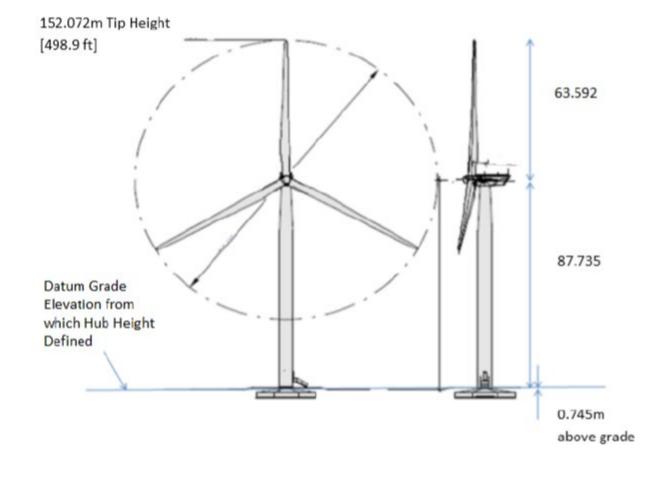
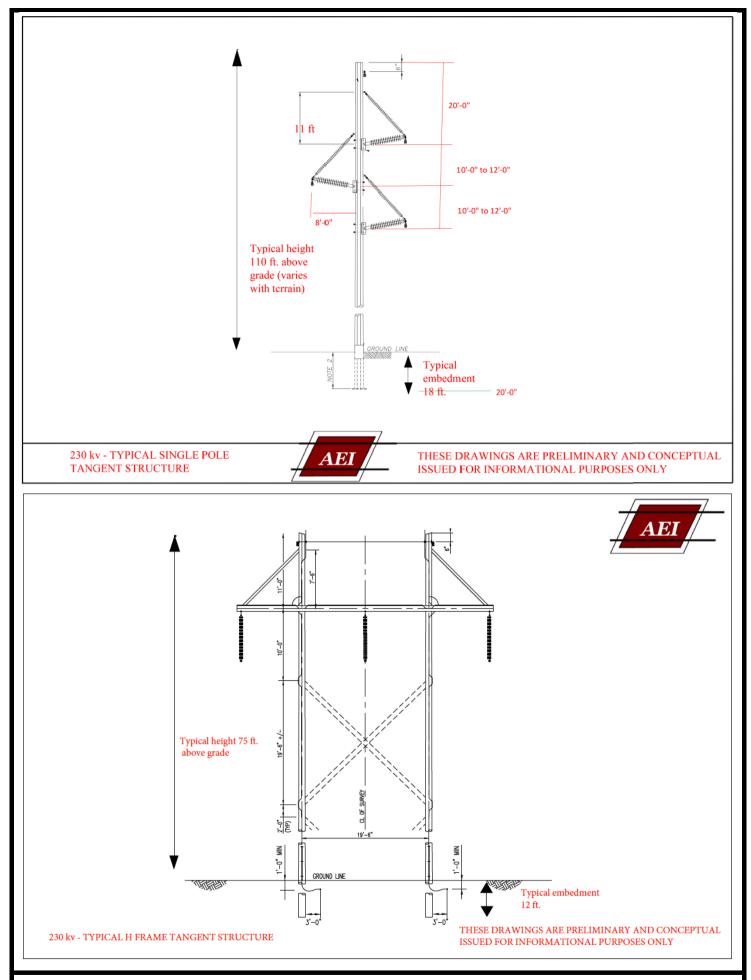
APPENDIX A – WIND TURBINE AND TRANSMISSION FACILITY DIAGRAMS





Source: General Electric, 2019

GE 2.82/127 Diagram, 89-Meter Hub Height Sweetland Wind Farm, LLC Hand County, South Dakota



Source: American Energy Inc., 2018

Transmission Facility Structure Diagram Sweetland Wind Farm, LLC Hand County, South Dakota **APPENDIX B – WETLAND DELINEATION REPORT** 



February 26, 2019

Mark Wengierski Project Manager Sweetland Wind Farm, LLC 4865 Sterling Drive, Suite 200 Boulder, Colorado 80301

Re: Sweetland Wind Project Wetland Delineation Report

Dear Mr. Wengierski:

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) was retained by Sweetland Wind Farm, LLC (Client) to provide wetland delineation services for the proposed Sweetland Wind Project (Project) in Hand County, South Dakota (Figure A-1, Appendix A). The following sections provide information on the proposed Project and summarize the completed wetland delineation.

# **INTRODUCTION**

The Client plans to construct a new 200-megawatt wind farm and associated overhead transmission line and substation in Hand County, South Dakota. The proposed Project would include construction of a maximum of 71 wind turbines and 15 alternate locations, permanent access roads, operations and maintenance facility, a maximum of 4 meteorological towers, electrical power underground collection lines and communication system, a maximum 7-mile 230-kV overhead transmission line, substation, switchyard, and temporary construction areas, such as crane paths, pull sites, laydown yard, and a batch plant. The Project is located approximately 10 miles southeast of Miller, South Dakota.

The Project has the potential to impact wetlands or other water bodies that may be under the jurisdiction of the U.S. Army Corps of Engineers (USACE) as designated by Section 404 of the Clean Water Act. Burns & McDonnell conducted a wetland delineation for the Project to evaluate the presence of wetlands and other water bodies, including streams, drainages, and ponds. The delineation was conducted based on buffers applied to the proposed Project layout (Survey Area). Specifically, a 250-foot buffer was applied to each turbine, a 200-foot buffer was applied to each facility footprint, and a 100-foot buffer (200 feet wide) was applied to all remaining linear features. The Survey Area included in the wetland delineation totaled approximately 2,385 acres.

### **METHODS**

The following discussions summarize the methods used for the review of existing data and the wetland delineation.



### **Existing Data Review**

Burns & McDonnell reviewed available background information for the proposed Project prior to conducting a site visit. This available background information included the 1981 U.S. Geological Survey (USGS) 7.5-minute topographic maps (Vayland Northwest, Vayland, Vayland Southeast, and Wessington Southwest, ND quadrangles), U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) 2018 Soil Survey Geographic (SSURGO) digital data for Hand County, South Dakota, and 2015 National Agriculture Imagery Program (NAIP) aerial photography. Maps generated from this data are included as Figures A-2 and A-3 in Appendix A. Local climate data for this region was also reviewed to evaluate precipitation conditions.

Wetland presence based only on NWI maps cannot be assumed to be an accurate assessment of potentially occurring jurisdictional wetlands. Wetland identification criteria differ between the USFWS and the USACE. As a result, wetlands shown on an NWI map may not be under the jurisdiction of the USACE, and all USACE-jurisdictional wetlands are not always included on NWI maps. Therefore, a field visit was conducted to identify any wetlands or other water bodies that may be present.

### Wetland Delineation Field Survey

A field wetland delineation was completed in June and October 2018, in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region – Version 2.0 (Regional Supplement). Sample plots were established at multiple locations, and Wetland Determination Data Forms from the Regional Supplement were completed to characterize the Survey Area (Appendix B). Vegetation, soil conditions, and hydrologic indicators were recorded at each of these sample plots. Locations of sample plots and other identified features were recorded using a sub-meter accurate global positioning system (GPS) unit. Natural color photographs depicting wetlands, streams, and sample plots were taken onsite and are included in Appendix C. Additional photographs were taken during the delineation effort to document onsite conditions where sample plots were not analyzed. Several of these photograph locations that depict representative features, such as open upland pasturelands, swales, and croplands, are indicated on Figure A-4. Additional photographs not depicted on Figure A-4 or provided in Appendix C can be provided upon request.

Following the October 2018 field survey, portions of the Project layout were altered. Ground conditions were subsequently frozen, restricting field wetland delineations from occurring. Accordingly, approximately 20% of the Survey Area was delineated via offsite wetland determination methods, using the background information previously listed. Specifically, wetlands were identified using NWI maps and hydric soil data in conjunction with topography



and aerial imagery review to identify locations that exhibited wetland signatures such as wetland vegetation or saturated soils. Streams for these areas were identified using NHD data in conjunction with topography and aerial imagery review. Areas that were delineated by desktop should be field verified prior to submitting this report to the USACE.

## RESULTS

The following sections describe the results of the existing data review and the completed wetland delineation.

### **Existing Data Review**

The 2015 NAIP aerial photography indicates that the Survey Area consists largely of rangeland, pastureland, and cropland (Figure A-2.1 through Figure A-2.25).

The 2018 USDA NRCS SSURGO digital data indicate that portions of 25 soil map units are located in the Survey Area. (Figure A-2). Of the 25 soil map units, one map until is rated hydric, one map until is rated predominantly hydric, and one map unit is rated partially hydric on local and national hydric soil lists.

The existing USGS topographic maps were reviewed to familiarize Burns & McDonnell wetland personnel with the topography and potential locations of wetlands and other water bodies (Figure A-3). The USGS topographic maps depicts the Survey Area as having large areas of rolling hills and gently sloping to flat topography. Wind turbines for the proposed Project are generally sited on hilltops and ridges, and access roads and underground collection systems connect strings of turbines. Two named streams, Silver Creek and East Pearl Creek, are located within the Survey Area.

The NWI data indicate 151 palustrine emergent (PEM) wetlands, 14 palustrine aquatic bed (PAB) wetlands, and one palustrine forested/palustrine scrub-shrub (PFO/PSS) wetland are located within the Survey Area (Figures A-3).

### Wetland Delineation Field Survey

As previously stated, wetland scientists with Burns & McDonnell conducted wetland delineations of the Survey Area in June and October 2018. The second person of each team, a GPS specialist with Burns & McDonnell, recorded the location and extent of features identified within the Survey Area. The land cover and delineated wetlands from the field survey efforts are discussed in detail below.



### Vegetation

The Survey Area was largely composed of rangeland and cropland. Typical vegetation in the upland portions of the Survey Area included Kentucky bluegrass (*Poa pratensis*), smooth brome (*Bromus inermis*), and field brome (*Bromus arvensis*).

## Soils

Typical upland soils ranged from black (10YR 2/1) to very dark grayish brown (10YR 3/2) and ranged in texture from clay loam to silt loam. Redoximorphic features were typically present in wetland soils, but they were less common in upland soils.

## Hydrology

Hydrology in the Survey Area has been highly altered to support agricultural practices within croplands. Upland swales are common throughout cropland to aid in draining surface water. Subsurface tiling may be present in many of the croplands, but indicators of such (flagging, inlets, vents, etc.) were not widely observed. Streams have been channelized throughout much of the Survey Area to facilitate farming and ranching practices. The primary source of hydrology for wetlands was precipitation and areas of shallow groundwater. Indicators of hydrology within the wetlands included surface water, high water table, saturation, algal mat or crust, hydrogen sulfide odor, oxidized rhizospheres on living roots, surface soil cracks, drainage patterns, saturation visible on aerial imagery, a concave geomorphic position, and a positive FAC neutral test. Precipitation for the months prior to the field delineations was determined using the Wetland Climate Tables (WETS) analysis. Average precipitation for the Project was obtained from the Miller, SD WETS weather station and used for the WETS analysis. Precipitation levels are provided in Table 1.

Timeframe	Actual Precipitation (inches)	Longterm Average Precipitation (inches)	Actual Relative to Average
June 2018	5.12	6.36	Drier than normal
October 2018	10.13	6.49	Wetter than normal

 Table 1: Precipitation for Three Months Prior to Field Wetland Delineation

Source: Miller, SD Wetland Climate Tables (WETS)

#### **Delineation Areas**

During the wetland delineation efforts, 78 wetlands and 28 streams were identified within the Survey Area. The wetlands and streams are generally described below, and their locations are shown on Figure A-4 in Appendix A. Table 2 provides the types and size of each wetland, and Table 3 provides the type and length of each stream delineated. Sample plots were located in the



wetlands and adjacent uplands. Data forms and photographs for these sample plots are included in Appendix B and Appendix C, respectively.

### Wetlands

A total of 78 wetlands, comprised of three wetland types: PEM, PFO, and palustrine unconsolidated bottom (PUB), and encompassing a total of 39.84 acres, were identified (Photograph Log, Appendix C).

A total of 68 PEM wetlands, encompassing 38.67 acres, were delineated. Dominant vegetation in the PEM wetlands included reed canary grass (Phalaris arundinacea), fox-tail barley (Hordeum jubatum), common spike-rush (Eleocharis palustris), flat-stem spike-rush (E. compressa), blunt spike-rush (E. obtusa), sedge (Carex sp.), common fox sedge (C. vulpinoidea), river club-rush (Schoenoplectus fluviatilis), rough cocklebur (Xanthium strumarium), rush (Juncus sp.), American water-plantain (Alisma subcordatum), northern water-plantain (A. triviale), curly dock (Rumex crispus), spotted lady's-thumb (Persicaria maculosa), broadleaf cattail (Typha latifolia), field meadow-foxtail (Alopecurus pratensis), large barnyard grass (Echinochloa crus-galli), late goldenrod (Solidago gigantea), and freshwater cord grass (Spartina pectinata). Wetland hydrology was indicated by surface water, high water table, saturation, algal mat or crust, hydrogen sulfide odor, oxidized rhizospheres on living roots, surface soil cracks, drainage patterns, saturation visible on aerial imagery, a concave geomorphic position, and a positive FAC neutral test. Soils ranged from gray (10YR 6/1) to black (10YR 2/1) in color and clay loam, silty clay loam, or silt loam in texture, with redoximorphic concentrations. Hydric soil was mainly indicated by hydrogen sulfide, 1cm muck, loamy mucky mineral, depleted matrix, redox dark surface, and depleted dark surface.

Two PFO wetlands, encompassing 0.15 acre, were delineated. Vegetation in PFO wetlands was dominated by green ash (*Fraxinus pennsylvanica*), eastern cottonwood (*Populus deltoides*), gray willow (*Salix bebbiana*), reed canary grass, and sedge. Wetland hydrology in PFO wetlands included drainage patterns, a concave geomorphic position, and a positive FAC neutral test. Soils were black (10YR 2/1 or 7.5YR 2.5/1) in color and silty clay loam to clay loam in texture, with redoximorphic concentrations. Hydric soil was indicated by a redox dark surface.

A total of eight PUB wetlands, encompassing 1.02 acre, were delineated. Vegetation was largely absent, and upland vegetation typically surrounded these wetlands.



Table 2:Delineated Wetlands within the Survey Area

Wetland Number <sup>a, b</sup>	Wetland Type <sup>c</sup>	Acreage in Survey Area	Figure A-4 Page Number
W-001	PEM	0.12	A-4.25
W-002	PFO	0.10	A-4.25
W-003	PEM	0.10	A-4.25
W-004	PEM	1.04	A-4.24
W-005	PEM	1.67	A-4.22, A-4.24
W-016	PEM	0.18	A-4.19
W-501	PEM	0.16	A-4.2
W-507	PEM	0.14	A-4.4
W-508	PEM	0.18	A-4.4
W-510	PEM	0.23	A-4.4
W-515	PEM	0.17	A-4.14
W-516	PUB	0.11	A-4.14
W-517	PEM	1.12	A-4.10
W-518	PEM	0.49	A-4.9
W-520	PEM	0.15	A-4.11, A-4.12
W-521	PEM	0.03	A-4.6
W-522	PUB	0.10	A-4.11
W-523	PEM	0.05	A-4.11
W-524	PEM	1.12	A-4.11
W-526	PEM	1.40	A-4.11
W-527	PEM	0.04	A-4.16
W-533	PEM	0.03	A-4.15
W-537	PEM	1.35	A-4.11
W-539	PEM	0.04	A-4.17
W-540	PEM	0.22	A-4.17
W-546	PEM	1.74	A-4.17
W-547	PEM	0.18	A-4.10



Wetland Number <sup>a, b</sup>	Wetland Type <sup>c</sup>	Acreage in Survey Area	Figure A-4 Page Number
W-548	PEM	0.43	A-4.7
W-550	PEM	0.30	A-4.7
W-552	PEM	0.05	A-4.3
W-554	PEM	0.15	A-4.18
W-555	PEM	0.29	A-4.18
W-558	PEM	0.12	A-4.16
W-559	PEM	0.08	A-4.16
W-560	PEM	0.10	A-4.17
W-561	PEM	0.03	A-4.17
W-562	PEM	0.07	A-4.18, A-4.19
W-563	PEM	0.04	A-4.18, A-4.19
W-564	PFO	0.05	A-4.19
W-566	PEM	0.45	A-4.20
W-567	PEM	0.23	A-4.19
W-568	PEM	0.50	A-4.21
W-569	PEM	3.64	A-4.21
W-570	PEM	2.57	A-4.21
W-571	PUB	0.54	A-4.21
W-573	PEM	0.21	A-4.23
W-575	PUB	0.03	A-4.23
W-579	PEM	0.05	A-4.25
W-580	PEM	0.30	A-4.21
W-581	PEM	0.25	A-4.22
W-583	PEM	0.17	A-4.19
W-584	PEM	0.32	A-4.21
W-585	PEM	0.09	A-4.10
W-586	PEM	1.09	A-4.18
W-587	PEM	2.34	A-4.18



Wetland Number <sup>a, b</sup>	Wetland Type <sup>c</sup>	Acreage in Survey Area	Figure A-4 Page Number
W-589	PUB	0.03	A-4.14
W-590d	PEM	0.50	A-4.16
W-591d	PEM	0.31	A-4.10
W-592d	PEM	0.17	A-4.21
W-593d	PEM	0.29	A-4.22
W-594d	PEM	1.08	A-4.22
W-595d	PUB	0.01	A-4.17
W-597d	PEM	0.12	A-4.10, A-4.11
W-598d	PEM	0.59	A-4.19
W-599d	PEM	3.37	A-4.21, A-4.23
W-600d	PEM	2.23	A-4.23
W-601d	PEM	1.86	A-4.23, A-4.24
W-701	PEM	0.06	A-4.5
W-702	PEM	0.20	A-4.4
W-703	PEM	0.03	A-4.8
W-705	PUB	0.19	A-4.7
W-707	PEM	0.84	A-4.11
W-708	PEM	0.09	A-4.13
W-709	PUB	0.01	A-4.15
W-710	PEM	0.18	A-4.10
W-711	PEM	0.01	A-4.13
W-712	PEM	0.81	A-4.11
W-713	PEM	0.11	A-4.11
	Total:	39.84	

(a) W = wetland

(b) The letter "d" following a wetland number indicates this wetland was identified using offsite wetland determination methods.

(c) Symbols for wetland type: PEM = palustrine emergent, PFO = palustrine forested, PUB = palustrine unconsolidated bottom



#### Streams

A total of 28 streams, consisting of two stream types (intermittent and ephemeral) and equaling 12,884 linear feet, were identified (Photographs, Appendix C). The different stream types are summarized below.

A total of three intermittent streams, extending for a total of 1,308 feet, were identified. Intermittent streams were characterized by the presence of a limited volume of flow at the time of the site visit. This is a likely indicator that the stream is partially fed by groundwater, but it may not flow during dry periods. Intermittent streams ranged from approximately 1.5 to 5 feet wide and approximately 0.5 to 1.0-foot deep from the ordinary high-water mark (OHWM). These streams primarily flowed through agricultural fields and pasture where common riparian vegetation included species such as smooth brome, field brome, fox-tail barley, and rough cocklebur.

A total of 25 ephemeral streams, extending for a total of 11,576 feet, were identified. Ephemeral streams were characterized by a defined bed and bank, but they had limited or no flow during the site visit, indicating that these streams largely carry water only during and after precipitation events. Ephemeral streams ranged from approximately 1.5 to 8 feet wide and from 0.5 foot to 3.5 feet deep from the OHWM. These streams flowed through agricultural fields and pasture where common riparian vegetation included species such as smooth brome, red-root (*Amaranthus retroflexus*), yellow bristle grass (*Setaria pumila*), tall false rye grass (*Schedonorus arundinaceus*), clammy ground cherry (*Physalis heterophylla*), rough cocklebur, agricultural soybean (*Glycine max*).

Stream Number <sup>a</sup>	Flow Classification	Length of Stream in Survey Area (feet)	Figure A-4 Page Number
S-001	Ephemeral	795	A-4.25
S-002	Ephemeral	666	A-4.25
S-003	Intermittent	301	A-4.22
S-004	Intermittent	631	A-4.22
S-501	Ephemeral	145	A-4.5
S-502	Ephemeral	457	A-4.5
S-504	Ephemeral	596	A-4.4
S-506	Ephemeral	294	A-4.8
S-508	Ephemeral	420	A-4.13, A-4.14

Table 3:Delineated Streams within the Survey Area



Stream Number <sup>a</sup>	Flow Classification	Length of Stream in Survey Area (feet)	Figure A-4 Page Number
S-510	Ephemeral	273	A-4.11
S-513	Ephemeral	270	A-4.6
S-514	Ephemeral	244	A-4.17
S-516	Ephemeral	549	A-4.7
S-517	Ephemeral	33	A-4.7
S-518	Ephemeral	504	A-4.6, A-4.7
S-519	Ephemeral	548	A-4.3
S-521	Ephemeral	212	A-4.16, A-4.17
S-522	Ephemeral	235	A-4.16, A-4.17
S-523	Intermittent	376	A-4.12, A-4.16
S-526	Ephemeral	587	A-4.20
S-701	Ephemeral	427	A-4.1
S-702	Ephemeral	1741	A-4.11
S-703	Ephemeral	214	A-4.8
S-704	Ephemeral	1061	A-4.13
S-705	Ephemeral	512	A-4.13
S-706	Ephemeral	130	A-4.11
S-707	Ephemeral	278	A-4.8
S-708	Ephemeral	385	A-4.4
$(-) S = -t_{max}$	Total	12,884	

(a) S = stream



#### SUMMARY

Burns & McDonnell conducted a wetland delineation of the Survey Area to identify wetlands and other water bodies. A total of 78 wetlands and 28 stream channels were identified. The wetlands and streams identified for this report are subject to federal regulation under the jurisdiction of USACE. Accordingly, Burns & McDonnell recommend this report be submitted to USACE for final jurisdictional review and concurrence. Following the identification of the final Project components, Burns & McDonnell recommends the Client obtain the necessary permits or regulatory authorization prior to initiating land disturbing Project activities.

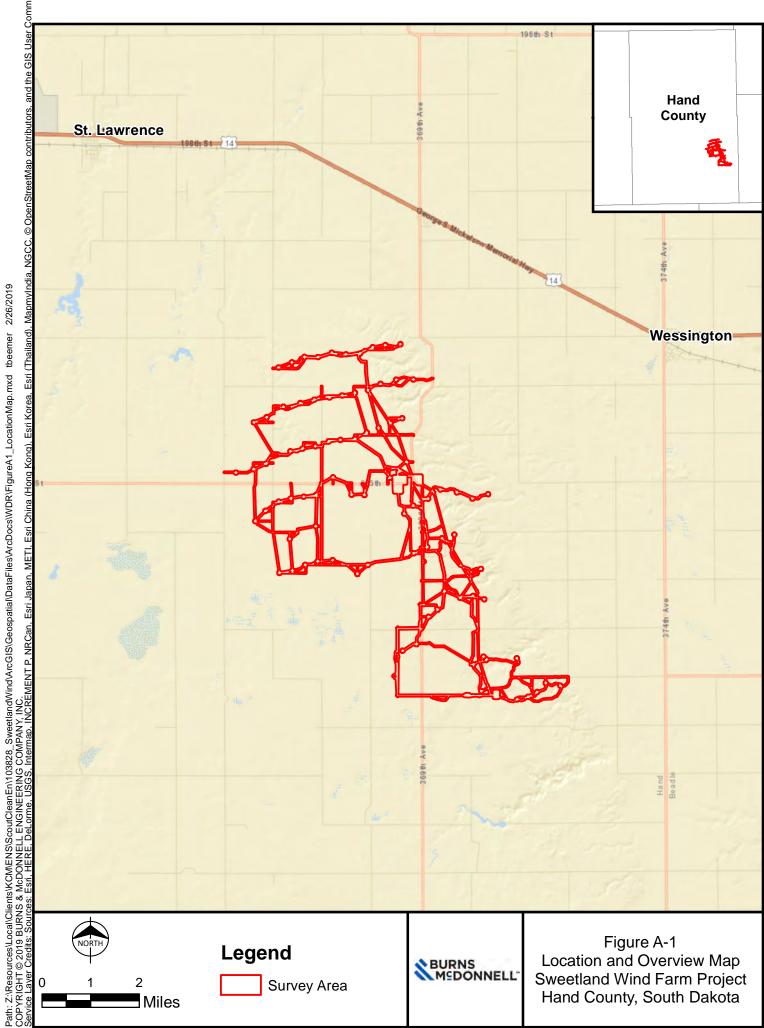
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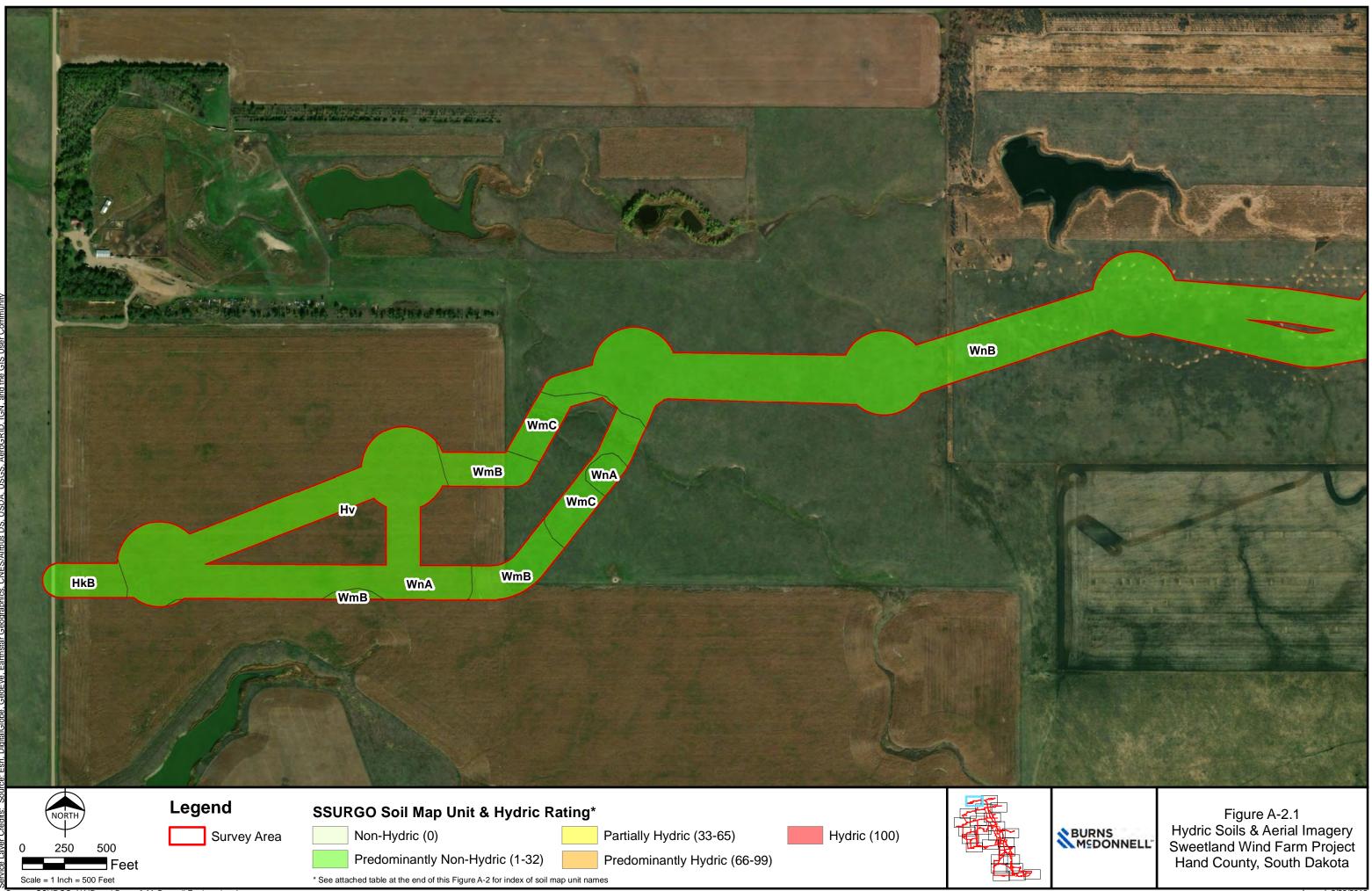
Tyler Beemer, PWS Senior Environmental Scientist

Attachments: Appendix A - Figures Appendix B - Routine Wetland Determination Data Forms, Great Plains Region Appendix C - Photograph Log

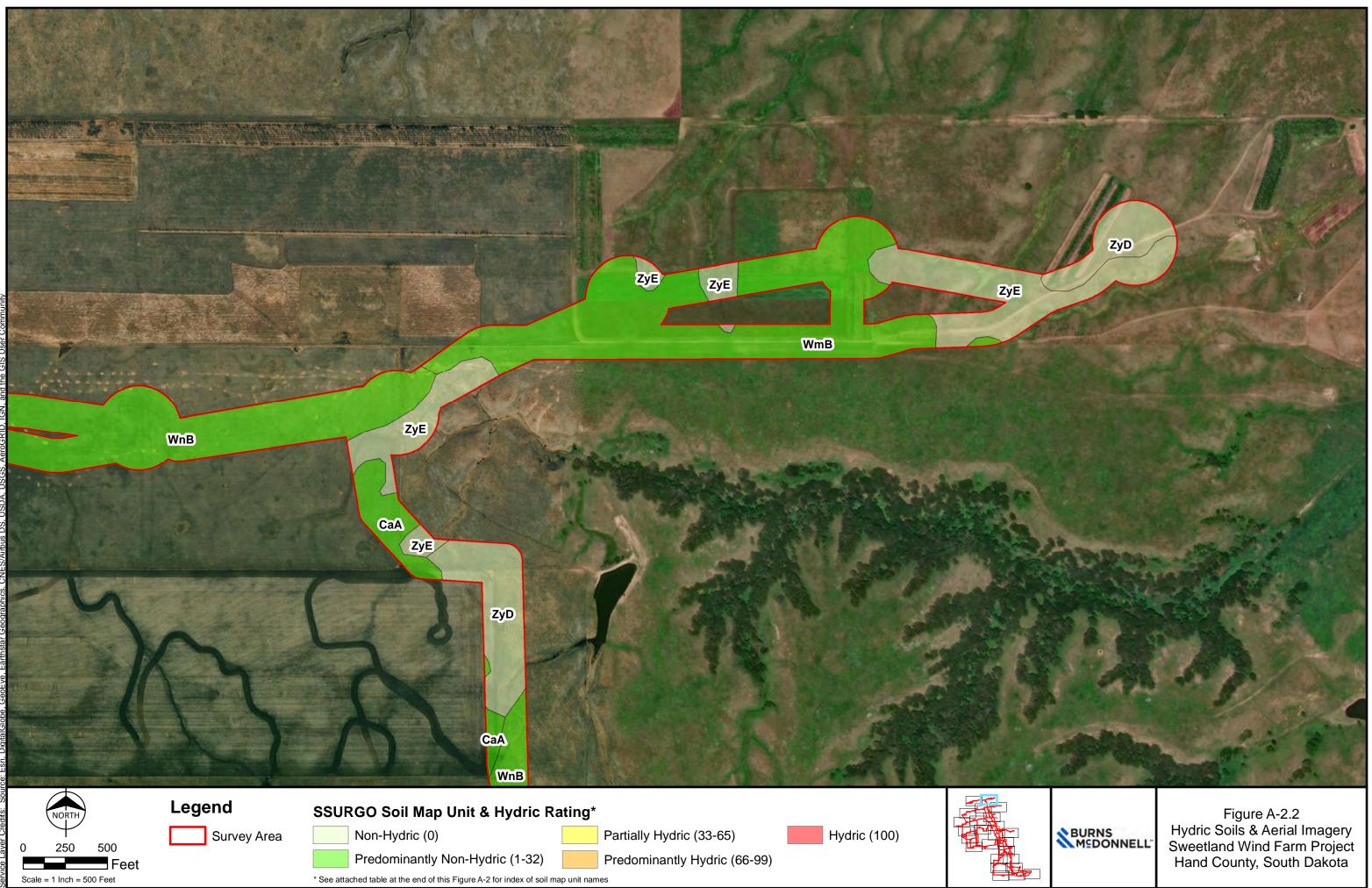
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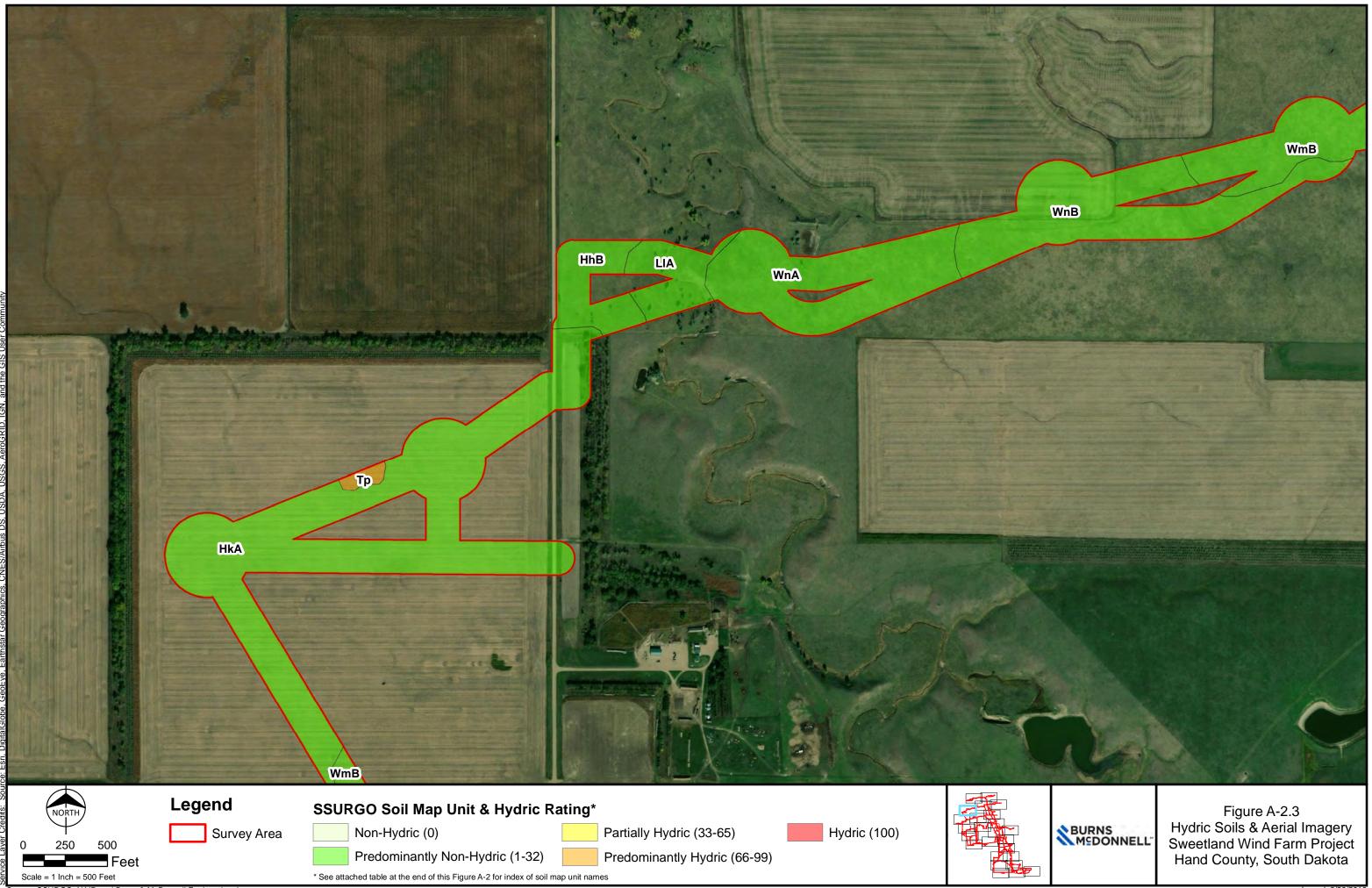
**APPENDIX A -FIGURES** 





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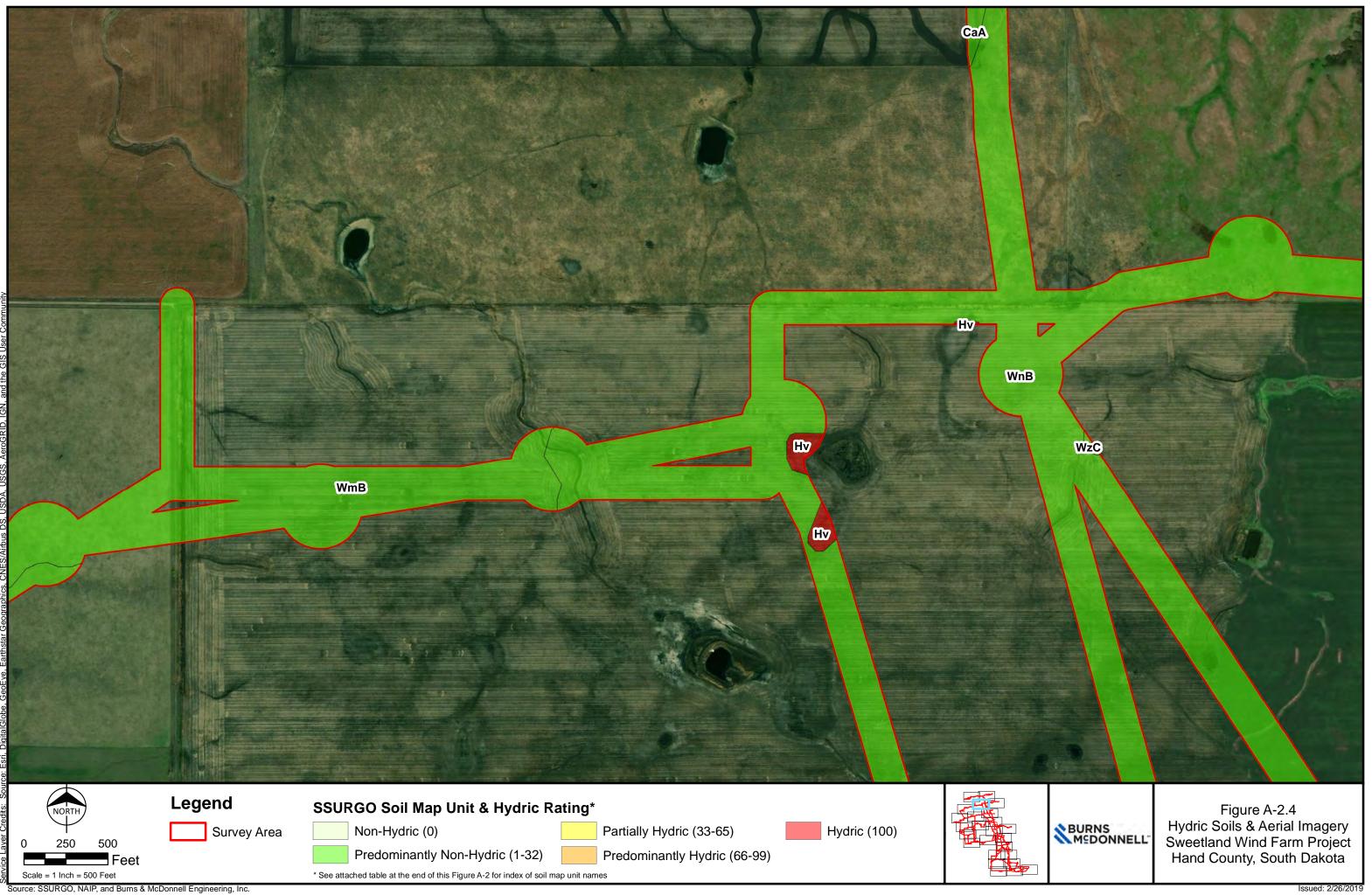


