Turbine Location
- Survey Corridor
- Project Area
- Township

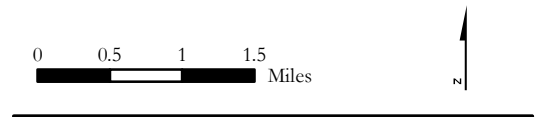


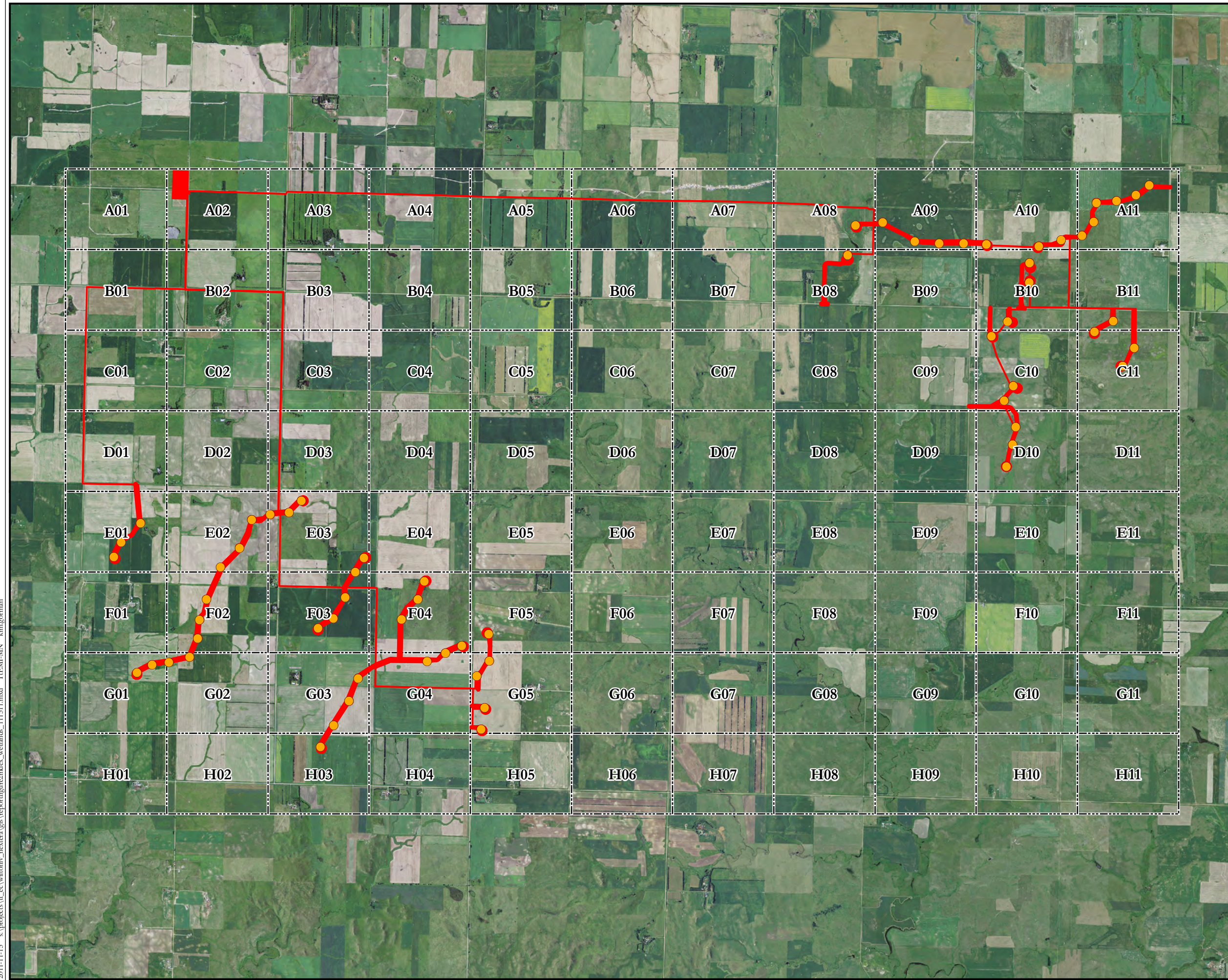
Figure 1
Project Location
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: USGS 10K Topographic Maps (Bismarck and McClusky) and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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- Proposed Turbine Location
- Survey Corridor
- Map Index

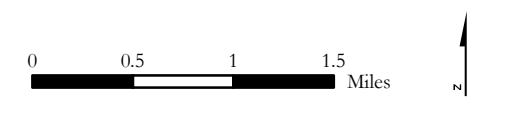


Figure 2
Map Book Index
Wilton IV Wind Energy Center
Burleigh County, North Dakota

Source: 2010 NADP Aerial Photograph - Burleigh County and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11



- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

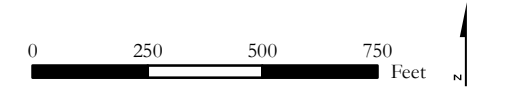


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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A03

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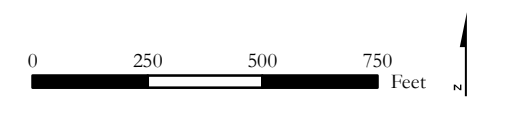


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAMP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).



A04

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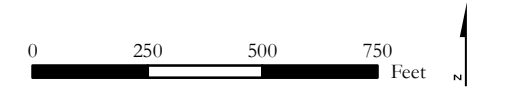


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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A05

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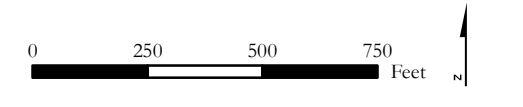


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NMAP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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A06

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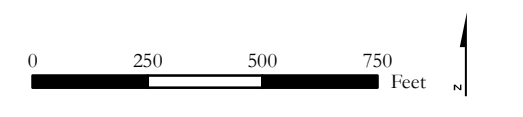


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Burleigh County, North Dakota



Source: 2010 NAMP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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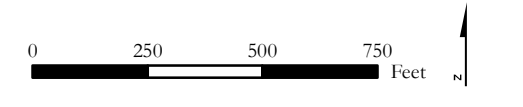
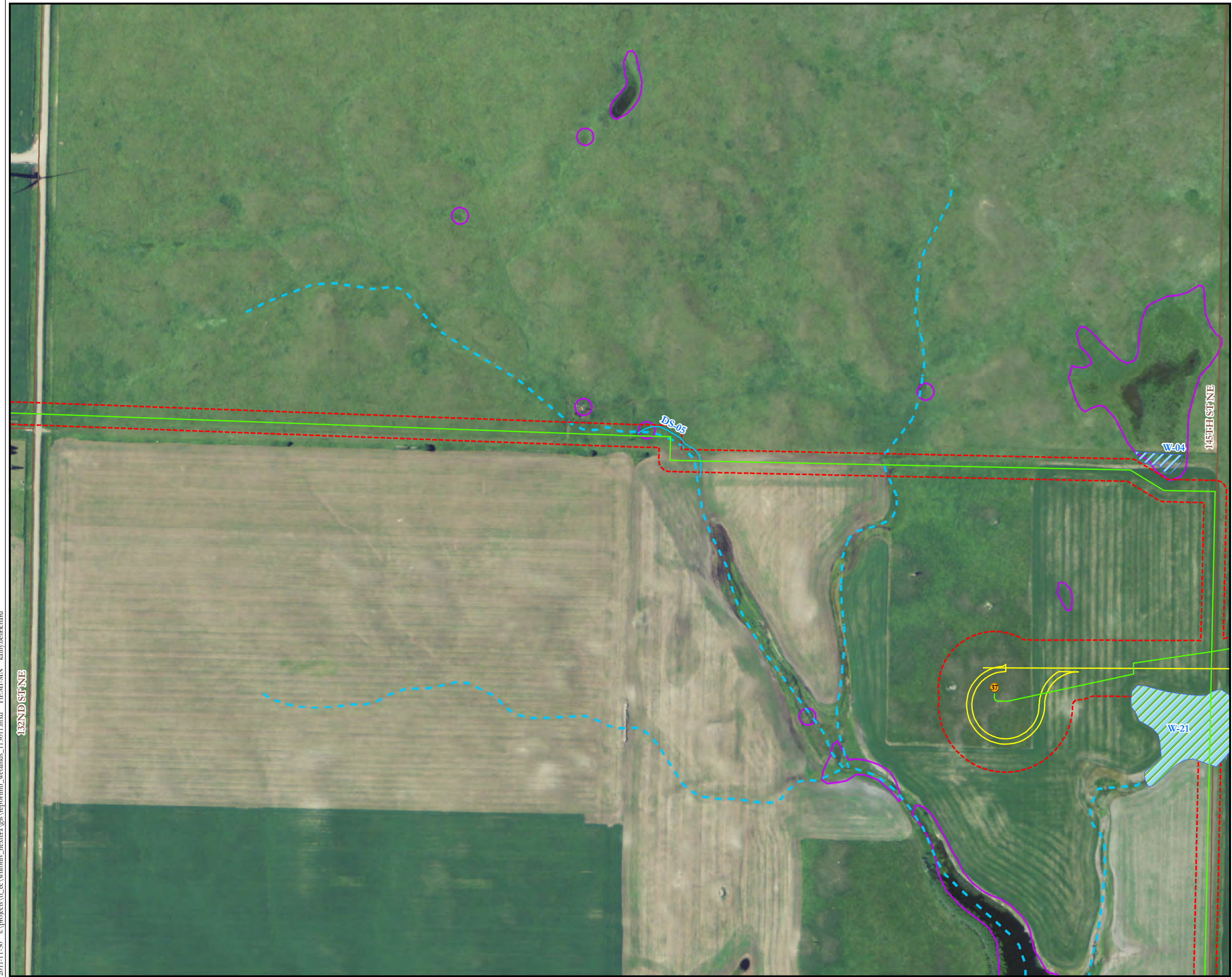


Figure 2
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Burleigh County, North Dakota



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A08

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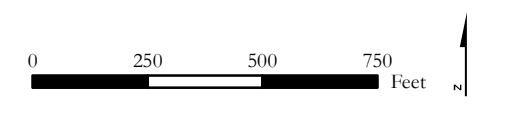


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A09

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F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Surveyed Wetland/Water Feature
 - ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road



Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAMP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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A10

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
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 - ▨ Non-Jurisdictional
 - ▨ Potentially Jurisdictional
 - ▨ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

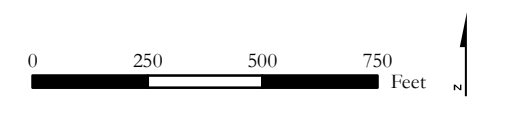
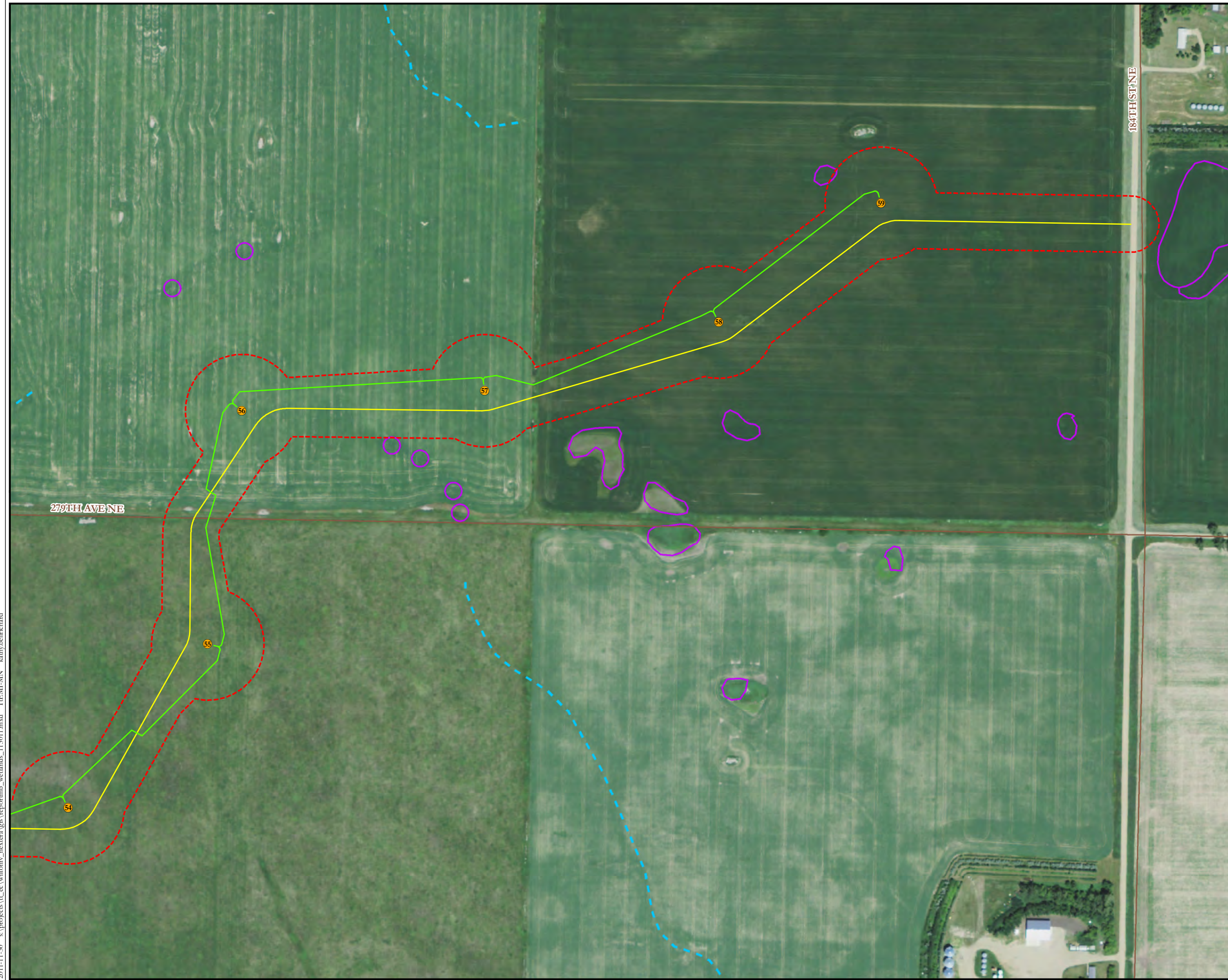


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photograph - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).