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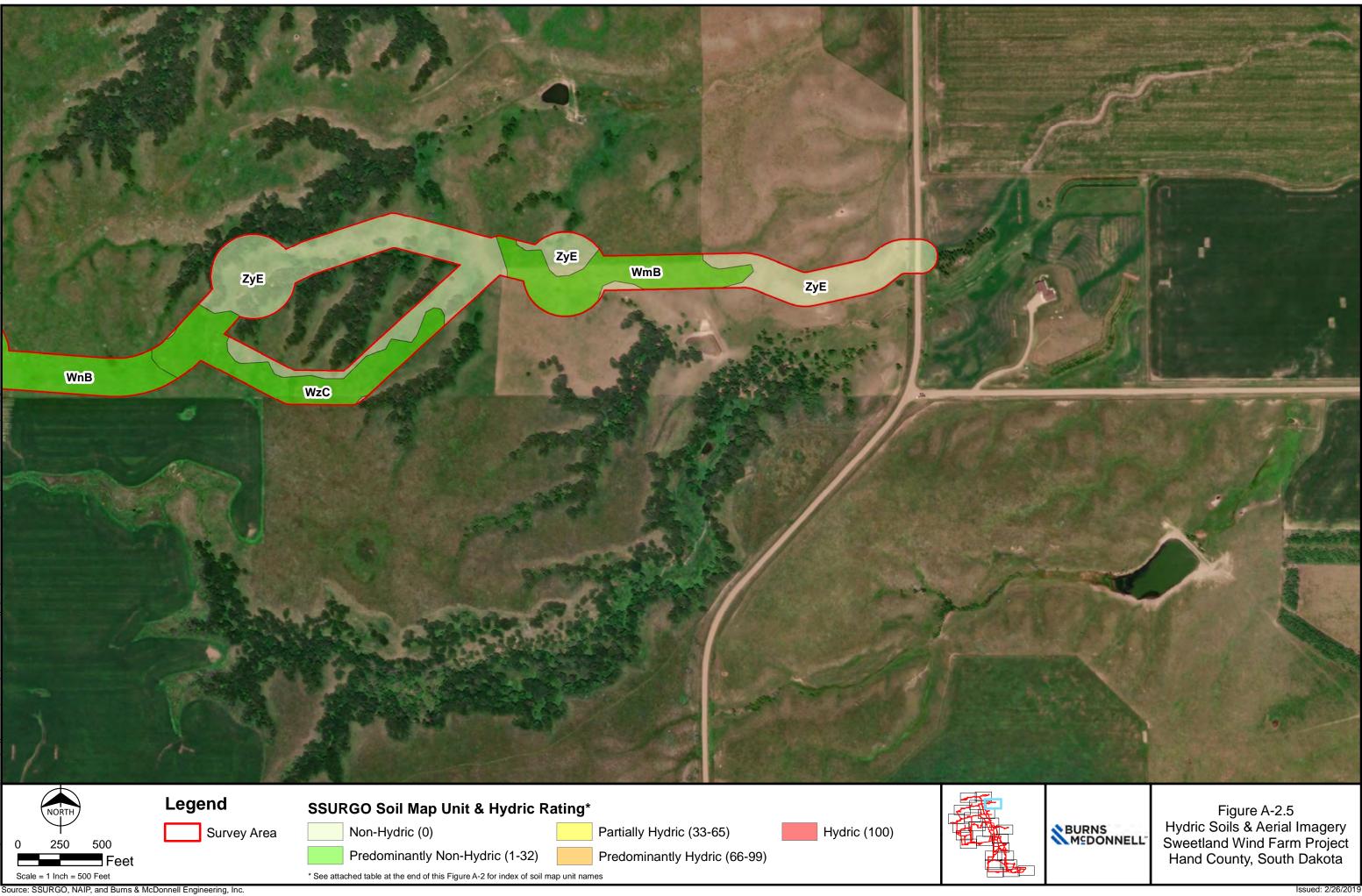
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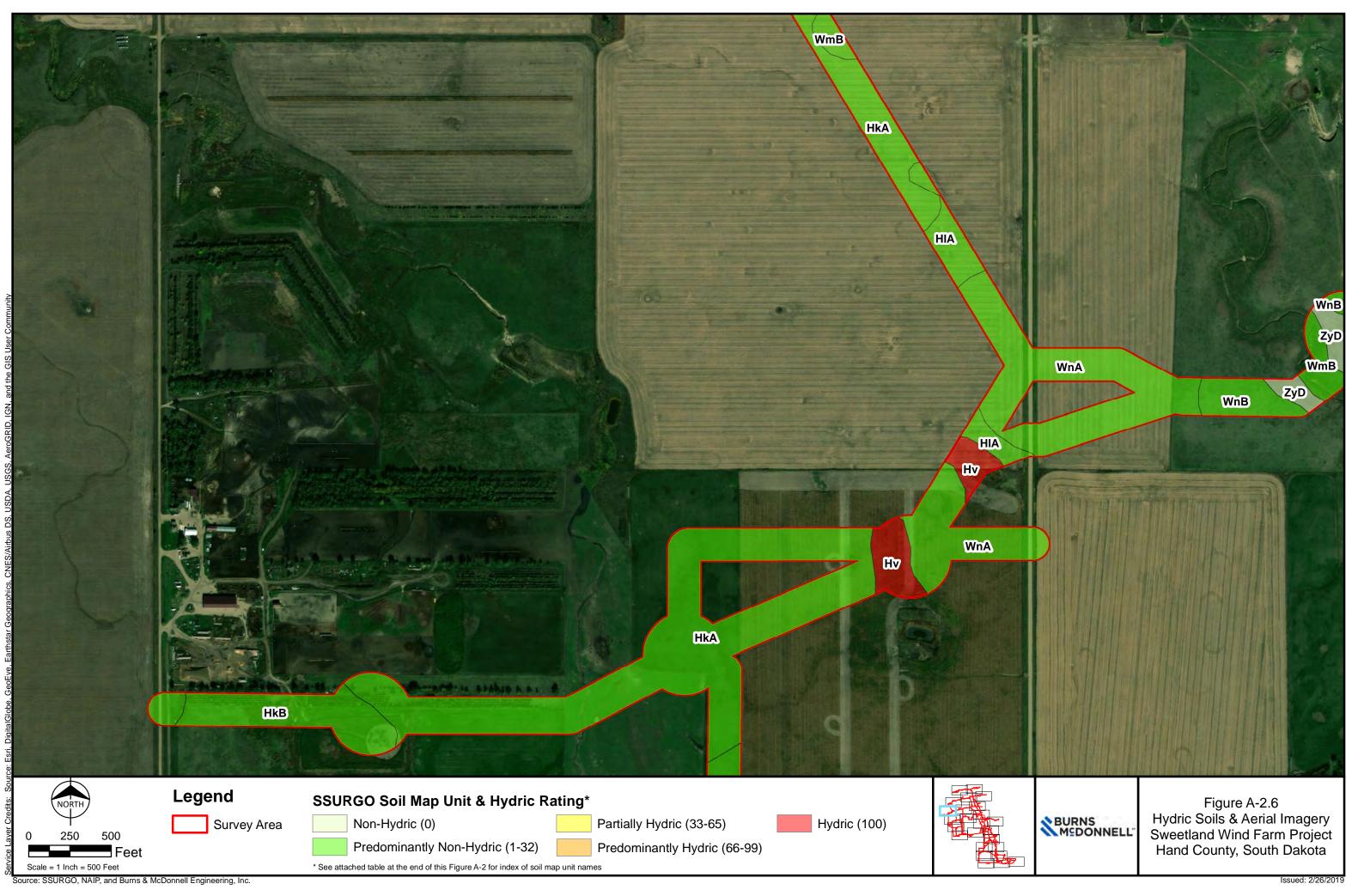
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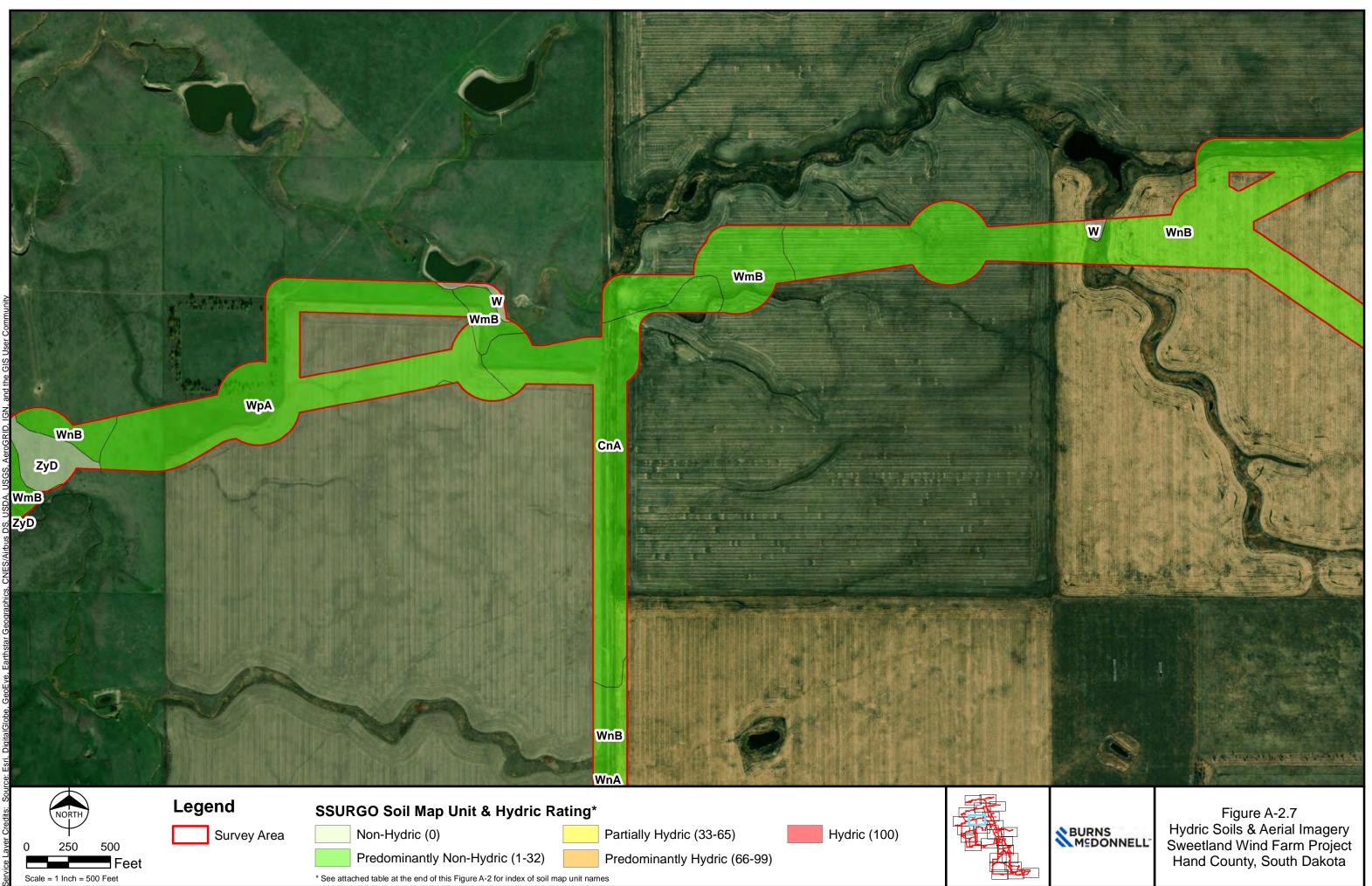
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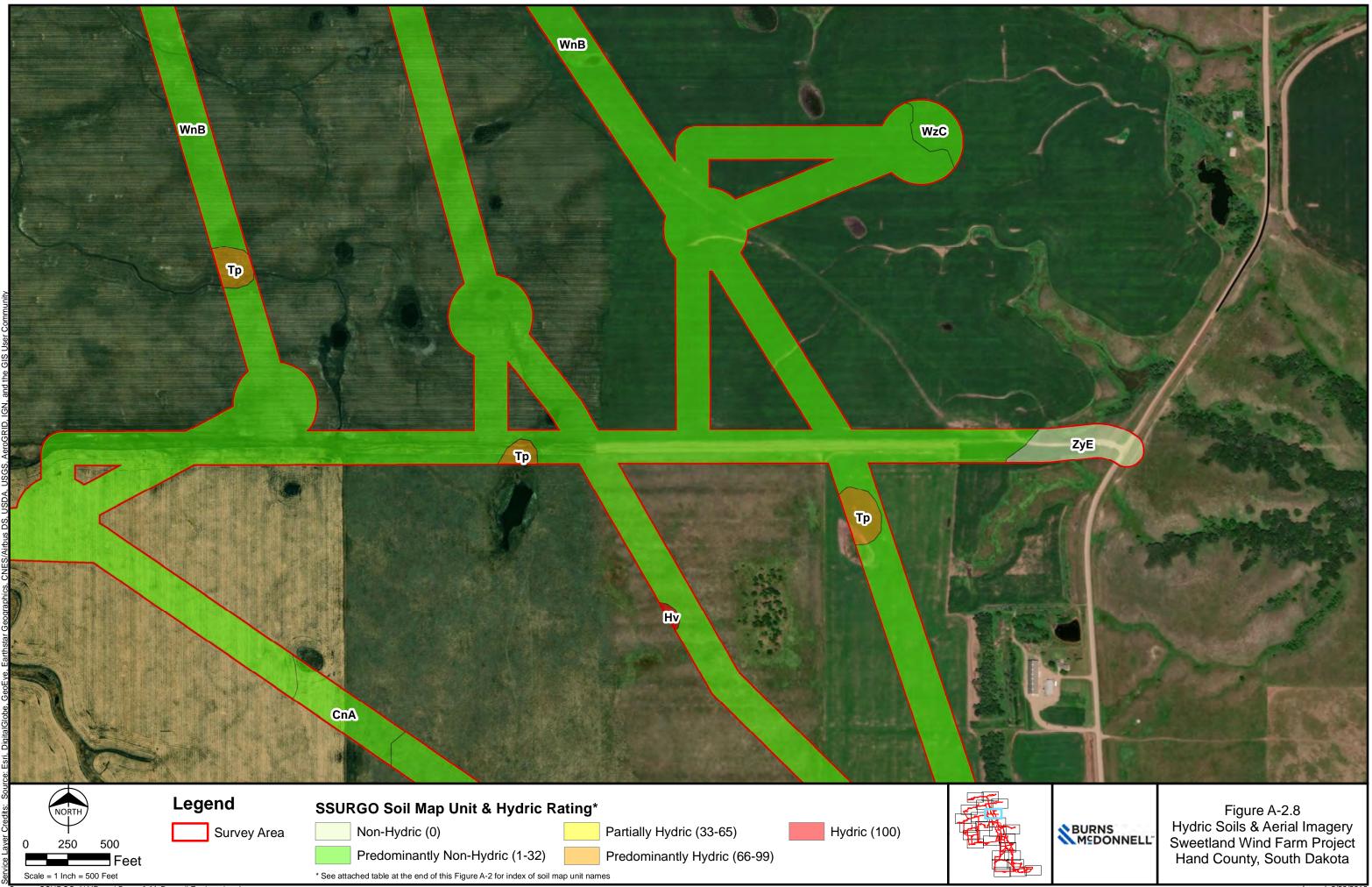


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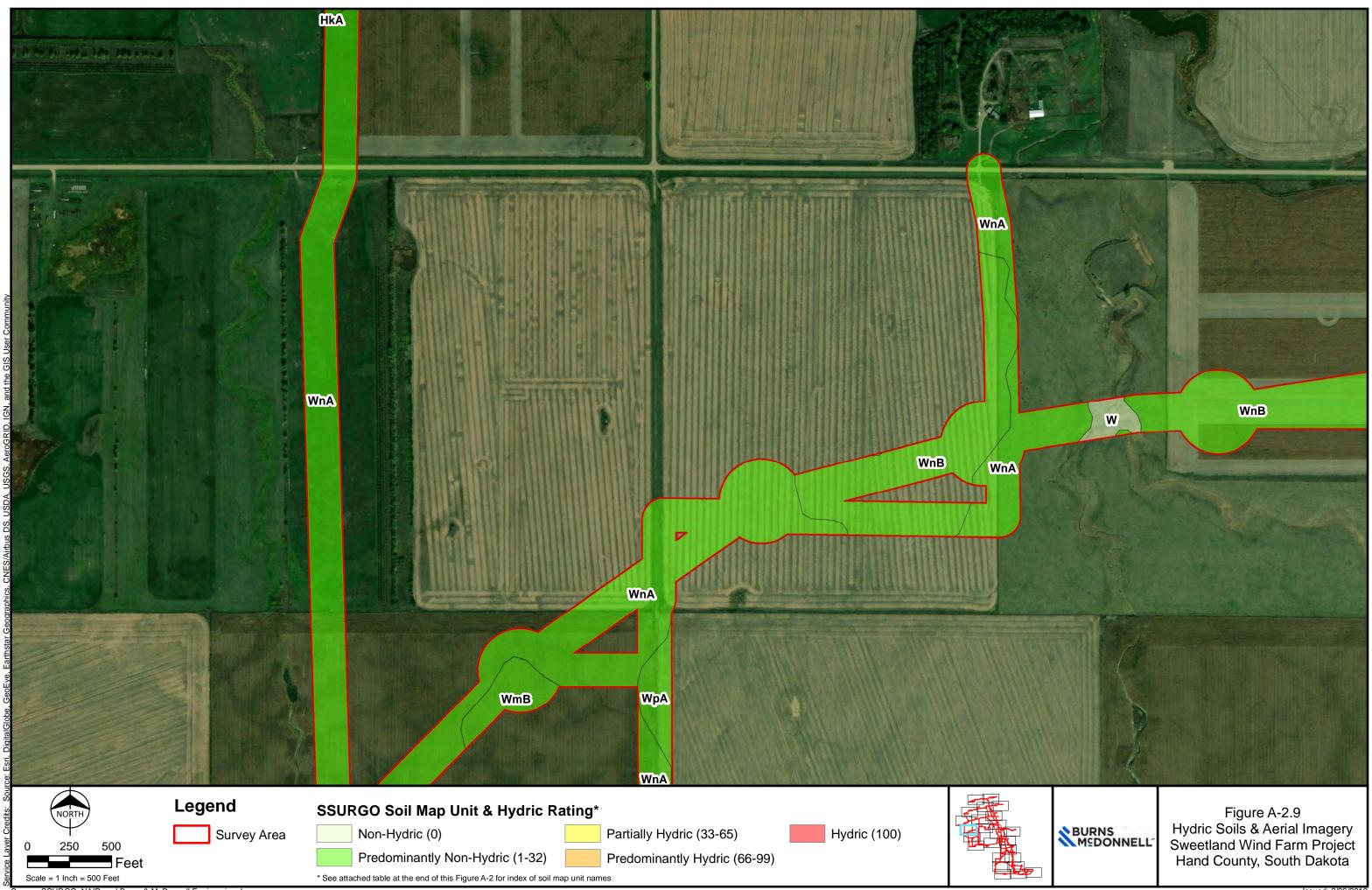


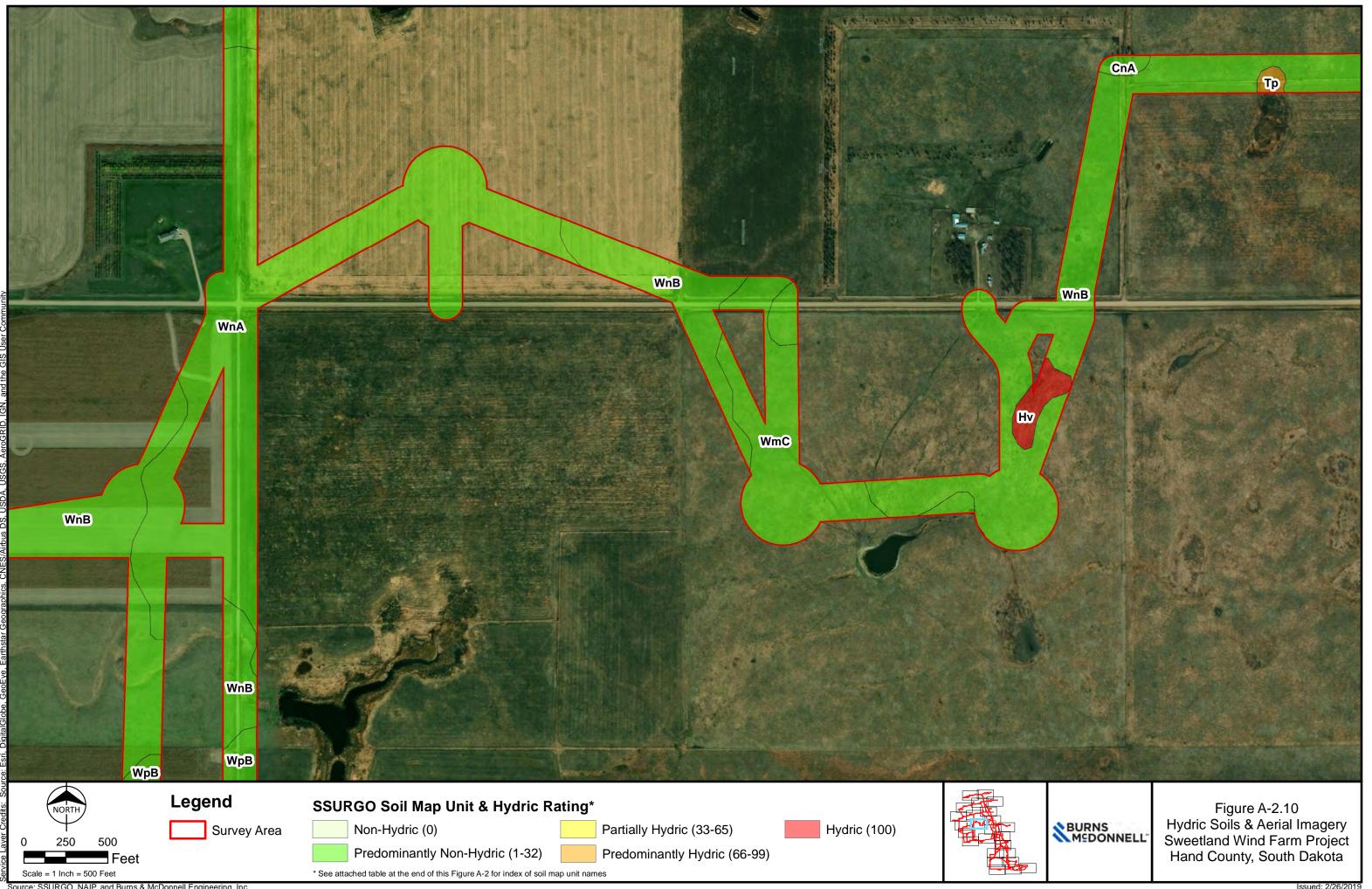


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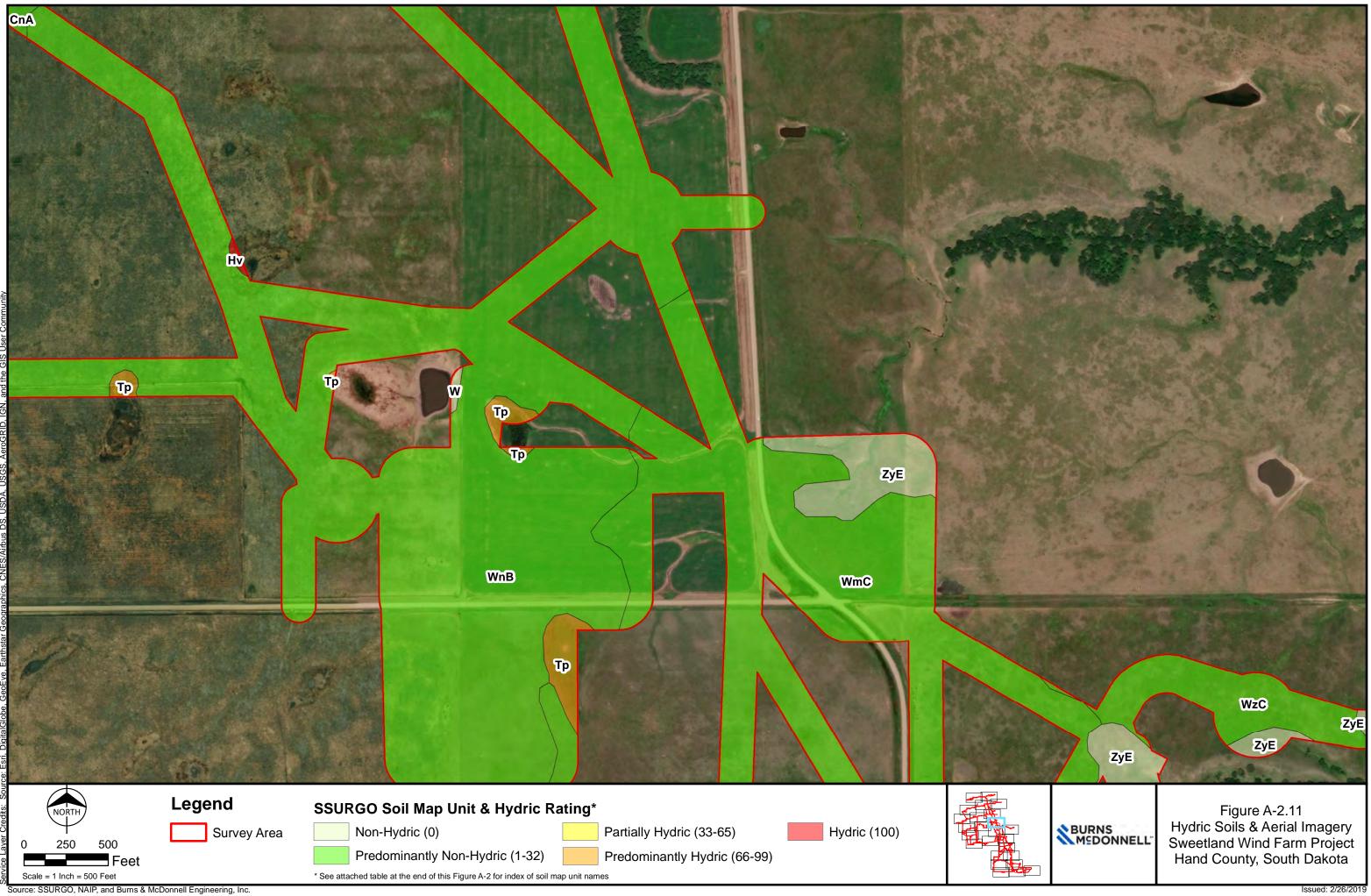
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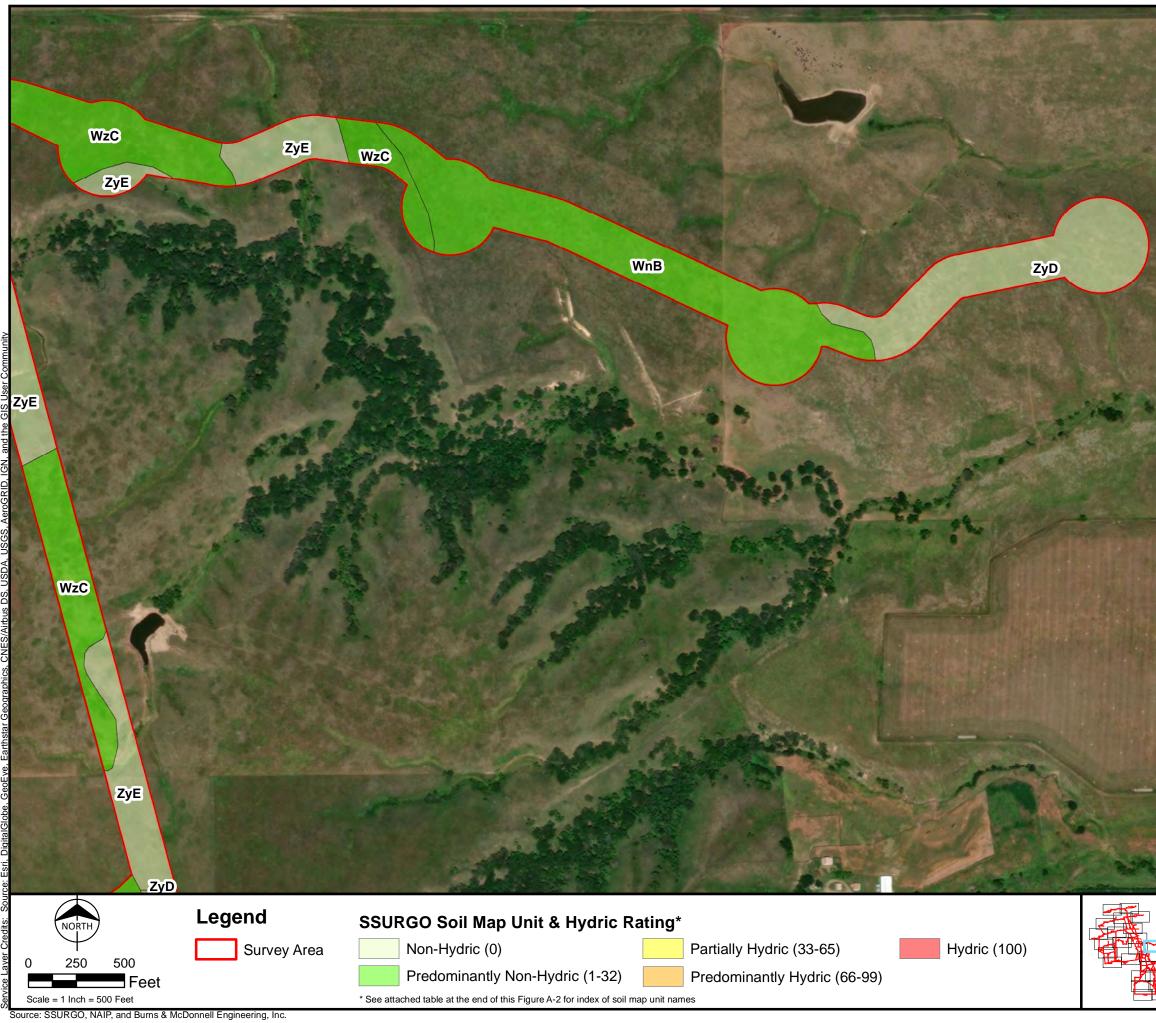
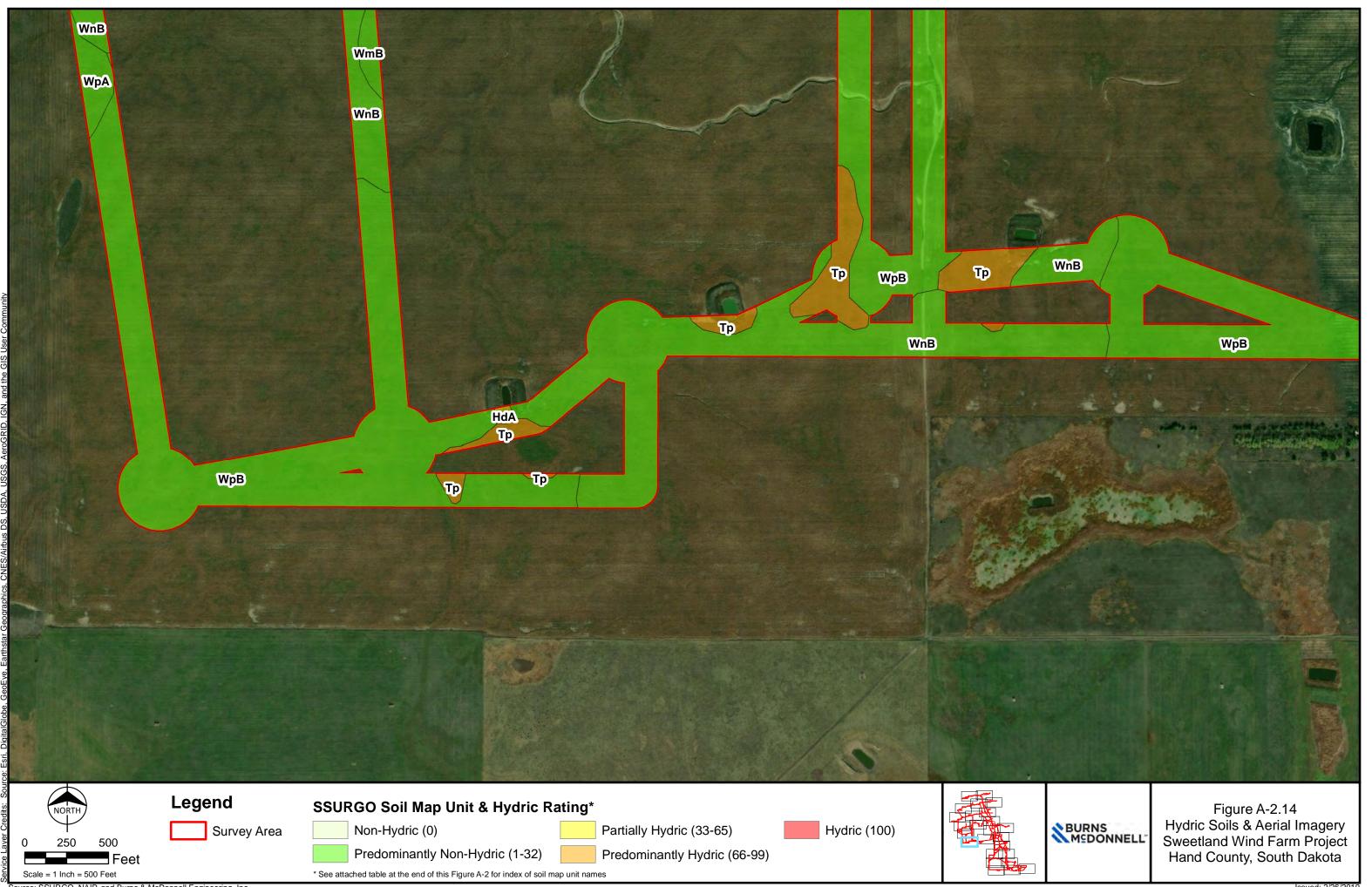


Figure A-2.12 Hydric Soils & Aerial Imagery Sweetland Wind Farm Project Hand County, South Dakota



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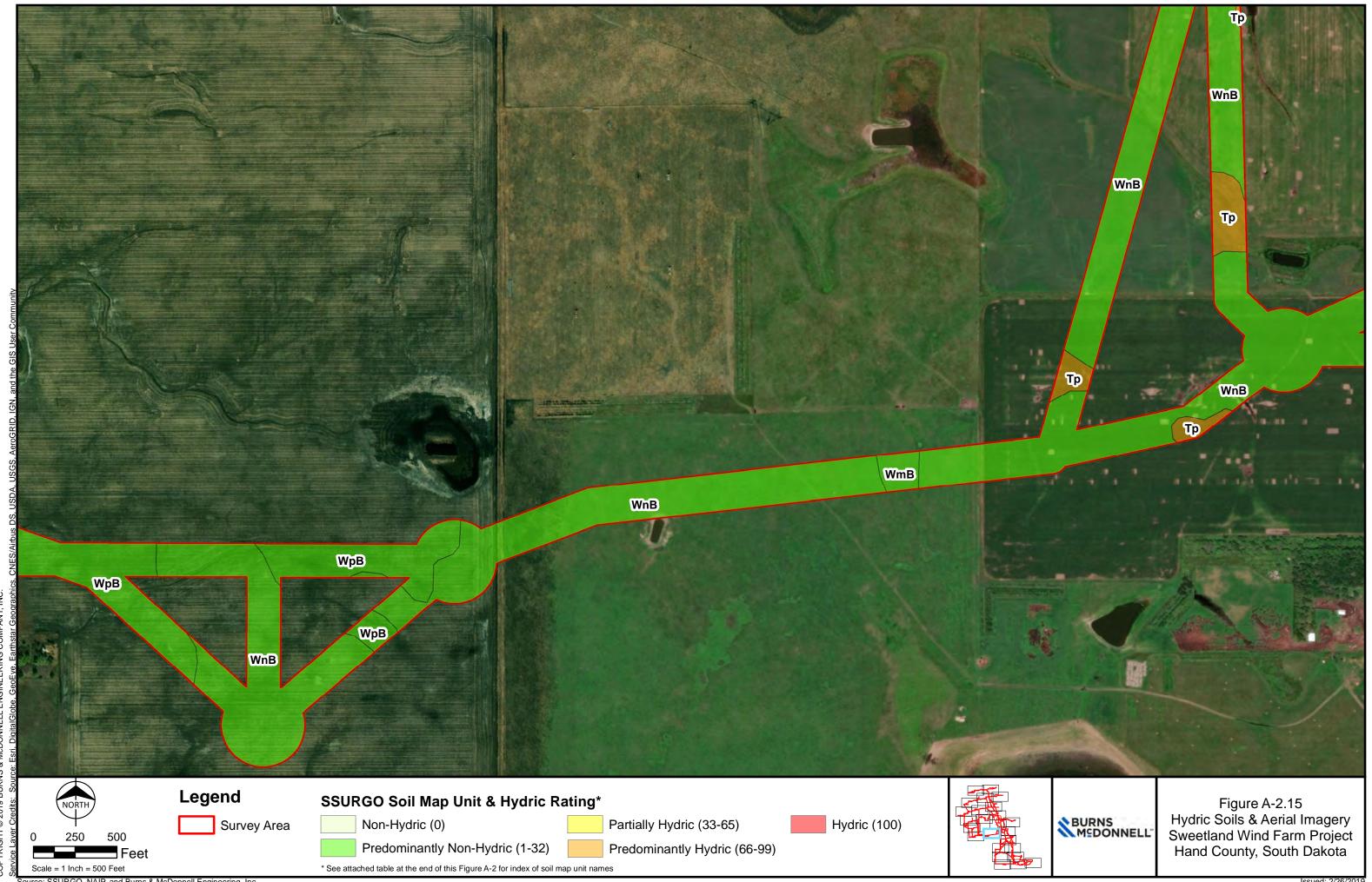
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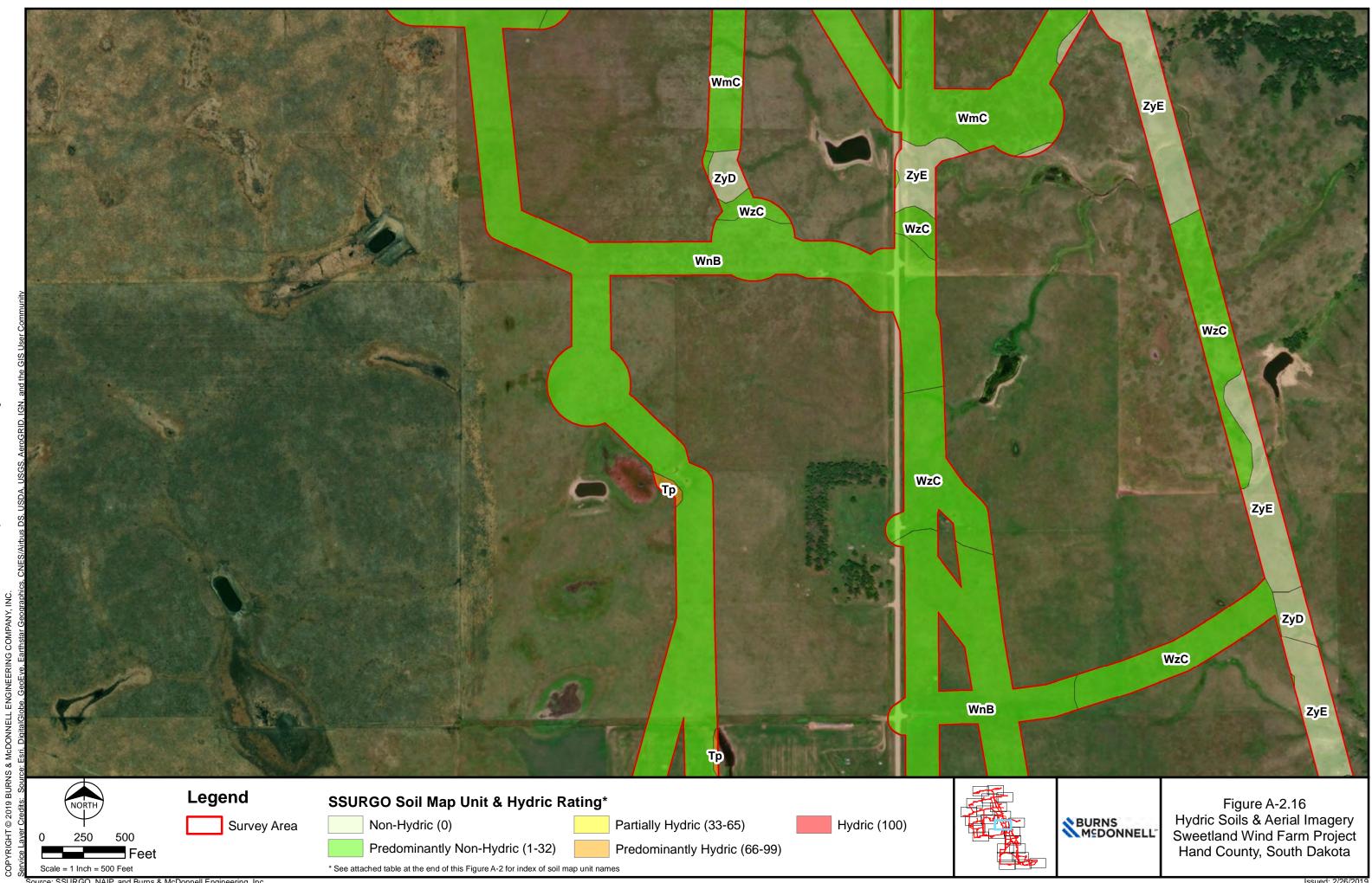
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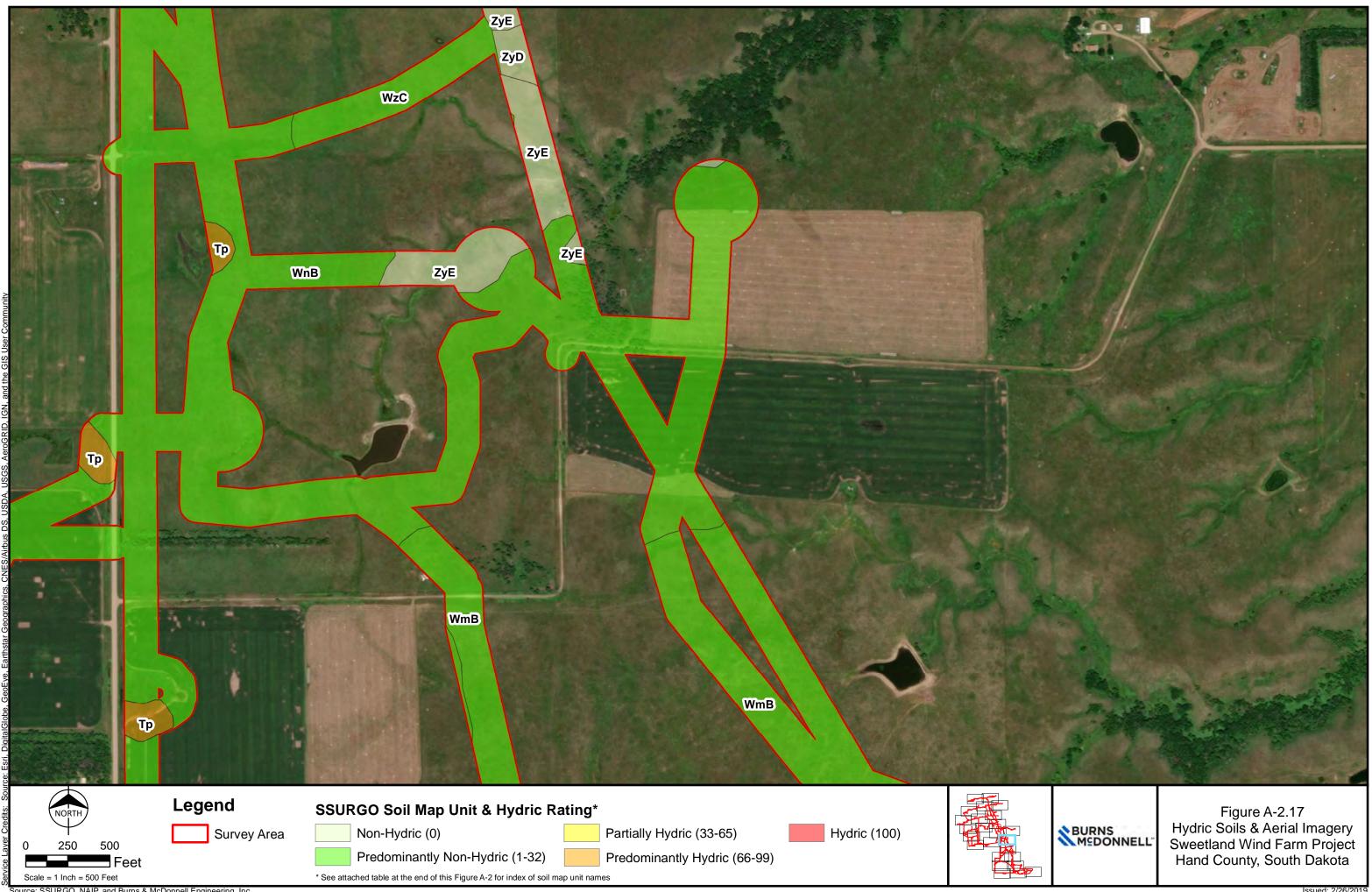
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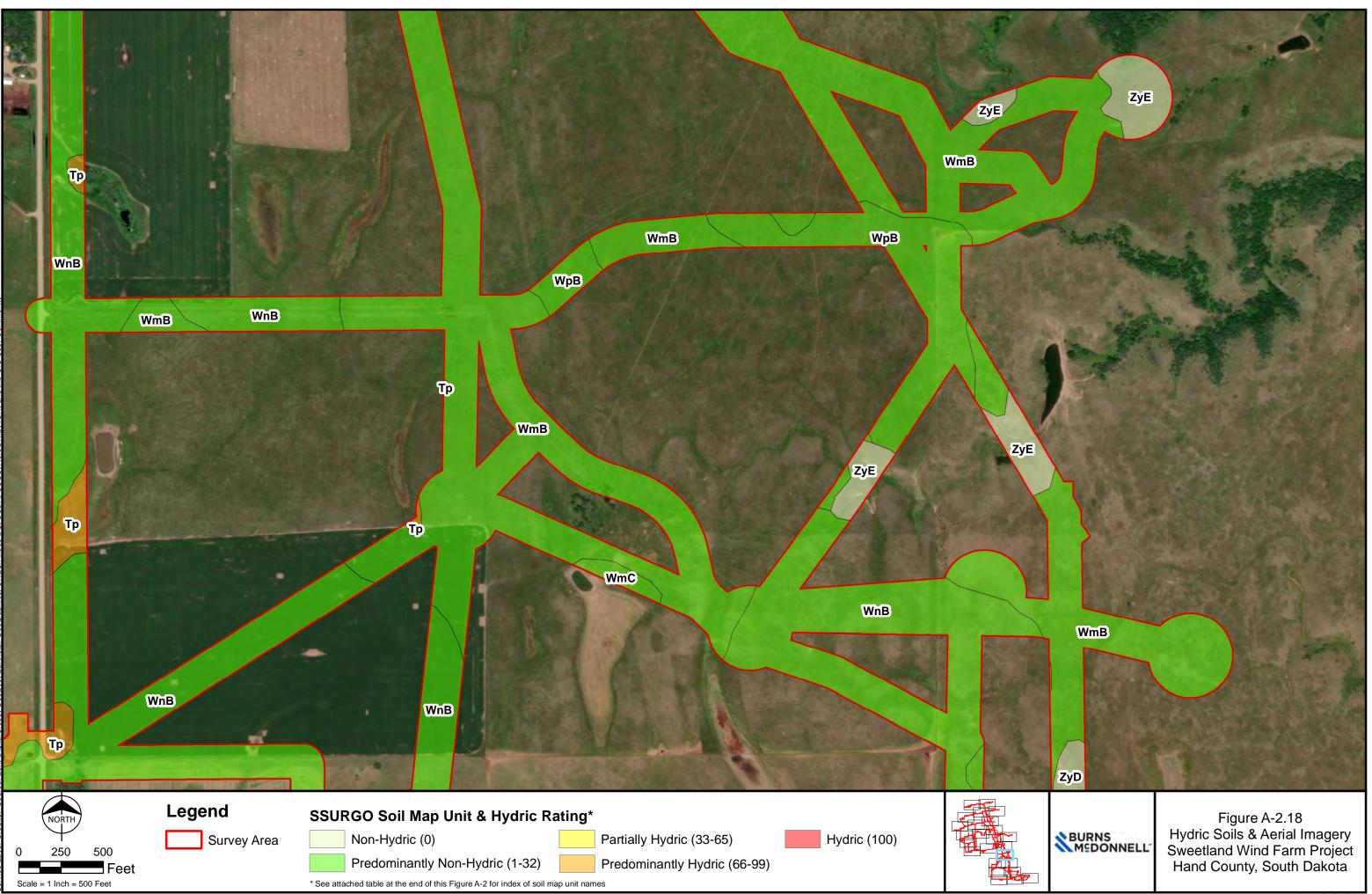
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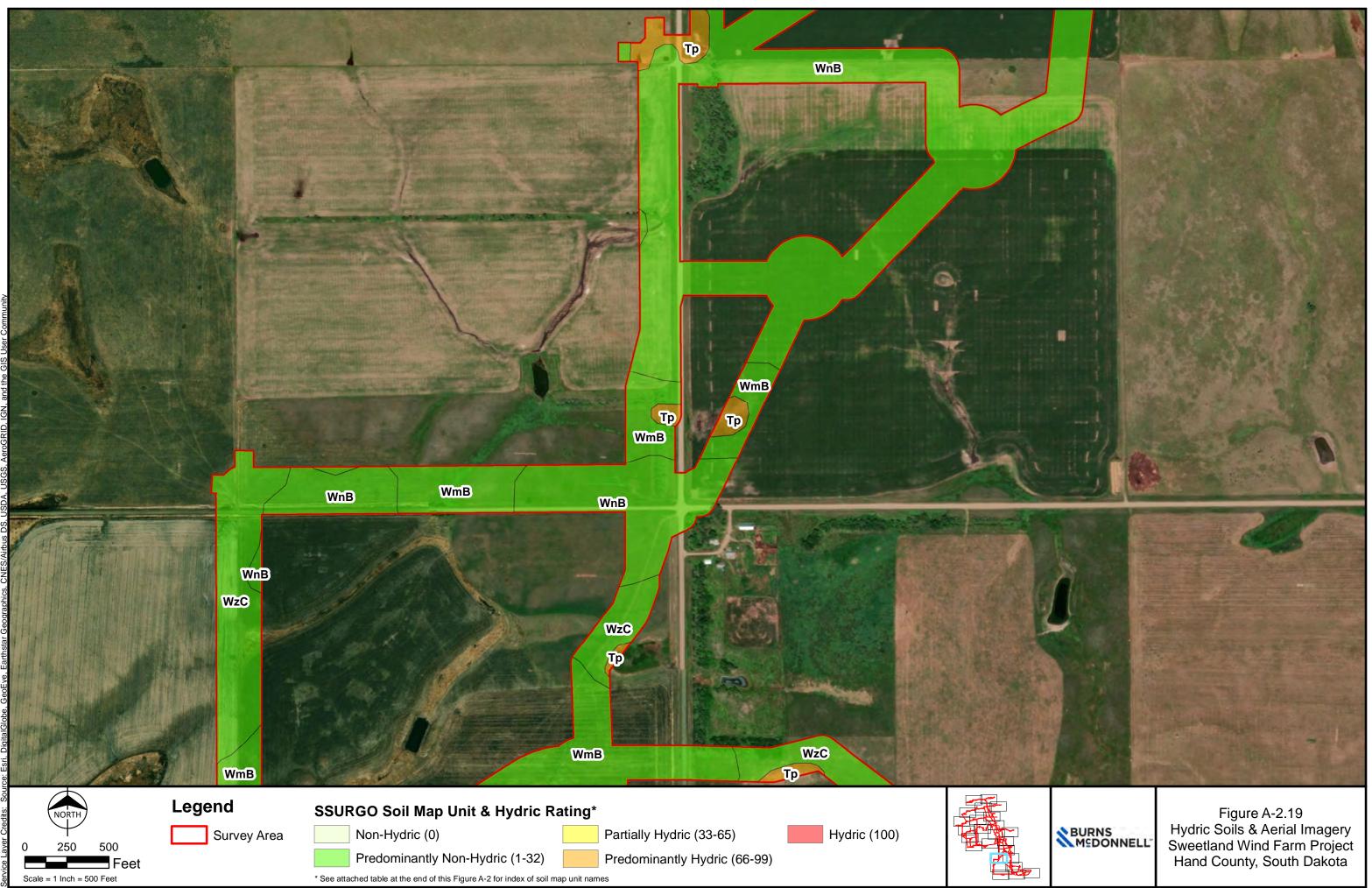
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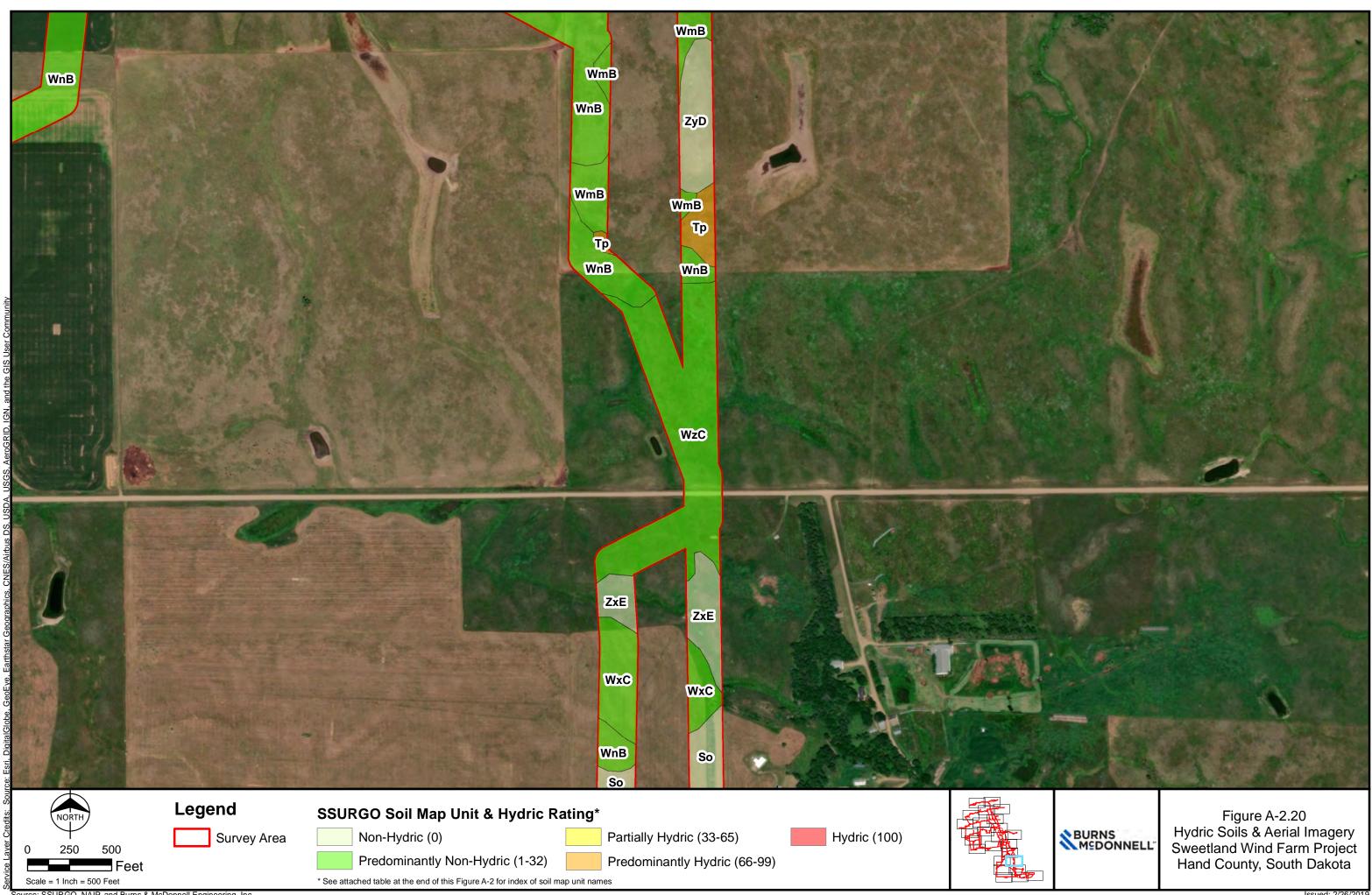
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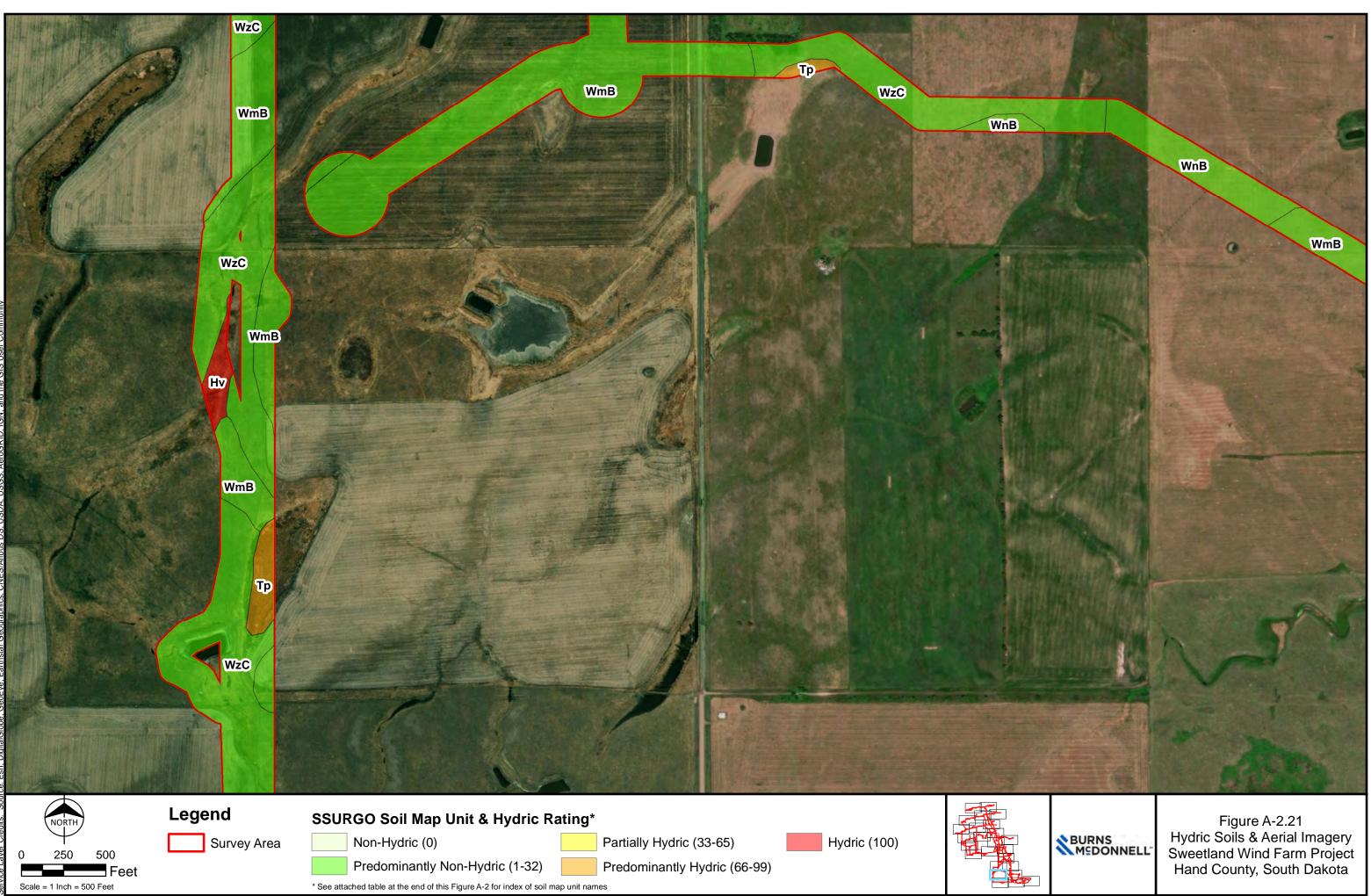
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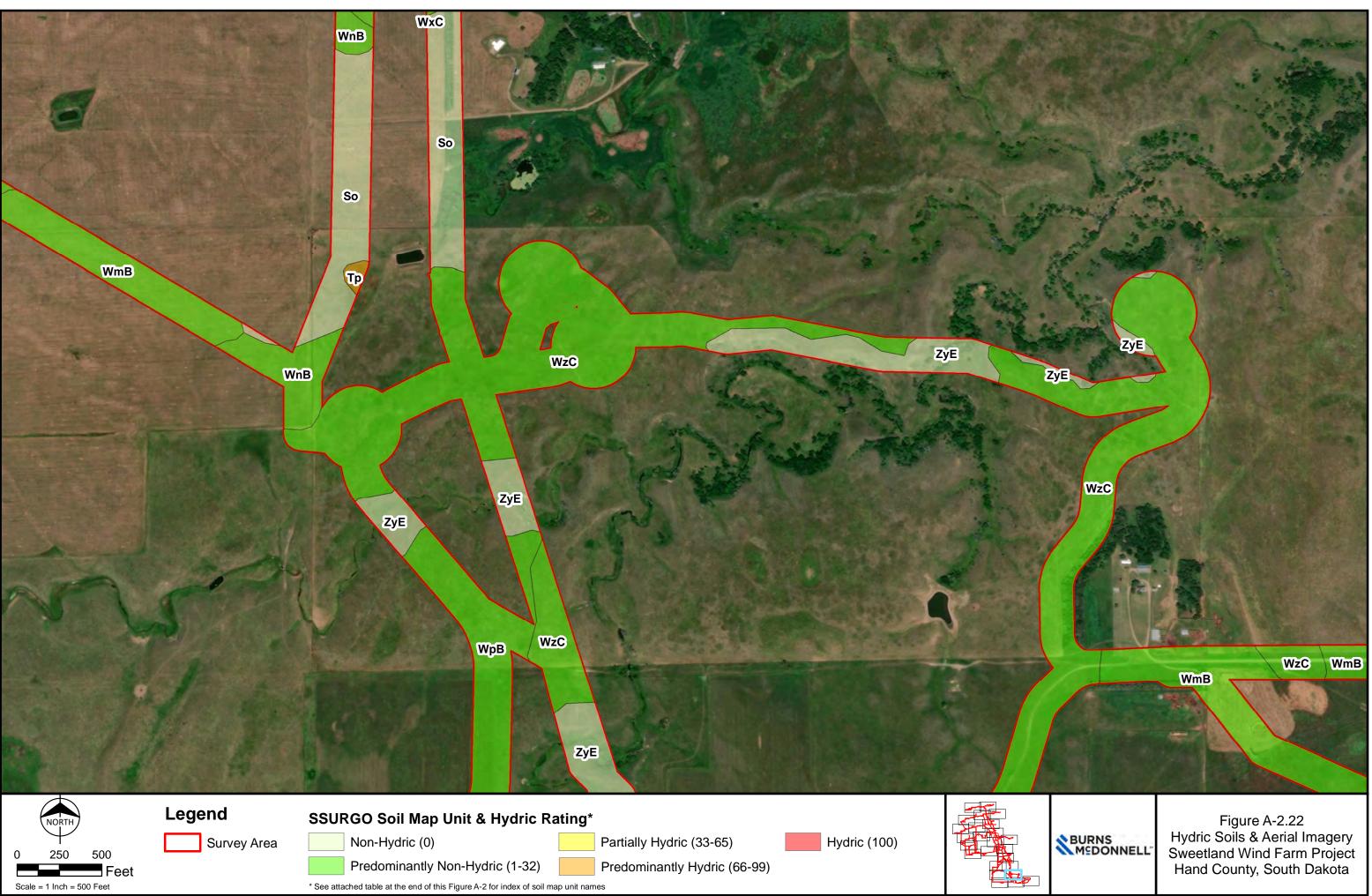
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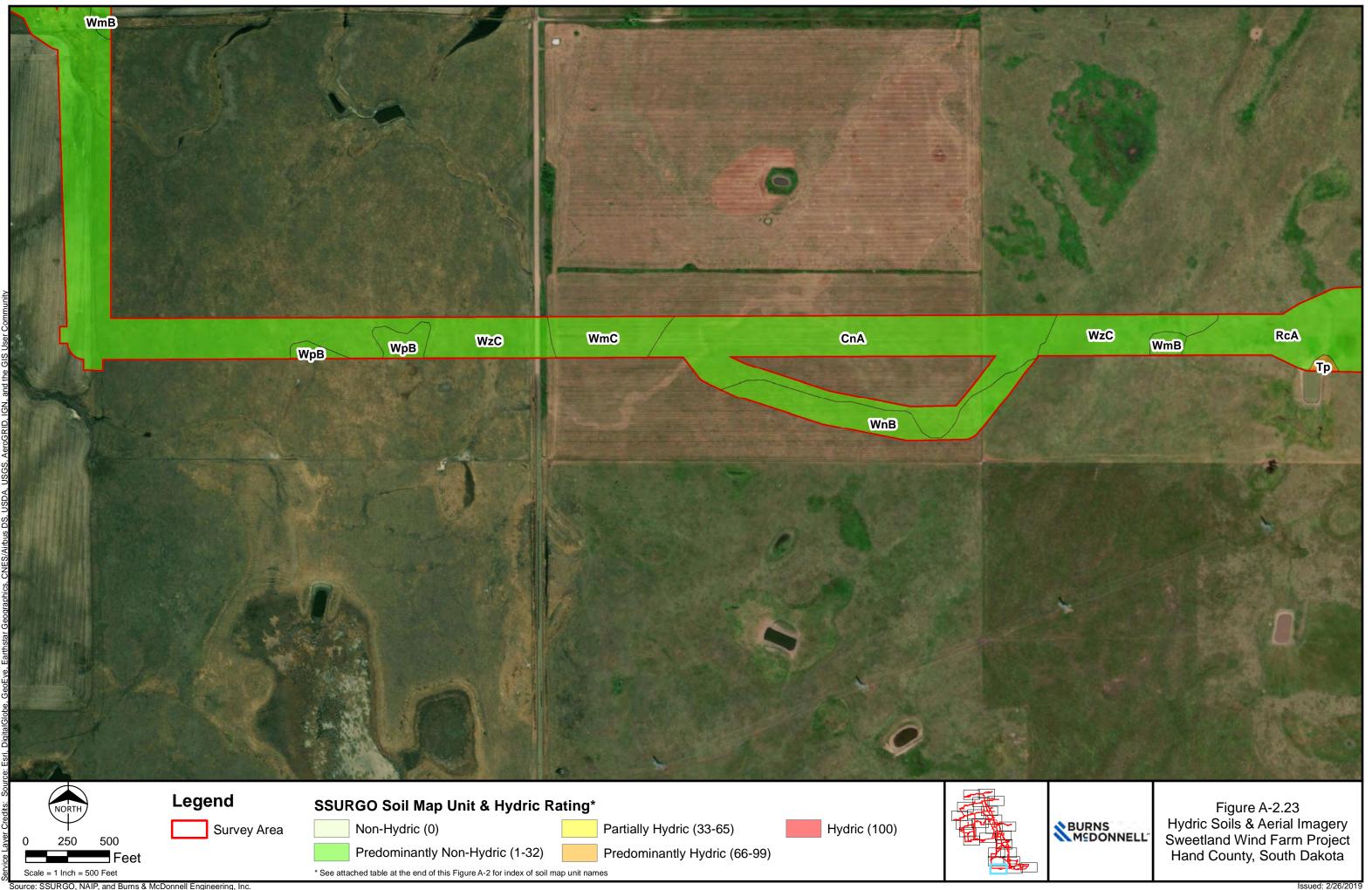
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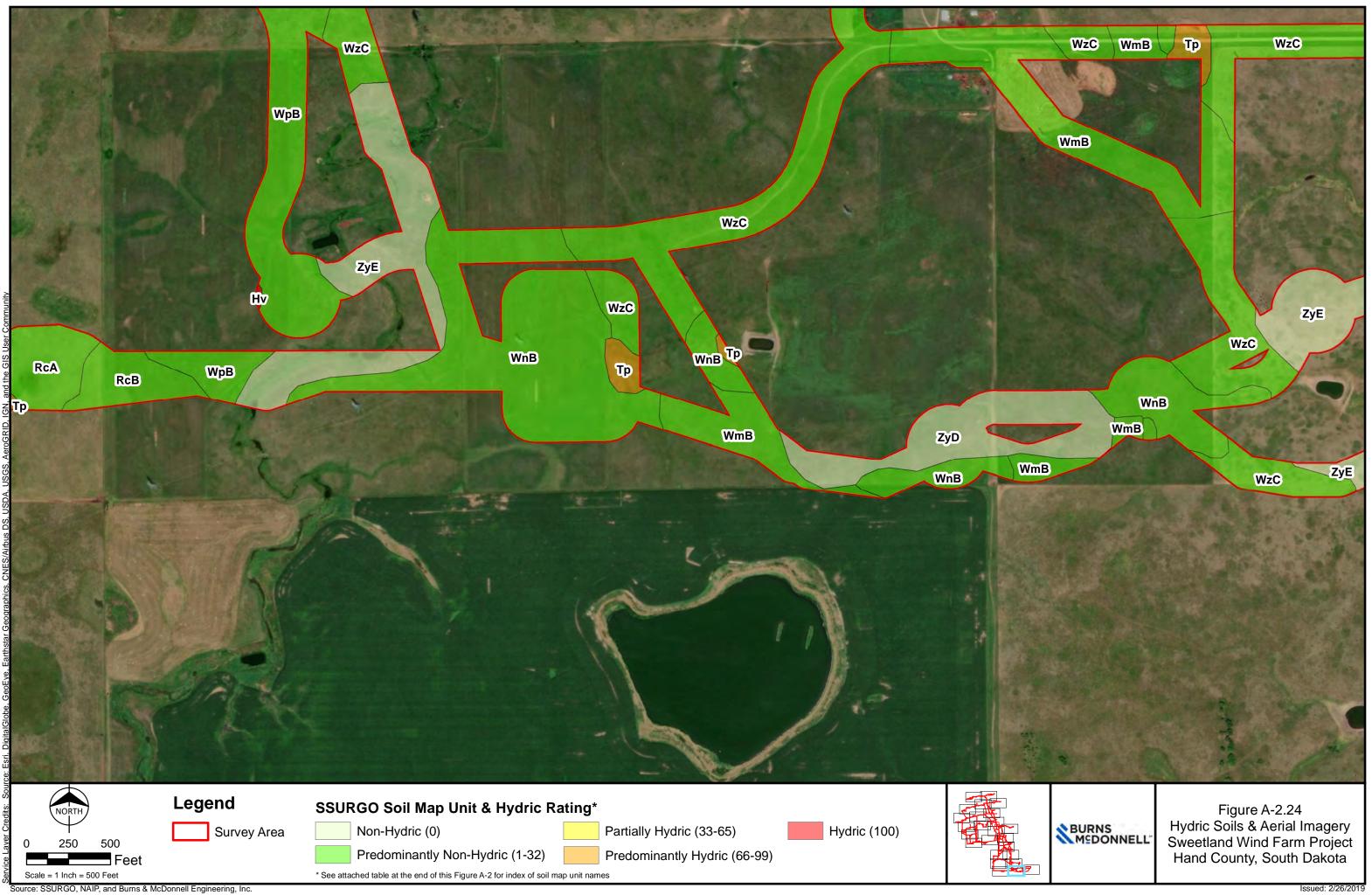
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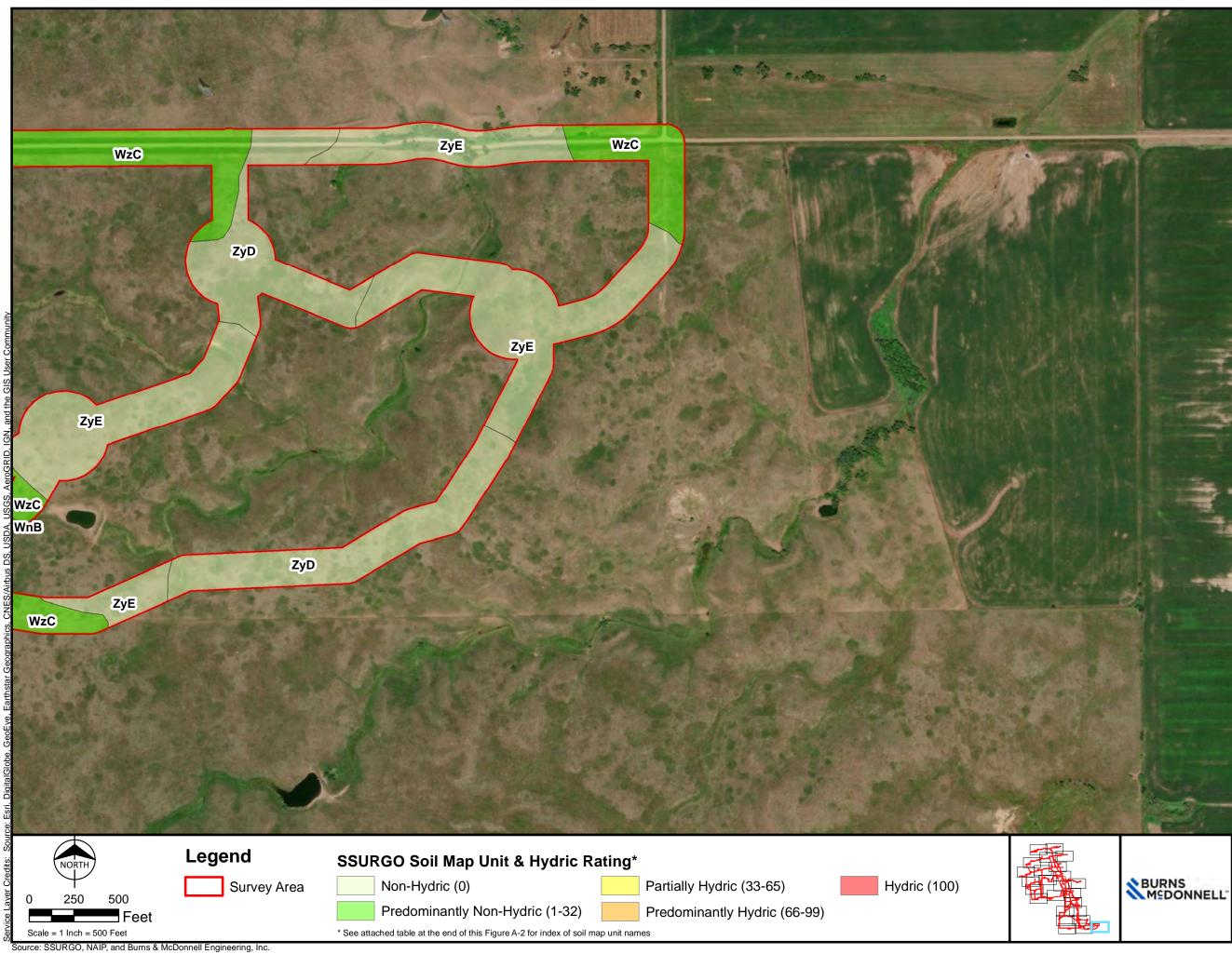