A11

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
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F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

Facility Layout

- Turbine Location (9/21/11)
- Service Road (10/3/11)
- Collection Line (10/3/11)
- ▨ Substation (10/3/11)

Surveyed Wetland/Water Feature

- ~ Non-Jurisdictional
- ~ Surveyed Wetland/Water Feature
- ~ Non-Jurisdictional
- ~ Potentially Jurisdictional
- ~ Jurisdictional
- Survey Corridor
- Portion of Survey Corridor Previously Surveyed as Baldwin
- NHD - High Res Subregion 1013
- National Wetland Inventory
- Road

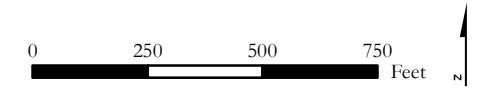


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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B01

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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

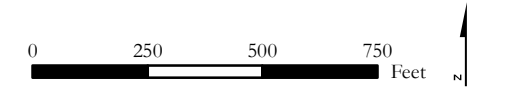


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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B02

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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ▨ Non-Jurisdictional
 - ▨ Potentially Jurisdictional
 - ▨ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

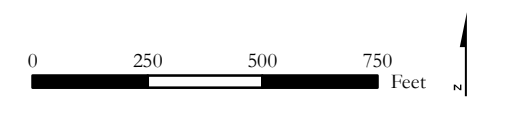


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAIP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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B03

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
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E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

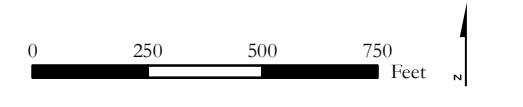


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

B08

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
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F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
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H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▭ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
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 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

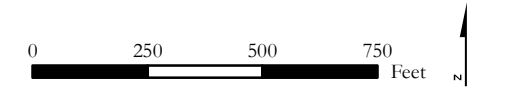


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

B10

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
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 - Road

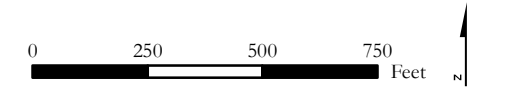
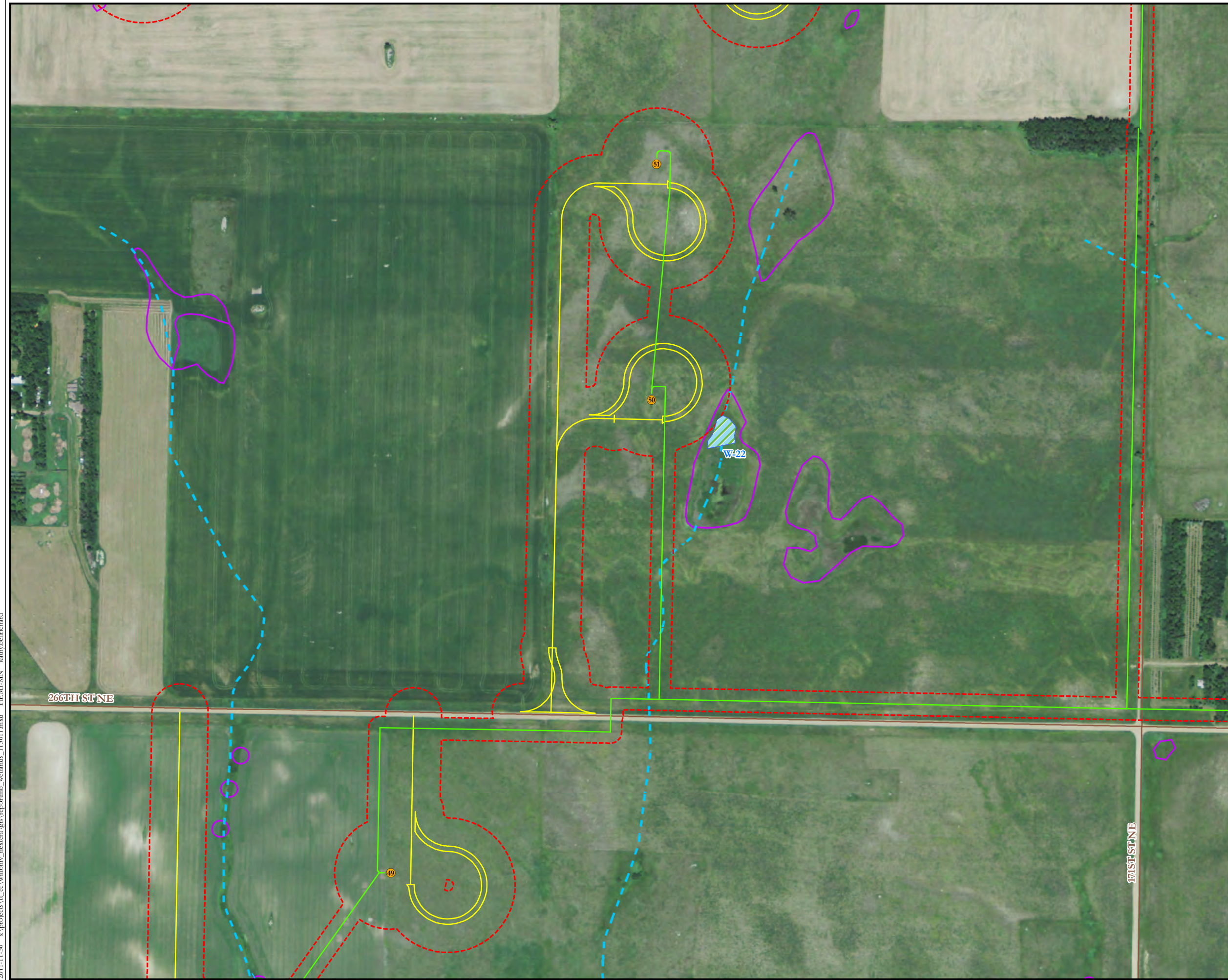


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, DIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

B11

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
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E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - Substation (10/3/11)
- Surveyed Wetland/Water Feature**
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 - ~ Surveyed Wetland/Water Feature
 - ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
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 - Portion of Survey Corridor Previously Surveyed as Baldwin
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 - ~ National Wetland Inventory
 - Road

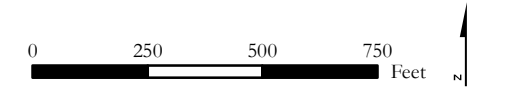
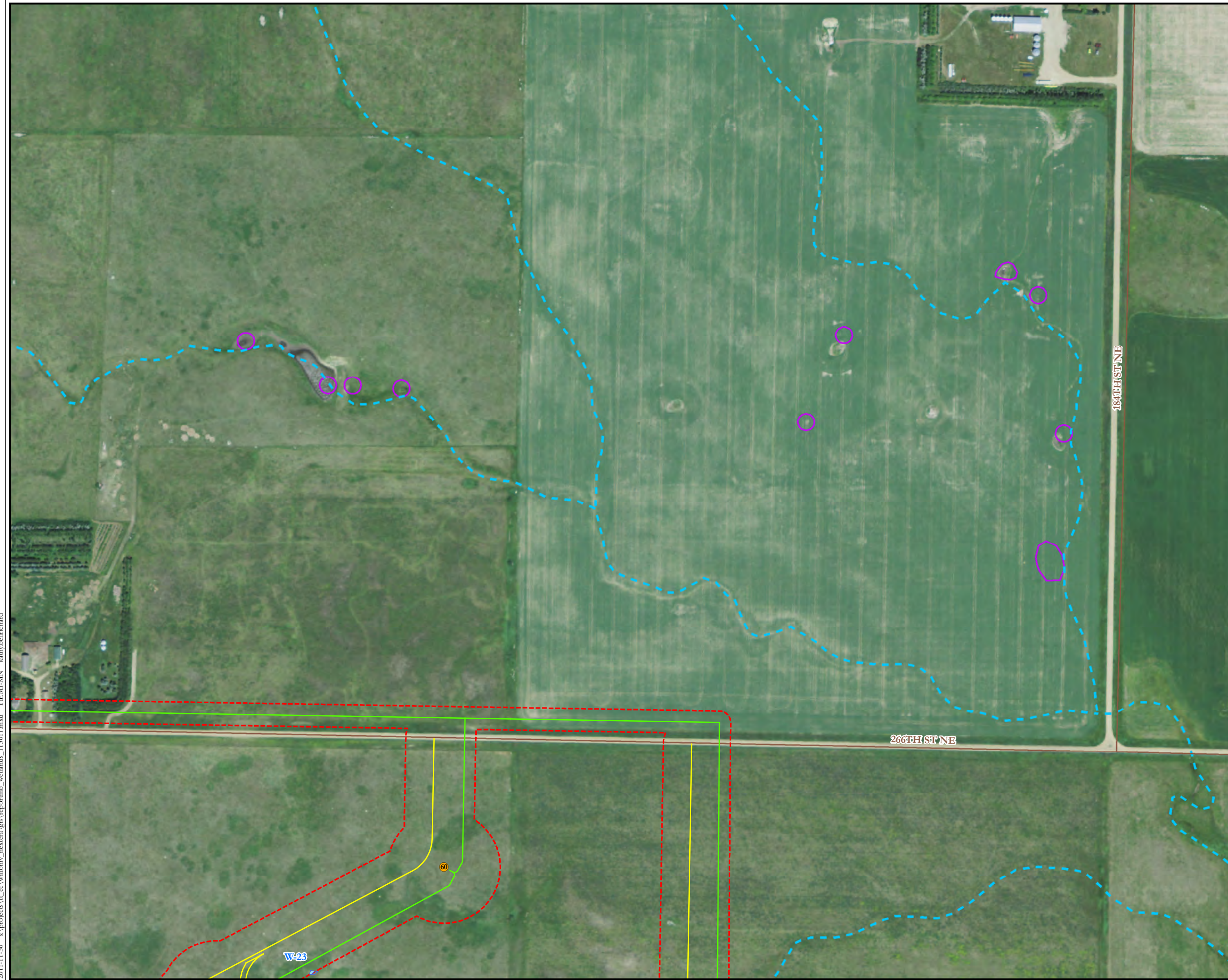


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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C01

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
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- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
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 - Road

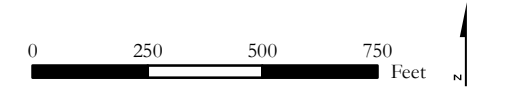


Figure 2
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Burleigh County, North Dakota



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C03

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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
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- Survey Corridor
- Portion of Survey Corridor Previously Surveyed as Baldwin
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 - Road

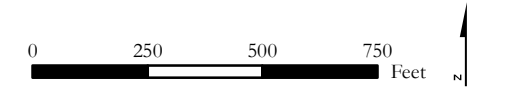


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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C09

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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
- National Wetland Inventory**
- Road

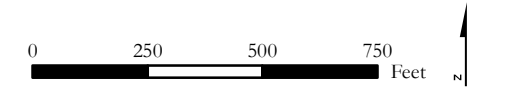
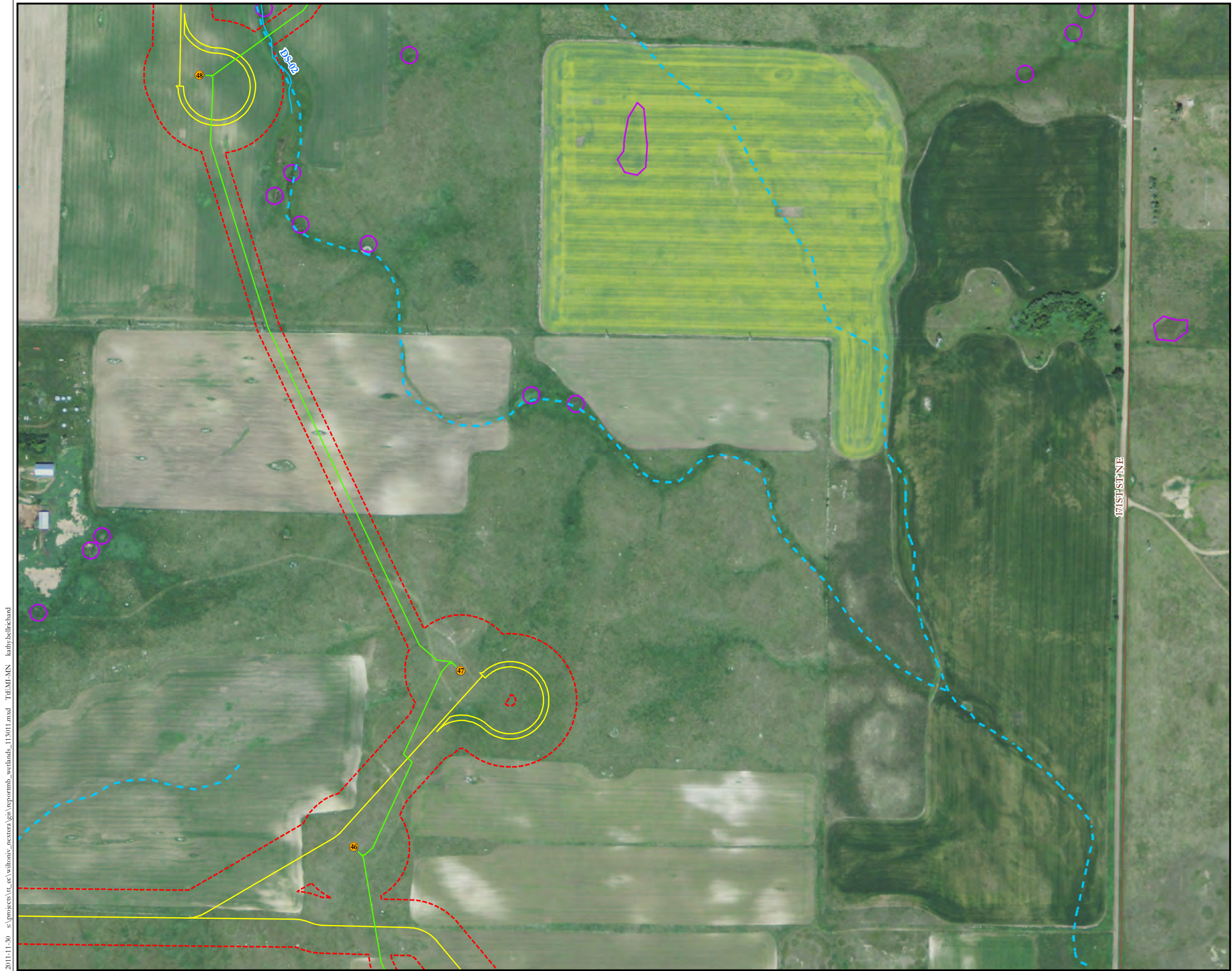


Figure 2
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Wilton IV Wind Energy Center
Burleigh County, North Dakota



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C10

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - ⬭ National Wetland Inventory
 - Road

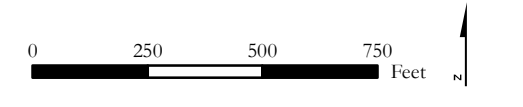
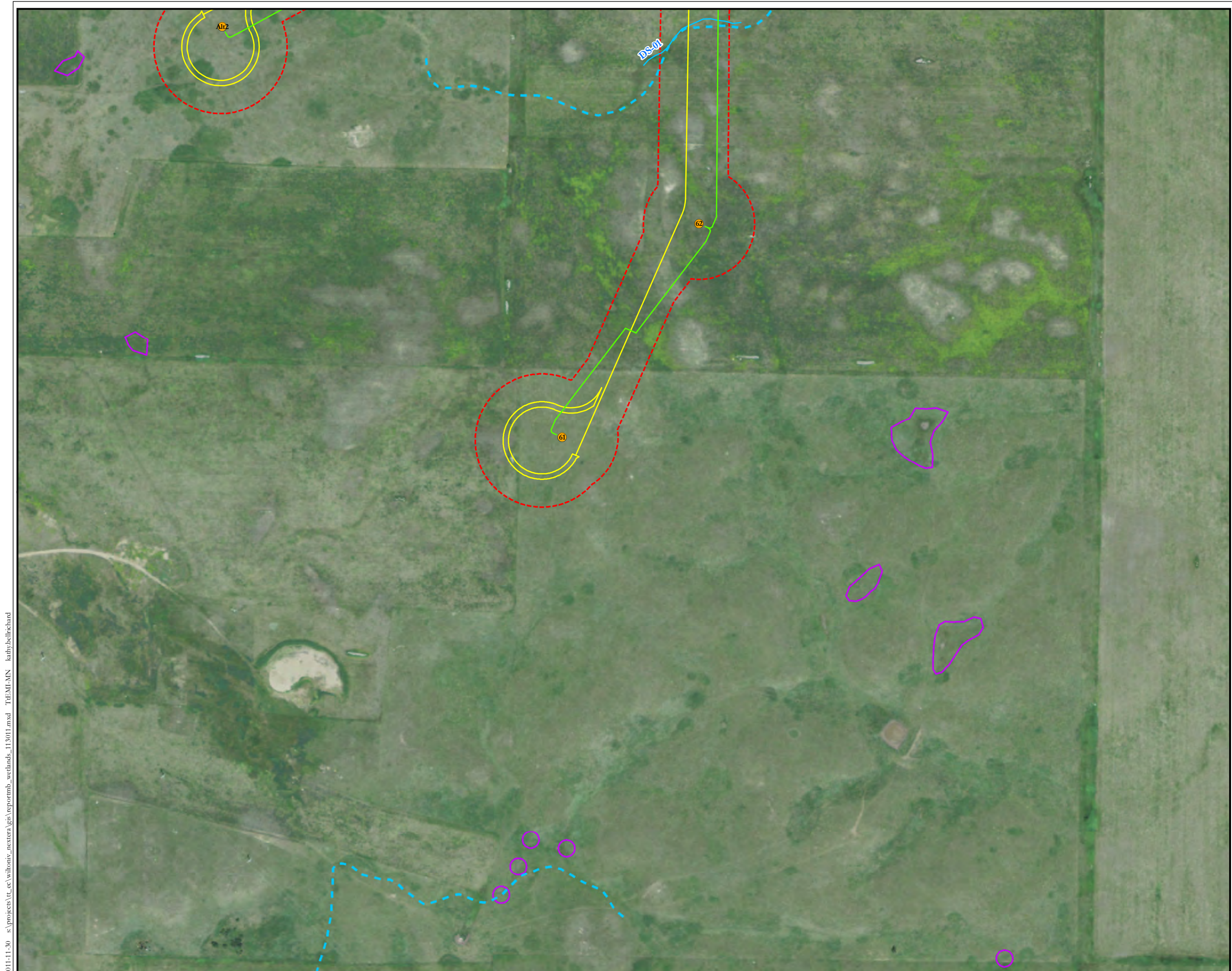


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burlleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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C11

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

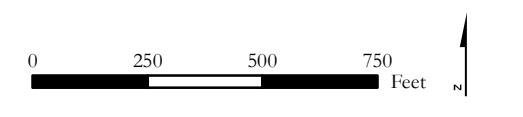


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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D01

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - ~ National Wetland Inventory
 - Road

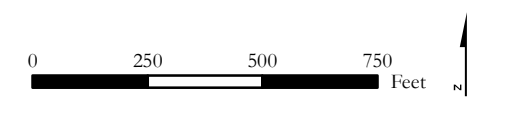


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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D03

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

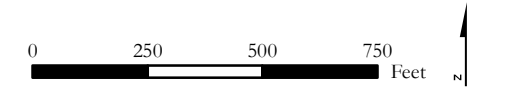


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NADP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

D10

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - ~ National Wetland Inventory
 - Road

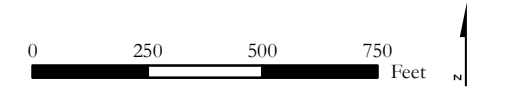


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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E01

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

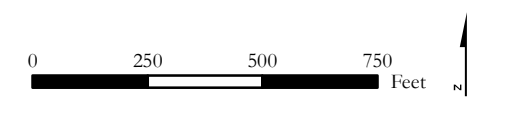


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota

Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

E02

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▭ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

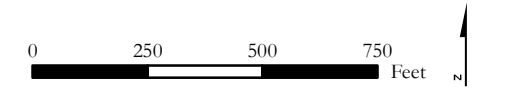


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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E03

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

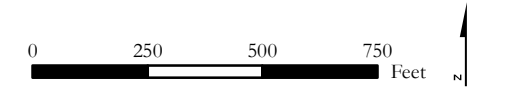


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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E04

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ▨ Non-Jurisdictional
 - ▨ Potentially Jurisdictional
 - ▨ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

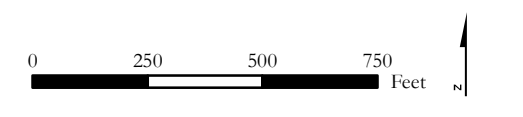


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11



- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
 - Survey Corridor
 - Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

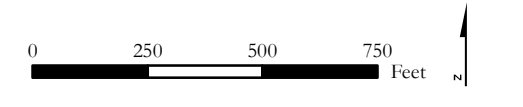


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, DIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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F03

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Surveyed Wetland/Water Feature
 - ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
 - - - NHD - High Res Subregion 1013
 - National Wetland Inventory
 - Road

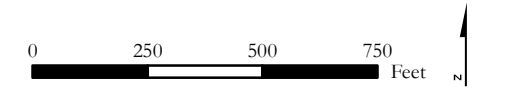


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

F04

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
- Turbine Location (9/21/11)
 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
- Surveyed Wetland/Water Feature**
- ~ Non-Jurisdictional
 - ~ Potentially Jurisdictional
 - ~ Jurisdictional
- Survey Corridor**
- Portion of Survey Corridor Previously Surveyed as Baldwin
- NHD - High Res Subregion 1013**
- - - National Wetland Inventory
- Road**
- Road

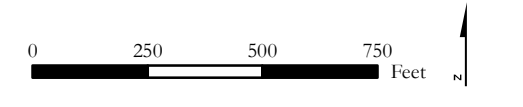
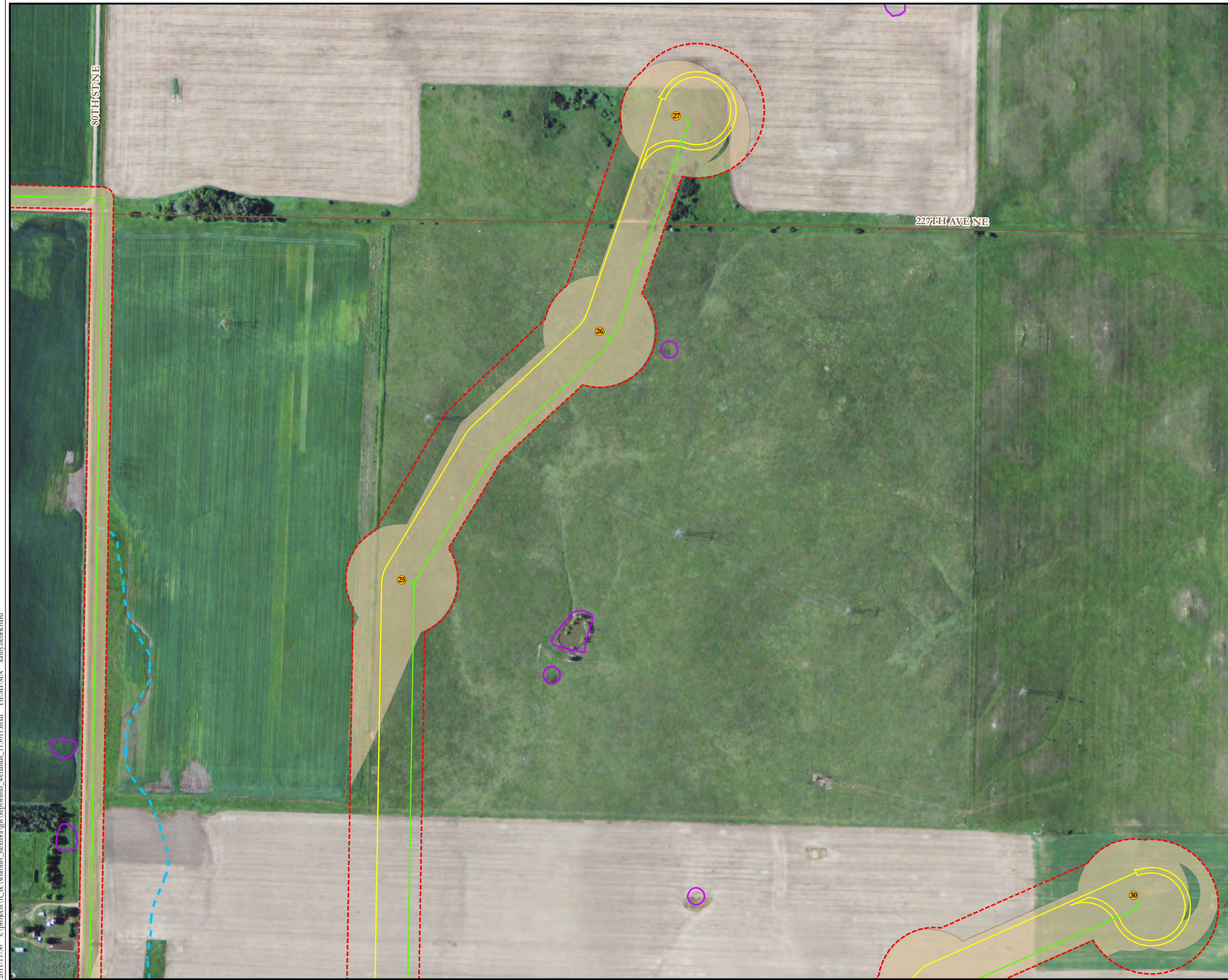


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burlleigh County, North Dakota



2011-11-30 s:\projects\it_ec\wiltoniv_nextera\gis\report\mb_wetlands_113011.mxd TDEMI-MN kathybellrichard

Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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F05

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11
E01	E02	E03	E04	E05	E06	E07	E08	E09	E10	E11
F01	F02	F03	F04	F05	F06	F07	F08	F09	F10	F11
G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

- Facility Layout**
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 - Service Road (10/3/11)
 - Collection Line (10/3/11)
 - ▨ Substation (10/3/11)
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- ~ Non-Jurisdictional
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- Portion of Survey Corridor Previously Surveyed as Baldwin
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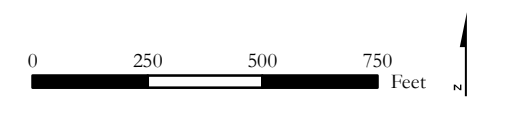


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

2011-11-30 s:\projects\it_ec\wilroniv_nextera\gis\report\mb_wetlands_113011.mxd T:\EML\MN_kathybellrichard



G01

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
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G01	G02	G03	G04	G05	G06	G07	G08	G09	G10	G11
H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

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 - ▭ National Wetland Inventory
 - Road

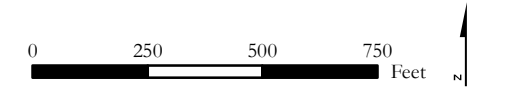


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



Source: 2010 NAMP Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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G02

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
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H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

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Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota

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G03

A01	A02	A03	A04	A05	A06	A07	A08	A09	A10	A11
B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
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Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/5/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

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G04

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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
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H01	H02	H03	H04	H05	H06	H07	H08	H09	H10	H11

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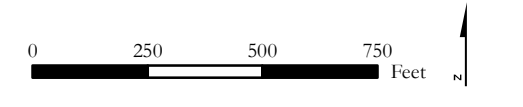


Figure 2
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Wilton IV Wind Energy Center
Burleigh County, North Dakota



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G05

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B01	B02	B03	B04	B05	B06	B07	B08	B09	B10	B11
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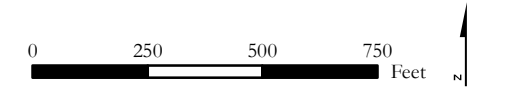


Figure 2
Wetland Survey Results
Wilton IV Wind Energy Center
Burleigh County, North Dakota



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Source: 2010 NAD Aerial Photography - Burleigh County, USFWS National Wetlands Inventory, USGS NHD High Resolution Subregion 1013, TIGER Roads, Tetra Tech wetland survey data collected through 10/3/2011, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).



H03

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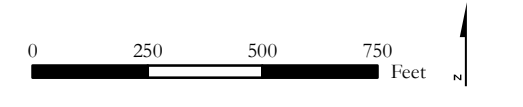


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C01	C02	C03	C04	C05	C06	C07	C08	C09	C10	C11
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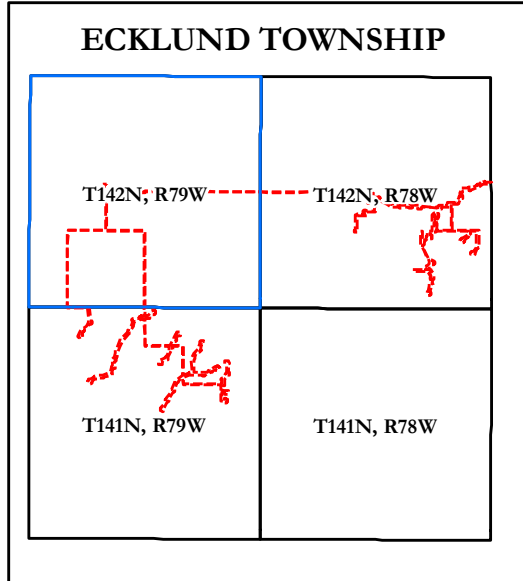
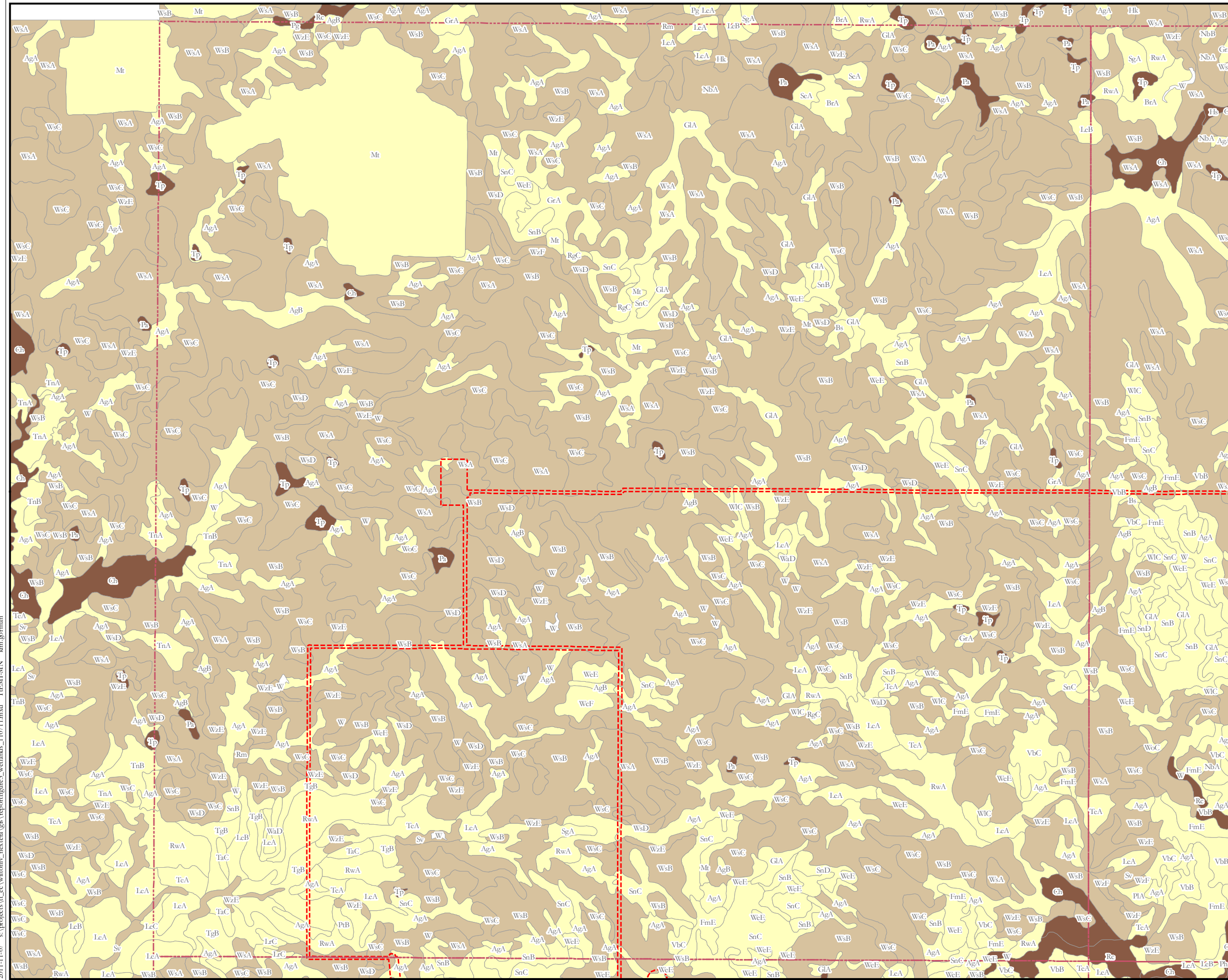


Figure 2
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Wilton IV Wind Energy Center
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- SSURGO Soils - Hydric Classification
- All hydric
 - Partially hydric
 - Not hydric
 - Survey Corridor
 - Township