Figure A-2.25 Hydric Soils & Aerial Imagery Sweetland Wind Farm Project Hand County, South Dakota

## Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcA	Prosper-Stickney loams, nearly level	5	6.5	0.3%
СаА	Dudley silt loam, nearly level	5	3.9	0.2%
CnA	Cavo-Glenham loams, nearly level	6	37.0	1.6%
HdA	Durrstein-Bon complex, nearly level	62	0.2	0.0%
HhB	Houdek loam, 2 to 6 percent slopes	4	4.7	0.2%
HkA	Houdek-Prosper loams, 0 to 2 percent slopes	3	68.9	2.9%
HkB	Houdek-Prosper loams, 1 to 6 percent slopes	3	8.8	0.4%
HIA	Houdek-Dudley complex, 0 to 2 percent slopes	5	3.5	0.1%
Hv	Hoven silt loam, 0 to 1 percent slopes	100	9.2	0.4%
LIA	Bon loam, channeled, 0 to 2 percent slopes, frequently flooded	9	4.0	0.2%
RcA	Raber-Cavo loams, 0 to 2 percent slopes	2	9.9	0.4%
RcB	Raber-Cavo loams, 2 to 6 percent slopes	2	4.4	0.2%
So	Oahe-Delmont loams, 2 to 6 percent slopes	0	15.9	0.7%
Тр	Tetonka silt loam, 0 to 1 percent slopes	95	40.3	1.7%
W	Water	0	2.4	0.1%
WmB	Glenham loam, undulating	1	285.1	12.0%
WmC	Glenham loam, rolling	1	100.4	4.2%
WnA	Glenham-Prosper loams, 0 to 2 percent slopes	6	164.8	6.9%
WnB	Glenham-Propser loams, 1 to 6 percent slopes	6	947.4	39.7%
WpA	Glenham-Cavo loams, nearly level	10	51.5	2.2%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
WpB	Glenham-Cavo loams, undulating	10	167.5	7.0%
WxC	Glenham-Java loams, rolling	1	5.0	0.2%
WzC	Glenham-Java loams, rolling	1	231.2	9.7%
ZxE	Betts-Java loams, steep	0	4.1	0.2%
ZyD	Java-Glenham loams, hilly	0	62.7	2.6%
ZyE	Betts-Java loams, steep	0	146.0	6.1%
Totals for Area of Interest			2,385.3	100.0%

## Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

## References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States. Federal Register. September 18, 2002. Hydric soils of the United States. Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

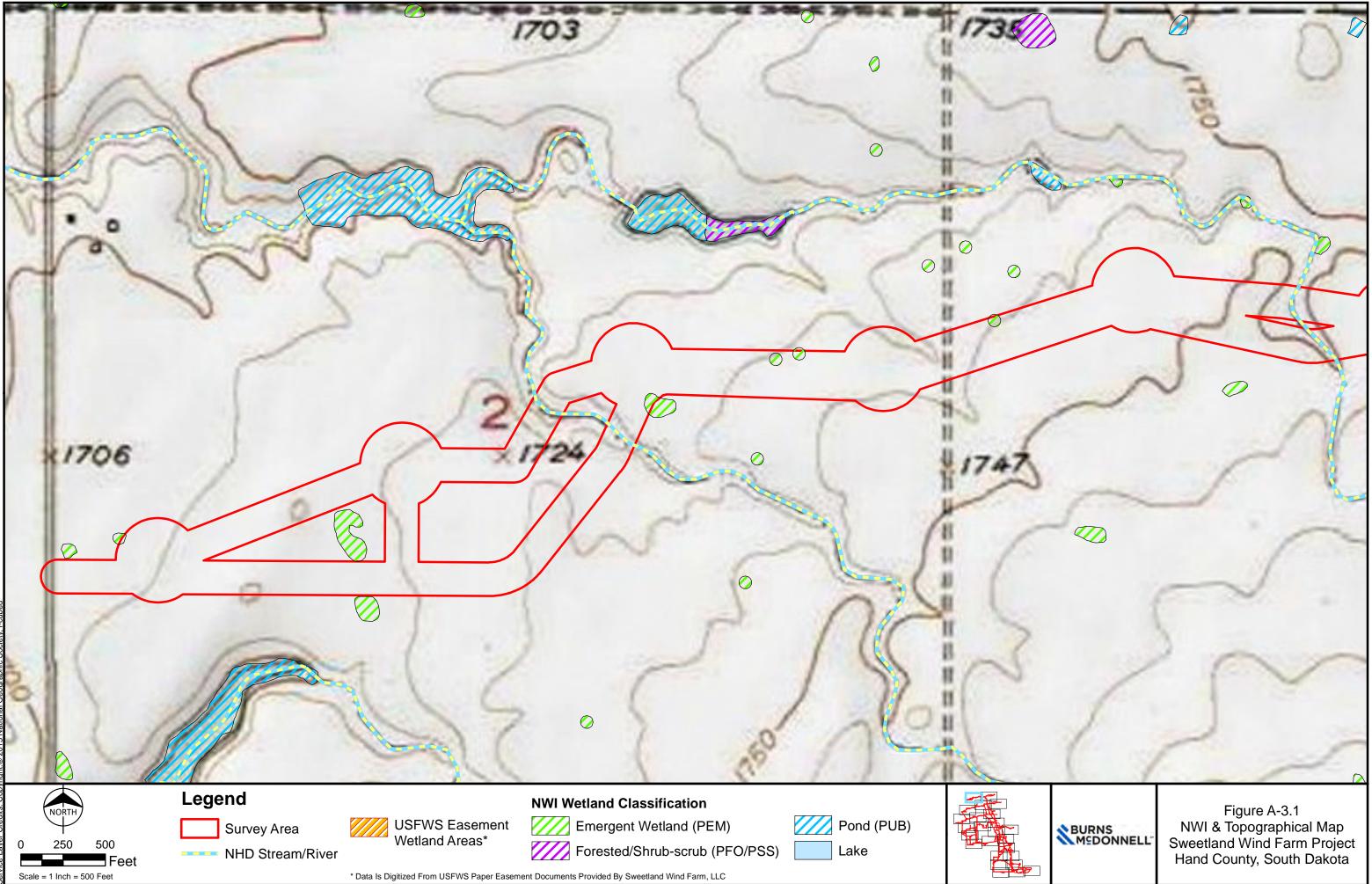
Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

## **Rating Options**

Aggregation Method: Percent Present Component Percent Cutoff: None Specified Tie-break Rule: Lower