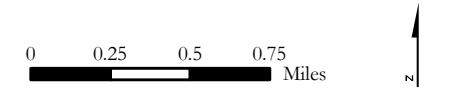
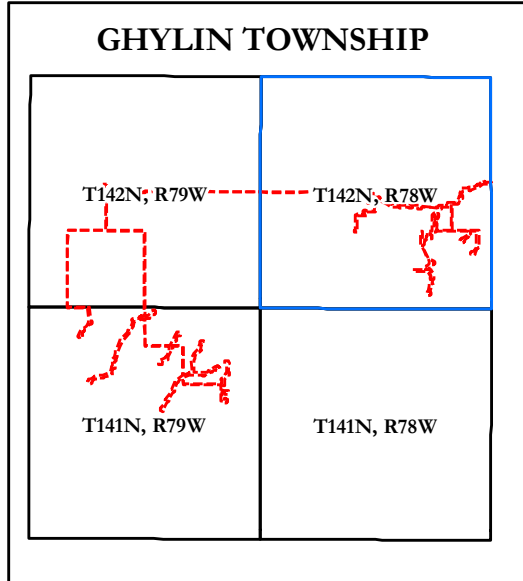
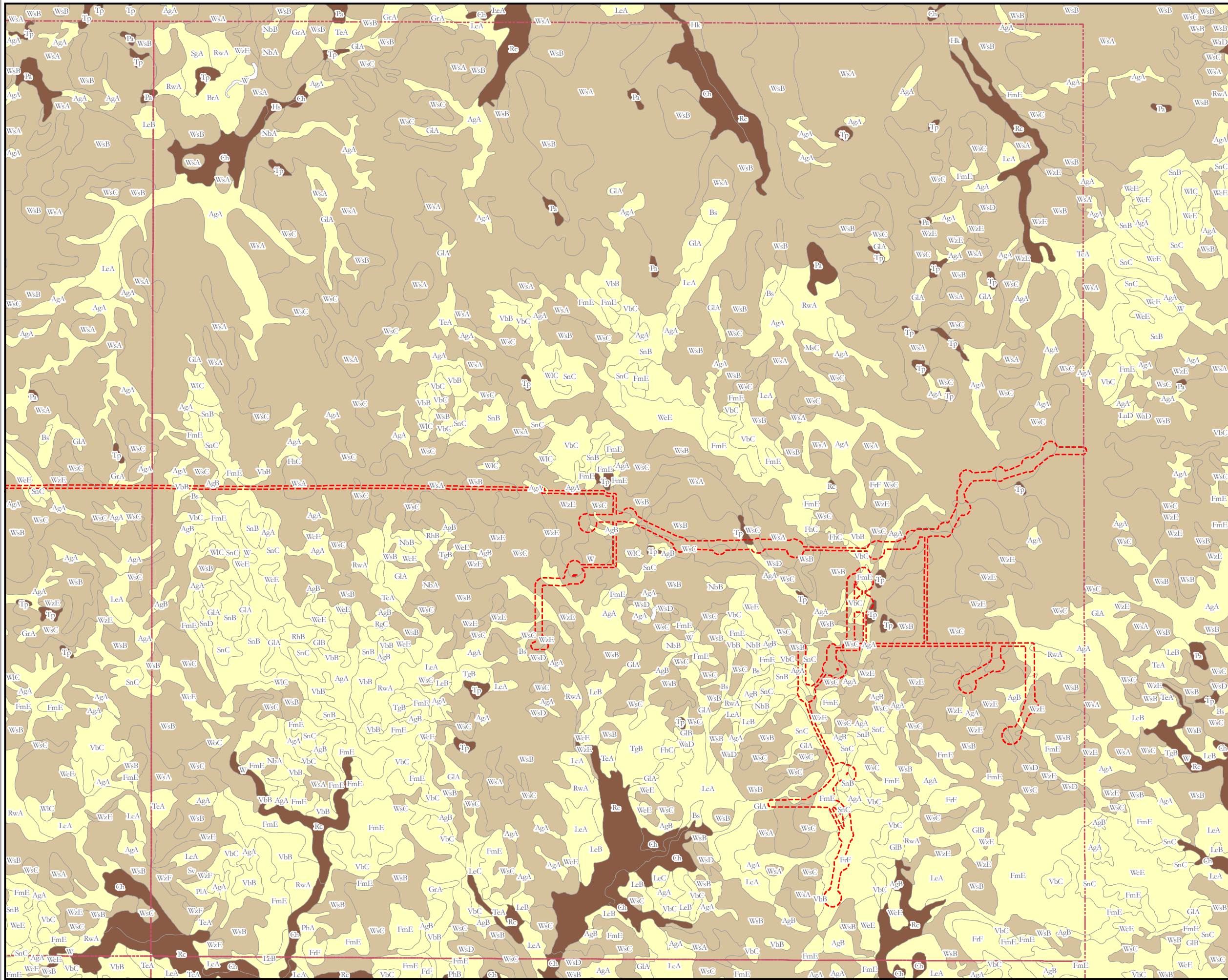


Figure 3
 SSURGO Soils
 Wilton IV Wind Energy Center
 Burleigh County, North Dakota



2011-1-17 s:\projects\tr.ec\wilton_iv\nextera\gs_report\figure3_wetlands_110711.mxd THEM1-MN km.gorman

Source: USDA Soil Survey Geographic (SSURGO) database, H&S Township boundary, and Project data provided by Nextera Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).



- SSURGO Soils - Hydric Classification**
- All hydric
 - Partially hydric
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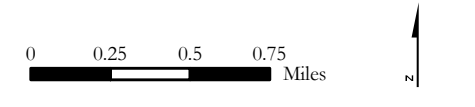
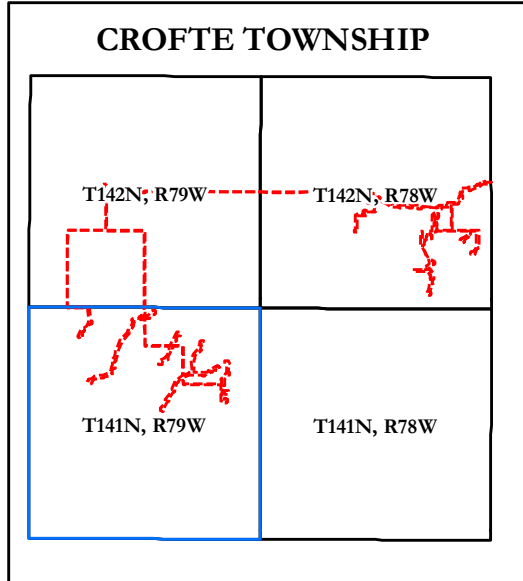
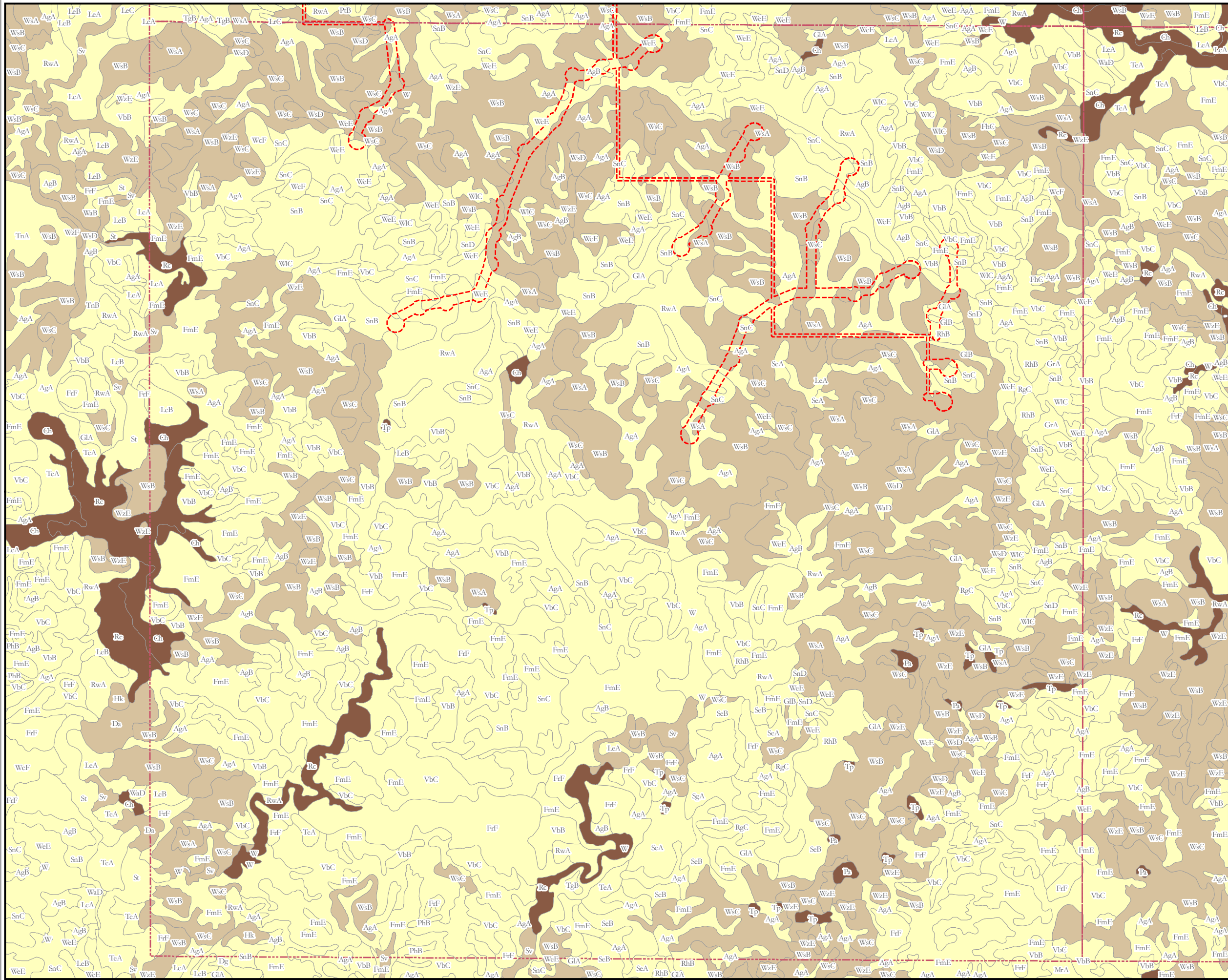


Figure 3
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 Wilton IV Wind Energy Center
 Burleigh County, North Dakota



2011-1-17 s:\projects\tr.ec\wilrony_nextera\gs_report\figure3_wetlands_110711.mxd THEM1.MN km.gorman

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SSURGO Soils - Hydric Classification

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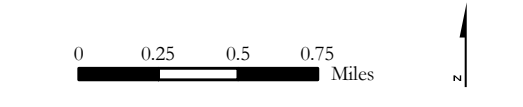


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2011-1-17 s:\projects\tr.ec\wilton_iv\report\figure_3_wetlands_110711.mxd THEM1-MN km.gorman

Source: USDA Soil Survey Geographic (SSURGO) database, T14 Township boundary, and Project data provided by NextEra Energy 9/21/2011 (turbines) and 10/3/2011 (roads and collection).

APPENDIX B – SUPPORTING FIELD DOCUMENTATION

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET

Page 1 of 2

DS-01

Trimble Feature #

Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB, KPG

TT Team ID: 1
Date/Time of Evaluation: 8/17/11 9:32
Jurisdictional status: N

Feature Name: Drainage swale

No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

1. Is this a Traditional Navigable Waters (TNW)? Yes No
Is this a Wetland adjacent to a TNW? Yes No
2. Is this a Tributary to a TNW Yes No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
Is this a Wetland that abuts a RPWs with perennial flow Yes No
Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
Is this a Wetland that abuts or is adjacent to a RPW Yes No
Does a significant nexus exist? (adjacent only, provide details below) Yes No
Is this a Non-RPW (Flow – less than 3 months) Yes No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) Yes No
Is this a Wetland adjacent to Non-RPW Yes No
Does a significant nexus exist? (Provide details below) Yes No
3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
Explain _____

Streams:

Name (or tributary to) Tributary to East Branch Apple Creek
Water body Type (stream/ditch/culvert/swale/wash) swale
Width (with respect to top of bank) no bank
Depth (with respect to top of bank) _____
Flow rate (dry/stagnant/low/moderate/high) none
Flow direction E
Substrate (mud/silt/gravel/cobble/boulders/bedrock) vegetated
Bank vegetation (upland/wetland cover type) upland

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

DS-01
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: _____

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
16	W	"drainage swale"
17	E	

Notes:

[Faint handwritten notes and scribbles]

TT EMI QC Check: KB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: West	Feature ID	DS-01	Date 8/17/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kali Pace-Graczyk	

02 / 03
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-01 / DS-02
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: 02

TT Team ID: 1
Date/Time of Evaluation: 3:00 PM
Jurisdictional status: W.P.
No. of Features Present: 2

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

1. Is this a Traditional Navigable Waters (TNW)? Yes No
 Is this a Wetland adjacent to a TNW? Yes No
2. Is this a Tributary to a TNW Yes No
 Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
 Is this a Wetland that abuts a RPWs with perennial flow Yes No
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 Is this a Wetland that abuts or is adjacent to a RPW Yes No
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 Does a significant nexus exist? (Provide details below) Yes No
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Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

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 Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
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- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
 Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
 Explain _____

Streams:

Name (or tributary to) Tributary to West Branch Apple Creek
Water body Type (stream/ditch/culvert/swale/wash) SWALE
Width (with respect to top of bank) 25 FT WIDE - no bank
Depth (with respect to top of bank) 1.5 FT - no bank
Flow rate (dry/stagnant/low/moderate/high) DRY
Flow direction south
Substrate (mud/silt/gravel/cobble/boulders/bedrock) SILTY LOAM - vegetated
Bank vegetation (upland/wetland cover type) UPLAND

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled-in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: SMALL ISOLATED WETLAND IN SWALE

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
18	W	ISOLATED WETLAND
19	S	SWALE

Notes:

[Faint handwritten notes, possibly describing wetland characteristics or survey details.]

TT EMI QC Check: ICB

TT EC QC Check: _____

**WILTON IV
WETLAND FIELD DATA EVALUATION SHEET**

DS-02

33

Trimble Feature # _____

Page 1 of 2

Feature # _____

Location: Wilton IV
 County: Burleigh
 Assessors Names: KPG CM
 Feature Name: Swale

TT Team ID: 1
 Date/Time of Evaluation: 10/5/11 1025
 Jurisdictional status: N
 No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- | | | |
|--|---|--|
| 1. Is this a Traditional Navigable Waters (TNW)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland adjacent to a TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 2. Is this a Tributary to a TNW | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Is this a Relatively Permanent Waters (RPW) (Perennial Flow) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts a RPWs with perennial flow | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a RPW (Seasonal Flow – greater than 3 months) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts or is adjacent to a RPW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does a significant nexus exist? (adjacent only, provide details below) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Non-RPW (Flow – less than 3 months) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| [including ephemeral waters (i.e. swales, gully or small wash)] | | |
| Does a significant nexus exist? (Provide details below) | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland adjacent to Non-RPW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does a significant nexus exist? (Provide details below) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- | | | |
|--|---|--|
| a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Explain _____ | | |
| b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Explain _____ | | |
| c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Explain _____ | | |
| d. have other relationships to the physical, chemical, or biological integrity of the TNW? | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Explain _____ | | |

Streams:

Name (or tributary to) WEST BRANCH APPLE CREEK (Tributary)
 Water body Type (stream/ditch/culvert/swale/wash) SWALE
 Width (with respect to top of bank) 10 - no bank
 Depth (with respect to top of bank) 1-3 - no bank
 Flow rate (dry/stagnant/low/moderate/high) DRY
 Flow direction # South
 Substrate (mud/silt/gravel/cobble/boulders/bedrock) SILT/LOAM/CLAY - vegetated
 Bank vegetation (upland/wetland cover type) UPLAND/CRUPLAND

- Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

**WILTON IV
WETLAND FIELD DATA EVALUATION SHEET**

DS-02

Trimble Feature # _____

Page 2 of 2

33 _____
Feature #

Pond or Open Waters:

Is this feature a farm pond? Yes No

Was this feature dug out to collect surface runoff? Yes No

Was this feature dug from a linear feature such as a stream? Yes No

Was the stream filled in the process? Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: _____

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
588	S	facing swale in sunflower field
589	W	facing across swale

Notes:

Add to Feature 3 (DS-02)

(continued)

TT EMI QC Check: KB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: South	Feature ID	DS-02	Date 8/17/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

Trimble Feature # 6

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

DS-04
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: drainage swale

TT Team ID: 1
Date/Time of Evaluation: 8/17/11 1750
Jurisdictional status: N
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW Yes No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
Is this a Wetland that abuts a RPWs with perennial flow Yes No
Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
Is this a Wetland that abuts or is adjacent to a RPW Yes No
Does a significant nexus exist? (adjacent only, provide details below) Yes No
Is this a Non-RPW (Flow – less than 3 months) Yes No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) Yes No
Is this a Wetland adjacent to Non-RPW Yes No
Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
Explain _____

Streams:

Name (or tributary to) Tributary to West Branch Apple Creek
Water body Type (stream/ditch/culvert/swale/wash) swale
Width (with respect to top of bank) no bank
Depth (with respect to top of bank) no bank
Flow rate (dry/stagnant/low/moderate/high) none
Flow direction South
Substrate (mud/silt/gravel/cobble/boulders/bedrock) vegetated
Bank vegetation (upland/wetland cover type) Upland

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

6
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

DS-04
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: _____

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
<u>22</u>	<u>S</u>	<u>Swale</u>

Notes:

[Faint handwritten notes, possibly describing field observations or data.]

TT EMI QC Check: LCB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: South	Feature ID	DS-04	Date 8/17/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

8
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

DS-05
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG

TT Team ID: 1
Date/Time of Evaluation: 8/18/11 1157
Jurisdictional status: W

Feature Name: drainage swale

No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

1. Is this a Traditional Navigable Waters (TNW)? Yes No
 Is this a Wetland adjacent to a TNW? Yes No
2. Is this a Tributary to a TNW Yes No
 Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
 Is this a Wetland that abuts a RPWs with perennial flow Yes No
 Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
 Is this a Wetland that abuts or is adjacent to a RPW Yes No
 Does a significant nexus exist? (adjacent only, provide details below) Yes No
 Is this a Non-RPW (Flow – less than 3 months) Yes No
 [including ephemeral waters (i.e. swales, gully or small wash)]
 Does a significant nexus exist? (Provide details below) Yes No
 Is this a Wetland adjacent to Non-RPW Yes No
 Does a significant nexus exist? (Provide details below) Yes No
3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
 Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
 Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
 Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
 Explain _____

Streams:

Name (or tributary to) Tributary to West Branch Apple Creek
Water body Type (stream/ditch/culvert/swale/wash) Swale
Width (with respect to top of bank) no bank
Depth (with respect to top of bank) no bank
Flow rate (dry/stagnant/low/moderate/high) dry
Flow direction South
Substrate (mud/silt/gravel/cobble/boulders/bedrock) vegetated
Bank vegetation (upland/wetland cover type) upland

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: _____

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
25	SE	swale
26	NW	" "

Notes:

[Faint handwritten notes, possibly describing field observations or survey details.]

TT EMI QC Check: LCB

TT EC QC Check: _____

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
 Page 1 of 2

DS-05

29

Trimble Feature # _____

Feature # _____

Location: Wilton IV
 County: Burleigh
 Assessors Names: KPG CM
 Feature Name: SWALE

TT Team ID: 1
 Date/Time of Evaluation: 10/14/11 4:00PM
 Jurisdictional status: NO
 No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- | | | |
|--|---|--|
| 1. Is this a Traditional Navigable Waters (TNW)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland adjacent to a TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 2. Is this a Tributary to a TNW | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Relatively Permanent Waters (RPW) (Perennial Flow) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts a RPWs with perennial flow | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a RPW (Seasonal Flow – greater than 3 months) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts or is adjacent to a RPW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does a significant nexus exist? (adjacent only, provide details below) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Non-RPW (Flow – less than 3 months) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| [including ephemeral waters (i.e. swales, gully or small wash)] | | |
| Does a significant nexus exist? (Provide details below) | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland adjacent to Non-RPW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does a significant nexus exist? (Provide details below) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- | | | |
|---|---|--|
| a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW?
Explain _____ | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
Explain _____ | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| c. have the capacity to transfer nutrients and organic carbon that support downstream food webs?
Explain _____ | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| d. have other relationships to the physical, chemical, or biological integrity of the TNW?
Explain _____ | <input checked="" type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Streams:

Name (or tributary to) WEST BRANCH APPLE CREEK

Water body Type (stream/ditch/culvert/swale/wash) SWALE

Width (with respect to top of bank) 10 - no bank

Depth (with respect to top of bank) 2 - no bank

Flow rate (dry/stagnant/low/moderate/high) DRY

Flow direction -

Substrate (mud/silt/gravel/cobble/boulders/bedrock) SILT/LOAM/CLAY - vegetated

Bank vegetation (upland/wetland cover type) UPLAND

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
 Page 2 of 2

DS-05
 29 _____
 Feature #

Trimble Feature # _____

Pond or Open Waters:

- Is this feature a farm pond? Yes No
- Was this feature dug out to collect surface runoff? Yes No
- Was this feature dug from a linear feature such as a stream? Yes No
- Was the stream filled in the process? Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: _____

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
579	NW	SWALE

Notes:

Add to feature 8 (DS-05)

TT EMI QC Check: KB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: Northwest	Feature ID	DS-05	Date 8/18/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

89
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-04
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: isolated wetland

TT Team ID: 1
Date/Time of Evaluation: 8/18/11
Jurisdictional status: W
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

1. Is this a Traditional Navigable Waters (TNW)? Yes No
 Is this a Wetland adjacent to a TNW? Yes No
2. Is this a Tributary to a TNW Yes No
 Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
 Is this a Wetland that abuts a RPWs with perennial flow Yes No
 Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
 Is this a Wetland that abuts or is adjacent to a RPW Yes No
 Does a significant nexus exist? (adjacent only, provide details below) Yes No
 Is this a Non-RPW (Flow – less than 3 months) Yes No
 [including ephemeral waters (i.e. swales, gully or small wash)]
 Does a significant nexus exist? (Provide details below) Yes No
 Is this a Wetland adjacent to Non-RPW Yes No
 Does a significant nexus exist? (Provide details below) Yes No
3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
 Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
 Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
 Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
 Explain _____

Streams:

Name (or tributary to) _____
Water body Type (stream/ditch/culvert/swale/wash) _____
Width (with respect to top of bank) _____
Depth (with respect to top of bank) _____
Flow rate (dry/stagnant/low/moderate/high) _____
Flow direction _____
Substrate (mud/silt/gravel/cobble/boulders/bedrock) _____
Bank vegetation (upland/wetland cover type) _____

- Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

9
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

W-64
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: large shallow marsh wetland extends north of proposed collection line dominated by smartweed in survey corridor

Other Features:

Sinkhole _____
Drainage Basins/Areas _____
Floodplains _____
Depressions _____
Gravel Pits/Mined Areas _____
Other _____

Photo log #:	Orientation:	Brief Description:
<u>27</u>	<u>N</u>	<u>wetland</u>
<u>28</u>	<u>E</u>	<u>wetland in survey corridor</u>

Notes:

TT EMI QC Check: LCB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: East	Feature ID	W-04	Date 8/18/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

9/10
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-65
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: wetland on UHD

TT Team ID: 1
Date/Time of Evaluation: 8/18/11 1447
Jurisdictional status: P
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
Is this a Wetland that abuts a RPWs with perennial flow Yes No
Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
Is this a Wetland that abuts or is adjacent to a RPW Yes No
Does a significant nexus exist? (adjacent only, provide details below) Yes No
Is this a Non-RPW (Flow – less than 3 months) Yes No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) Yes No
Is this a Wetland adjacent to Non-RPW Yes No
Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
Explain _____

Streams:

Name (or tributary to) _____

Water body Type (stream/ditch/culvert/swale/wash) _____

Width (with respect to top of bank) _____

Depth (with respect to top of bank) _____

Flow rate (dry/stagnant/low/moderate/high) _____

Flow direction _____

Substrate (mud/silt/gravel/cobble/boulders/bedrock) _____

Bank vegetation (upland/wetland cover type) _____

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: seasonal wetland on UHD line

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
29	N	WETLAND W/ SUNFLOWERS + EXISTING TURBINES
30	N	↓ IN BACKGROUND
31	N	

Notes:

Wetland on flowline - no swale/stream observed.
Surrounding area cropped (sunflowers)

TT EMI QC Check: ICB

TT EC QC Check: _____

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: WILTON IV City/County: BURLEIGH CO Sampling Date: 8/18/2011
 Applicant/Owner: _____ State: MN Sampling Point: AWW 10-W
 Investigator(s): KPG KAB Section, Township, Range: T142N R78W S22
 Landform (hillslope, terrace, etc.): DEPRESSION Local relief (concave, convex, none): CONCAVE Slope (%): 1-2
 Subregion (LRR): F Lat: 383089.9 Long: 5218383.3 Datum: _____
 Soil Map Unit Name: TONKA + DARNELL SOILS NWI classification: PMEL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ = Total Cover				Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:50%;">Total % Cover of:</th> <th style="width:50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species <u>10</u></td> <td>x 1 = <u>10</u></td> </tr> <tr> <td>FACW species <u>75</u></td> <td>x 2 = <u>150</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>265</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.94</u></td> </tr> </tbody> </table>	Total % Cover of:	Multiply by:	OBL species <u>10</u>	x 1 = <u>10</u>	FACW species <u>75</u>	x 2 = <u>150</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>0</u>	x 4 = _____	UPL species <u>0</u>	x 5 = _____	Column Totals: <u>90</u> (A)	<u>265</u> (B)	Prevalence Index = B/A = <u>2.94</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>10</u>	x 1 = <u>10</u>																			
FACW species <u>75</u>	x 2 = <u>150</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>0</u>	x 4 = _____																			
UPL species <u>0</u>	x 5 = _____																			
Column Totals: <u>90</u> (A)	<u>265</u> (B)																			
Prevalence Index = B/A = <u>2.94</u>																				
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover																				
Herb Stratum (Plot size: _____) 1. <u>Echinochloa crusgalli</u> <u>75</u> <u>Y</u> <u>FACW</u> 2. <u>Beckmannia syzigachne</u> <u>10</u> <u>N</u> <u>OBL</u> 3. <u>Ambrosia psilostachya</u> <u>5</u> <u>N</u> <u>FAC</u> 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 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: 10-W

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	10YR 2/1	100					LOAM	
4-14	10YR 2/1	85	7.5YR 2.5/3	15	C	M	SILTY LOAM	
14-30	2.5Y 3/1	95	7.5YR 4/4	5	C	PL	SILTY CLAY LOAM	
30+	2.5Y 4/1	95	7.5YR 4/4	5	C	PL	CLAY LOAM	

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: WILTON IV City/County: BURLINGHAM CO Sampling Date: 8/18/2011
 Applicant/Owner: _____ State: MN Sampling Point: 440 10-U
 Investigator(s): KPB KAS Section, Township, Range: T142N R78W S22
 Landform (hillslope, terrace, etc.): PLAIN Local relief (concave, convex, none): NONE Slope (%): 0
 Subregion (LRR): F Lat: 383033.7 Long: 5218342.0 Datum: _____
 Soil Map Unit Name: ARNEGATED + GRASSNA SILT LOAM NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species <u>1</u> x 4 = <u>4</u> UPL species <u>2</u> x 5 = <u>10</u> Column Totals: <u>3</u> (A) <u>14</u> (B) Prevalence Index = B/A = <u>4.6</u>
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>SETARIA VIRIDIS</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	
2. <u>POTENTILLA MONSPELIENSIS</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
3. <u>MEDICAGO LUPULINA</u>	<u>10</u>	<u>N</u>	<u>FACU</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>90</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks: _____

SOIL

Sampling Point: 10-U

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	10YR 2/1	100					LOAM	20% ROOTS
4-10	10YR 2/1	90	7.5YR 2.5/3.5		C	PL	SILT LOAM	10% ROOTS
10+	10YR 2/1	100					SILT LOAM	

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"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> High Plains Depressions (F16)	<input type="checkbox"/> (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> High Plains Depressions (F16)		
	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

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)	Secondary Indicators (minimum of two required)
<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:

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:

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: North	Feature ID	W-05	Date 8/18/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

40 11
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-06
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: isolated wetland

TT Team ID: 1
Date/Time of Evaluation: 8/18/2011 4:00 PM
Jurisdictional status: N
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
 Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW Yes No
 Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
 Is this a Wetland that abuts a RPWs with perennial flow Yes No
 Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
 Is this a Wetland that abuts or is adjacent to a RPW Yes No
 Does a significant nexus exist? (adjacent only, provide details below) Yes No
 Is this a Non-RPW (Flow – less than 3 months) Yes No
 [including ephemeral waters (i.e. swales, gully or small wash)]
 Does a significant nexus exist? (Provide details below) Yes No
 Is this a Wetland adjacent to Non-RPW Yes No
 Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
 Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
 Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
 Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
 Explain _____

Streams:

Name (or tributary to) _____
Water body Type (stream/ditch/culvert/swale/wash) _____
Width (with respect to top of bank) _____
Depth (with respect to top of bank) _____
Flow rate (dry/stagnant/low/moderate/high) _____
Flow direction _____
Substrate (mud/silt/gravel/cobble/boulders/bedrock) _____
Bank vegetation (upland/wetland cover type) _____

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

5 11
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

W-06
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: ISOLATED WETLAND / DEPRESSION ON AERIAL

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
<u>35</u>	<u>W</u>	<u>WETLAND</u>

Notes:

TT EMI QC Check: LCB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: West	Feature ID	W-06	Date 8/18/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

15416
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-10/W-11
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: isolated wetlands

TT Team ID: 1
Date/Time of Evaluation: 8/19/11
Jurisdictional status: N
No. of Features Present: 2

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

1. Is this a Traditional Navigable Waters (TNW)? Yes No
 Is this a Wetland adjacent to a TNW? Yes No
2. Is this a Tributary to a TNW Yes No
 Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
 Is this a Wetland that abuts a RPWs with perennial flow Yes No
 Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
 Is this a Wetland that abuts or is adjacent to a RPW Yes No
 Does a significant nexus exist? (adjacent only, provide details below) Yes No
 Is this a Non-RPW (Flow – less than 3 months) Yes No
 [including ephemeral waters (i.e. swales, gully or small wash)]
 Does a significant nexus exist? (Provide details below) Yes No
 Is this a Wetland adjacent to Non-RPW Yes No
 Does a significant nexus exist? (Provide details below) Yes No
3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
 Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
 Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
 Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
 Explain _____

Streams:

Name (or tributary to) _____

Water body Type (stream/ditch/culvert/swale/wash) _____

Width (with respect to top of bank) _____

Depth (with respect to top of bank) _____

Flow rate (dry/stagnant/low/moderate/high) _____

Flow direction _____

Substrate (mud/silt/gravel/cobble/boulders/bedrock) _____

Bank vegetation (upland/wetland cover type) _____

Tributary is: Natural Artificial (man made). Explain _____
 Manipulated Explain _____

15/10
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

W-10/W-11
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: 2 small depressions with potential wetland type vegetation partially filled with rocks from nearby field

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
40	S	Wetland 15 15 (10 in foreground)
41	NE	Feature 15
42	S	Feature 16

Notes:

TT EMI QC Check: KB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: South	Feature ID	W-10 and W-11	Date 8/19/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

20
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-15
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: isolated wetland

TT Team ID: 1
Date/Time of Evaluation: 8/19/11 1320
Jurisdictional status: N
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW Yes No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
Is this a Wetland that abuts a RPWs with perennial flow Yes No
Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
Is this a Wetland that abuts or is adjacent to a RPW Yes No
Does a significant nexus exist? (adjacent only, provide details below) Yes No
Is this a Non-RPW (Flow – less than 3 months) Yes No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) Yes No
Is this a Wetland adjacent to Non-RPW Yes No
Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
Explain _____

Streams:

Name (or tributary to) _____

Water body Type (stream/ditch/culvert/swale/wash) _____

Width (with respect to top of bank) _____

Depth (with respect to top of bank) _____

Flow rate (dry/stagnant/low/moderate/high) _____

Flow direction _____

Substrate (mud/silt/gravel/cobble/boulders/bedrock) _____

Bank vegetation (upland/wetland cover type) _____

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

20
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

W-15
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: isolated wetland in crop field (wheat)

Other Features:

Sinkhole _____

Drainage Basins/Areas _____

Floodplains _____

Depressions _____

Gravel Pits/Mined Areas _____

Other _____

Photo log #:	Orientation:	Brief Description:
46	N	wetland w/ turbine
47	N	wetland
48	NNE	wetland

Notes:

TT EMI QC Check: KB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: Northeast	Feature ID	W-15	Date 8/19/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

21
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

W-16
Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KAB KPG
Feature Name: isolated wetland

TT Team ID: 1
Date/Time of Evaluation: 8/19/11 1331
Jurisdictional status: U
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW Yes No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
Is this a Wetland that abuts a RPWs with perennial flow Yes No
Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
Is this a Wetland that abuts or is adjacent to a RPW Yes No
Does a significant nexus exist? (adjacent only, provide details below) Yes No
Is this a Non-RPW (Flow – less than 3 months) Yes No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) Yes No
Is this a Wetland adjacent to Non-RPW Yes No
Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
Explain _____

Streams:

Name (or tributary to) _____

Water body Type (stream/ditch/culvert/swale/wash) _____

Width (with respect to top of bank) _____

Depth (with respect to top of bank) _____

Flow rate (dry/stagnant/low/moderate/high) _____

Flow direction _____

Substrate (mud/silt/gravel/cobble/boulders/bedrock) _____

Bank vegetation (upland/wetland cover type) _____

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

21
Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

W-16
Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: isolated wetland in pasture