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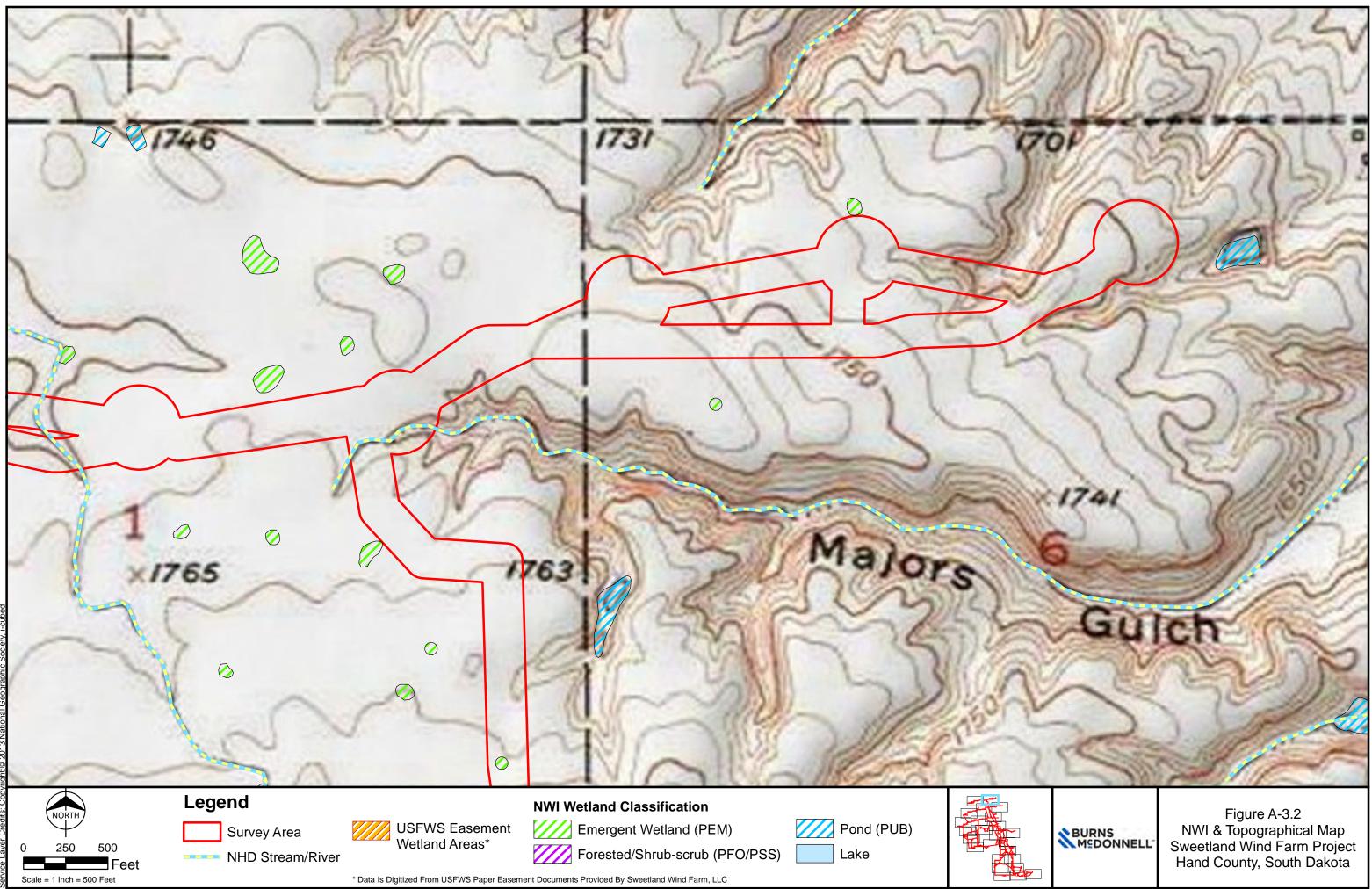
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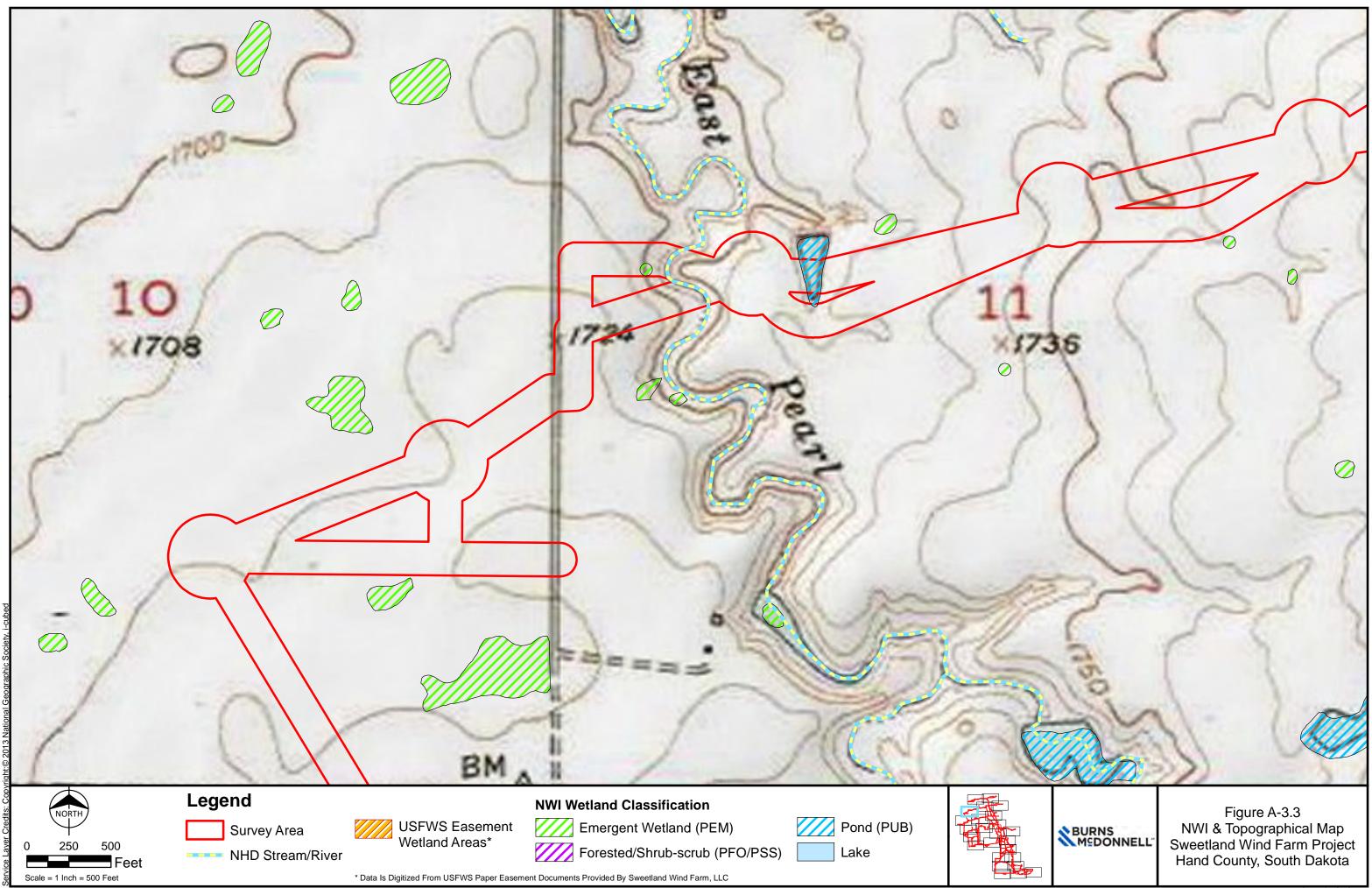
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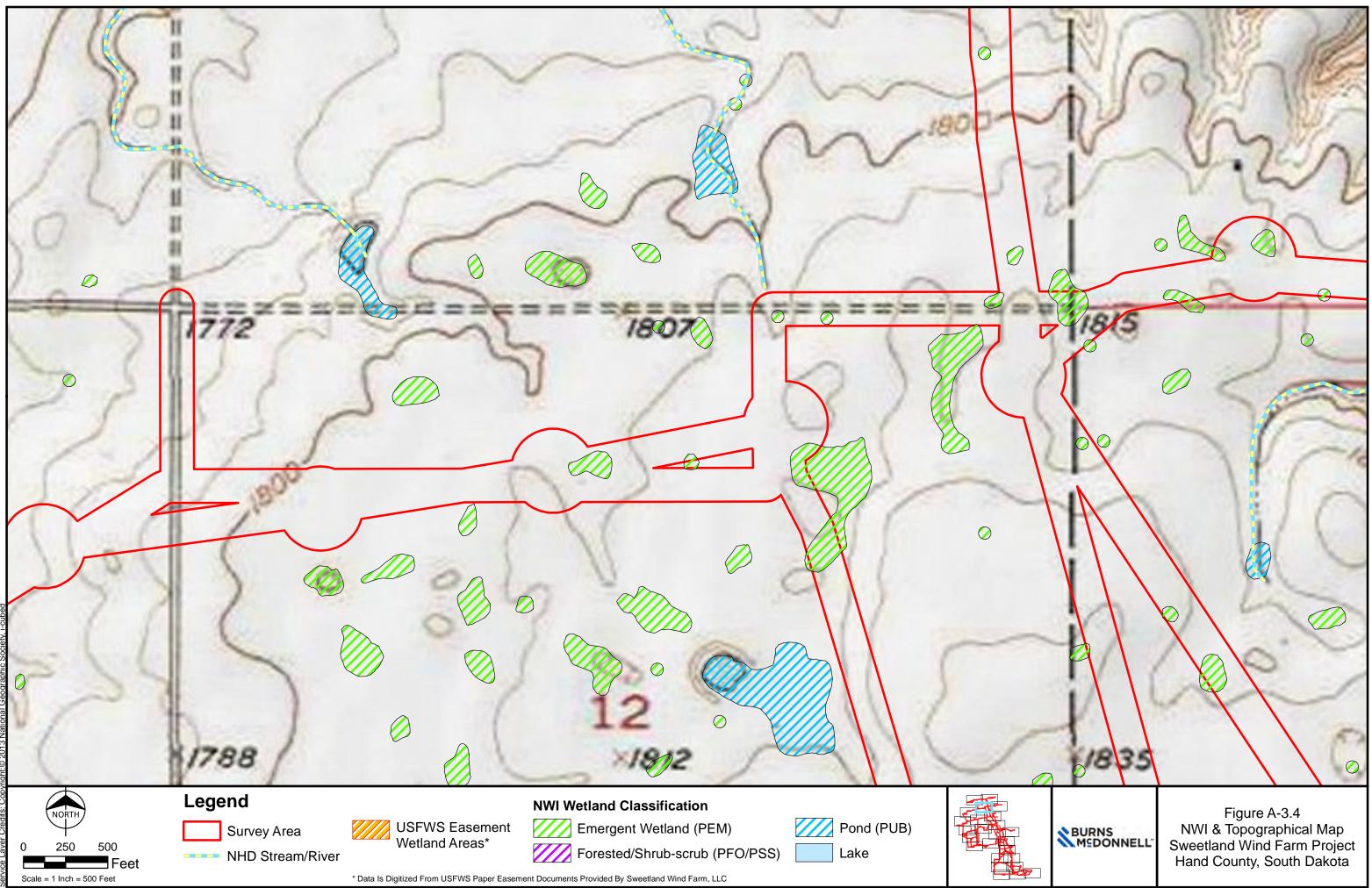
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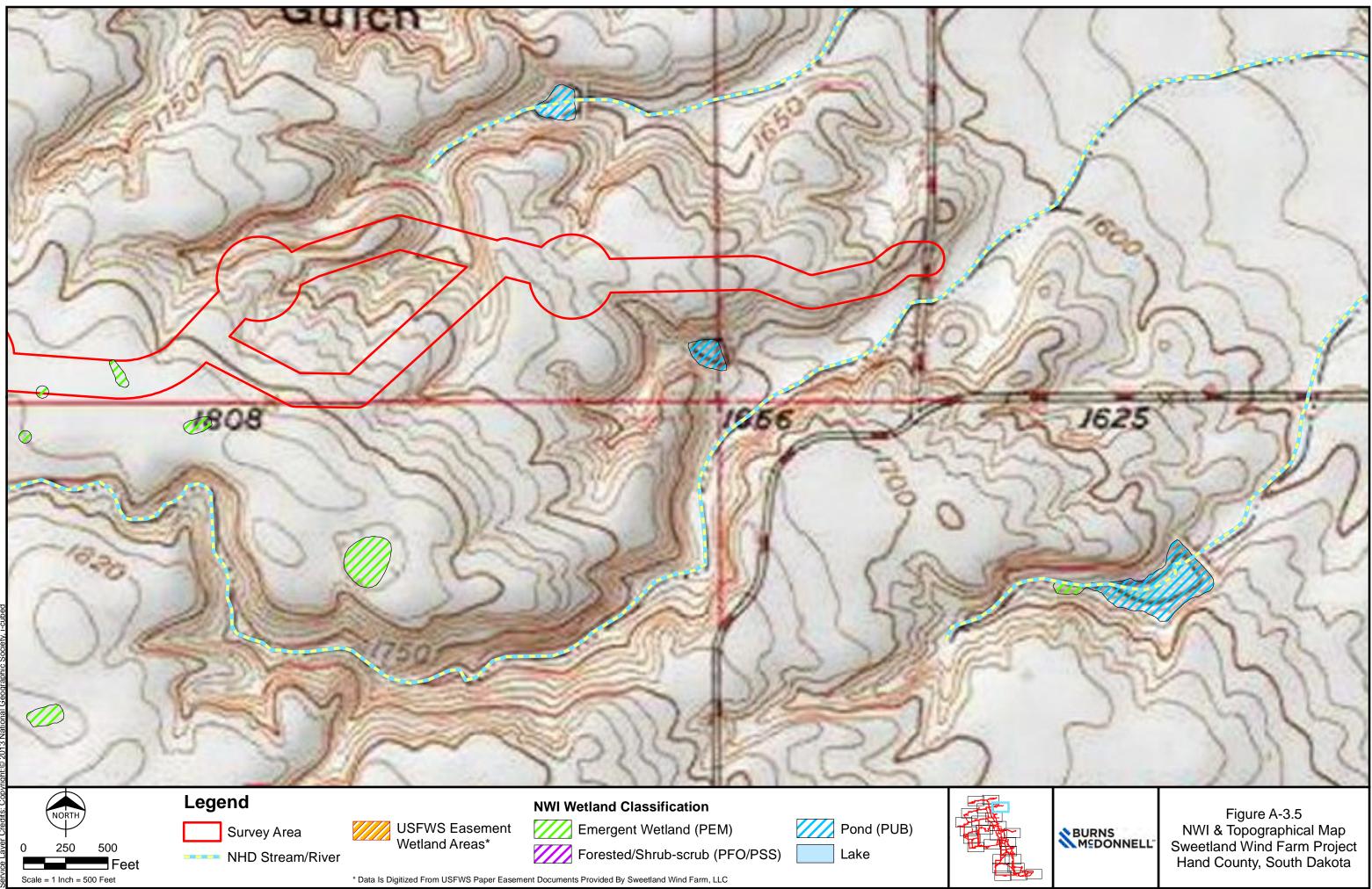
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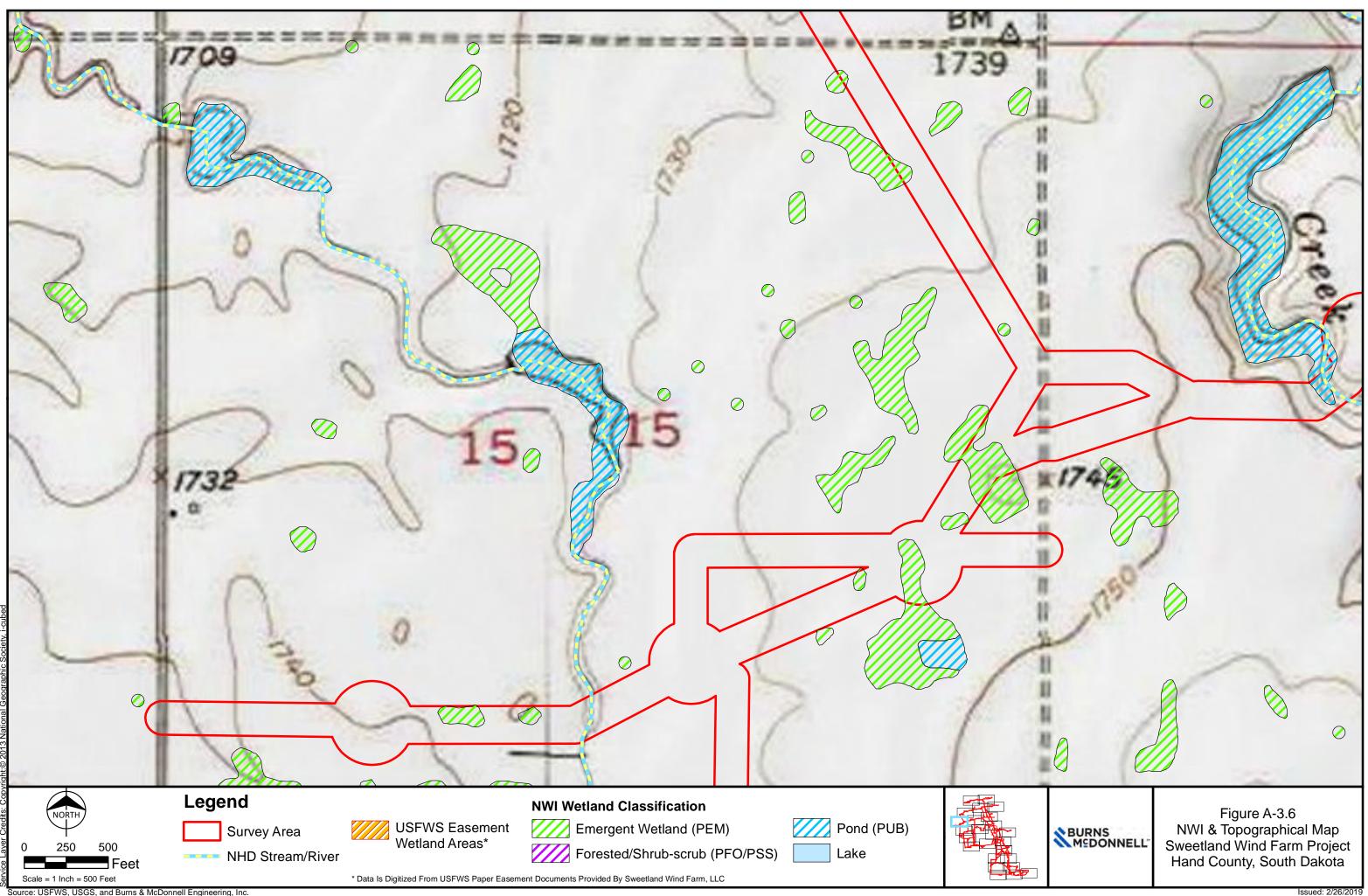
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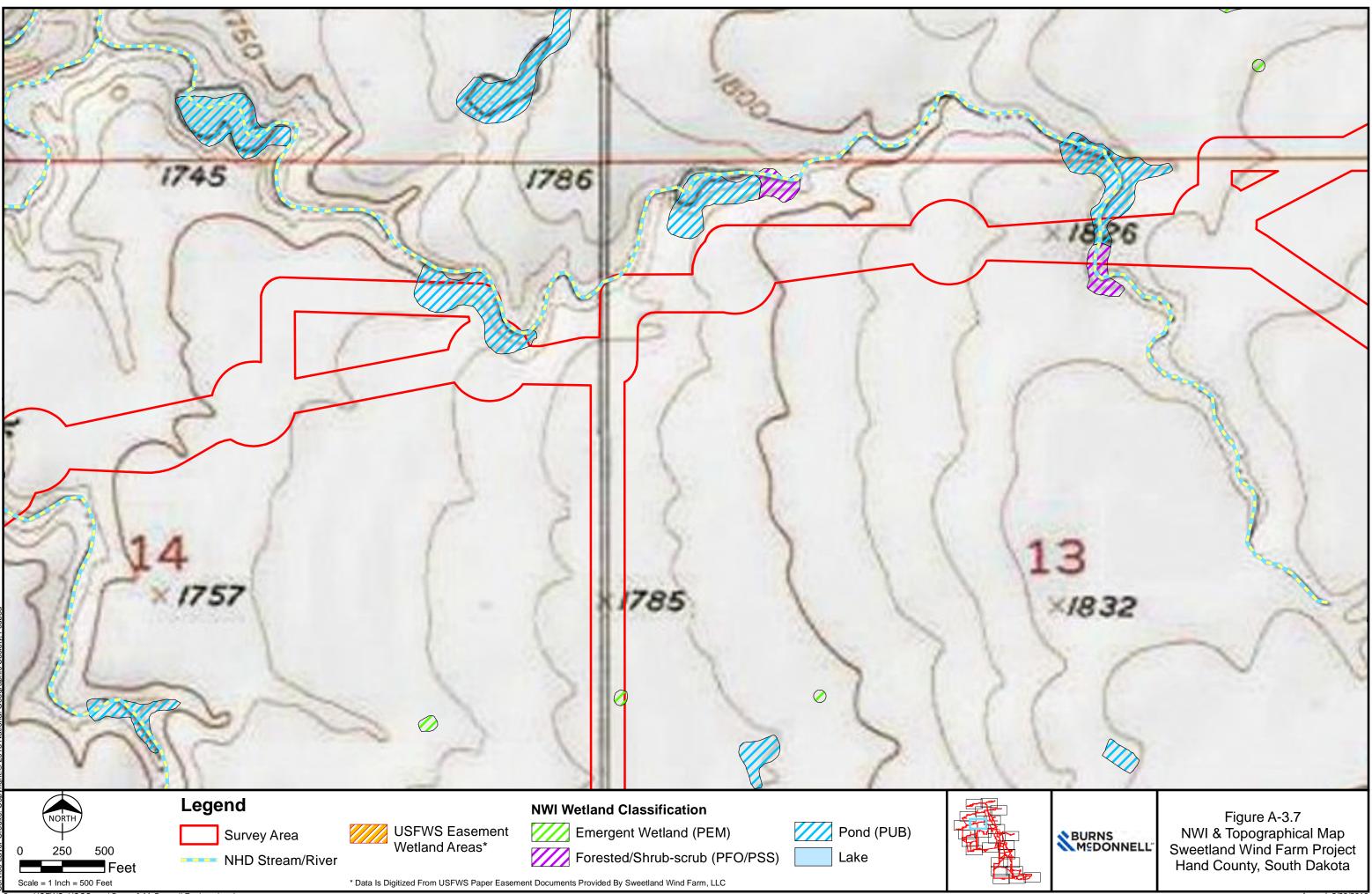
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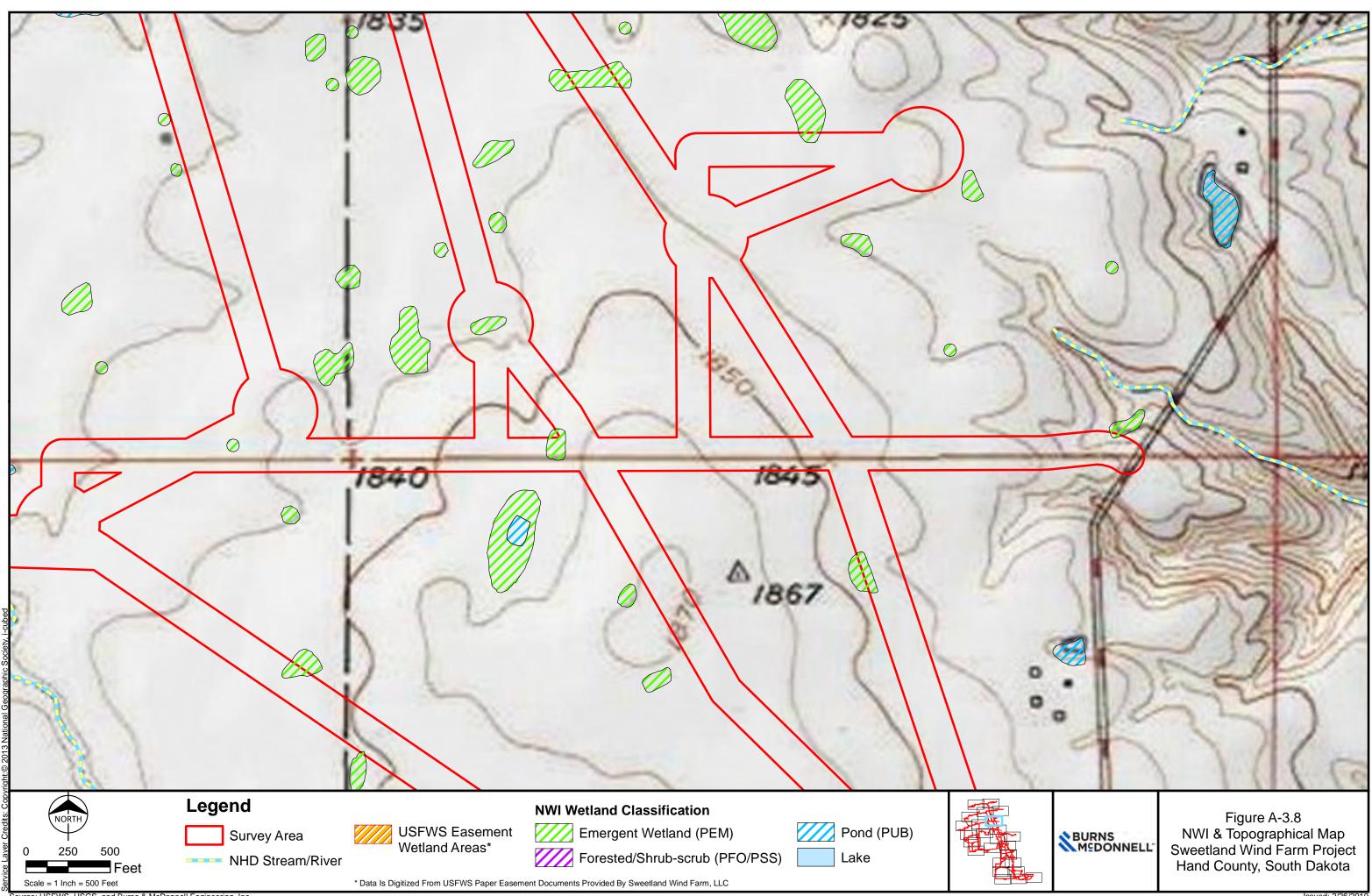
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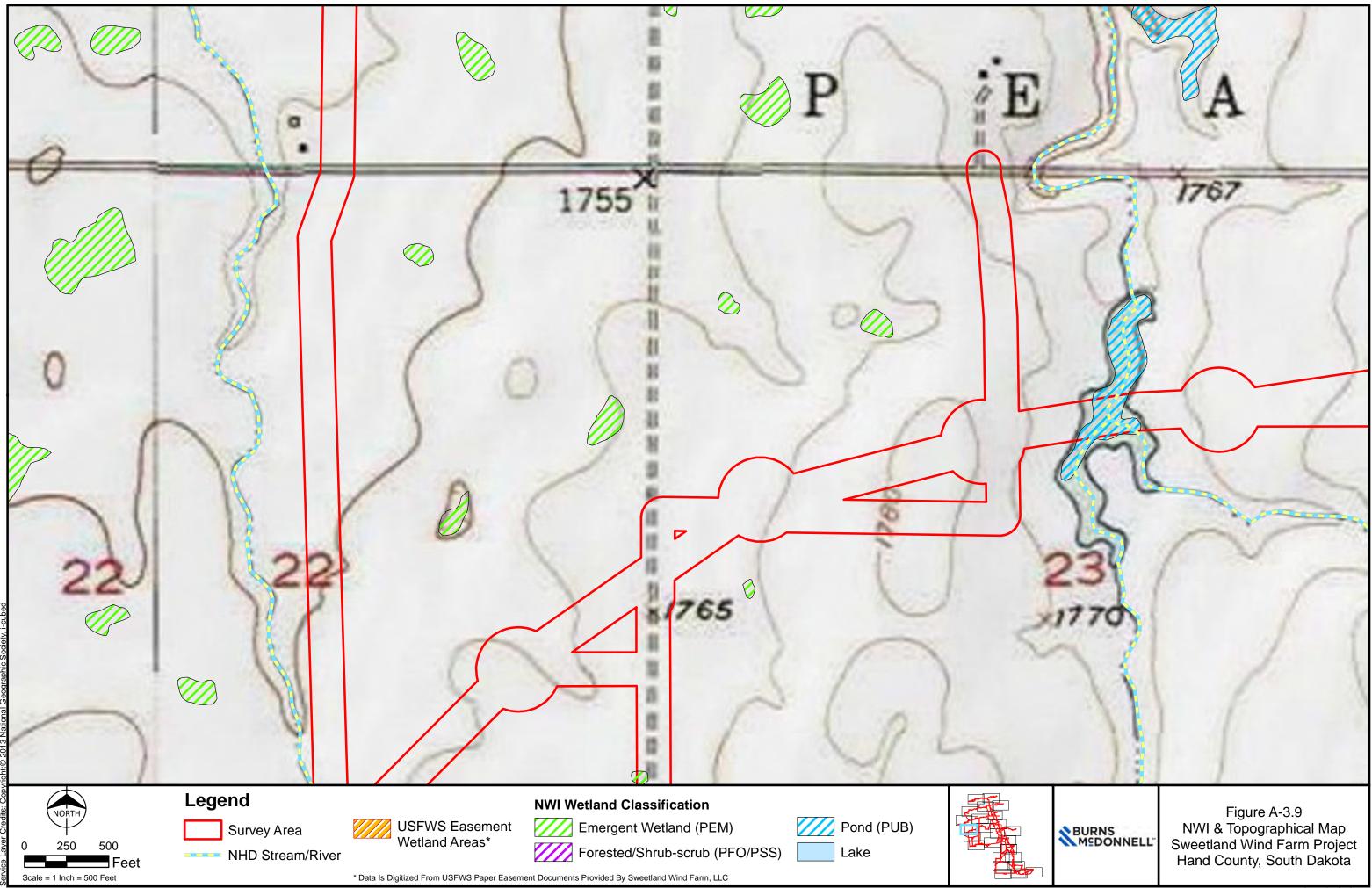
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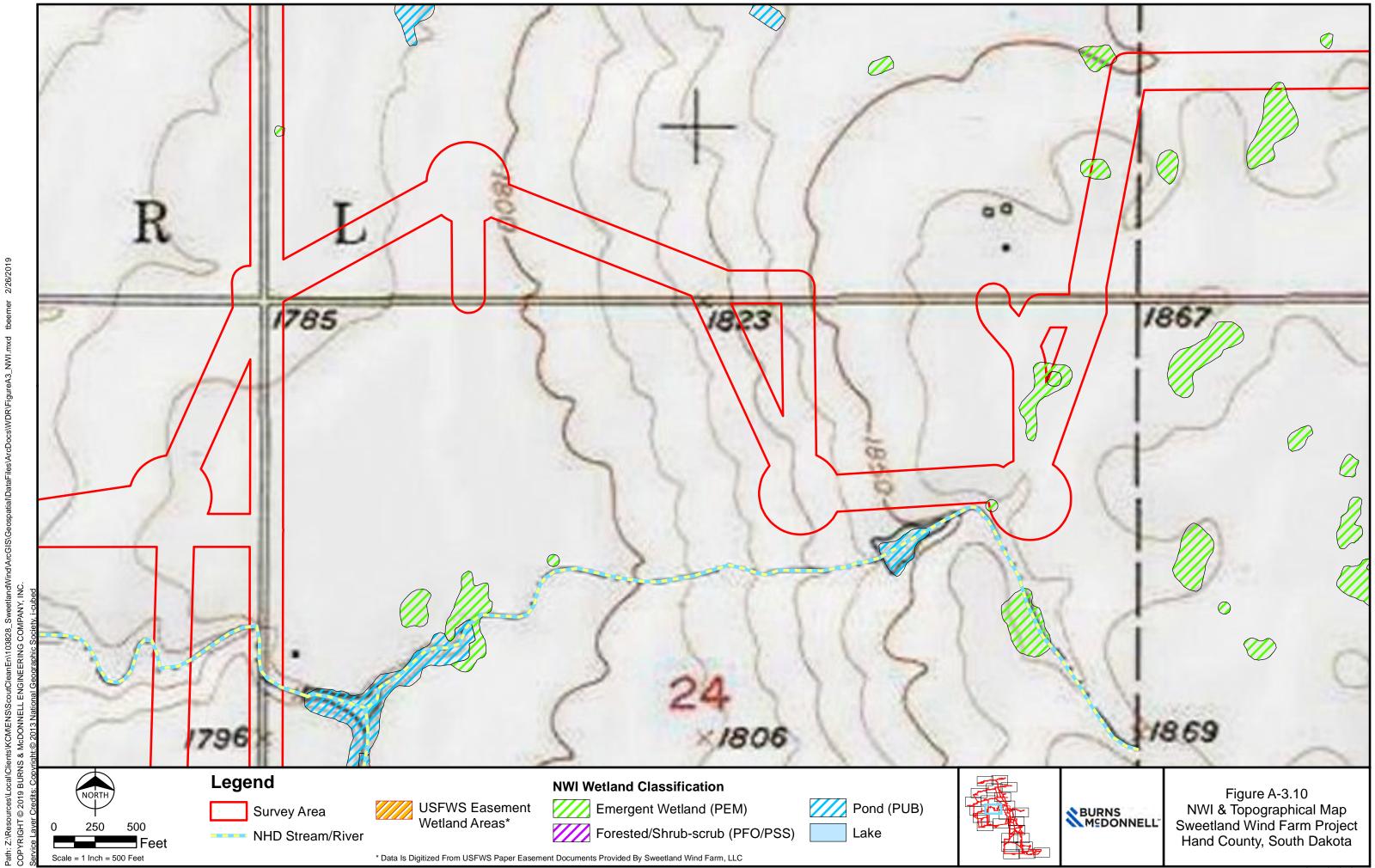
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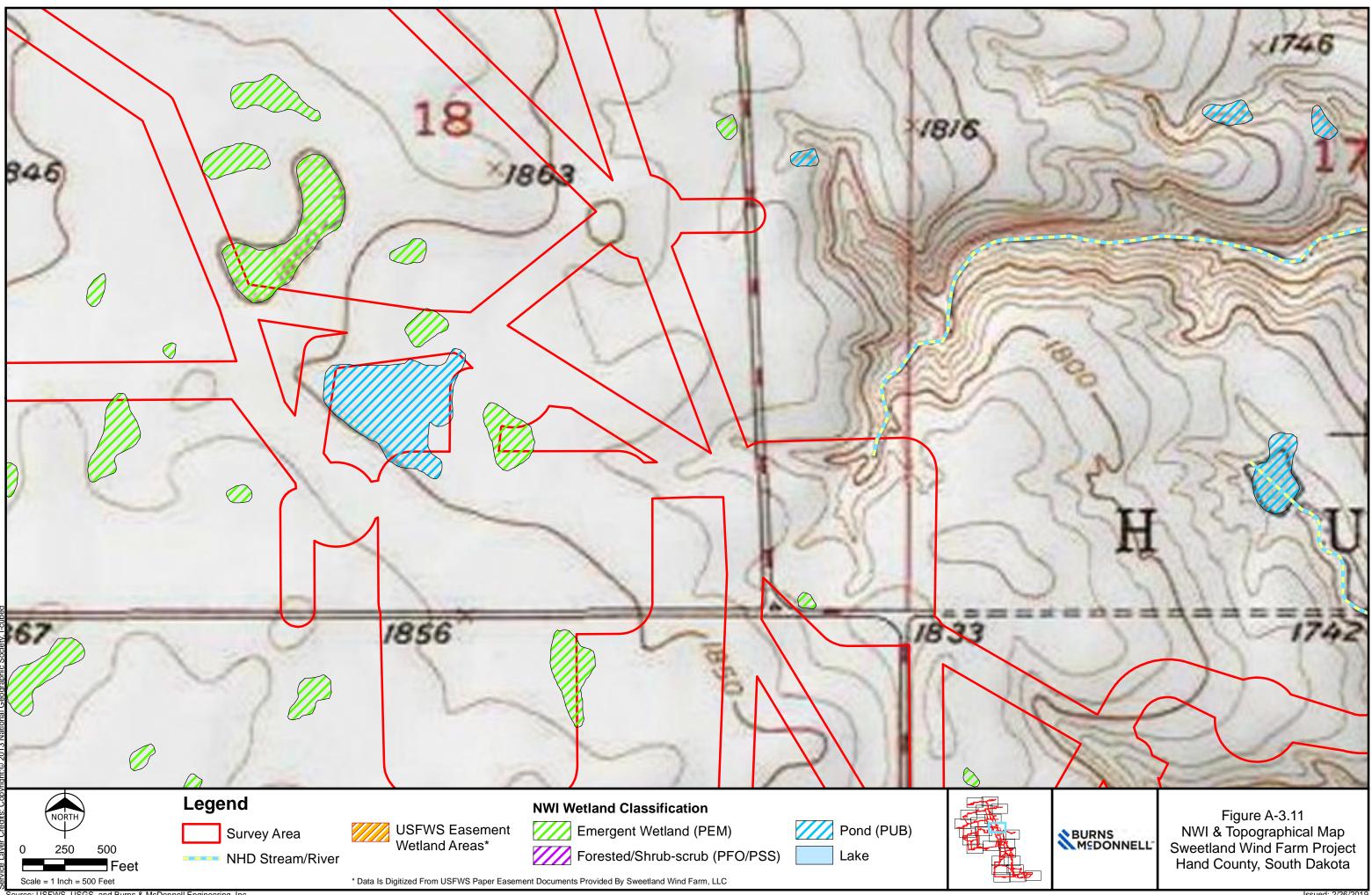
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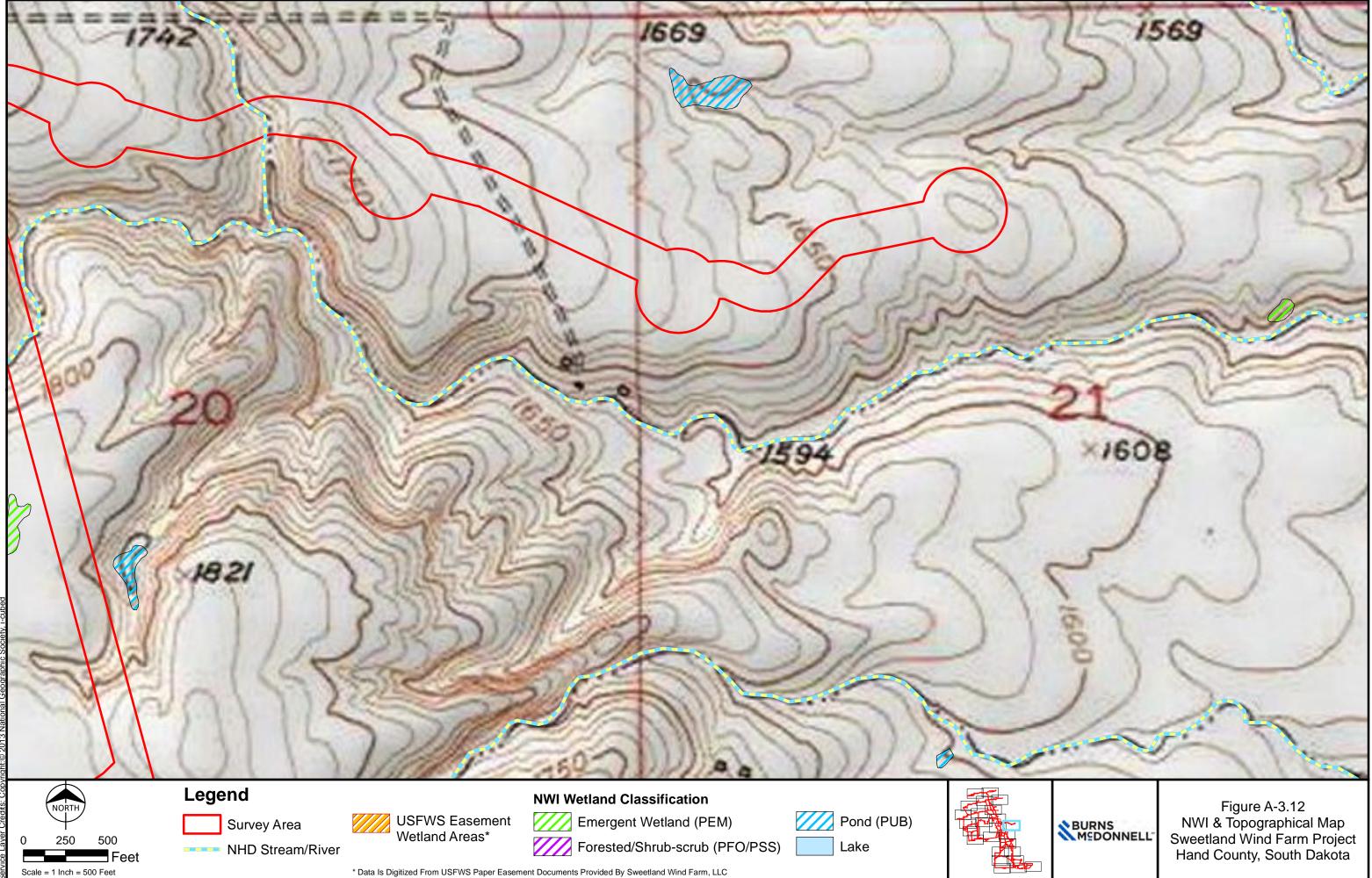
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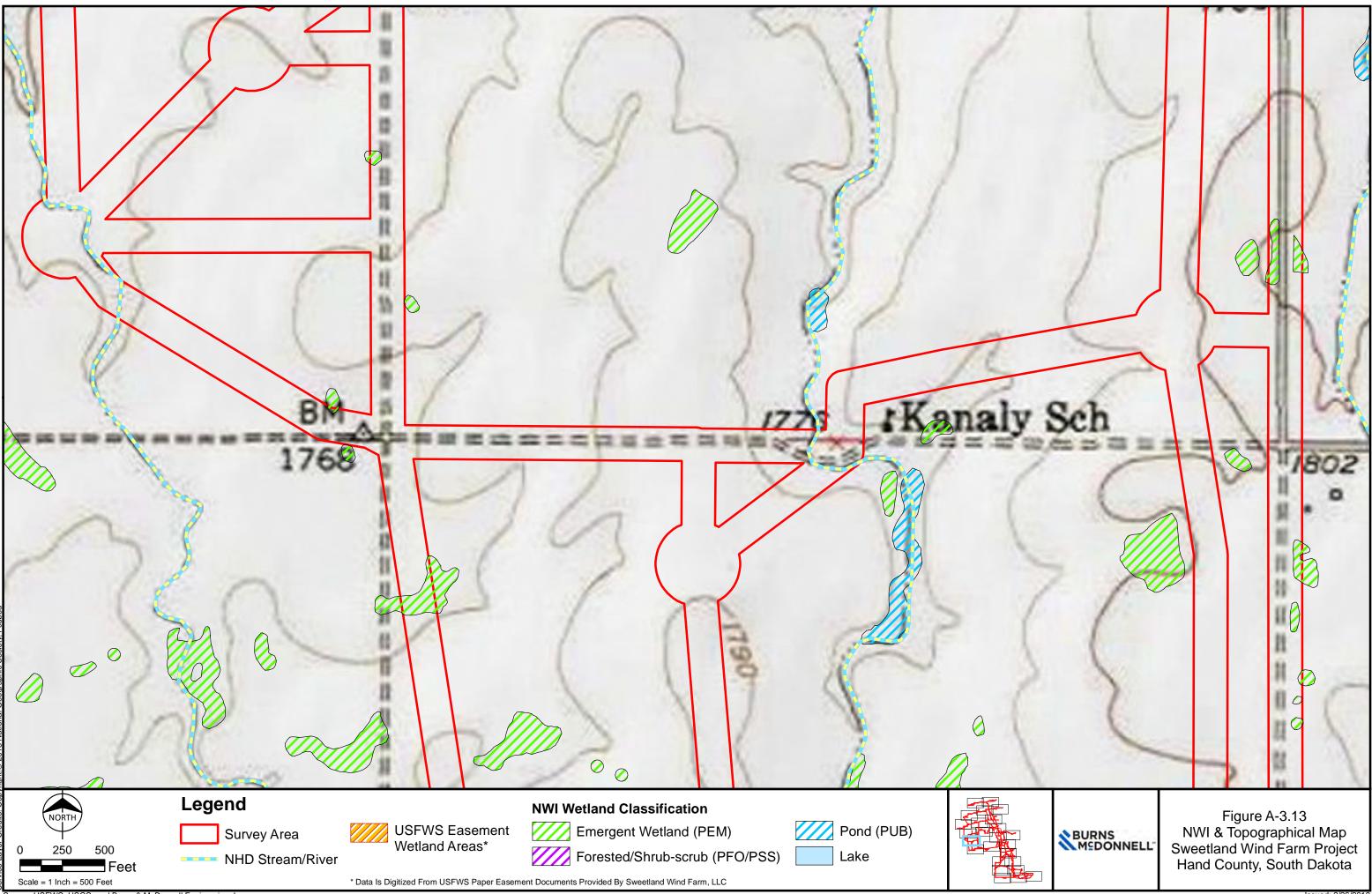
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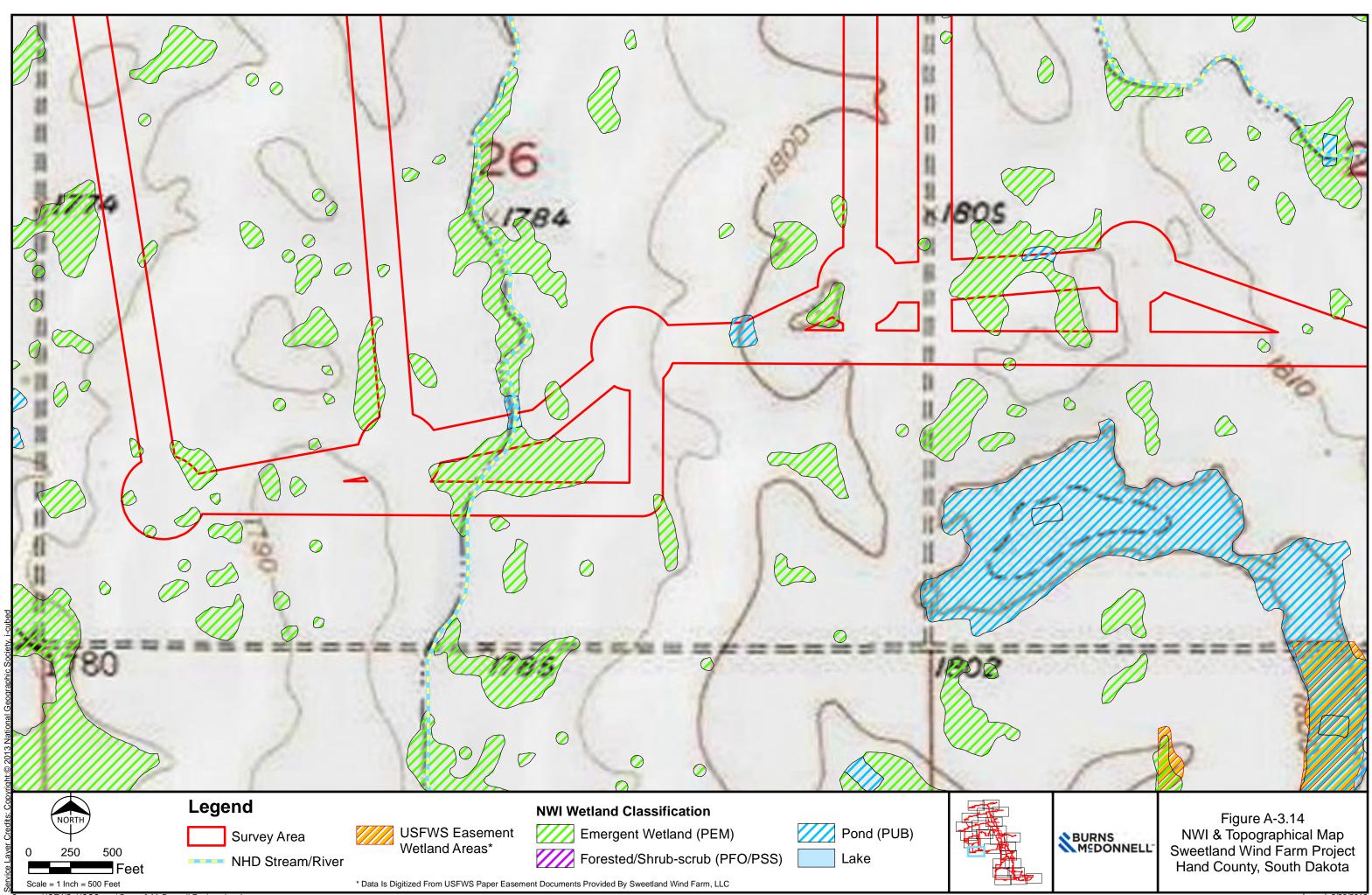
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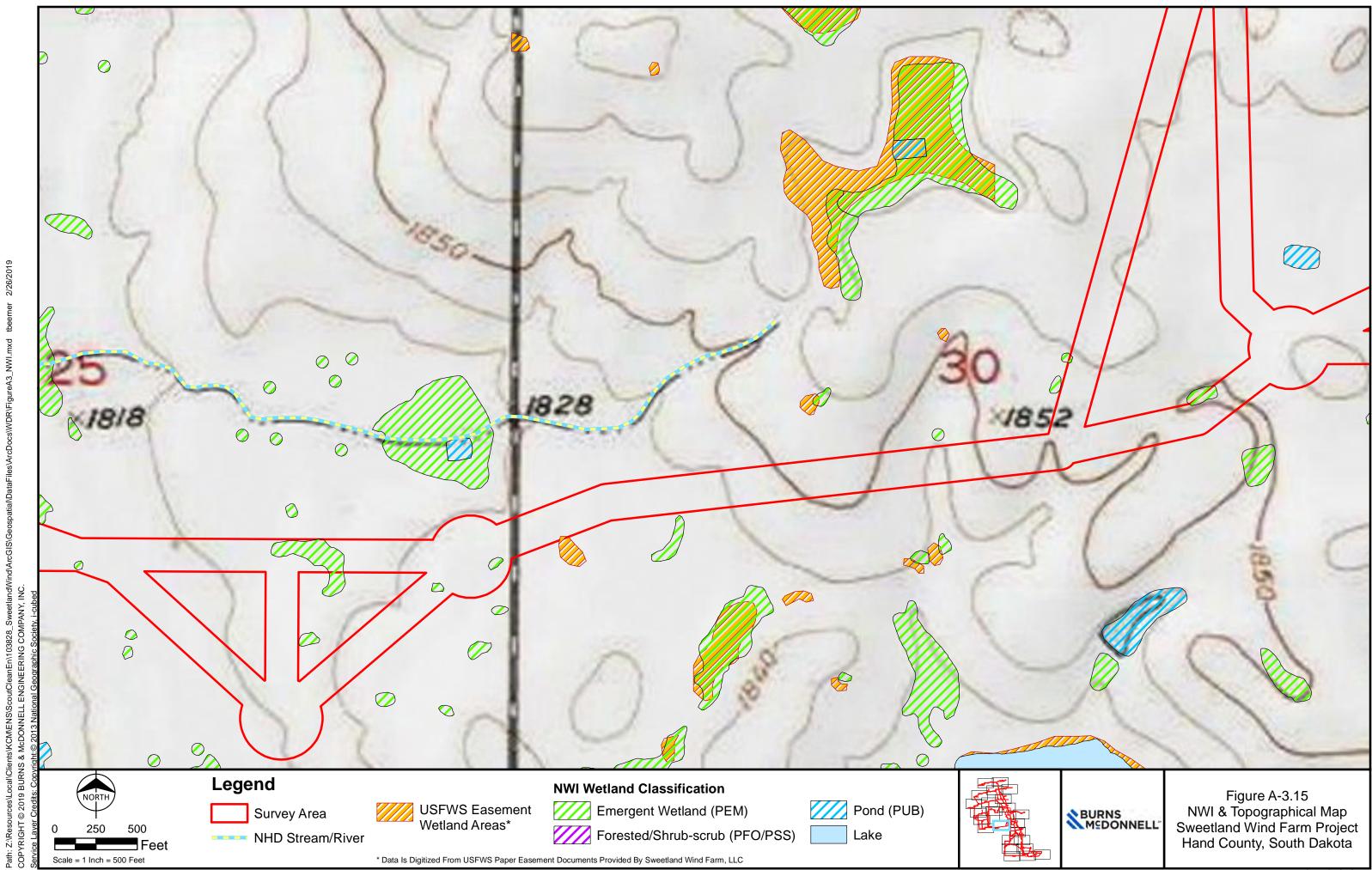
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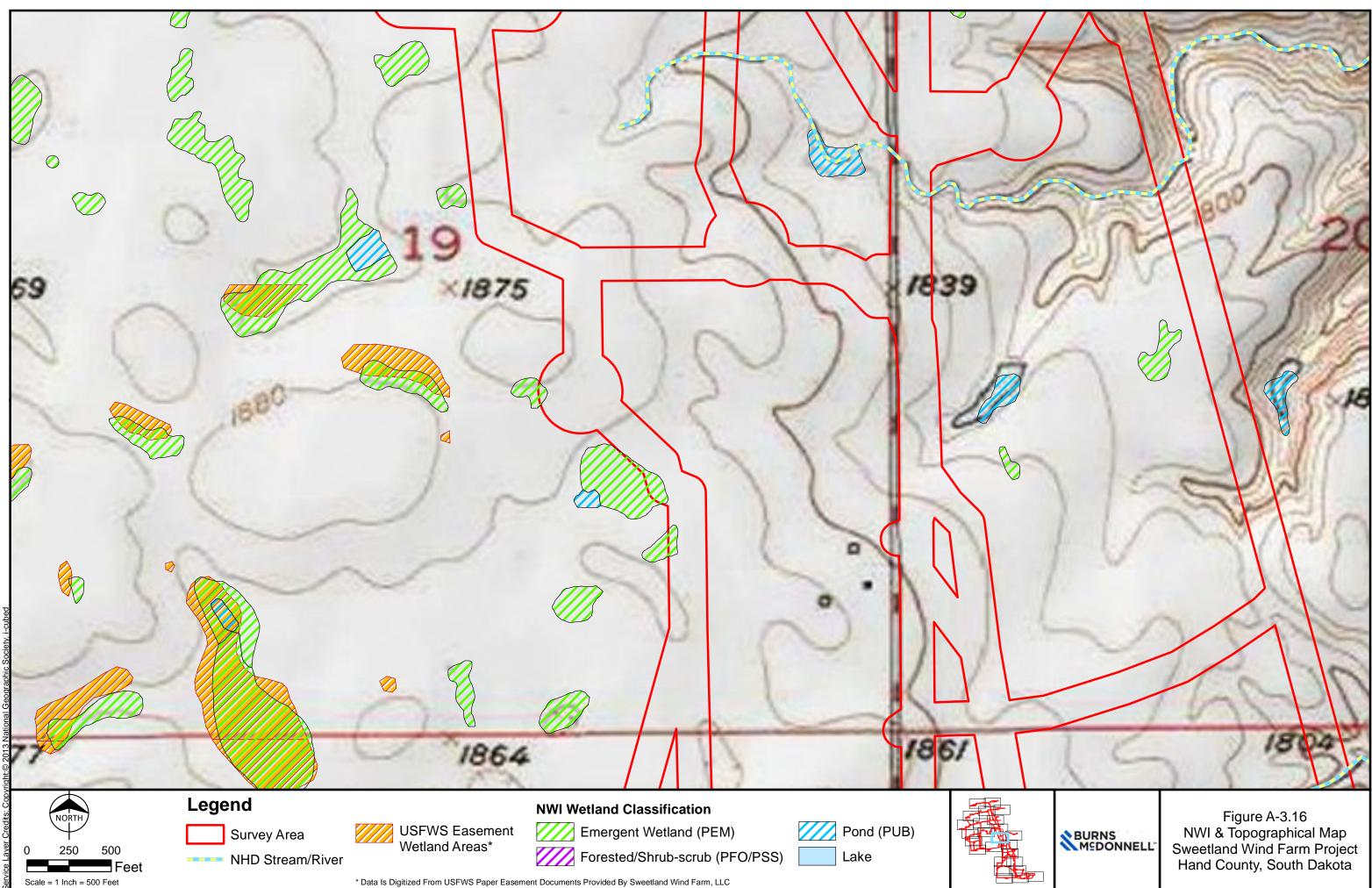
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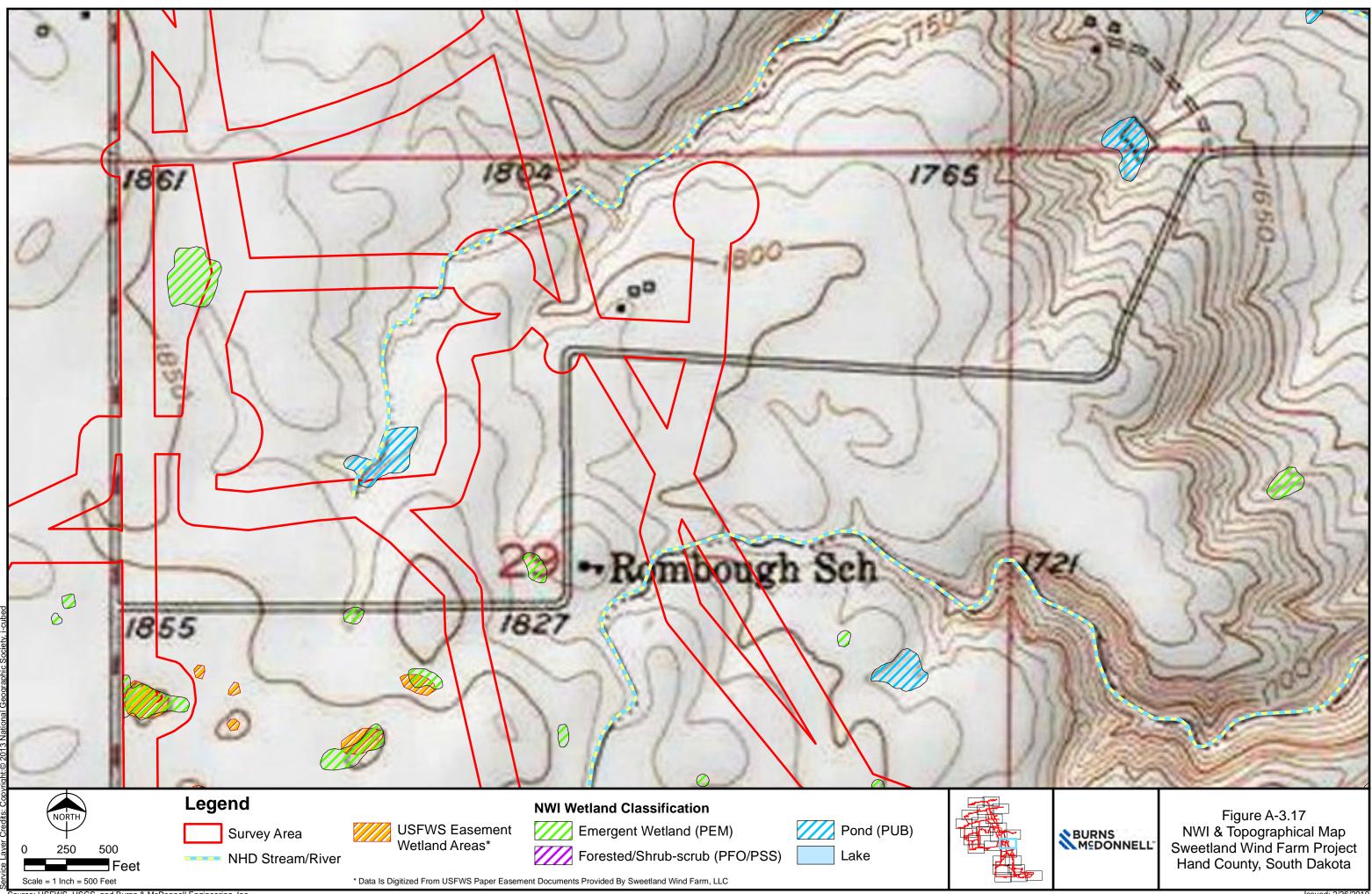
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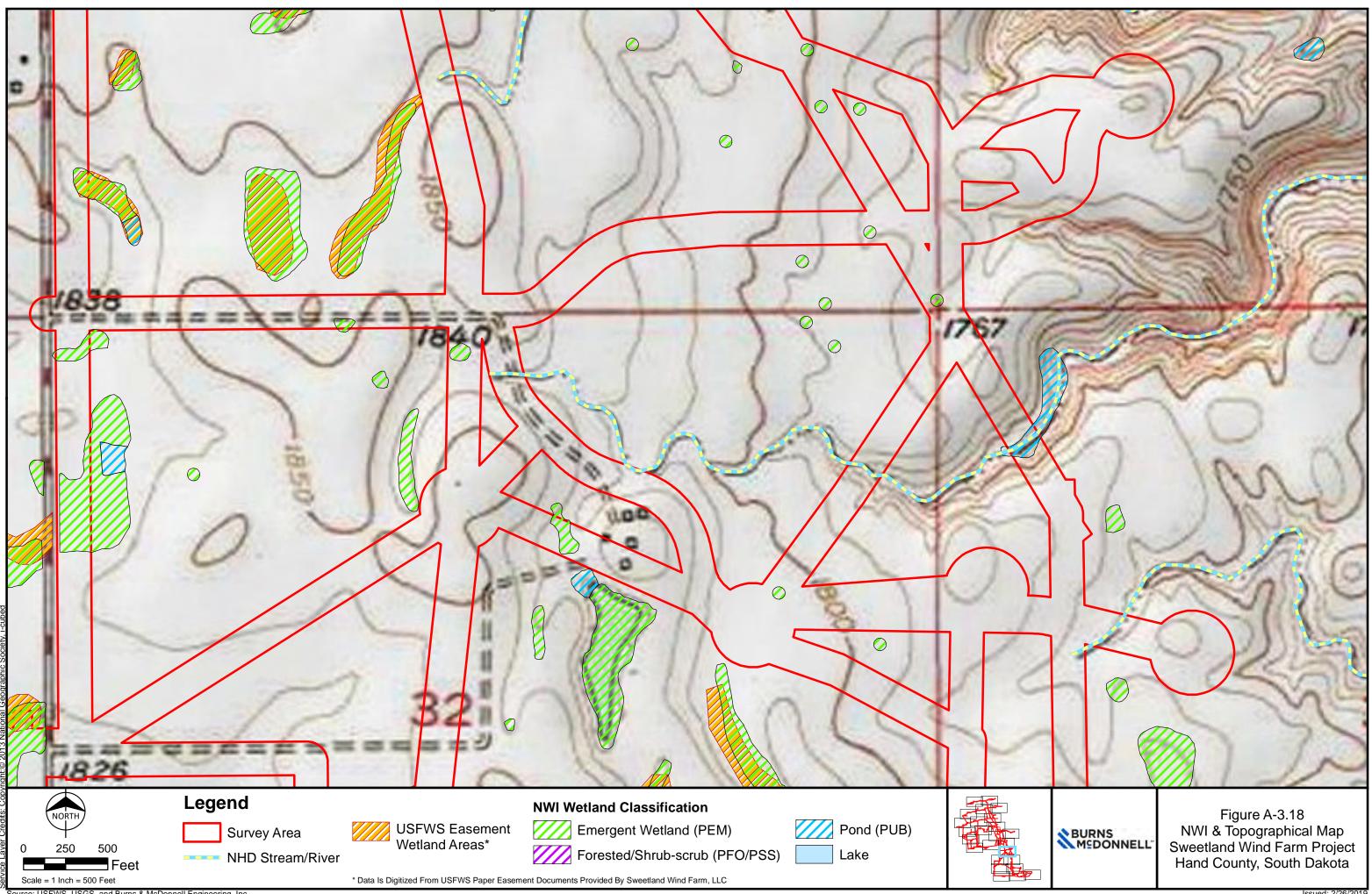


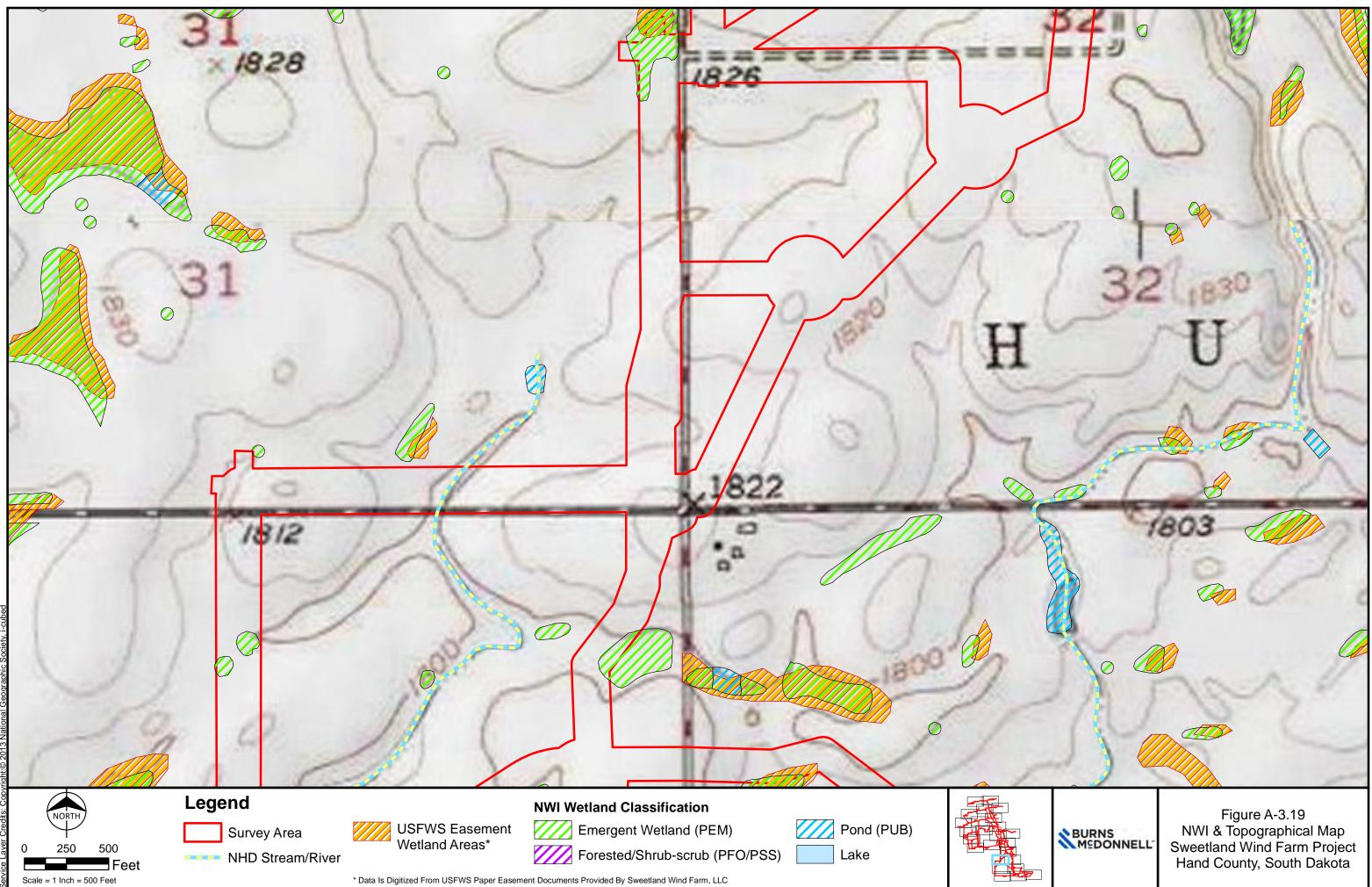
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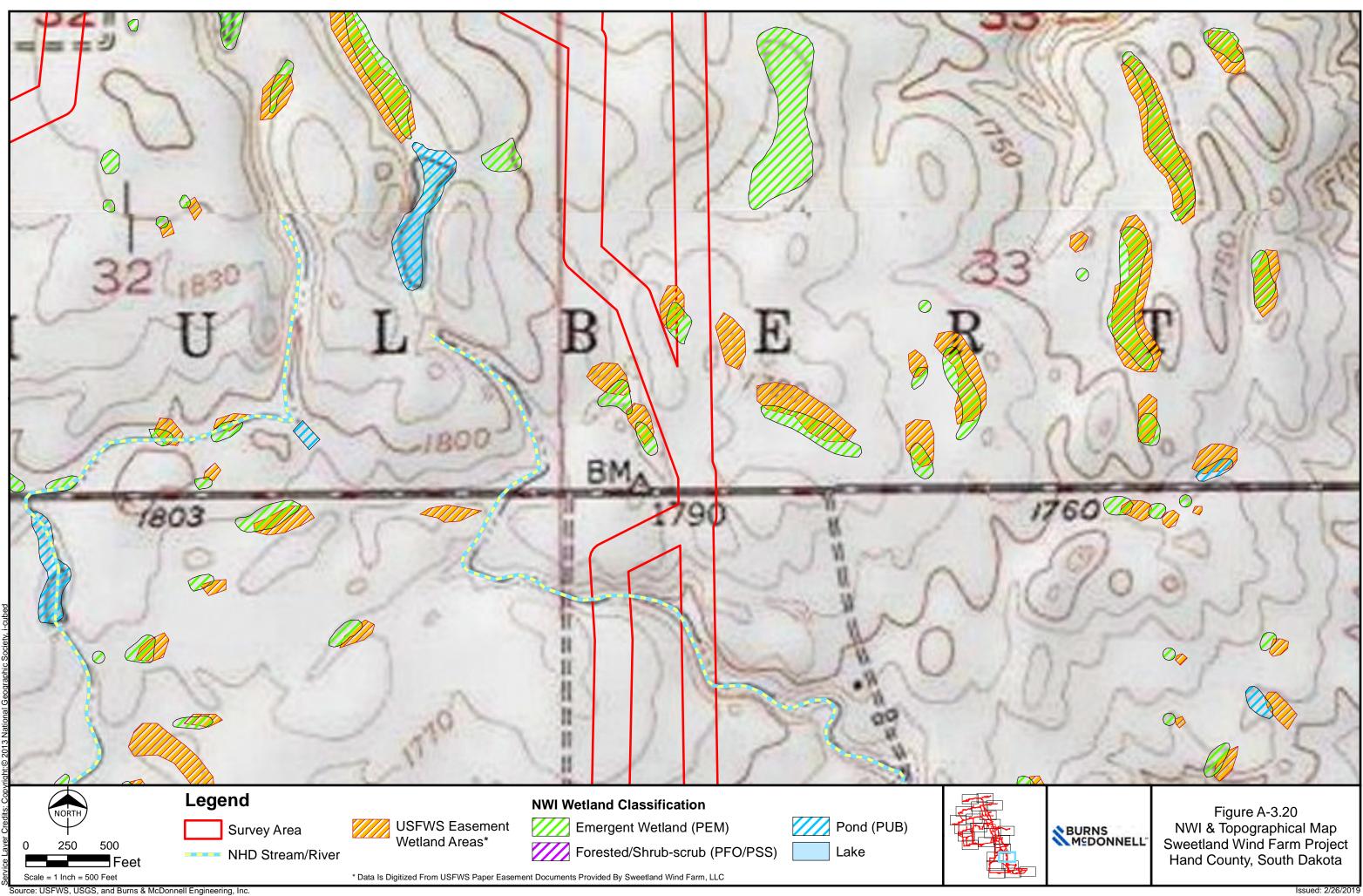
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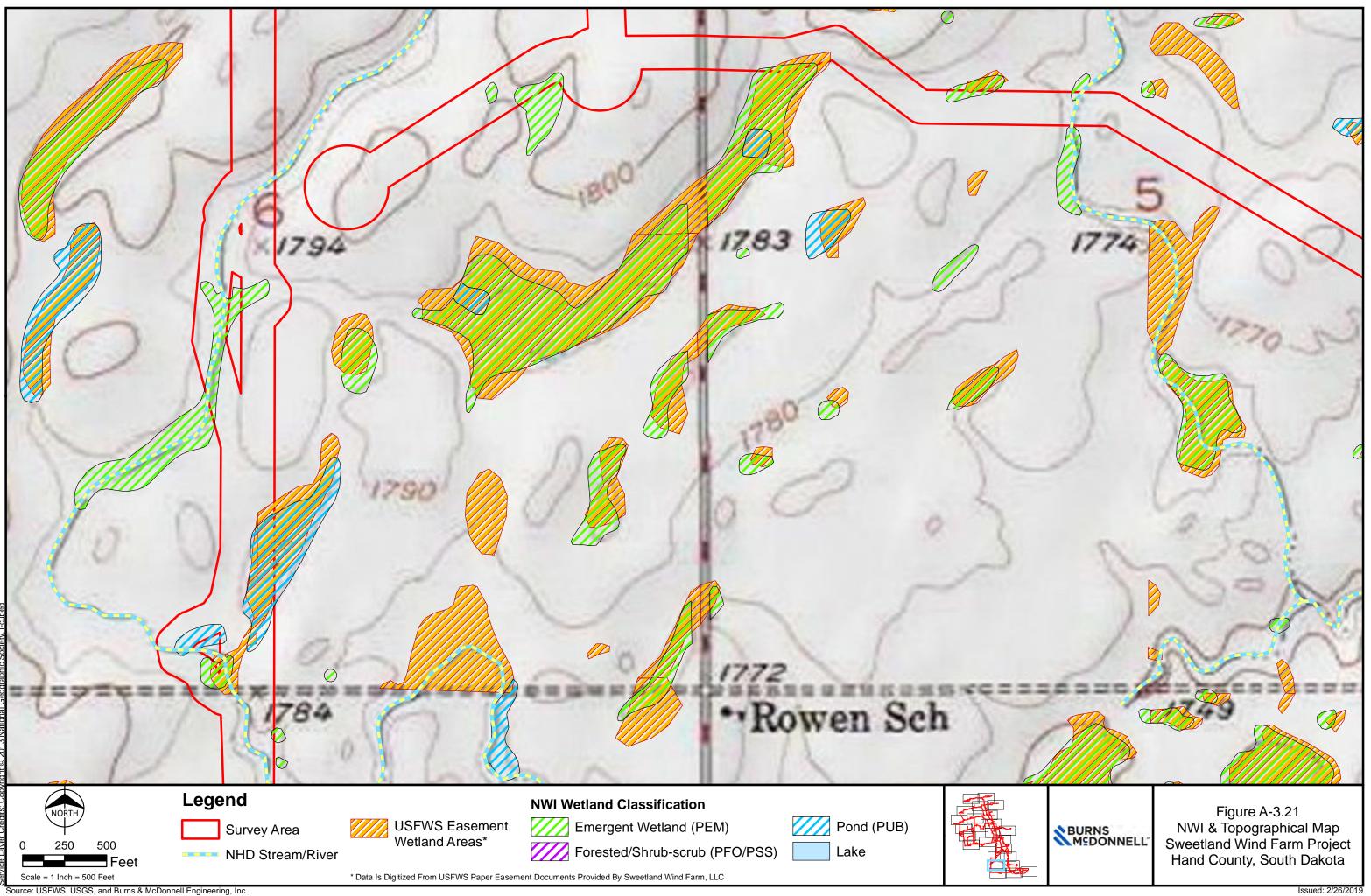
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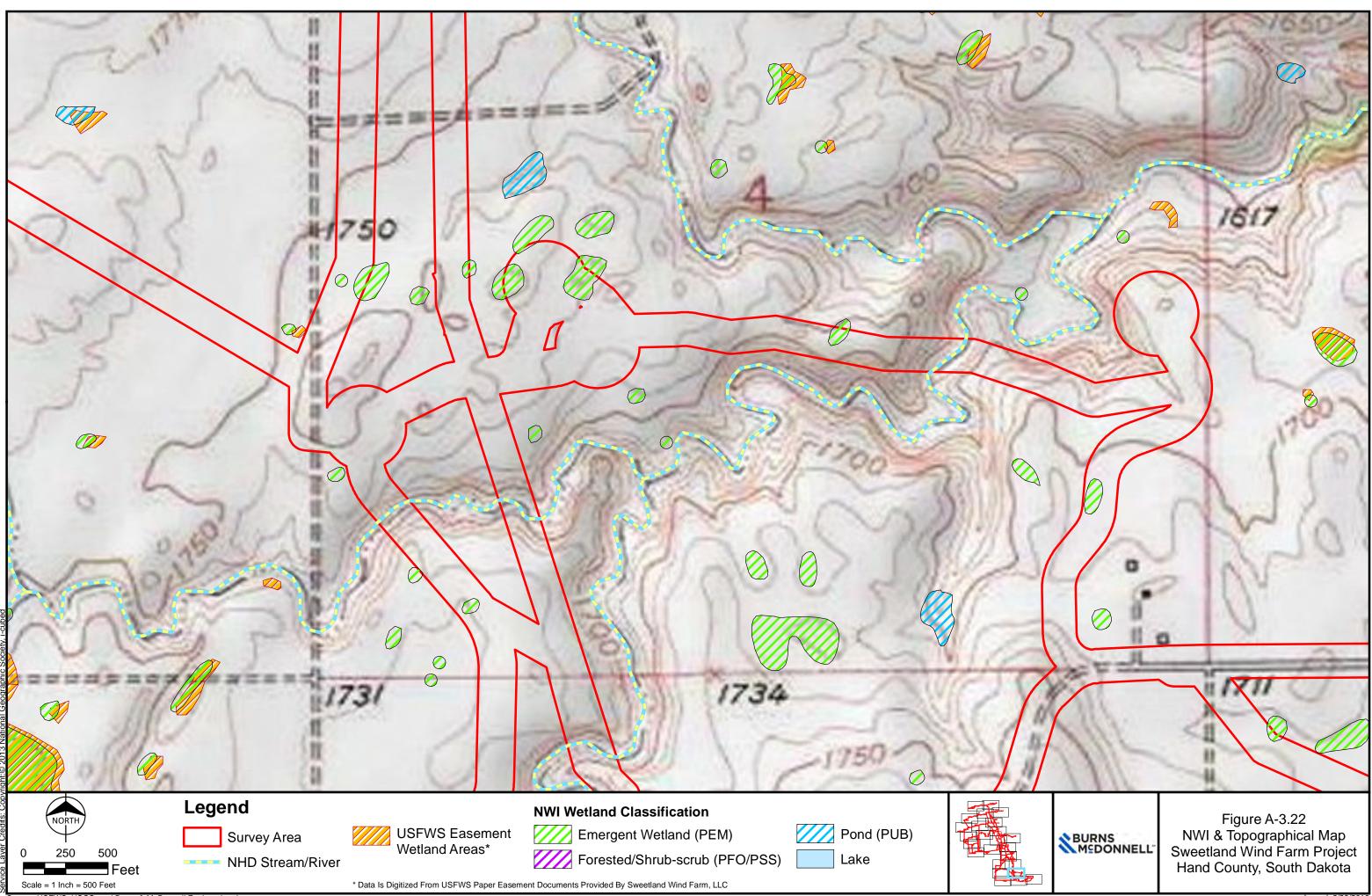
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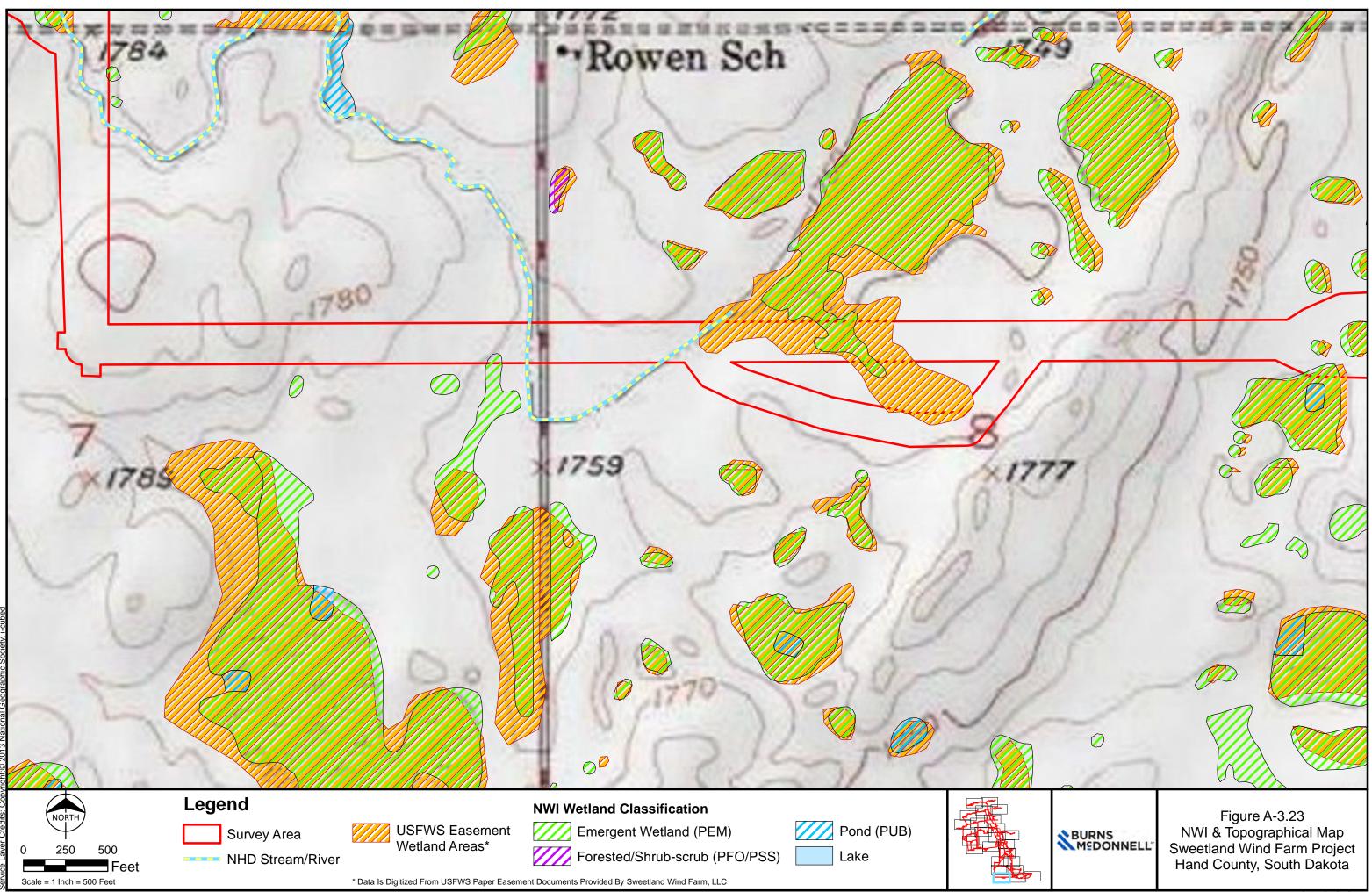
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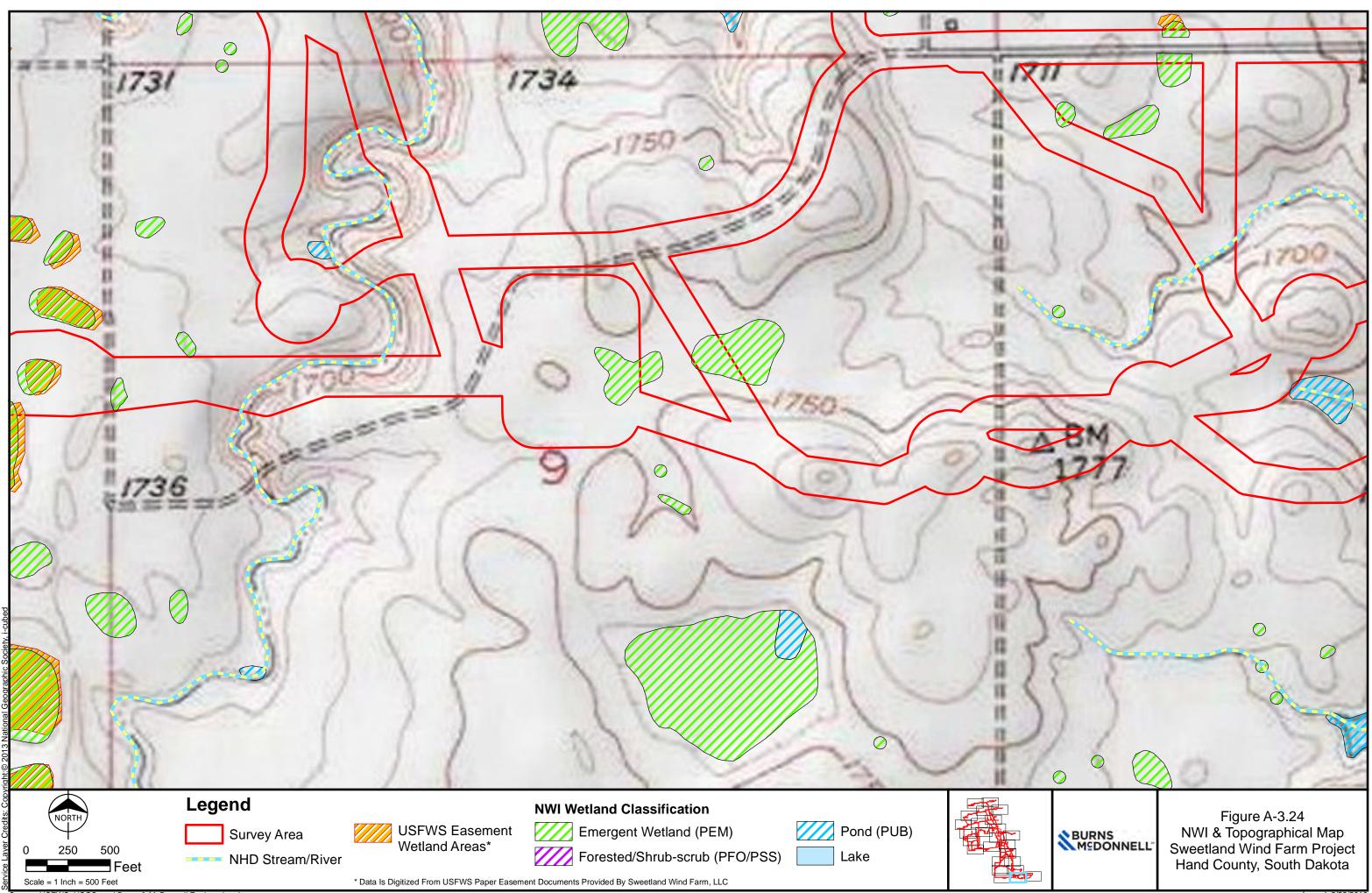
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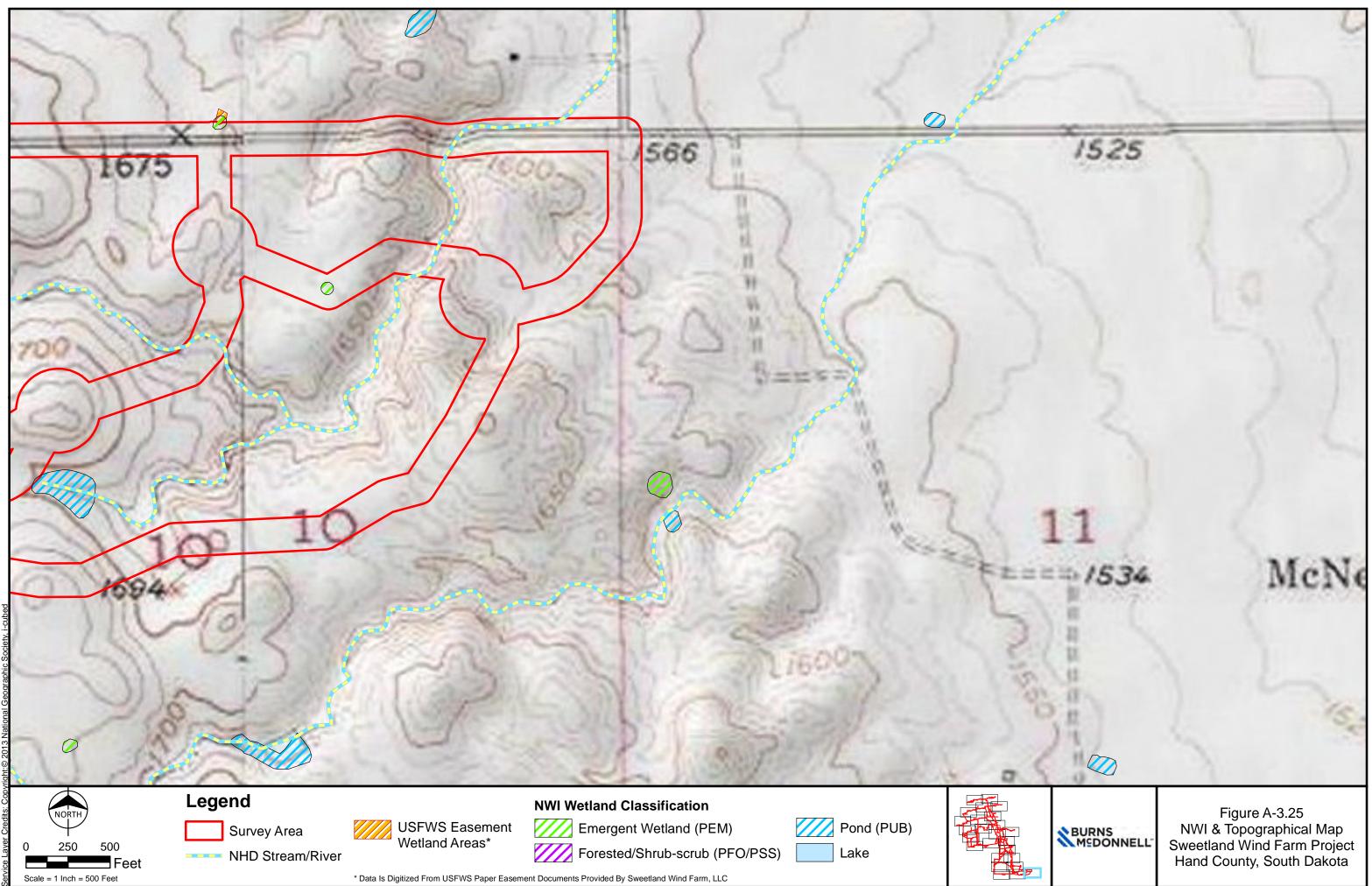
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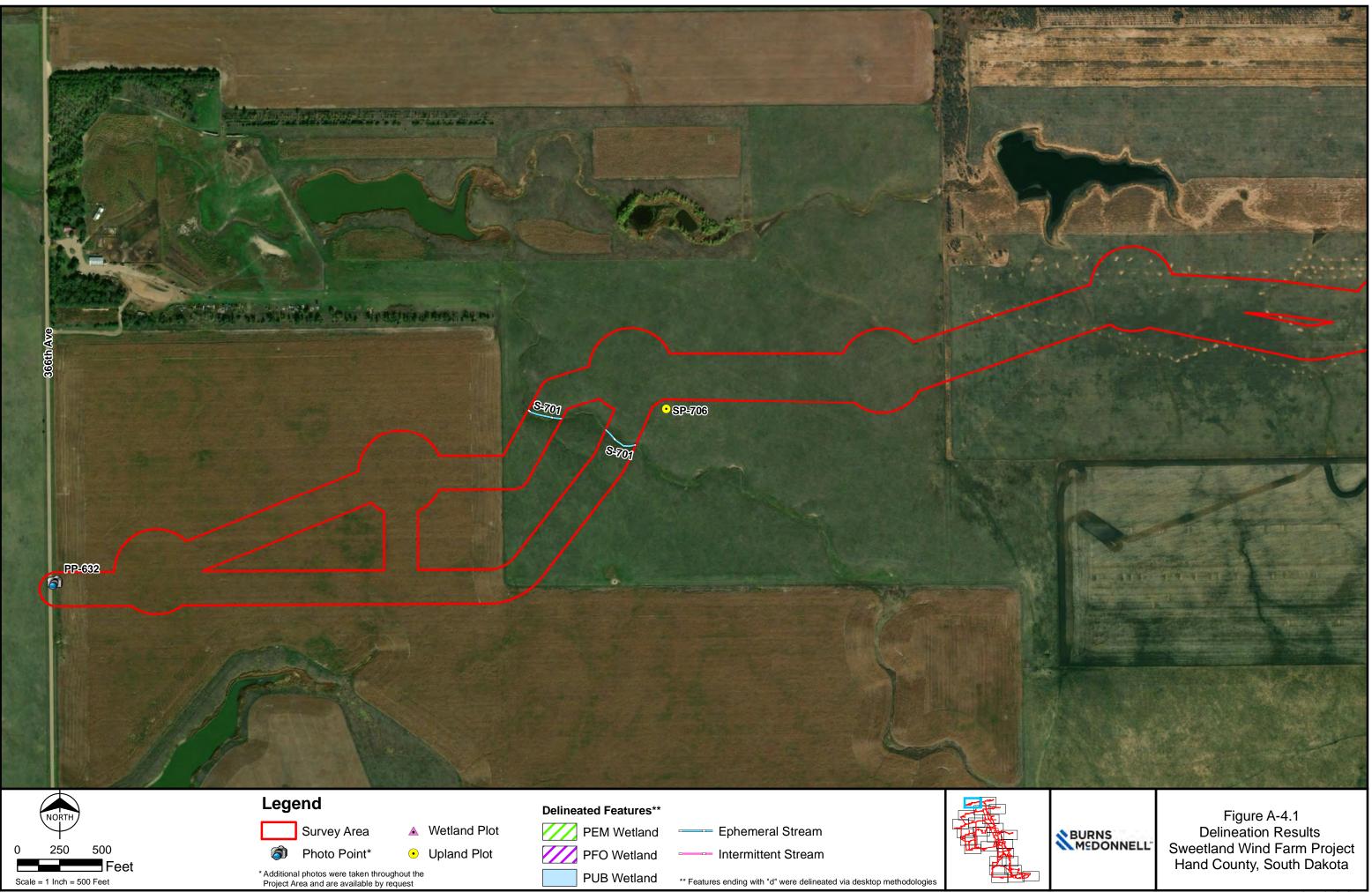
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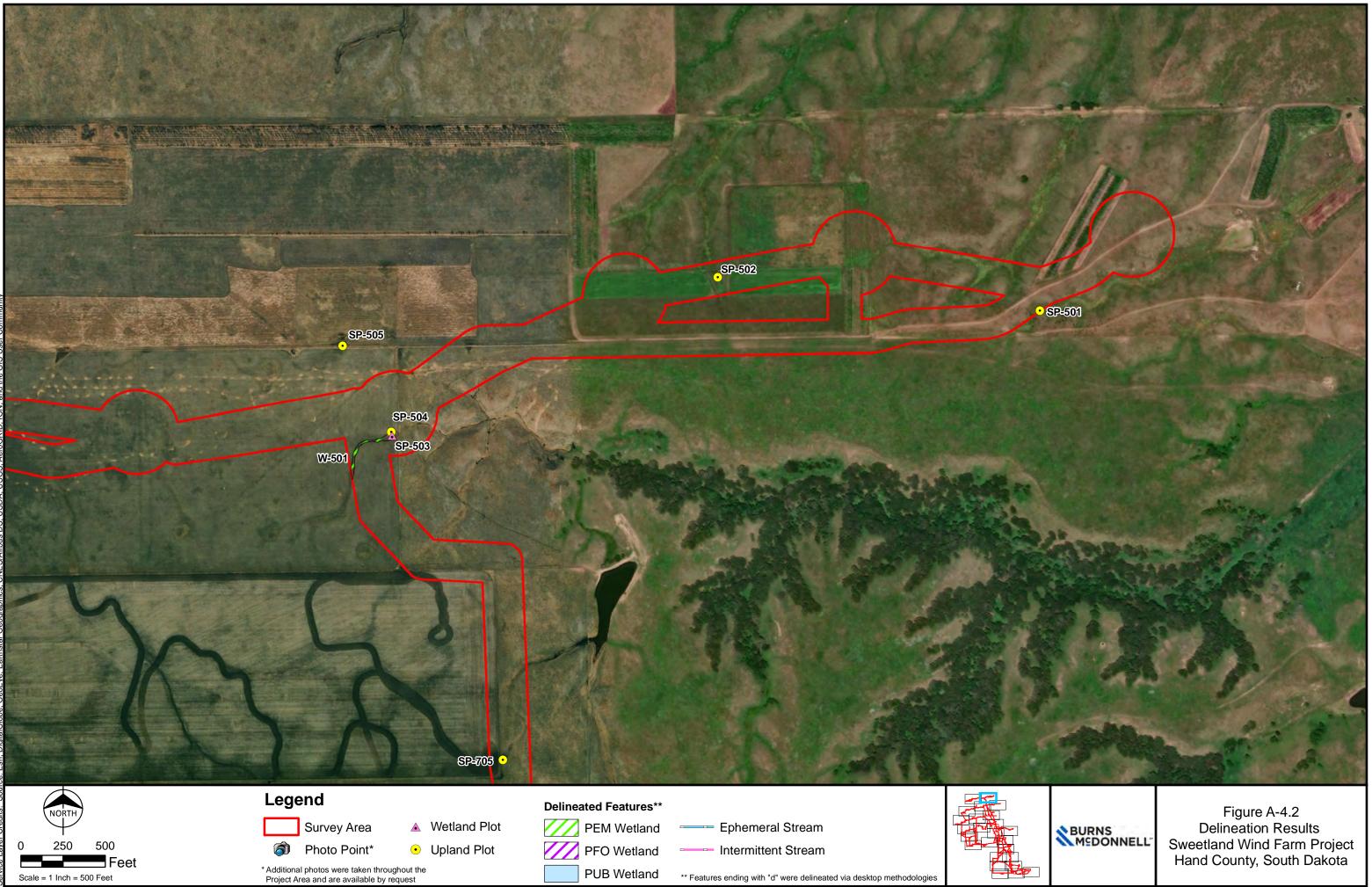
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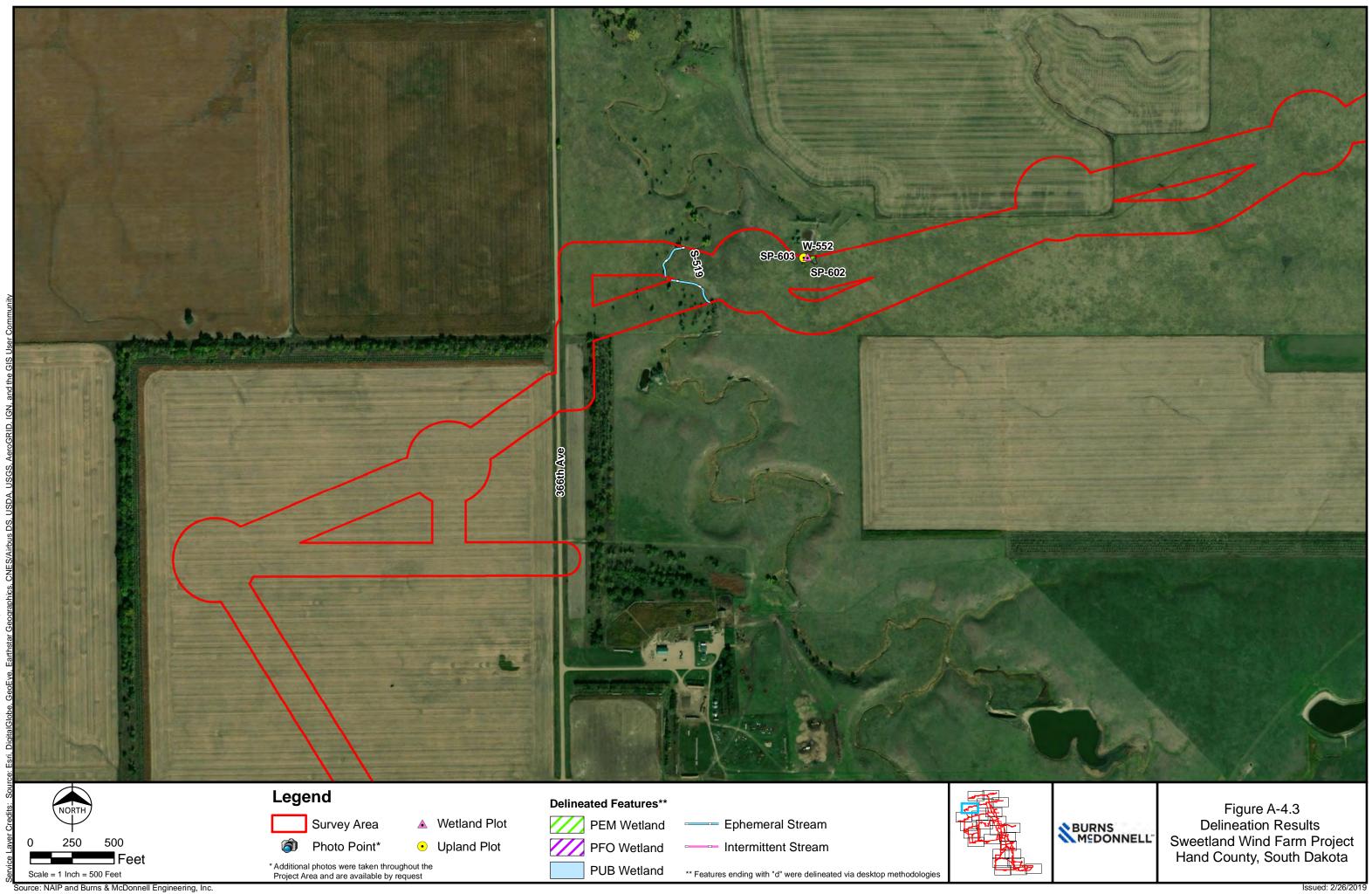
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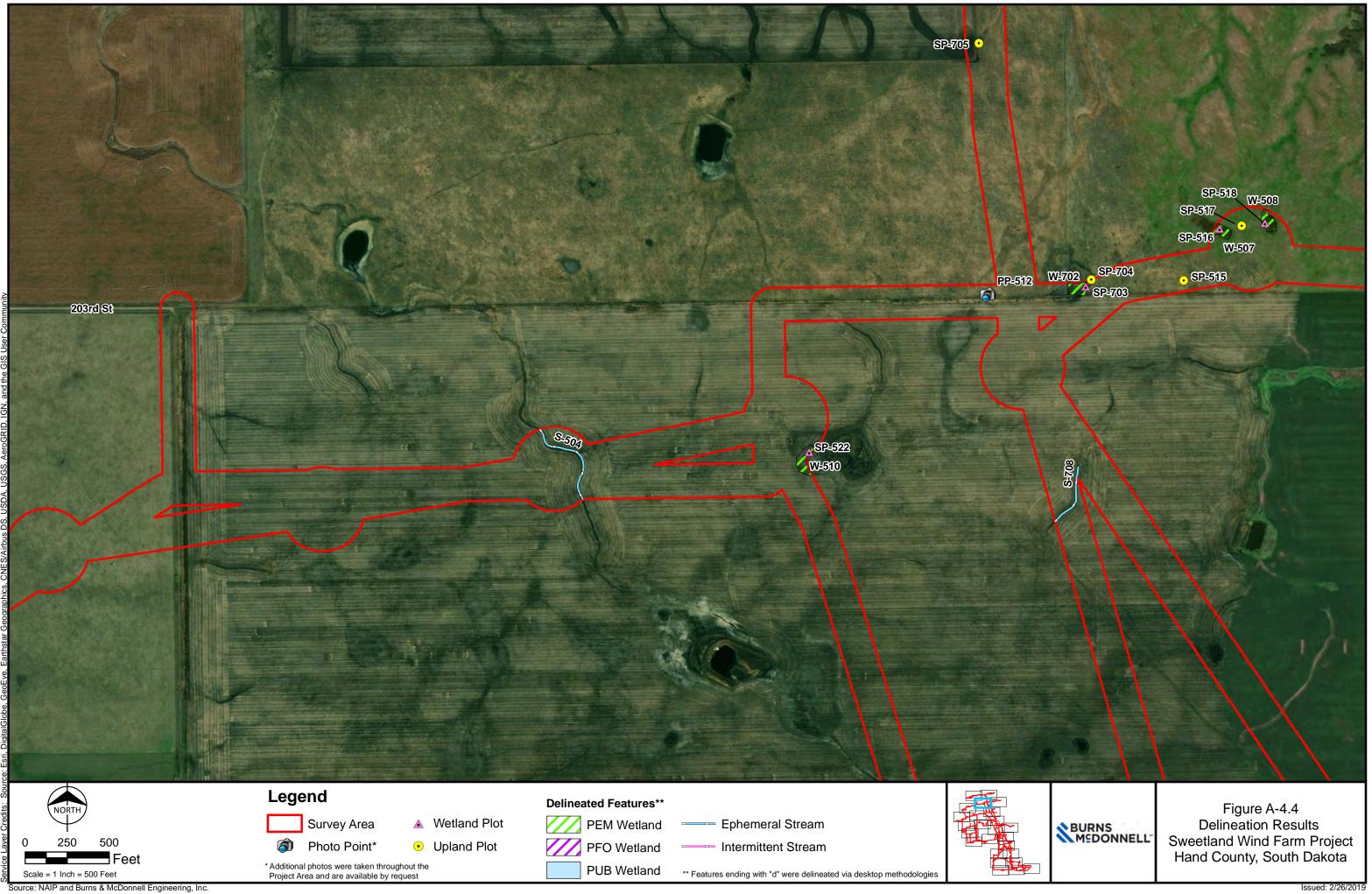
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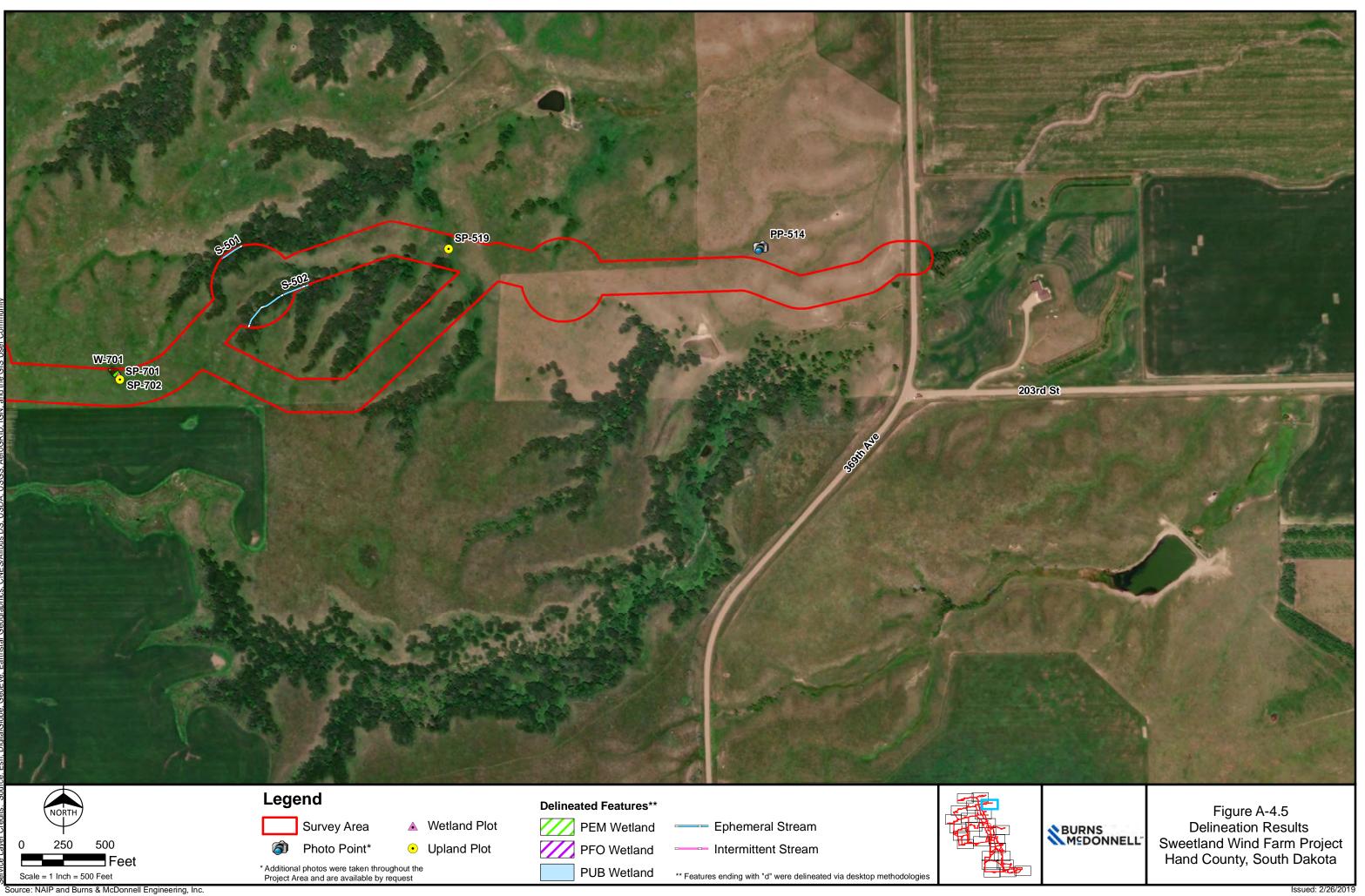
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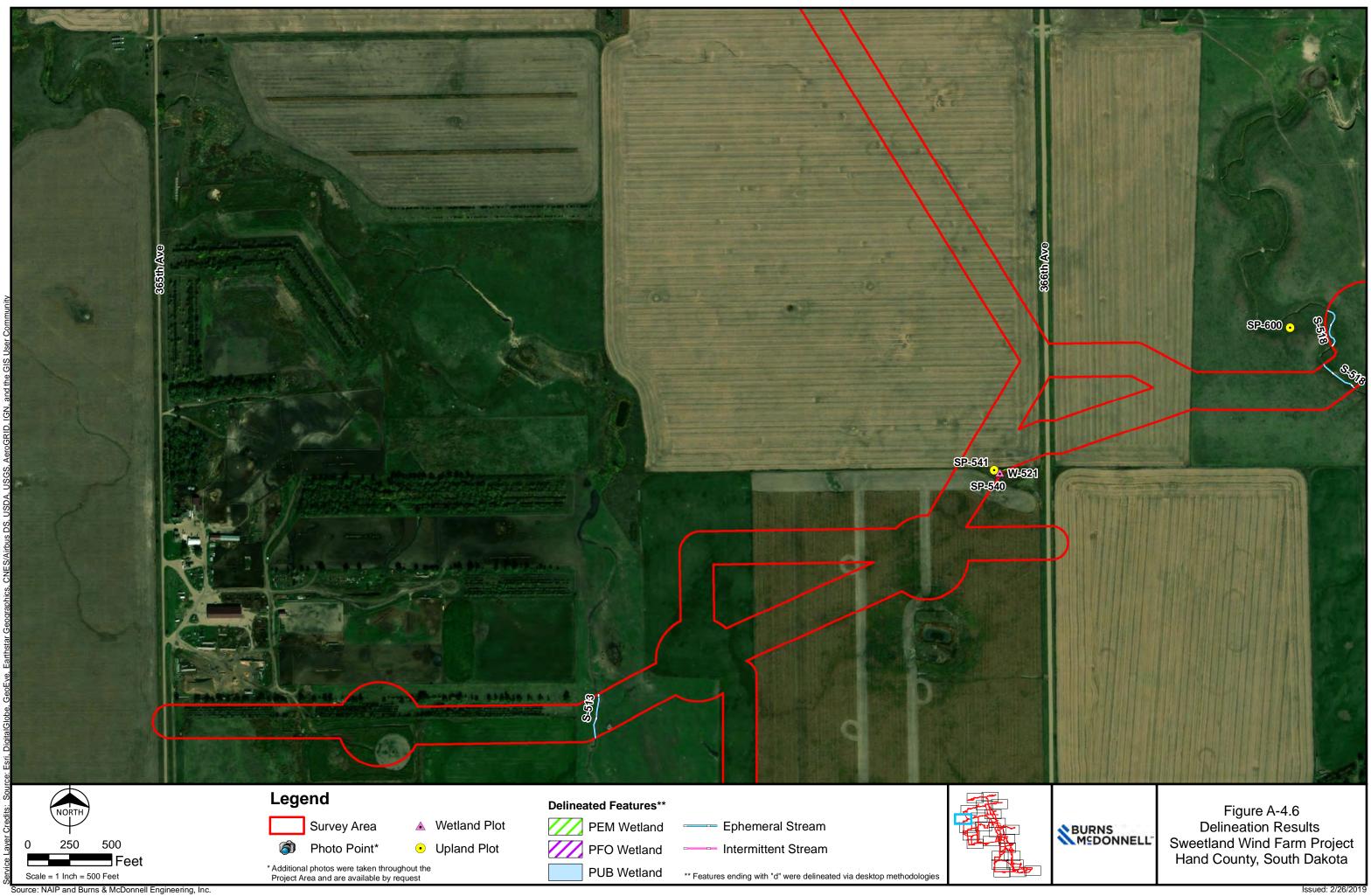