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
49	NE	wetland w/ turbine
50	E	wetland w/ turbines
51	E	" "

Notes:

TT EMI QC Check: LCB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: Northeast	Feature ID	W-16	Date 8/19/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Kathy Bellrichard	

ZE

Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 1 of 2

DS-06

22

Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KPG CM
Feature Name: DRAINAGE SWALE

TT Team ID: 1
Date/Time of Evaluation: 10/4/11 10:15
Jurisdictional status: NO
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
 Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW Yes No
 Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
 Is this a Wetland that abuts a RPWs with perennial flow Yes No
 Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
 Is this a Wetland that abuts or is adjacent to a RPW Yes No
 Does a significant nexus exist? (adjacent only, provide details below) Yes No
 Is this a Non-RPW (Flow – less than 3 months) Yes No
 [including ephemeral waters (i.e. swales, gully or small wash)]
 Does a significant nexus exist? (Provide details below) Yes No
 Is this a Wetland adjacent to Non-RPW Yes No
 Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
 Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
 Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
 Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
 Explain _____

Streams:

Name (or tributary to) Tributary to Burnt Creek

Water body Type (stream/ditch/culvert/swale/wash) swale

Width (with respect to top of bank) no bank

Depth (with respect to top of bank) no bank

Flow rate (dry/stagnant/low/moderate/high) dry

Flow direction SE

Substrate (mud/silt/gravel/cobble/boulders/bedrock) vegetated

Bank vegetation (upland/wetland cover type) Upland-crops

Tributary is: Natural Artificial (man made). Explain _____
 Manipulated Explain _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: West	Feature ID	DS-06	Date 10/3/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

**WILTON IV
WETLAND FIELD DATA EVALUATION SHEET**

W-17 | W-18
52 24 | 25
Feature #

Trimble Feature # _____

Page 1 of 2

Location: Wilton IV
County: Burleigh
Assessors Names: KPG CM

TT Team ID: 1
Date/Time of Evaluation: 10/4/11 1:00PM
Jurisdictional status: YES

Feature Name: SEASONALLY FLOODED WETLAND No. of Features Present: 2

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- | | | |
|--|---|--|
| 1. Is this a Traditional Navigable Waters (TNW)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland adjacent to a TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 2. Is this a Tributary to a TNW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Relatively Permanent Waters (RPW) (Perennial Flow) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts a RPWs with perennial flow | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a RPW (Seasonal Flow – greater than 3 months) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts or is adjacent to a RPW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does a significant nexus exist? (adjacent only, provide details below) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Non-RPW (Flow – less than 3 months)
[including ephemeral waters (i.e. swales, gully or small wash)] | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Does a significant nexus exist? (Provide details below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Is this a Wetland adjacent to Non-RPW | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Does a significant nexus exist? (Provide details below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- | | | |
|--|---|--|
| a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Explain _____ | | |
| b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Explain _____ | | |
| c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Explain _____ | | |
| d. have other relationships to the physical, chemical, or biological integrity of the TNW? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Explain _____ | | |

Streams:

Name (or tributary to) WEST BRANCH APPLE CREEK (Tributary)
 Water body Type (stream/ditch/culvert/swale/wash) DRAINAGE SWALE w/ WETLAND
 Width (with respect to top of bank) 20± - NO BANK
 Depth (with respect to top of bank) 2-5 - NO BANK
 Flow rate (dry/stagnant/low/moderate/high) DRY
 Flow direction -
 Substrate (mud/silt/gravel/cobble/boulders/bedrock) SILT/LOAM/CLAY - vegetated
 Bank vegetation (upland/wetland cover type) UPLAND

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
 Page 2 of 2

W-17 | W-18

24/25

Feature #

Trimble Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: NWI MAPPED WETLAND ON NHD FLOWLINE,
SEASONALLY FLOODED WETLAND

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
572	E	Drainage
573	W	Drainage
574	N	NWI
575	S	NWI

Notes:

24 WETLAND ON NORTH SIDE OF ROAD
 25 " ON SOUTH "
 (no culvert identified/found)

TT EMI QC Check: ICB

TT EC QC Check: _____

W-17 | W-18

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11
 Applicant/Owner: Next Era Energy State: ND Sampling Point: 24W/25W
 Investigator(s): KPG CM Section, Township, Range: T142N R79W S13
 Landform (hillslope, terrace, etc.): WETLAND IN SWALE Local relief (concave, convex, none): CONCAVE Slope (%): 5-10
 Subregion (LRR): F Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: GRAIL SILTY CLAY LOAM NWI classification: FRESHWATER EMERGENT WETLAND
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____ Remarks:	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
--	---

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>70</u> x 1 = <u>70</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>80</u> (A) <u>90</u> (B) Prevalence Index = B/A = <u>1.1</u>
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>Polygonum pennsylvanicum</u>	<u>10</u>	<u>X</u>	<u>FACW+</u>	
2. <u>Lycopus</u>	_____	_____	_____	
3. <u>Juncus spp. (no fertile spikes)</u>	<u>20</u>	<u>X</u>	<u>?</u>	
4. <u>Carex flava</u>	<u>70</u>	<u>X</u>	<u>OBL</u>	
5. <u>Humone canadensis</u>	_____	_____	<u>FACW</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____				
Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks:				

of identifiable dominant species

SOIL

Sampling Point: 24W/25W

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	2.5Y 2.5/1	100					SILTY CLAY LOAM, 20%. 2-4mm	ROOTS (PEAT)
4-32+	2.5Y 2.5/1	100					SILTY CLAY	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 checked="" 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 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"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<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.
<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:	Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>	<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> High Water Table (A2)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Local Soil Survey Data (D8)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	

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 (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11
 Applicant/Owner: Next Era Energy State: ND Sampling Point: 240/250
 Investigator(s): KPG CM Section, Township, Range: T142N R79W S13
 Landform (hillslope, terrace, etc.): SWALE Local relief (concave, convex, none): CONCAVE Slope (%): 0-5
 Subregion (LRR): F Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: GRANULAR CLAY LOAM NWI classification: FRESHWATER EMERGENT
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____ _____ _____	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species _____ x 2 = _____
4. _____	_____	_____	_____	FAC species <u>75</u> x 3 = <u>225</u>
5. _____	_____	_____	_____	FACU species <u>10</u> x 4 = <u>40</u>
Total Cover: _____				UPL species <u>5</u> x 5 = <u>25</u>
				Column Totals: <u>90</u> (A) <u>290</u> (B)
				Prevalence Index = B/A = <u>3.2</u>
Herb Stratum				Hydrophytic Vegetation Indicators:
1. <u>Rudbeckia hirta</u>	_____	_____	<u>FACU</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Bromus kalmii</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Melilotus alba</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Helianthus</u>	_____	_____	_____	____ Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Rumex crispus</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC+</u>	
6. <u>Ambrosia ludoviciana</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	
7. <u>Rosa arkansa</u>	_____	_____	<u>NI</u>	
8. _____	_____	_____	_____	
Total Cover: <u>90</u>				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
Remarks: _____ _____ _____				

SOIL

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		
0-30	10YR 2/1	100					SILTY LOAM	
30-36+	10YR 2/1	100					SILTY CLAY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 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"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<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.
<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 X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</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"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)
<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"/> Local Soil Survey Data (D8)

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 X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: East	Feature ID	W-17	Date 10/4/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: South	Feature ID	W-18	Date 10/4/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET

w-19/w-20
26/27/28
Feature #

Trimble Feature #

Page 1 of 2

Location: Wilton IV
County: Burleigh
Assessors Names: KPG CM
Feature Name: WETLAND IN SWALE

TT Team ID: 1
Date/Time of Evaluation: 10/4/11
Jurisdictional status: YES
No. of Features Present: 3

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? [] Yes [x] No
Is this a Wetland adjacent to a TNW? [] Yes [x] No
2. Is this a Tributary to a TNW [] Yes [x] No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) [] Yes [x] No
Is this a Wetland that abuts a RPWs with perennial flow [] Yes [x] No
Is this a RPW (Seasonal Flow - greater than 3 months) [x] Yes [] No
Is this a Wetland that abuts or is adjacent to a RPW [x] Yes [] No
Does a significant nexus exist? (adjacent only, provide details below) [x] Yes [] No
Is this a Non-RPW (Flow - less than 3 months) [] Yes [x] No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) [] Yes [x] No
Is this a Wetland adjacent to Non-RPW [] Yes [x] No
Does a significant nexus exist? (Provide details below) [] Yes [x] No
3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) [] Yes [x] No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? [x] Yes [] No
Explain
b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? [] Yes [x] No
Explain
c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? [x] Yes [] No
Explain
d. have other relationships to the physical, chemical, or biological integrity of the TNW? [x] Yes [] No
Explain

Streams:

Name (or tributary to) WEST BRANCH APPLE CREEK
Water body Type (stream/ditch/culvert/swale/wash) SWALE
Width (with respect to top of bank) 10-20 - no bank
Depth (with respect to top of bank) 2-4 - no bank
Flow rate (dry/stagnant/low/moderate/high) STAGNANT
Flow direction SE
Substrate (mud/silt/gravel/cobble/boulders/bedrock) MUCK/SILT
Bank vegetation (upland/wetland cover type) UPLAND

- Tributary is: [x] Natural
[] Artificial (man made). Explain
[] Manipulated Explain

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
 Page 2 of 2

W-19/W-20

26/27/28

Feature #

Trimble Feature # _____

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: SEASONALLY FLOODED WETLAND @ NHS FLOWLINE

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
	SW	of N side of culvert
577	N	along flow line
578	S	along flow line

Notes:

26 WETLAND ON N SIDE OF ROAD

27 " SOUTH "

28 CULVERT

TT EMI QC Check: LCB

TT EC QC Check: _____

W-19|W-20

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11
 Applicant/Owner: Next Era Energy State: ND Sampling Point: 20W|27W
 Investigator(s): KPG CM Section, Township, Range: T1420 R79W S15 + 22
 Landform (hillslope, terrace, etc.): SWALE Local relief (concave, convex, none): CONCAVE Slope (%): 10-20
 Subregion (LRR): F Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: ARNAGARD + GRASSANA SILT LOAM NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____	_____	_____	_____	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 = _____
Total Cover: _____				
Sapling/Shrub Stratum				
1. <u>Salix</u>	<u>5</u>	<u>X</u>	<u>OBL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				
Herb Stratum				
1. <u>Bromus inermis?</u>	<u>70-80</u>	<u>X</u>	<u>NI</u>	
2. <u>Rumex crispus</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	
3. <u>Polygonum pennsylvanicum</u>	<u>5</u>	<u>X</u>	<u>FACW+</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____				
Remarks:				

W-19/W-20

SOIL

Sampling Point: Z6W/27W

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	5y 3/1	80	grey 4/10y	20			SILTY CLAY LOAM	
8-	5y 2.5/1	95	10y 2/10	5			LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 checked="" 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 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 checked="" 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"/> Other (Explain in Remarks)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)		
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)		
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)		

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)	
Primary Indicators (any one indicator is sufficient)			
<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 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)	
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)	
<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"/> Local Soil Survey Data (D8)	

Field Observations:

Surface Water Present? Yes No Depth (inches): 0

Water Table Present? Yes No Depth (inches): 8

Saturation Present? (includes capillary fringe) Yes No Depth (inches): 0

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

W-19/W-20

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11
 Applicant/Owner: Next Era Energy State: ND Sampling Point: 200/270
 Investigator(s): KPG CM Section, Township, Range: T142N R79W S15+22
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): NONE Slope (%): 0-5
 Subregion (LRR): _____ Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: ARNAGARD + GRASSINA SILT LOAM NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>5</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>20%</u> (A/B)
4. _____	_____	_____	_____	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 = _____
Total Cover: _____				
Sapling/Shrub Stratum				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				¹ Indicators of hydric soil and wetland hydrology must be present.
Herb Stratum				
1. <u>Bromus inermis</u>	<u>70</u>	<u>X</u>	<u>NI/UPL</u>	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. <u>Asclepius speciosa</u>	<u>5</u>	<u>X</u>	<u>FAC</u>	
3. <u>Solidago missouriensis</u>	<u>5</u>	<u>X</u>	<u>NI/UPL</u>	Remarks:
4. <u>Cirsium arvense</u>	<u>5</u>	<u>X</u>	<u>FACU</u>	
5. <u>Rosa arkansana</u>	<u>5</u>	<u>X</u>	<u>NI</u>	
Total Cover: _____				
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____				

SOIL

Sampling Point: Z60/270

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	10YR 2/1	100					SILTY LOAM	
10-16	10YR 2/1	100					SILTY CLAY LOAM	
16-20	10YR 3/2	100					SILTY CLAY LOAM	
20-28+	10YR 3/2	100					" , COMMON 2-5mm SUBR to SUBA GRAVEL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 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"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
<u>Primary Indicators (any one indicator is sufficient)</u>		
<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"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)
<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"/> Local Soil Survey Data (D8)

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:

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: North	Feature ID	W-19	Date 10/4/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: South	Feature ID	W-20	Date 10/4/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET

W-21

30

Trimble Feature #

Page 1 of 2

Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KPG CM
Feature Name: SWALE/WETLAND

TT Team ID: 1
Date/Time of Evaluation: 10/4/11
Jurisdictional status: YES
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? Yes No
Is this a Wetland adjacent to a TNW? Yes No
- 2. Is this a Tributary to a TNW Yes No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) Yes No
Is this a Wetland that abuts a RPWs with perennial flow Yes No
Is this a RPW (Seasonal Flow – greater than 3 months) Yes No
Is this a Wetland that abuts or is adjacent to a RPW Yes No
Does a significant nexus exist? (adjacent only, provide details below) Yes No
Is this a Non-RPW (Flow – less than 3 months) Yes No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) Yes No
Is this a Wetland adjacent to Non-RPW Yes No
Does a significant nexus exist? (Provide details below) Yes No
- 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) Yes No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? Yes No
Explain _____
- b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? Yes No
Explain _____
- c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? Yes No
Explain _____
- d. have other relationships to the physical, chemical, or biological integrity of the TNW? Yes No
Explain _____

Streams:

Name (or tributary to) WEST BRANCH APPLE CREEK (Tributary)
Water body Type (stream/ditch/culvert/swale/wash) SWALE
Width (with respect to top of bank) 10-40 - no bank
Depth (with respect to top of bank) 2-4 - no bank
Flow rate (dry/stagnant/low/moderate/high) STAGNANT
Flow direction #1 SW
Substrate (mud/silt/gravel/cobble/boulders/bedrock) SILT/LOAM/CLAY - vegetated
Bank vegetation (upland/wetland cover type) UPLAND/CROPLAND

Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

**WILTON IV
WETLAND FIELD DATA EVALUATION SHEET**

W-21

Trimble Feature # _____

Page 2 of 2

300

Feature # _____

Pond or Open Waters:

Is this feature a farm pond? Yes No

Was this feature dug out to collect surface runoff? Yes No

Was this feature dug from a linear feature such as a stream? Yes No

Was the stream filled in the process? Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: SEASONALLY FLOODED WETLAND ON
NHD FLOWLINE

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
585	E	along drainage
586	E	

Notes:

[Faint handwritten notes and sketches, including a small diagram of a drainage path.]

TT EMI QC Check: LCB

TT EC QC Check: _____

W-21

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11
 Applicant/Owner: Next Era Energy State: ND Sampling Point: 30 W
 Investigator(s): KPG CM Section, Township, Range: T142N R78W S21E22
 Landform (hillslope, terrace, etc.): SWALE Local relief (concave, convex, none): CONCAVE Slope (%): 10-20
 Subregion (LRR): F Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: ARNEGARD + GRASSANA SILT LOAM NWI classification: -

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species <u>50</u> x 1 = <u>50</u>
3. _____				FACW species <u>15</u> x 2 = <u>30</u>
4. _____				FAC species <u>10</u> x 3 = <u>30</u>
5. _____				FACU species _____ x 4 = _____
Total Cover: _____				UPL species _____ x 5 = _____
				Column Totals: <u>75</u> (A) <u>110</u> (B)
				Prevalence Index = B/A = <u>1.5</u>
Herb Stratum				Hydrophytic Vegetation Indicators:
1. <u>Typha angustifolia</u>	<u>50</u>		<u>OBL</u>	<input checked="" type="checkbox"/> Dominance Test is >50%
2. <u>Artemisia biennis</u>	<u>5</u>		<u>FACW</u>	<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Epilobium angustifolium</u>	<u>10</u>		<u>FAC</u>	___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Echinochloa cruz-galli</u>	<u>10</u>		<u>FACW</u>	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Chenopodium album</u>			<u>FAC-</u>	
6. <u>Rumex crispus</u>			<u>FAC</u>	
7. <u>Cirsium arvense</u>			<u>FACU</u>	
8. <u>Plantago major</u>			<u>FAC+</u>	
Total Cover: <u>75</u>				
Woody Vine Stratum				
1. _____				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks: _____ _____ _____				

SOIL

Sampling Point: 30W

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	GLEY 2S/N 90		10YR 3/6	10	C	PL	SILTY CLAY LOAM	
6-17	GLEY 2S/N 85		10YR 3/6	5	C	PL	"	
			GLEY 14/10/10	10				

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 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 checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Other (Explain in Remarks)
<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 checked="" type="checkbox"/> Loamy Mucky Mineral (F1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input checked="" type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<input checked="" 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 checked="" 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"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" 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"/> Local Soil Survey Data (D8)
Field Observations:	
Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u>	
Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11
 Applicant/Owner: Next Era Energy State: ND Sampling Point: 300
 Investigator(s): KPG CM Section, Township, Range: T142N R78W S21+22
 Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): CONCAVE Slope (%): 5-10
 Subregion (LRR): F Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: ARNEGARD + GRASSANA SILT LOAM NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>Cultivated wheat</u>	

VEGETATION

<u>Tree Stratum</u> (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (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 = _____
<u>Sapling/Shrub Stratum</u>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
Total Cover: _____				
<u>Herb Stratum</u>				
1. <u>Wheat</u>	_____	_____	_____	
2. <u>Cirsium arvense</u>	_____	_____	<u>FACU</u>	
3. <u>Medicago sativa</u>	_____	_____	<u>NI</u>	
4. <u>Chenopodium album</u>	_____	_____	<u>FAC-</u>	
5. <u>Setaria viridis</u>	_____	_____	<u>NI</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
<u>Woody Vine Stratum</u>				
1. _____	_____	_____	_____	% Bare Ground in Herb Stratum _____
2. _____	_____	_____	_____	
Total Cover: _____				Remarks: _____
% Bare Ground in Herb Stratum _____				

SOIL

Sampling Point: 300

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	10YR 2/1	100					SILT LOAM	
8-20	10YR 3/2	100					SILT CLAY LOAM	
20-28	10YR 3/2	100					" FEW 3-8mm SUBR TO SUBA GRAVEL	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 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"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> (MLRA 72 & 73 of LRR H)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<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"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)
<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"/> Local Soil Survey Data (D8)

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:

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: East	Feature ID	W-21	Date 10/4/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
 Page 1 of 2

W-22

Trimble Feature # _____

31 _____ Feature #

Location: Wilton IV
 County: Burleigh
 Assessors Names: KPG CM
 Feature Name: SWALE/WETLAND

TT Team ID: 1
 Date/Time of Evaluation: 10/4/11
 Jurisdictional status: YES
 No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- | | | |
|--|---|--|
| 1. Is this a Traditional Navigable Waters (TNW)? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland adjacent to a TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| 2. Is this a Tributary to a TNW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Relatively Permanent Waters (RPW) (Perennial Flow) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts a RPWs with perennial flow | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a RPW (Seasonal Flow – greater than 3 months) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Wetland that abuts or is adjacent to a RPW | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Does a significant nexus exist? (adjacent only, provide details below) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Is this a Non-RPW (Flow – less than 3 months) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| [including ephemeral waters (i.e. swales, gully or small wash)] | | |
| Does a significant nexus exist? (Provide details below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Is this a Wetland adjacent to Non-RPW | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Does a significant nexus exist? (Provide details below) | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| 3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- | | | |
|--|---|--|
| a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Explain _____ | | |
| b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? | <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
| Explain _____ | | |
| c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Explain _____ | | |
| d. have other relationships to the physical, chemical, or biological integrity of the TNW? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Explain _____ | | |

Streams:

Name (or tributary to) WEST BRANCH APPLE CREEK (Tributary)
 Water body Type (stream/ditch/culvert/swale/wash) SWALE/WETLAND
 Width (with respect to top of bank) 10-15 - no bank
 Depth (with respect to top of bank) 2-3 - no bank
 Flow rate (dry/stagnant/low/moderate/high) DRY
 Flow direction to South
 Substrate (mud/silt/gravel/cobble/boulders/bedrock) SILT/LOAM/CLAY - vegetated
 Bank vegetation (upland/wetland cover type) UPLAND

- Tributary is: Natural
 Artificial (man made). Explain _____
 Manipulated Explain _____

**WILTON IV
WETLAND FIELD DATA EVALUATION SHEET**

Page 2 of 2

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31

Trimble Feature #

Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: SEASONALLY FLOODED NW1 WETLAND
ON NHD FLOWLINE

Other Features:

- Sinkhole _____
- Drainage Basins/Areas _____
- Floodplains _____
- Depressions _____
- Gravel Pits/Mined Areas _____
- Other _____

Photo log #:	Orientation:	Brief Description:
587	E	from wetland margin facing east

Notes:

(Faint handwritten notes)

TT EMI QC Check: ICB

TT EC QC Check: _____

W-22

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11

Applicant/Owner: Next Era Energy State: ND Sampling Point: 31W

Investigator(s): KPG CM Section, Township, Range: T142N R78W S23

Landform (hillslope, terrace, etc.): SWALE Local relief (concave, convex, none): CONCAVE Slope (%): 10

Subregion (LRR): F Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: TONKA + PARNELL SOILS NWI classification: FRESHWATER EMERGENT WETLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes No _____

Are Vegetation N, Soil N, or Hydrology N 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 <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks:	

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
Total Cover: _____				
Sapling/Shrub Stratum				Prevalence Index worksheet:
1. _____				Total % Cover of: _____ Multiply by: _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species <u>30</u> x 2 = <u>60</u>
4. _____				FAC species <u>10</u> x 3 = <u>30</u>
5. _____				FACU species _____ x 4 = _____
Total Cover: _____				UPL species _____ x 5 = _____
				Column Totals: <u>40</u> (A) <u>90</u> (B)
				Prevalence Index = B/A = <u>2.25</u>
Herb Stratum				Hydrophytic Vegetation Indicators:
1. <u>Polygonum pennsylvanicum</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	___ Dominance Test is >50%
2. <u>Carex</u>	<u>20</u>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Bromus</u>	<u>10</u>			___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Rumex crispus</u>	<u>10</u>		<u>FAC</u>	___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Andropogon smithii</u>			<u>NI</u>	
6. _____				
7. _____				
8. _____				
Total Cover: _____				
Woody Vine Stratum				¹ Indicators of hydric soil and wetland hydrology must be present.
1. _____				
2. _____				
Total Cover: _____				
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
Remarks:				

10 at Hotel

SOIL

Sampling Point: 31W

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	2.5Y 3/1	100					SILTY CLAY LOAM	
4-24	2.5Y 3/1	85	10YR 3/6	15	C	PL	"	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 checked="" 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 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"/> Other (Explain in Remarks)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input checked="" type="checkbox"/> Redox Depressions (F8)	
<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.
<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:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient)	
<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 checked="" 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"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input checked="" type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Local Soil Survey Data (D8)

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:

W-22

WETLAND DETERMINATION DATA FORM – Great Plains Region (DRAFT)

Project/Site: Wilton IV City/County: Burleigh Sampling Date: 10/4/11

Applicant/Owner: Next Era Energy State: ND Sampling Point: 310

Investigator(s): KPG CM Section, Township, Range: T142N R78W S23

Landform (hillslope, terrace, etc.): HILLSLOPE Local relief (concave, convex, none): NONE Slope (%): 10-15

Subregion (LRR): F Lat: _____ Long: _____ Datum: _____

Soil Map Unit Name: TONKA + PARNELL SOILS NWI classification: FRESHWATER EMERGENT WETLAND

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks:		

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
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				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
Herb Stratum				
1. <u>Bromus</u>	<u>80</u>	<u>X</u>	_____	
2. <u>Cirsium arvense</u>	_____	_____	<u>FACU</u>	
3. <u>Andropogon smithii</u>	<u>10</u>	<u>X</u>	_____	
4. <u>Rumex crispus</u>	_____	_____	_____	
5. <u>Asclepius speciosa</u>	_____	_____	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
Total Cover: _____				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
Woody Vine Stratum				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
Total Cover: _____				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: 310

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	10YR 2/1	100					LOAM	
4-11	10YR 2/1	100					SILT LOAM	
11-20+	10YR 4/2	100					SILT CLAY LOAM	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix. ²Location: PL=Pore Lining, RC=Root Channel, 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 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"/> Other (Explain in Remarks)
<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)	

³Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u><input checked="" type="checkbox"/></u>
--	--

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Secondary Indicators (2 or more required)
Primary Indicators (any one indicator is sufficient) <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"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Other (Explain in Remarks) <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"/> 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) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Frost-Heave Hummocks (C11) (LRR F) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Local Soil Survey Data (D8)

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 <u><input checked="" type="checkbox"/></u>
--	--

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: East	Feature ID	W-22	Date 10/4/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET

W-23

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Trimble Feature #

Page 1 of 2

Feature #

Location: Wilton IV
County: Burleigh
Assessors Names: KPG CM
Feature Name: Prairie Pothole

TT Team ID: 1
Date/Time of Evaluation: 10/5/11 1000
Jurisdictional status: NO
No. of Features Present: 1

Waters of the U.S. (indicate presence of waters of the U.S. within the project footprint):

- 1. Is this a Traditional Navigable Waters (TNW)? [] Yes [X] No
Is this a Wetland adjacent to a TNW? [] Yes [X] No
2. Is this a Tributary to a TNW [] Yes [X] No
Is this a Relatively Permanent Waters (RPW) (Perennial Flow) [] Yes [X] No
Is this a Wetland that abuts a RPWs with perennial flow [] Yes [X] No
Is this a RPW (Seasonal Flow - greater than 3 months) [] Yes [X] No
Is this a Wetland that abuts or is adjacent to a RPW [] Yes [X] No
Does a significant nexus exist? (adjacent only, provide details below) [] Yes [X] No
Is this a Non-RPW (Flow - less than 3 months) [] Yes [X] No
[including ephemeral waters (i.e. swales, gully or small wash)]
Does a significant nexus exist? (Provide details below) [] Yes [X] No
Is this a Wetland adjacent to Non-RPW [] Yes [X] No
Does a significant nexus exist? (Provide details below) [] Yes [X] No
3. Is this an Isolated Waters (i.e. isolated wetlands, ditches) [X] Yes [] No

Significant Nexus Determination:

Does the tributary, in combination with its adjacent wetlands (if any), perform any of the following functions?

- a. have the capacity to carry pollutants or flood waters to, or reduce the amount of pollutants or flood waters reaching a TNW? [] Yes [X] No
Explain
b. provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW? [] Yes [X] No
Explain
c. have the capacity to transfer nutrients and organic carbon that support downstream food webs? [] Yes [X] No
Explain
d. have other relationships to the physical, chemical, or biological integrity of the TNW? [] Yes [X] No
Explain

Streams:

Name (or tributary to)
Water body Type (stream/ditch/culvert/swale/wash)
Width (with respect to top of bank)
Depth (with respect to top of bank)
Flow rate (dry/stagnant/low/moderate/high)
Flow direction
Substrate (mud/silt/gravel/cobble/boulders/bedrock)
Bank vegetation (upland/wetland cover type)
Tributary is: [] Natural [] Artificial (man made). Explain [] Manipulated Explain

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Trimble Feature #

WILTON IV
WETLAND FIELD DATA EVALUATION SHEET
Page 2 of 2

W-23

Feature #

Pond or Open Waters:

Is this feature a farm pond?

Yes No

Was this feature dug out to collect surface runoff?

Yes No

Was this feature dug from a linear feature such as a stream?

Yes No

Was the stream filled in the process?

Yes No

If this feature is not a farm pond, describe under comments.

Comments: _____

Wetlands:

Complete Wetland Determination Field Sheet to evaluate the area and use cheat sheets:

Comments: prairie pothole

Other Features:

Sinkhole _____

Drainage Basins/Areas _____

Floodplains _____

Depressions _____

Gravel Pits/Mined Areas _____

Other _____

Photo log #:	Orientation:	Brief Description:
267	W	Prairie pothole, sent from phone

Notes:

TT EMI QC Check: ICB

TT EC QC Check: _____

Wilton IV Wind Energy Center



TETRA TECH PROJECT NO. 103IP1913 Direction: North	Feature ID	W-23	Date 10/5/11
	CLIENT	NextEra Energy	
	PHOTOGRAPHER	Carol Mears	

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State:ND County/parish/borough: Burleigh City: Baldwin

Center coordinates of site (lat/long in degree decimal format): Lat. 47.098675° **N**, Long. -100.697870° **W**.

Universal Transverse Mercator: NAD 83 UTM Zone 14 371157.60E, 5217528.30N

Name of nearest waterbody: Unnamed Tributary of Burnt Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Missouri River

Name of watershed or Hydrologic Unit Code (HUC): 10130101 Painted Woods-Square Butte, North Dakota

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): September 2009

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 0.5 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is “adjacent”:

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are “relatively permanent waters” (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: 1,508,558.80 acres
Drainage area: 435 acres
Average annual rainfall: 25.88 inches
Average annual snowfall: 12.7 inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

- Tributary flows directly into TNW.
- Tributary flows through 2 tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.
Project waters are 5-10 river miles from RPW.
Project waters are 30 (or more) aerial (straight) miles from TNW.
Project waters are 5-10 aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: Unnamed Tributary of Burnt Creek to Burnt Creek to Missouri River.
Tributary stream order, if known: 1.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

- Tributary is:** Natural
 Artificial (man-made). Explain:
 Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):

Average width: 15-20 feet
Average depth: 1-3 feet
Average side slopes: **2:1**.

Primary tributary substrate composition (check all that apply):

- | | | |
|--|---|-----------------------------------|
| <input type="checkbox"/> Silts | <input type="checkbox"/> Sands | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles | <input type="checkbox"/> Gravel | <input type="checkbox"/> Muck |
| <input type="checkbox"/> Bedrock | <input checked="" type="checkbox"/> Vegetation. Type/% cover: Herbaceous 100% | |
| <input type="checkbox"/> Other. Explain: | | |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **1**

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Discrete**. Characteristics:

Subsurface flow: **Unknown**. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- | | |
|--|--|
| <input type="checkbox"/> Bed and banks | |
| <input checked="" type="checkbox"/> OHWM ⁶ (check all indicators that apply): | |
| <input checked="" type="checkbox"/> clear, natural line impressed on the bank | <input type="checkbox"/> the presence of litter and debris |
| <input type="checkbox"/> changes in the character of soil | <input type="checkbox"/> destruction of terrestrial vegetation |
| <input type="checkbox"/> shelving | <input type="checkbox"/> the presence of wrack line |
| <input type="checkbox"/> vegetation matted down, bent, or absent | <input type="checkbox"/> sediment sorting |
| <input checked="" type="checkbox"/> leaf litter disturbed or washed away | <input type="checkbox"/> scour |
| <input checked="" type="checkbox"/> sediment deposition | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining | <input checked="" type="checkbox"/> abrupt change in plant community |
| <input type="checkbox"/> other (list): | |
| <input type="checkbox"/> Discontinuous OHWM. ⁷ Explain: | |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- | | |
|--|--|
| <input checked="" type="checkbox"/> High Tide Line indicated by: | <input type="checkbox"/> Mean High Water Mark indicated by: |
| <input type="checkbox"/> oil or scum line along shore objects | <input type="checkbox"/> survey to available datum; |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings; |
| <input type="checkbox"/> physical markings/characteristics | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges | |
| <input type="checkbox"/> other (list): | |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Moderately turbid, and mostly run off from ag fields.

Identify specific pollutants, if known: Moderately turbid.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width): Man made impoundment for waterfowl use.
- Wetland fringe. Characteristics:
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Pheasants present in review area.

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) General Wetland Characteristics:

Properties:

Wetland size: 0.5 acres

Wetland type. Explain: Palustrine emergent and herbaceous components are present within the review area.

Wetland quality. Explain: Moderate, Diverse plant assemblage within the herbaceous component dominated by narrow leaf cattail and black willow.

Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:

Flow is: **Intermittent flow**. Explain:

Surface flow is: **Discrete**

Characteristics:

Subsurface flow: **Unknown**. Explain findings:

Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW

Project wetlands are **30 (or more)** river miles from TNW.