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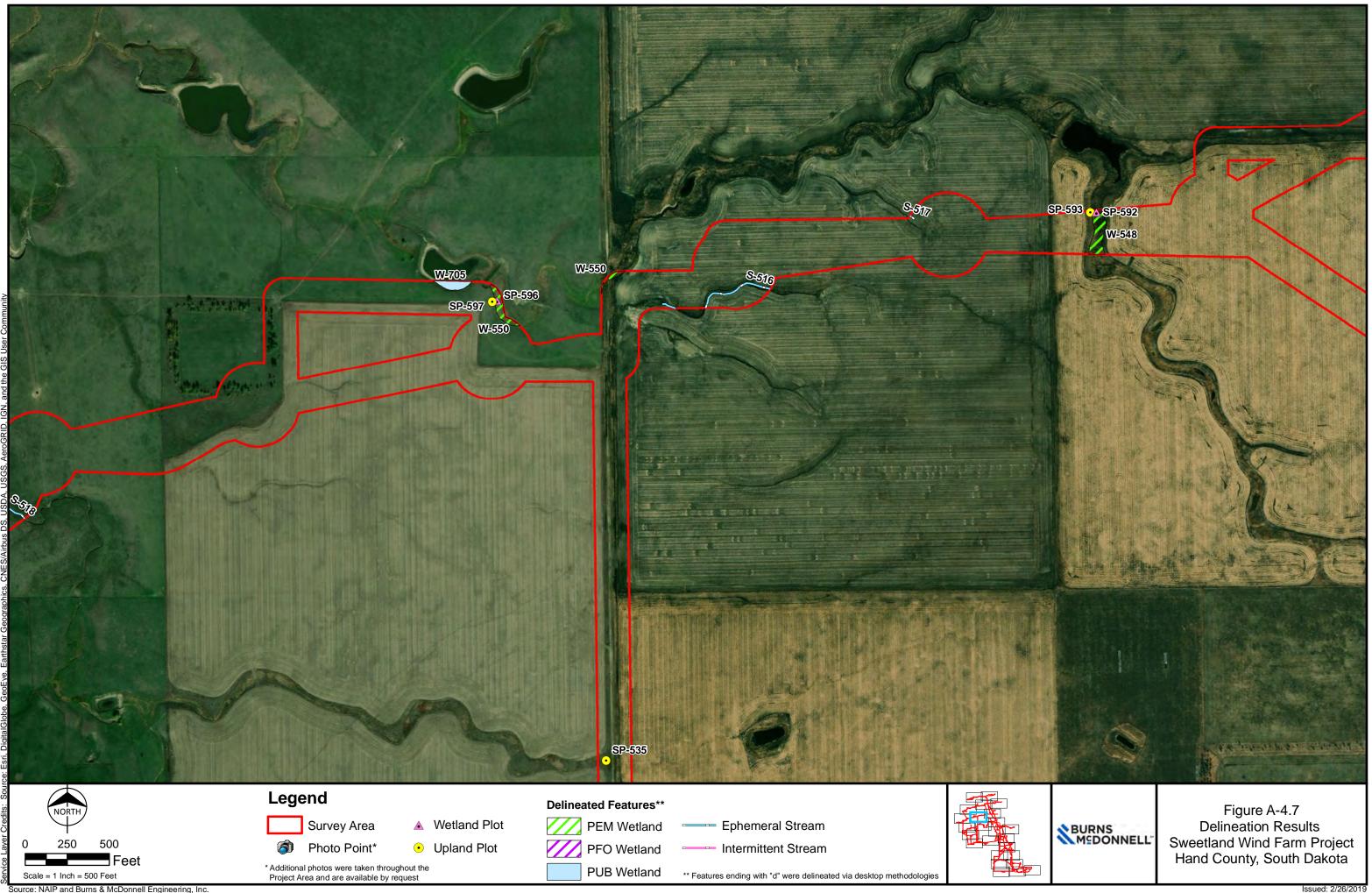
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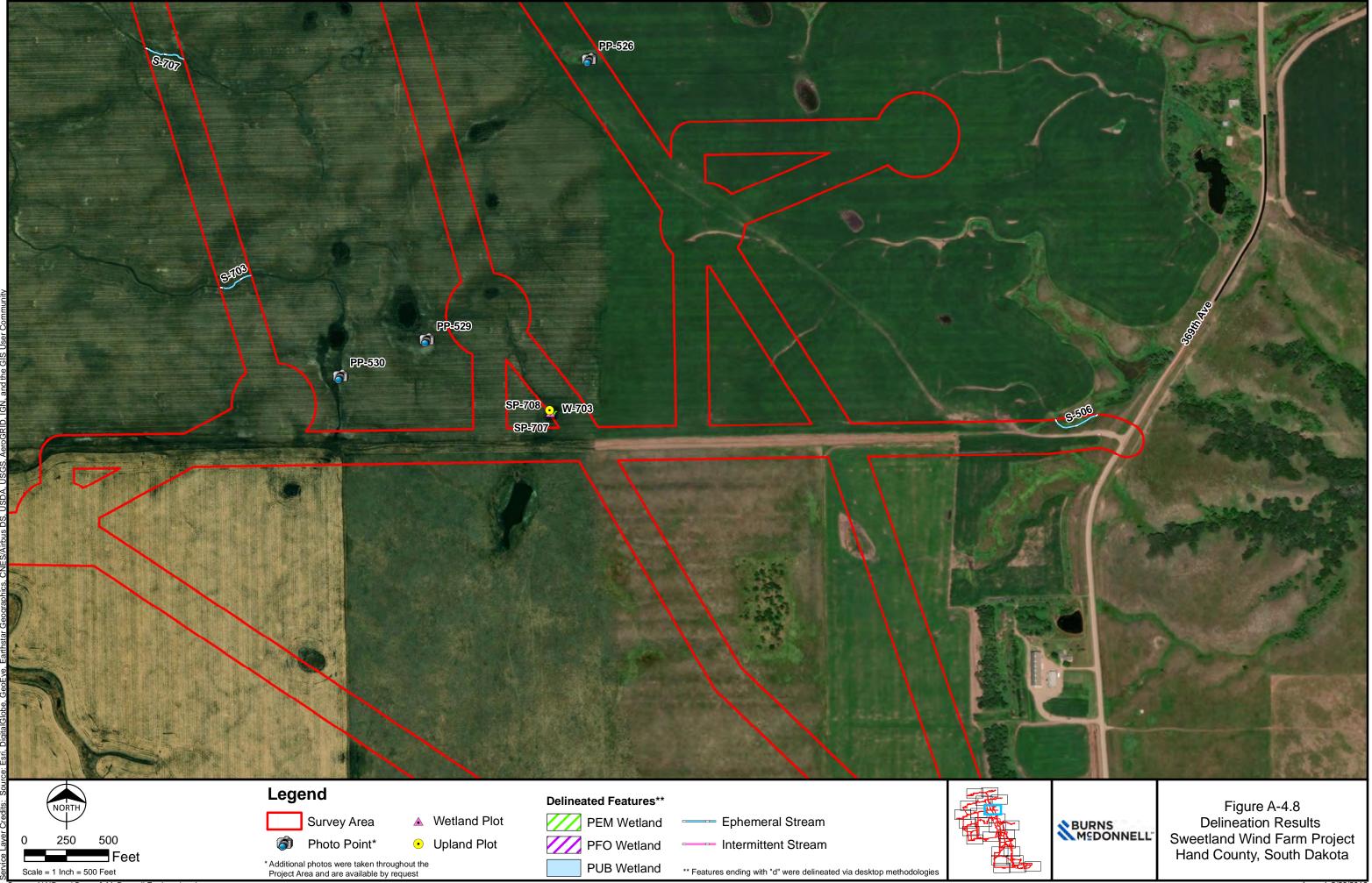


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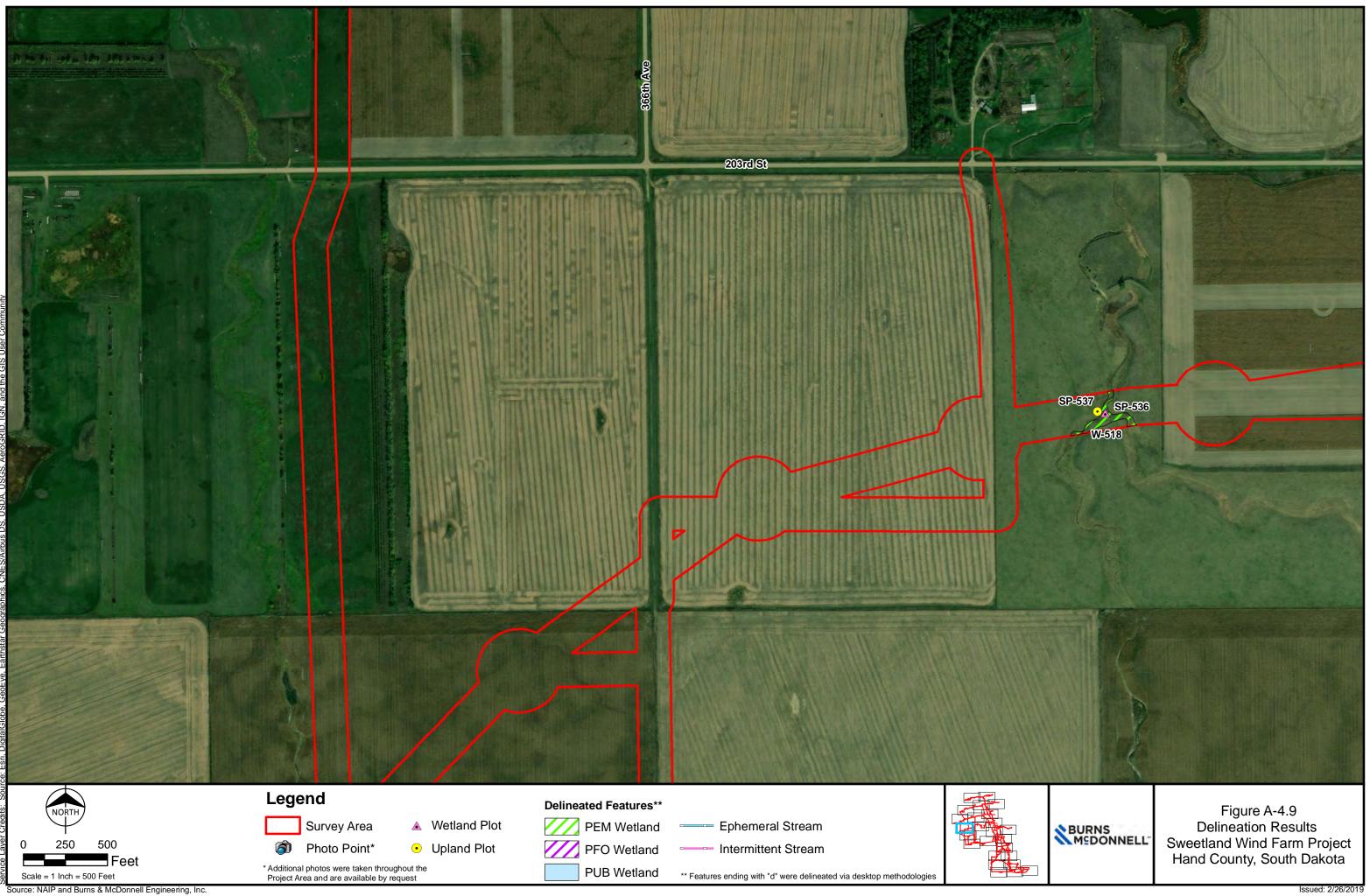


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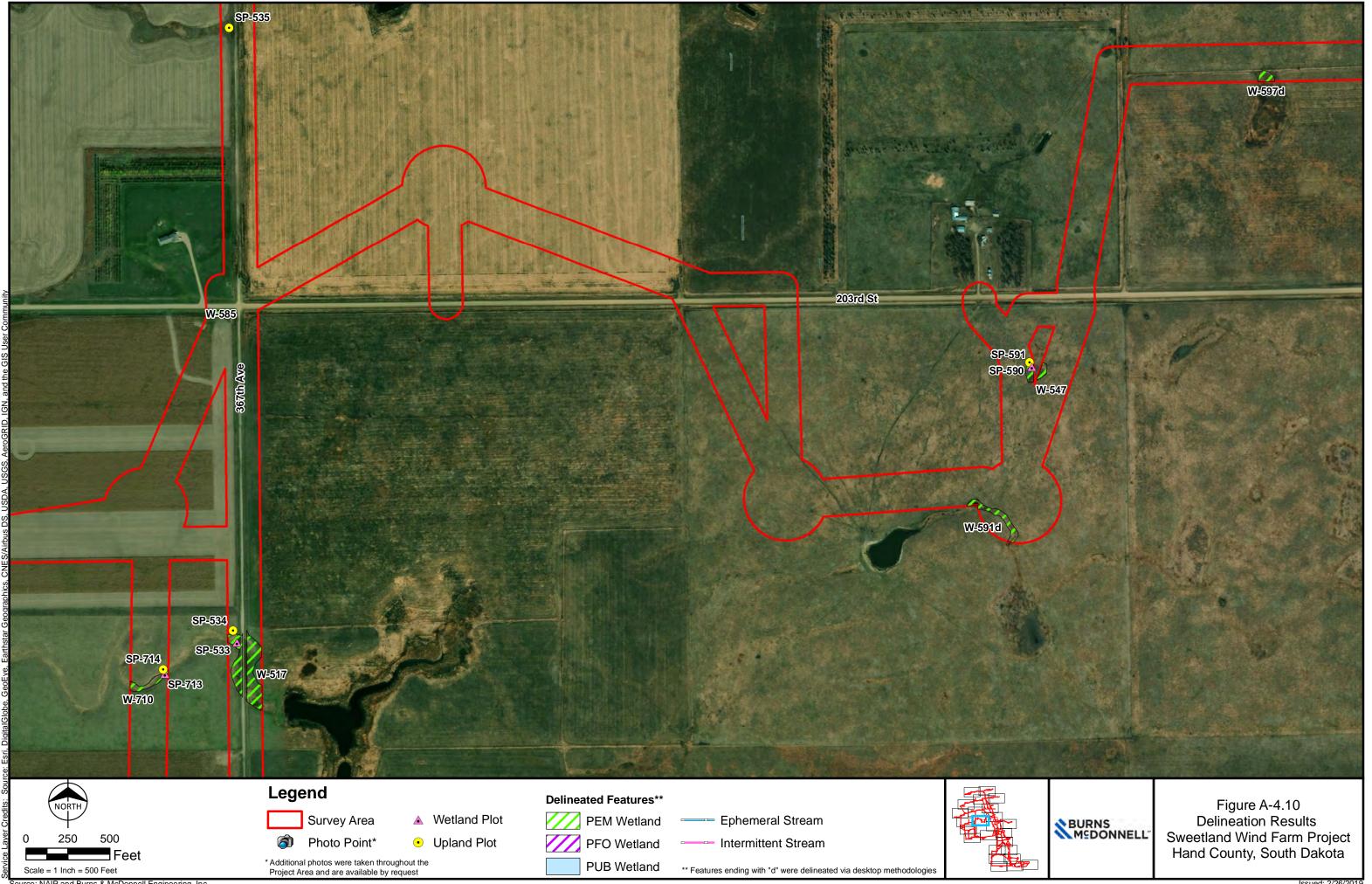
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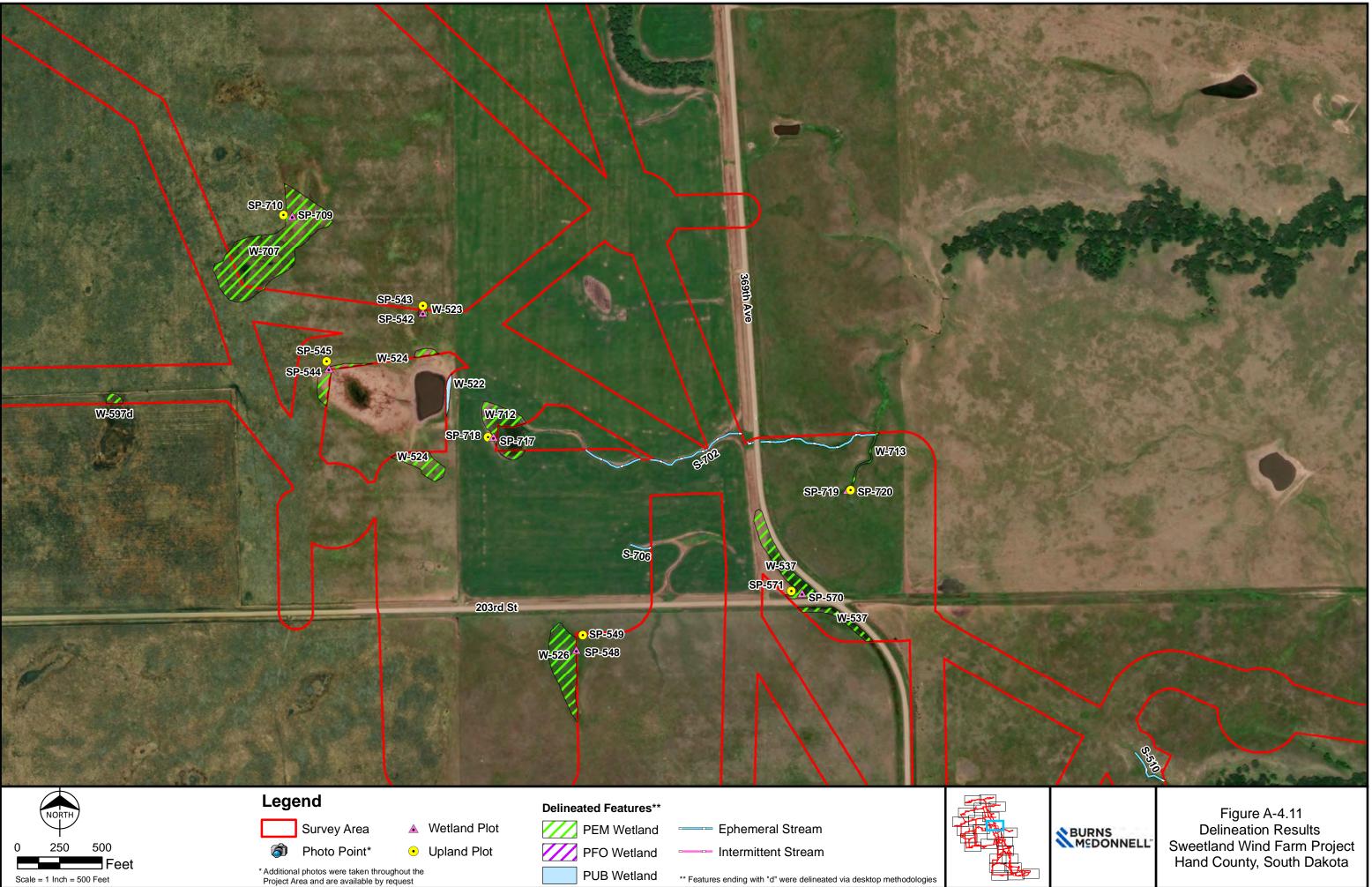
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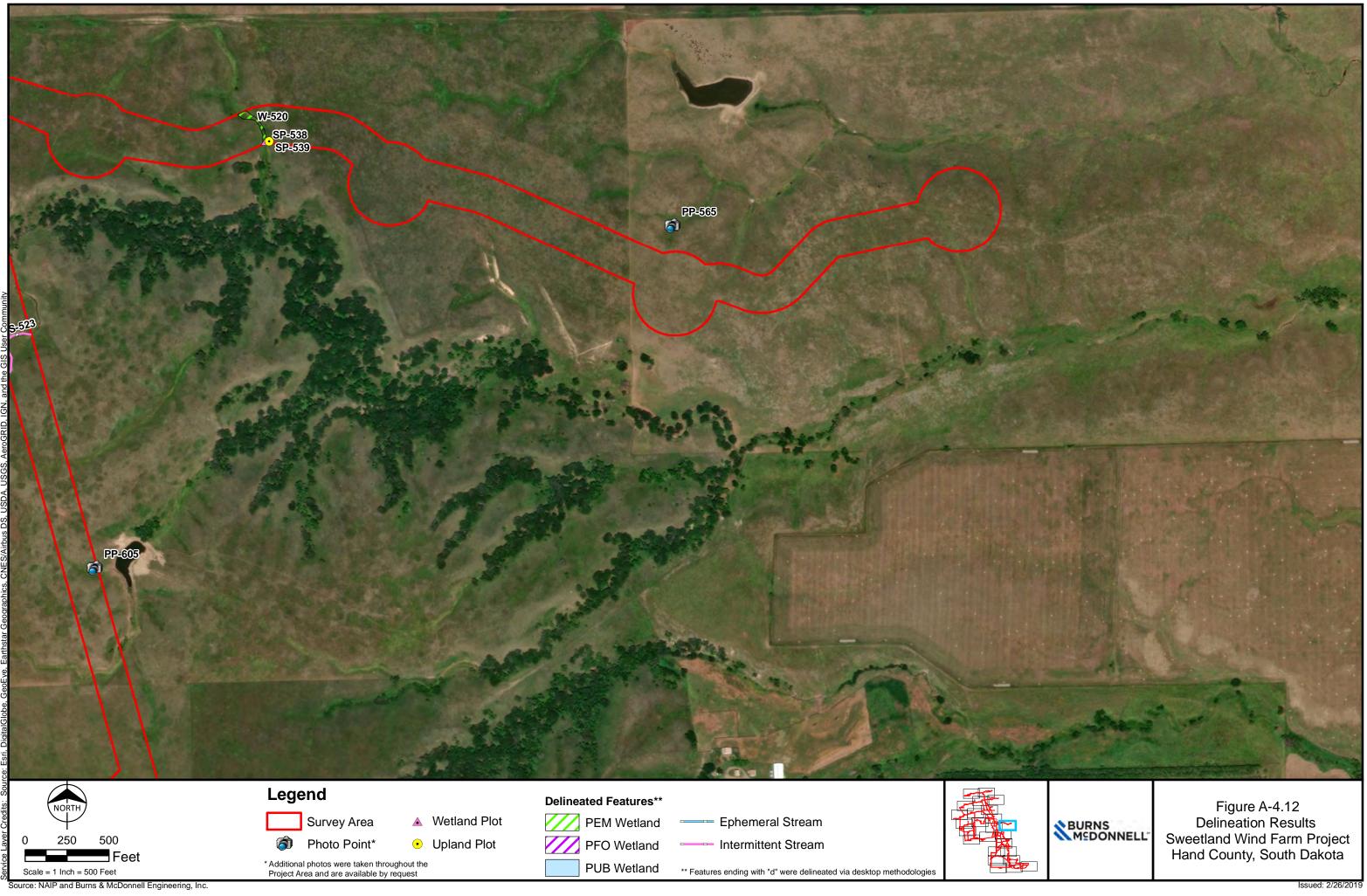
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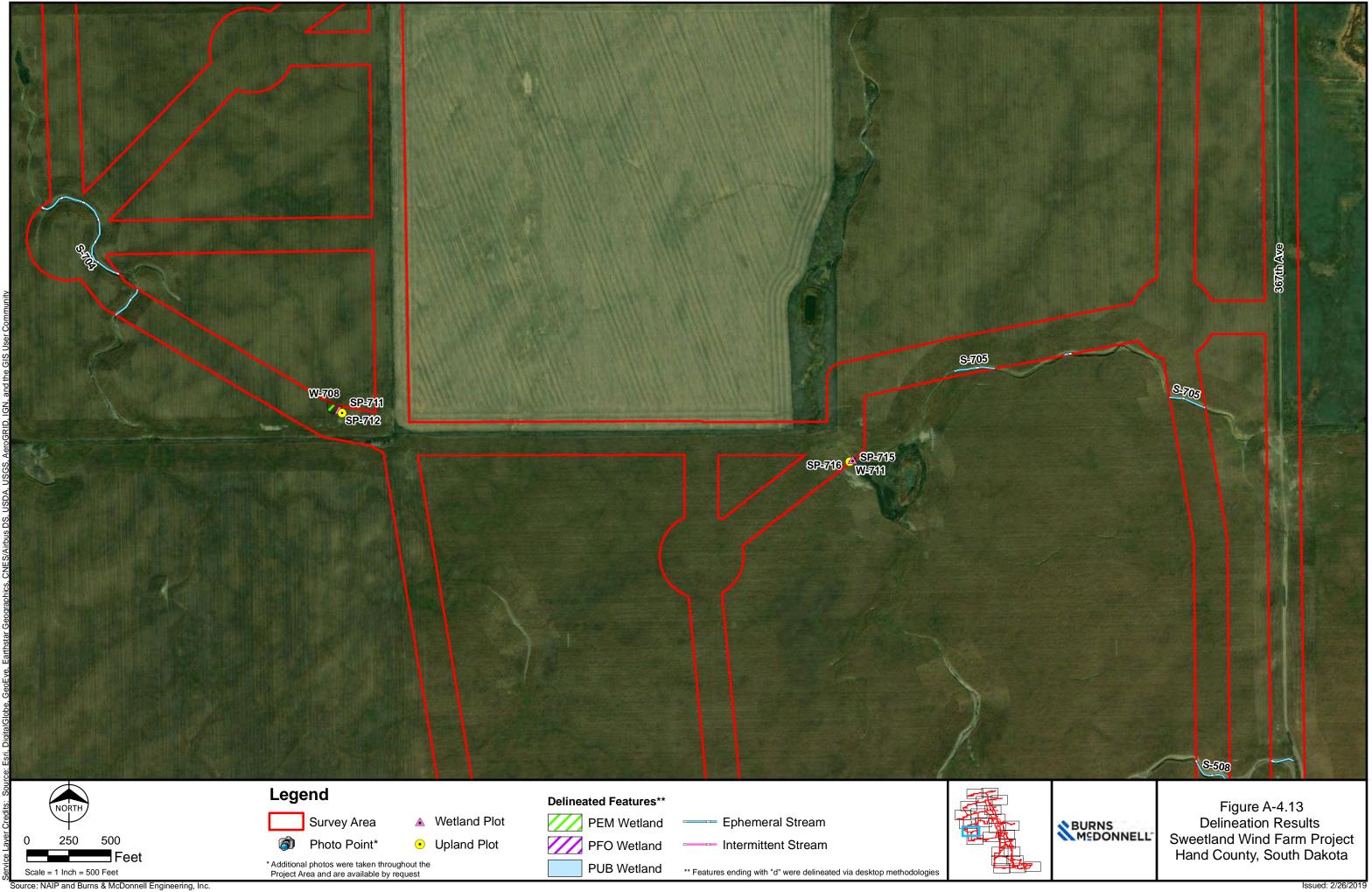
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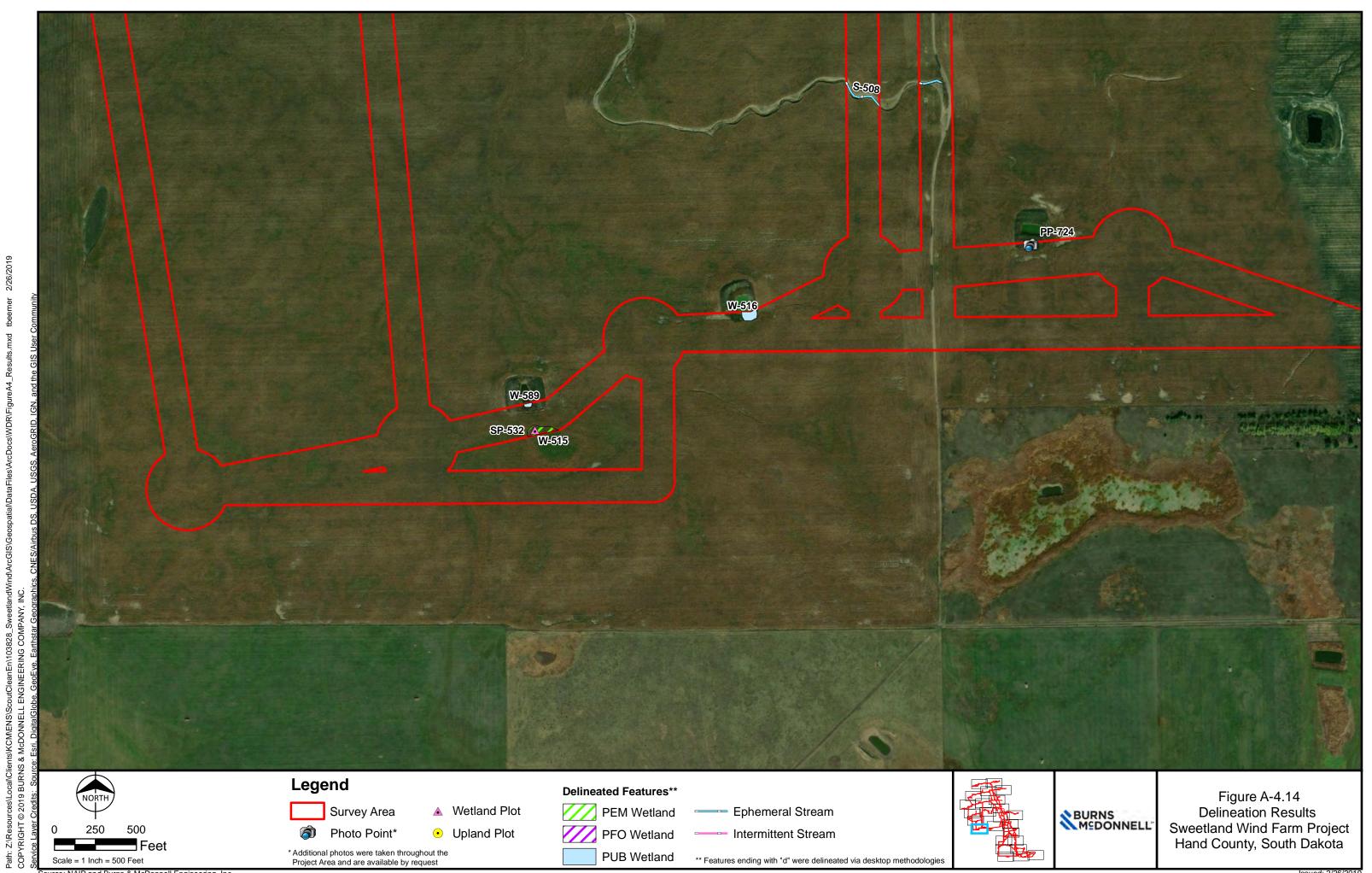