Project waters are **30 (or more)** aerial (straight) miles from TNW.

Flow is from: **Wetland to navigable waters.**

Estimate approximate location of wetland as within the **2-year or less** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width): 1-5 ft with crops planted up to buffer.
- Vegetation type/percent cover. Explain: Herbaceous and forested components 95%.
- Habitat for:
 - Federally Listed species. Explain findings:
 - Fish/spawn areas. Explain findings:
 - Other environmentally-sensitive species. Explain findings:
 - Aquatic/wildlife diversity. Explain findings: Deer, pheasants and waterfowl present in review area.

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **1**

Approximately (0.5) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Direct	<u> </u> ly abuts? (Y/N)	<u> </u> Size (in acres)	<u> </u> Directly abuts? (Y/N) S	<u> </u> ize (in acres)
	Y	0.5		

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet width (ft), Or, acres.
 - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 - Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The tributary drains a large area and receives drainage inputs from neighboring agricultural fields, heavy winter rains and some snow melt along with spring rains and runoff from county road. These inputs provide sufficient inputs to ensure seasonal flow in this tributary.

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is

directly

abutting an RPW: .

- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: 0.5 acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

Demonstrate that impoundment was created from "waters of the U.S.," or

Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

which are or could be used by interstate or foreign travelers for recreational or other purposes.

from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

which are or could be used for industrial purposes by industries in interstate commerce.

Interstate isolated waters. Explain: Isolated wetland that is in the middle of a pasture.

Other factors. Explain: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:s.
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:USGA 1:24,000 7.5 minute Quad Map, Digital Raster Graphic Mosaic of Burleigh County, ND.
- USDA Natural Resources Conservation Service Soil Survey. Citation:USDA Soil Survey of Burleigh County, ND. May 1975.
- National wetlands inventory map(s). Cite name:National Wetland Inventory Remap and Update for Burleigh County, ND.
- State/Local wetland inventory map(s):NDDNR.
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
or Other (Name & Date):Digital Ground Photographs, September 2009.
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify):Data taken from Woodward County, Oklahoma Climatological Survey (www.ocs.ou.edu).

B. ADDITIONAL COMMENTS TO SUPPORT JD: The general area of watershed includes 1,508,558.80 acres with 435 acres of drainage. The impoundment of the seasonal RPW is roughly 0.5 acre with a herbaceous and forested basin, dominated by narrow leaf cattail and black willow trees. This is a man made impoundment that captures water to create wetland suitable for waterfowl nesting and habitat. The surrounding land is utilized as cropland and is farmed up to the edges of the wetland on the west side and landowner drive way to the east. The wetland has a discreet or confined surface or shallow subsurface connection to a tributary stream that eventually flows into navigable waters of the United States. Therefore, the wetland is hydrologically connected to a water of the United States.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Baldwin City/County: Burleigh Sampling Date: 22-Sep-09
 Applicant/Owner: Nextera State: ND Sampling Point: E-28-1
 Investigator(s): MRE/RNS Section, Township, Range: S 28 T 142 R 79
 Landform (hillslope, terrace, etc.): Channel (active) Local relief (concave, convex, none): concave Slope: 3.0% / 1.7°
 Subregion (LRR): LRR F Lat.: E: 371157.60 Long.: N: 5217528.30 Datum: NAD1983
 Soil Map Unit Name: Williams loam, undulating NWI classification: NA

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 <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	

Remarks:

Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual and Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region.

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: R4

Tree Stratum (Plot size: _____)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. <u>Salix petiolaris</u>	70	<input checked="" type="checkbox"/> 70.0%	OBL	Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)
2. <u>Quercus macrocarpa</u>	30	<input checked="" type="checkbox"/> 30.0%	FACU	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>75.0%</u> (A/B)
4. _____	0	<input type="checkbox"/> 0.0%		
	100	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	0	<input type="checkbox"/>		Total % Cover of: _____ Multiply by: _____
2. _____	0	<input type="checkbox"/>		OBL species <u>140</u> x 1 = <u>140</u>
3. _____	0	<input type="checkbox"/>		FACW species <u>30</u> x 2 = <u>60</u>
4. _____	0	<input type="checkbox"/>		FAC species <u>0</u> x 3 = <u>0</u>
5. _____	0	<input type="checkbox"/>		FACU species <u>30</u> x 4 = <u>120</u>
	0	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
Herb Stratum (Plot size: _____)				Column Total s: <u>200</u> (A) <u>320</u> (B)
1. <u>Phalaris arundinacea</u>	30	<input checked="" type="checkbox"/> 30.0%	FACW+	Prevalence Index = B/A = <u>1.6</u>
2. <u>Typha angustifolia</u>	70	<input checked="" type="checkbox"/> 70.0%	OBL	
3. _____	0	<input type="checkbox"/> 0.0%		
4. _____	0	<input type="checkbox"/> 0.0%		
5. _____	0	<input type="checkbox"/> 0.0%		
6. _____	0	<input type="checkbox"/> 0.0%		
7. _____	0	<input type="checkbox"/> 0.0%		
8. _____	0	<input type="checkbox"/> 0.0%		
9. _____	0	<input type="checkbox"/> 0.0%		
10. _____	0	<input type="checkbox"/> 0.0%		
	100	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>		
2. _____	0	<input type="checkbox"/>		
	0	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Hydrophytic Vegetation Indicators:
 Dominance Test is > 50%
 Prevalence Index is ≤ 3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks:

Vegetation dominated by hydrophytes.
 Photos: View North (Page 1), View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



Location E-28-1: View North 9-22-09.



Location E-28-1: View South 9-22-09.

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): September 2009

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:

State: ND County/parish/borough: Burleigh City: Baldwin

Center coordinates of site (lat/long in degree decimal format): Lat. 47.099355° **N**, Long. -100.697826° **W**.

Universal Transverse Mercator: NAD 83 UTM Zone 14371162.63E, 5217603.75N

Name of nearest waterbody: Unnamed Tributary of Burnt Creek

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Missouri River

Name of watershed or Hydrologic Unit Code (HUC): 10130101 Painted Woods-Square Butte, North Dakota

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):

Office (Desk) Determination. Date:

Field Determination. Date(s): September 2009

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

a. Indicate presence of waters of U.S. in review area (check all that apply):¹

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters² (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: 1.1 acres.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known): .

2. Non-regulated waters/wetlands (check if applicable):³

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.

Explain: .

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS**A. TNWs AND WETLANDS ADJACENT TO TNWs**

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW**(i) General Area Conditions:**

Watershed size: 1,508,558.80 acres

Drainage area: 435 acres

Average annual rainfall: 17.90 inches

Average annual snowfall: 33.40 inches

(ii) Physical Characteristics:**(a) Relationship with TNW:**

- Tributary flows directly into TNW.
 Tributary flows through 2 tributaries before entering TNW.

Project waters are 30 (or more) river miles from TNW.

Project waters are 5-10 river miles from RPW.

Project waters are 30 (or more) aerial (straight) miles from TNW.

Project waters are 5-10 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: Unnamed Tributary of Burnt Creek to Burnt Creek to Missouri River.

Tributary stream order, if known: 1.

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):

Tributary is: Natural
 Artificial (man-made). Explain: .
 Manipulated (man-altered). Explain: Dike was constructed to back water up to create a wetland.

Tributary properties with respect to top of bank (estimate):

Average width: 80-100 feet

Average depth: 1-3 feet

Average side slopes: **3:1**.

Primary tributary substrate composition (check all that apply):

Silts Sands Concrete
 Cobbles Gravel Muck
 Bedrock Vegetation. Type/% cover: Herbaceous 100%
 Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: .

Presence of run/riffle/pool complexes. Explain: .

Tributary geometry: Pick List

Tributary gradient (approximate average slope): %

(c) Flow:

Tributary provides for: **Seasonal flow**

Estimate average number of flow events in review area/year: **1**

Describe flow regime: .

Other information on duration and volume: .

Surface flow is: **Discrete**. Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .

Dye (or other) test performed: .

Tributary has (check all that apply):

Bed and banks
 OHWM⁶ (check all indicators that apply):
 clear, natural line impressed on the bank the presence of litter and debris
 changes in the character of soil destruction of terrestrial vegetation
 shelving the presence of wrack line
 vegetation matted down, bent, or absent sediment sorting
 leaf litter disturbed or washed away scour
 sediment deposition multiple observed or predicted flow events
 water staining abrupt change in plant community
 other (list):
 Discontinuous OHWM.⁷ Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

High Tide Line indicated by: Mean High Water Mark indicated by:
 oil or scum line along shore objects survey to available datum;
 fine shell or debris deposits (foreshore) physical markings;
 physical markings/characteristics vegetation lines/changes in vegetation types.
 tidal gauges
 other (list):

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain: Moderately turbid, and mostly run off from ag fields.

Identify specific pollutants, if known: Moderately turbid.

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

⁷Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):

- Riparian corridor. Characteristics (type, average width): Man made impoundment for waterfowl use.
- Wetland fringe. Characteristics: .
- Habitat for:
- Federally Listed species. Explain findings: .
- Fish/spawn areas. Explain findings: .
- Other environmentally-sensitive species. Explain findings: .
- Aquatic/wildlife diversity. Explain findings: Deer, pheasants and waterfowl present in review area.

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**(i) Physical Characteristics:****(a) General Wetland Characteristics:**

Properties:

Wetland size: 1.1 acres

Wetland type. Explain: Palustrine emergent and herbaceous components are present within the review area.

Wetland quality. Explain: Moderate, Diverse plant assemblage within the herbaceous component dominated by narrow leaf cattail and black willow.

Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:Flow is: **Intermittent flow**. Explain: .Surface flow is: **Discrete**

Characteristics: .

S subsurface flow: **Unknown**. Explain findings: . Dye (or other) test performed: .**(c) Wetland Adjacency Determination with Non-TNW:** Directly abutting Not directly abutting Discrete wetland hydrologic connection. Explain: . Ecological connection. Explain: . Separated by berm/barrier. Explain: .**(d) Proximity (Relationship) to TNW**Project wetlands are **30 (or more)** river miles from TNW.Project waters are **30 (or more)** aerial (straight) miles from TNW.Flow is from: **Wetland to navigable waters**.Estimate approximate location of wetland as within the **2-year or less** floodplain.**(ii) Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain: .

Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):

- Riparian buffer. Characteristics (type, average width): 1-5 ft with crops planted up to buffer.
- Vegetation type/percent cover. Explain: Herbaceous and forested components 95%.
- Habitat for:
- Federally Listed species. Explain findings: .
- Fish/spawn areas. Explain findings: .
- Other environmentally-sensitive species. Explain findings: .
- Aquatic/wildlife diversity. Explain findings: Deer, pheasants and waterfowl present in review area.

3. Characteristics of all wetlands adjacent to the tributary (if any)All wetland(s) being considered in the cumulative analysis: **1**

Approximately (1.1) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Direct	<u> </u> ly abuts? (Y/N)	<u> </u> Size (in acres)	<u> </u> Directly abuts? (Y/N)	<u> </u> Size (in acres)
	Y	1.1	S	

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
 - TNWs: linear feet width (ft), Or, acres.
 - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
 - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
 - Tributaries of TNW where tributaries have continuous flow “seasonally” (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: The tributary drains a large area and receives drainage inputs from neighboring agricultural fields, heavy winter rains and some snow melt along with spring rains and runoff from county road. These inputs provide sufficient inputs to ensure seasonal flow in this tributary.

Provide estimates for jurisdictional waters in the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

3. Non-RPWs⁸ that flow directly or indirectly into TNWs.

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

Tributary waters: linear feet width (ft).

Other non-wetland waters: acres.

Identify type(s) of waters: .

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is

directly

abutting an RPW: .

- Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: 1.1 acres.

7. Impoundments of jurisdictional waters.⁹

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

Demonstrate that impoundment was created from "waters of the U.S.," or

Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):¹⁰

which are or could be used by interstate or foreign travelers for recreational or other purposes.

from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

which are or could be used for industrial purposes by industries in interstate commerce.

Interstate isolated waters. Explain: Isolated wetland that is in the middle of a pasture.

Other factors. Explain: .

⁸See Footnote # 3.

⁹To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.
Identify type(s) of waters: .
- Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
 - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:s.
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - Office concurs with data sheets/delineation report.
 - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps: .
- Corps navigable waters' study: .
- U.S. Geological Survey Hydrologic Atlas: .
 - USGS NHD data.
 - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name:USGA 1:24,000 7.5 minute Quad Map, Digital Raster Graphic Mosaic of Burleigh County, ND.
- USDA Natural Resources Conservation Service Soil Survey. Citation:USDA Soil Survey of Burleigh County, ND. May 1975.
- National wetlands inventory map(s). Cite name:National Wetland Inventory Remap and Update for Burleigh County, ND.
- State/Local wetland inventory map(s):NDDNR.
- FEMA/FIRM maps: .
- 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
- Photographs: Aerial (Name & Date): .
or Other (Name & Date):Digital Ground Photographs, September 2009.
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify):*Rainfall and snowfall data taken from Forbes 10 NW, Dickey County, North Dakota High Plains Regional Climate Center (<http://hprcc1.unl.edu/data/historical>).

B. ADDITIONAL COMMENTS TO SUPPORT JD: The general area of watershed includes 1,508,558.80 acres with 435 acres of drainage. The impoundment of the seasonal RPW is roughly 1.1 acre with a herbaceous and forested basin, dominated by narrow leaf cattail and black willow trees. This is a man made impoundment that captures water to create wetland suitable for waterfowl nesting and habitat. The surrounding land is utilized as cropland and is farmed up to the edges of the wetland. The wetland has a discreet or confined surface or shallow subsurface connection to a tributary stream that eventually flows into navigable waters of the United States. Therefore, the wetland is hydrologically connected to a water of the United States.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Baldwin City/County: Burleigh Sampling Date: 22-Sep-09
 Applicant/Owner: Nextera State: ND Sampling Point: E-21-2
 Investigator(s): MRE/RNS Section, Township, Range: S 21 T 142 R 79
 Landform (hillslope, terrace, etc.): Channel (active) Local relief (concave, convex, none): concave Slope: 2.0% / 1.1°
 Subregion (LRR): LRR F Lat.: E: 371162.63 Long.: N: 5217603.75 Datum: NAD1983
 Soil Map Unit Name: Williams loam, undulating NWI classification: NA

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 <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: Based on the data collected, this location does meet the definition of a wetland as defined by the USACE 1987 Wetland Delineation manual and Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region.	

VEGETATION - Use scientific names of plants FWS Region: R4

Stratum	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
Tree Stratum (Plot size: _____)				Number of Dominant Species That are OBL, FACW, or FAC: <u>3</u> (A)
1. _____	0	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: <u>3</u> (B)
2. _____	0	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
3. _____	0	<input type="checkbox"/>	_____	
4. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:
1. _____	0	<input type="checkbox"/>	_____	Total % Cover of: _____ Multiply by: _____
2. _____	0	<input type="checkbox"/>	_____	OBL species <u>40</u> x 1 = <u>40</u>
3. _____	0	<input type="checkbox"/>	_____	FACW species <u>60</u> x 2 = <u>120</u>
4. _____	0	<input type="checkbox"/>	_____	FAC species <u>0</u> x 3 = <u>0</u>
5. _____	0	<input type="checkbox"/>	_____	FACU species <u>0</u> x 4 = <u>0</u>
	0	= Total Cover		UPL species <u>0</u> x 5 = <u>0</u>
Herb Stratum (Plot size: _____)				Column Total s: <u>100</u> (A) <u>160</u> (B)
1. <u>Typha angustifolia</u>	40	<input checked="" type="checkbox"/>	40.0% OBL	Prevalence Index = B/A = <u>1.6</u>
2. <u>Phalaris arundinacea</u>	30	<input checked="" type="checkbox"/>	30.0% FACW+	
3. <u>Spartina pectinata</u>	30	<input checked="" type="checkbox"/>	30.0% FACW	
4. _____	0	<input type="checkbox"/>	0.0%	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
	100	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	0	<input type="checkbox"/>	_____	
2. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				

Hydrophytic Vegetation Indicators:
 Dominance Test is > 50%
 Prevalence Index is ≤ 3.0¹
 Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

¹ Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes No

Remarks:
 Vegetation dominated by hydrophytes.
 Photos: View North (Page 1), View South (Page 1)

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.



Location E-21-2: View North 9-22-09.



Location E-21-2: View South 9-22-09.