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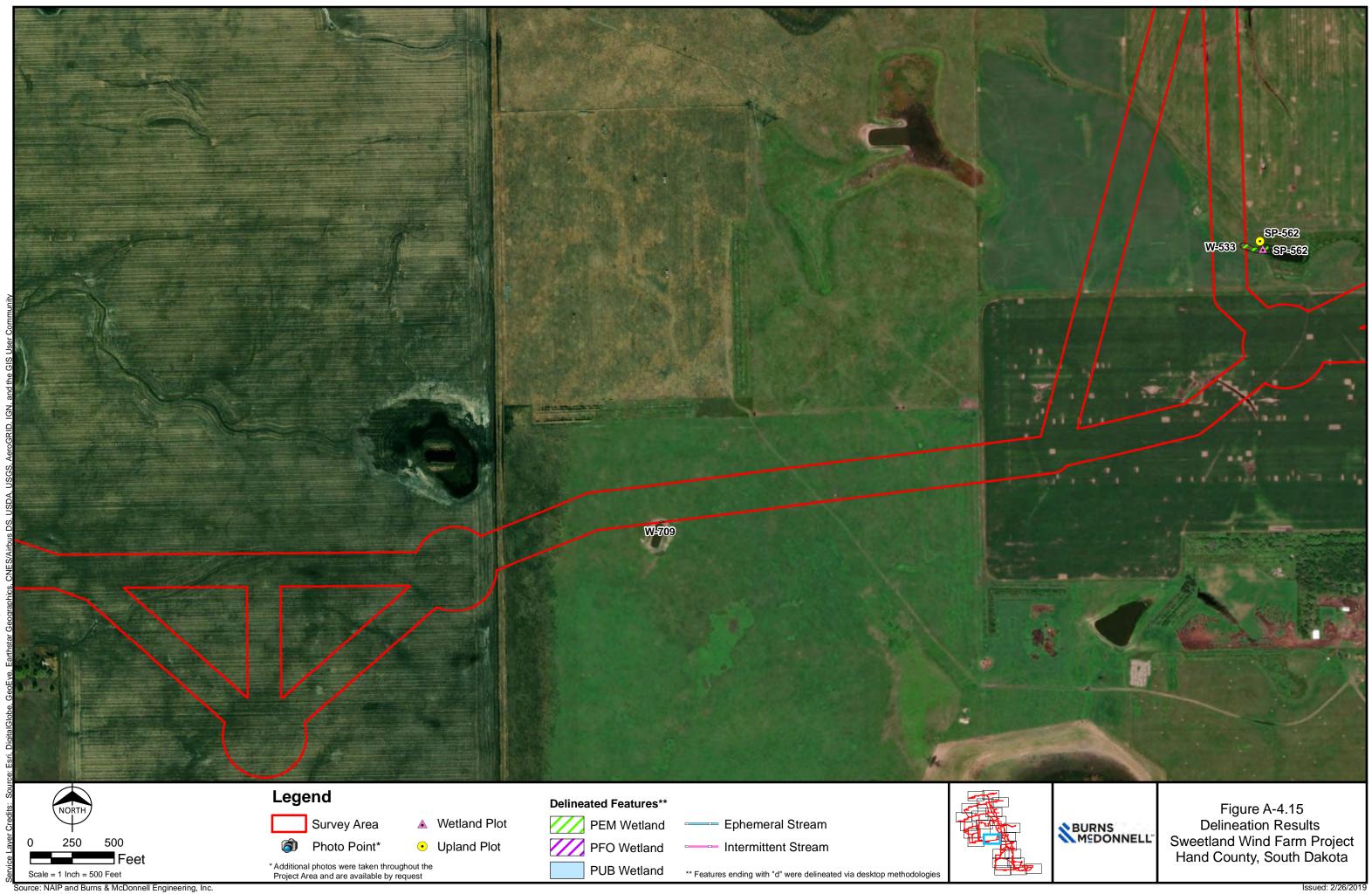


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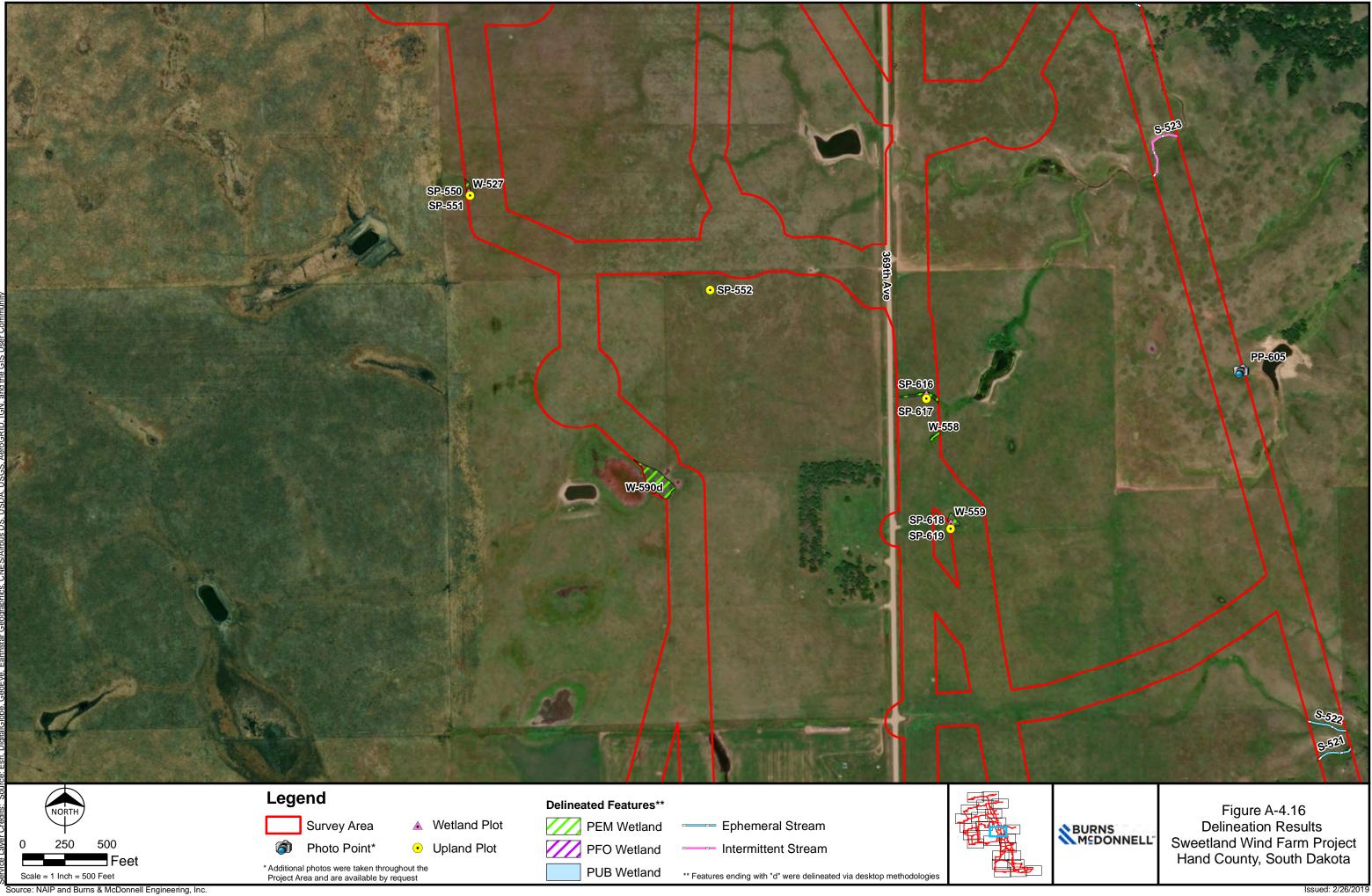
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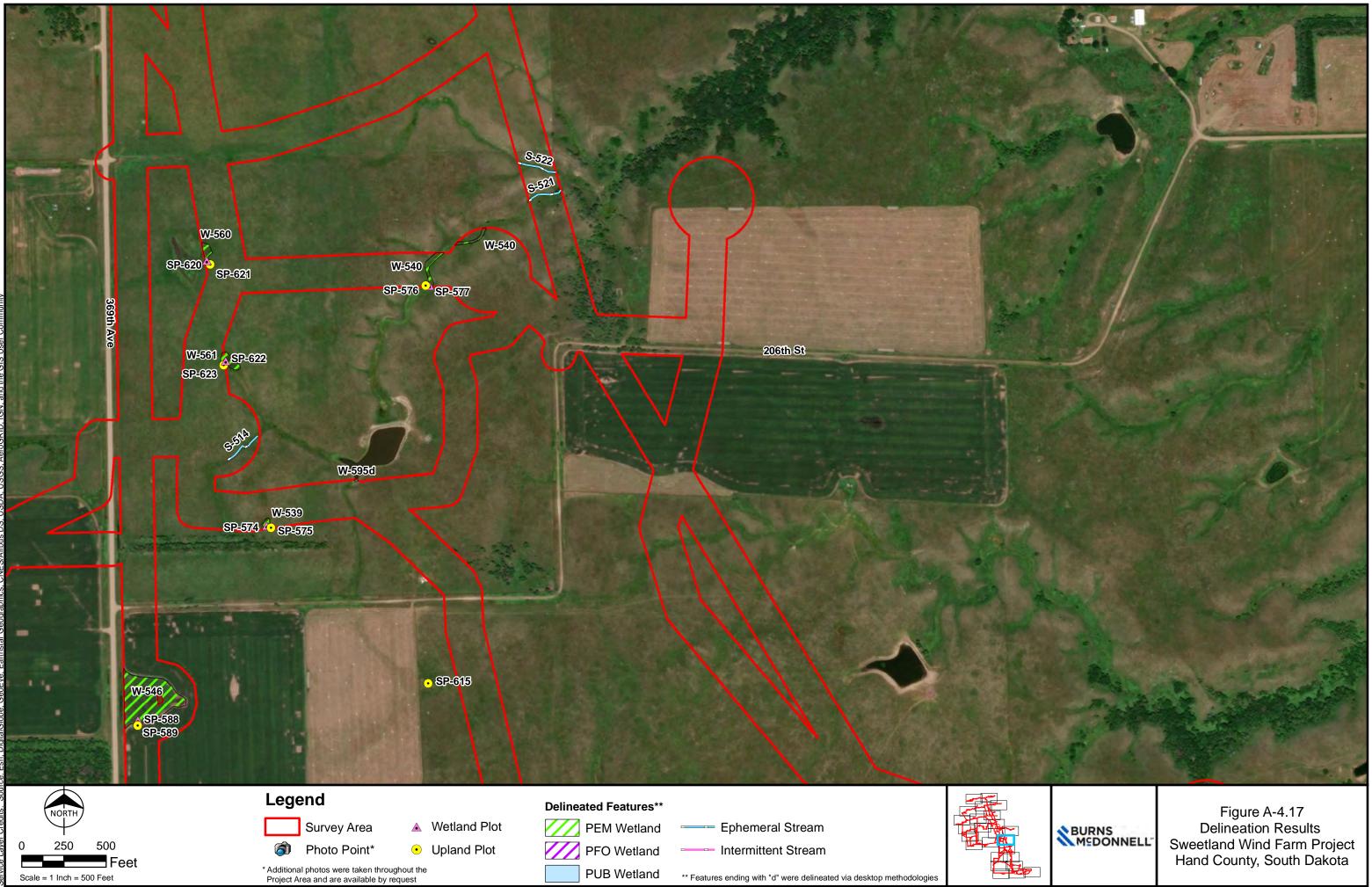
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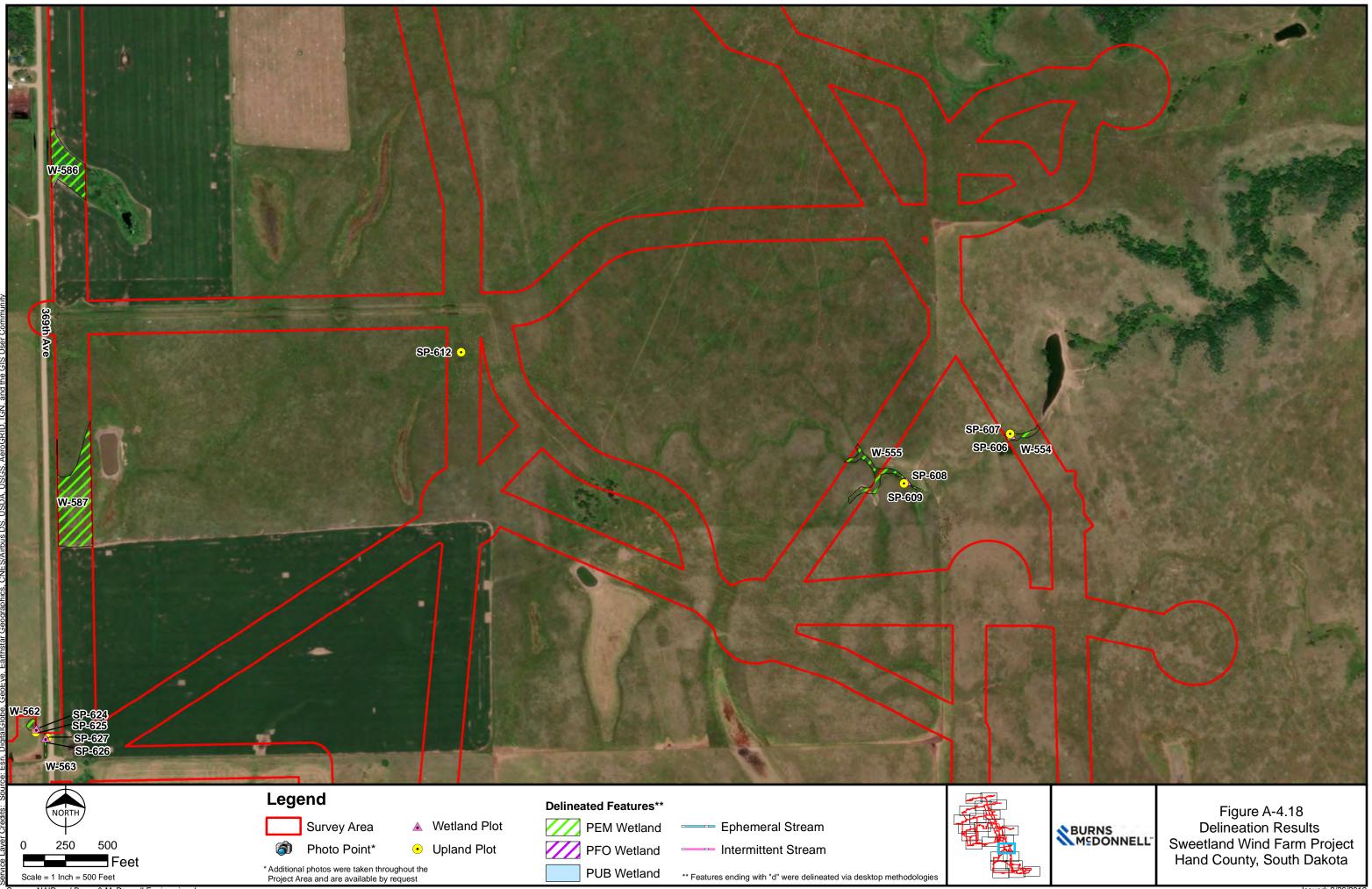
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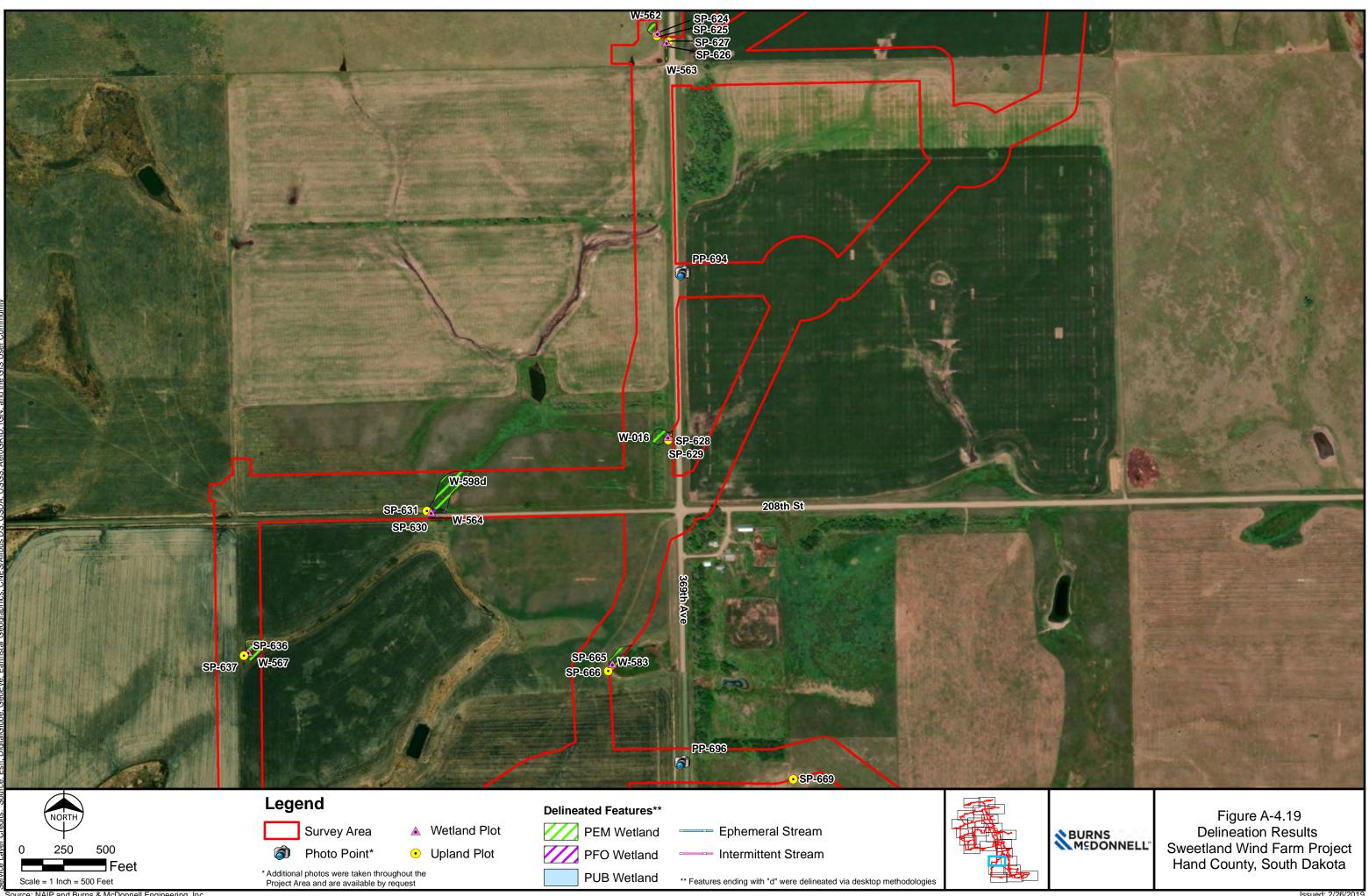
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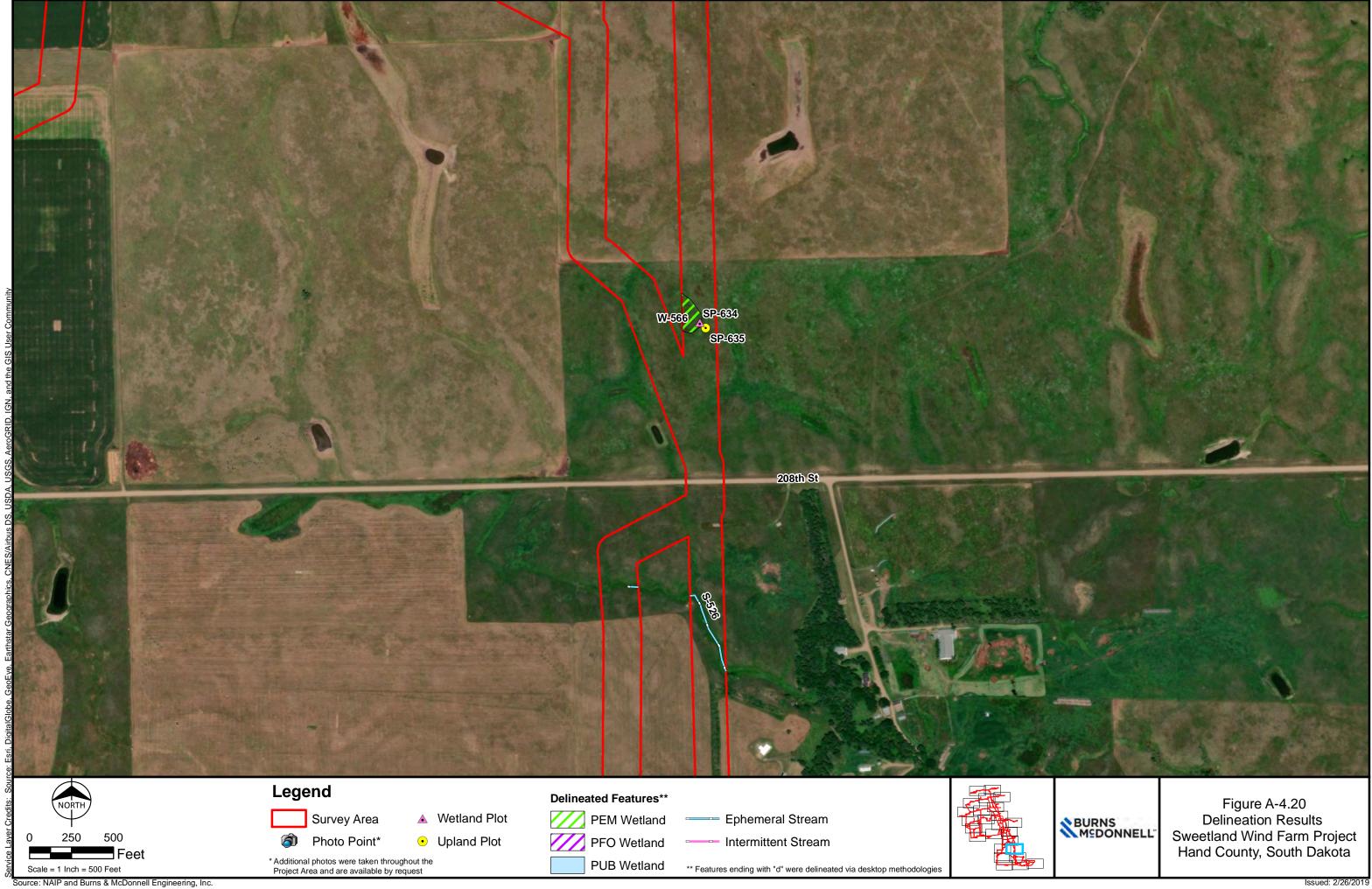
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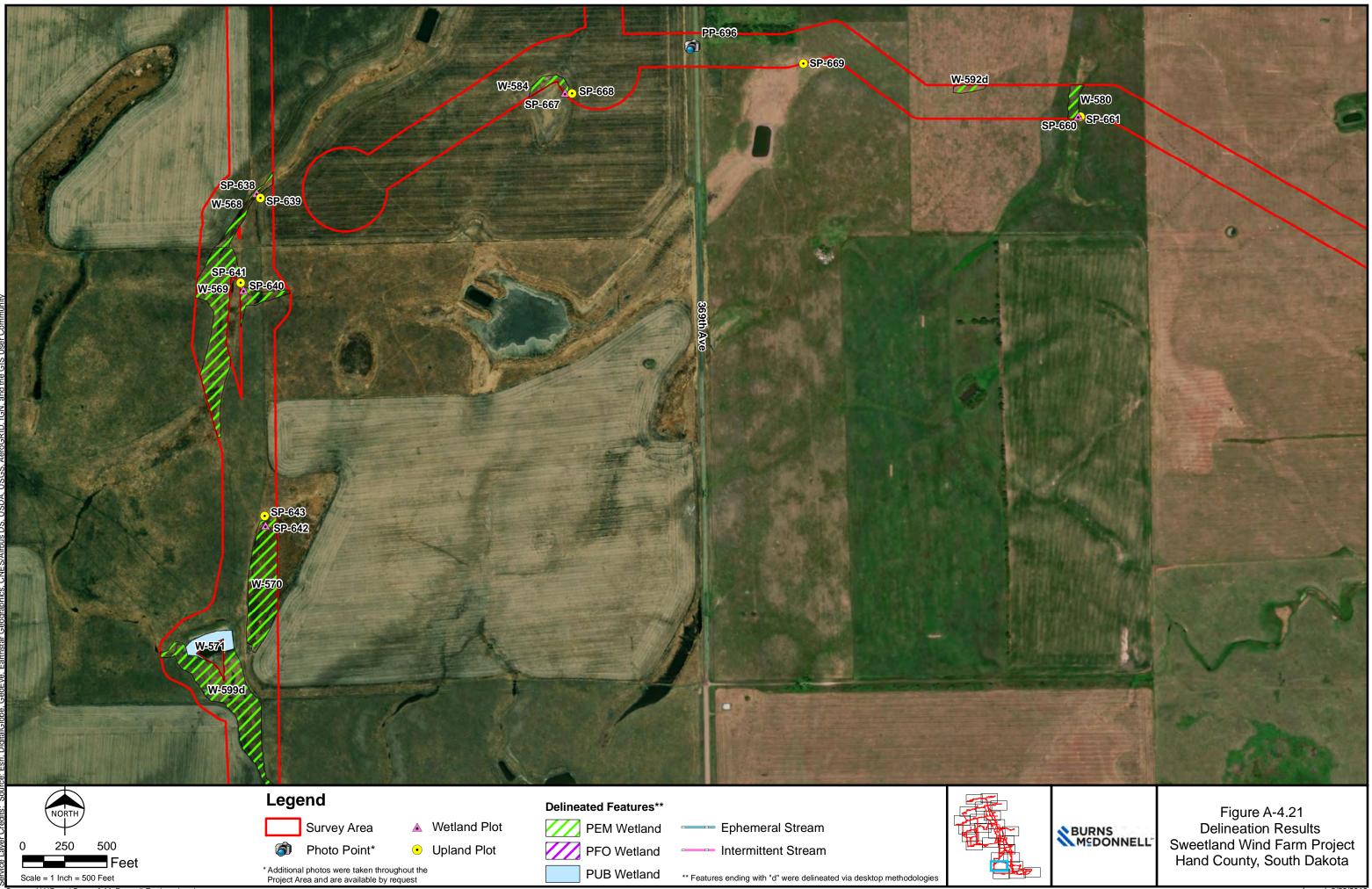


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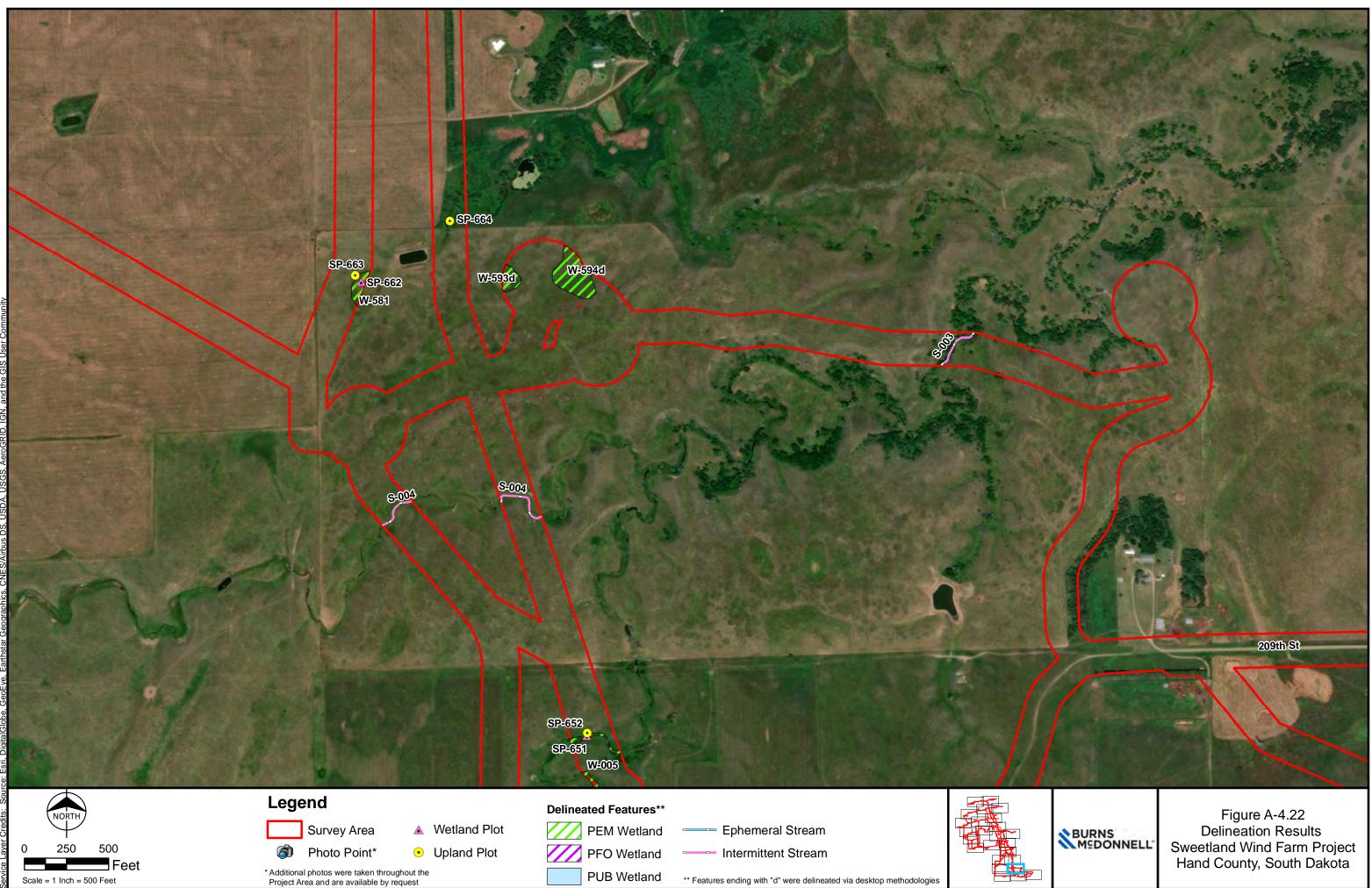
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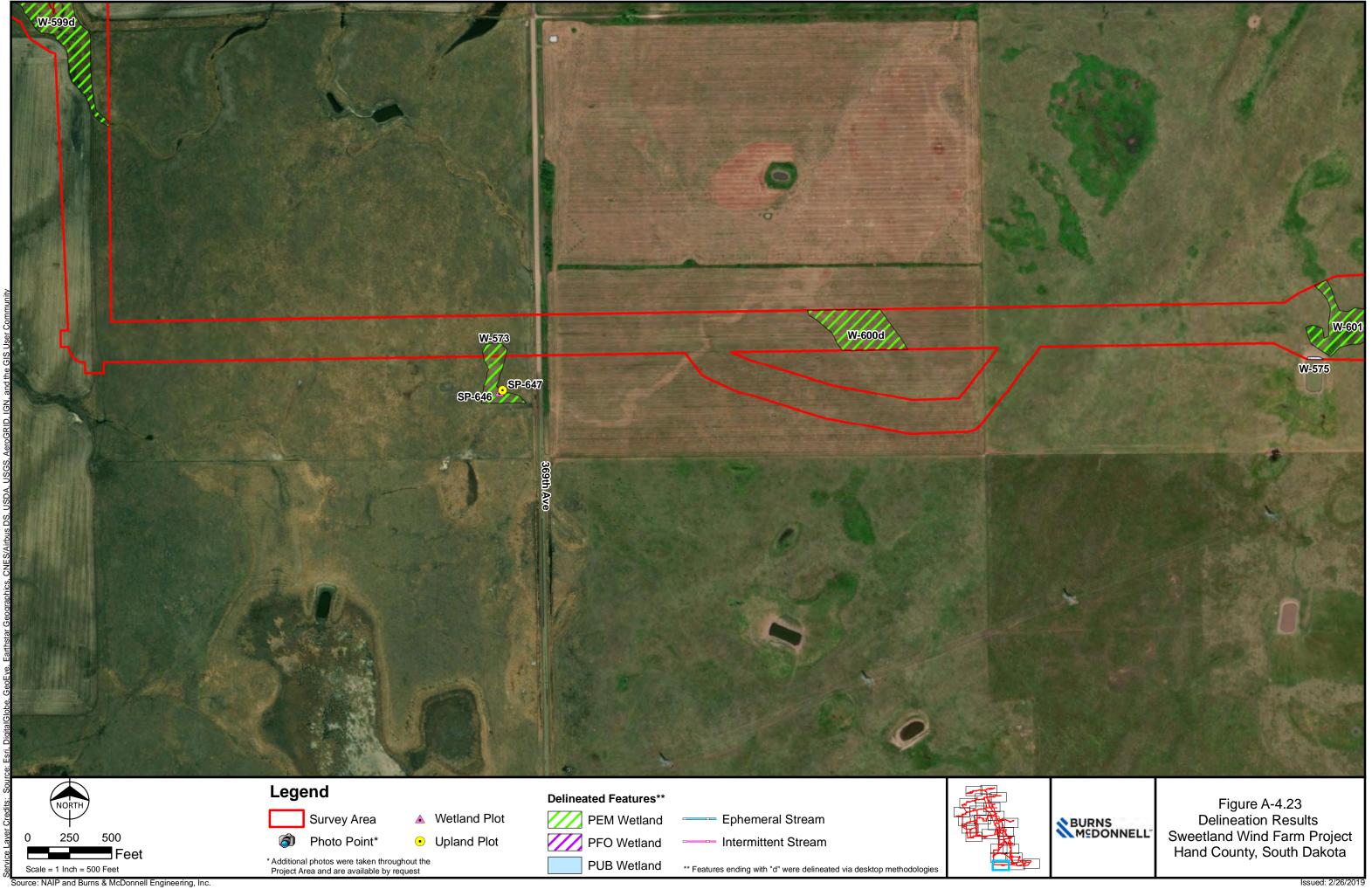
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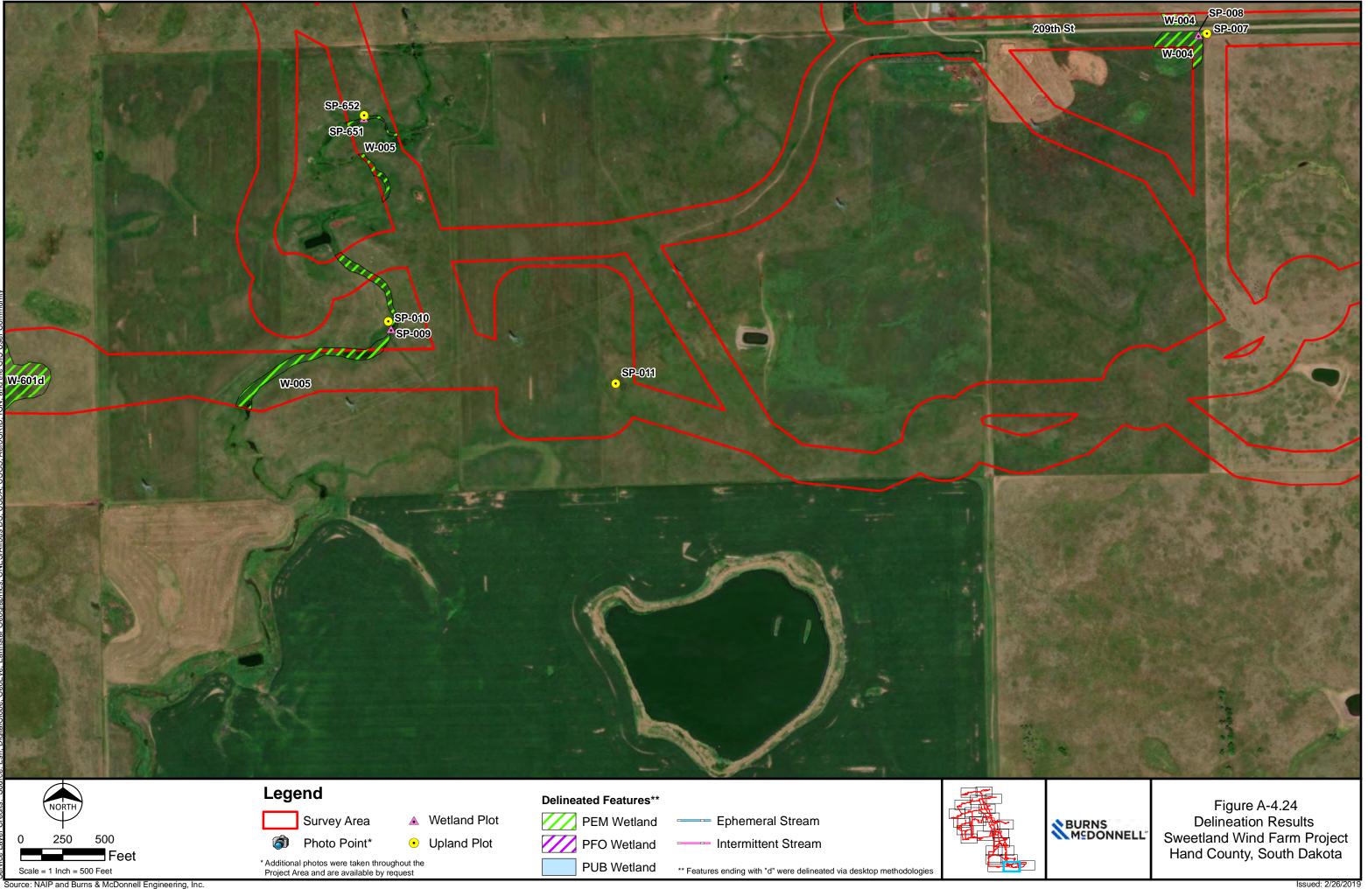


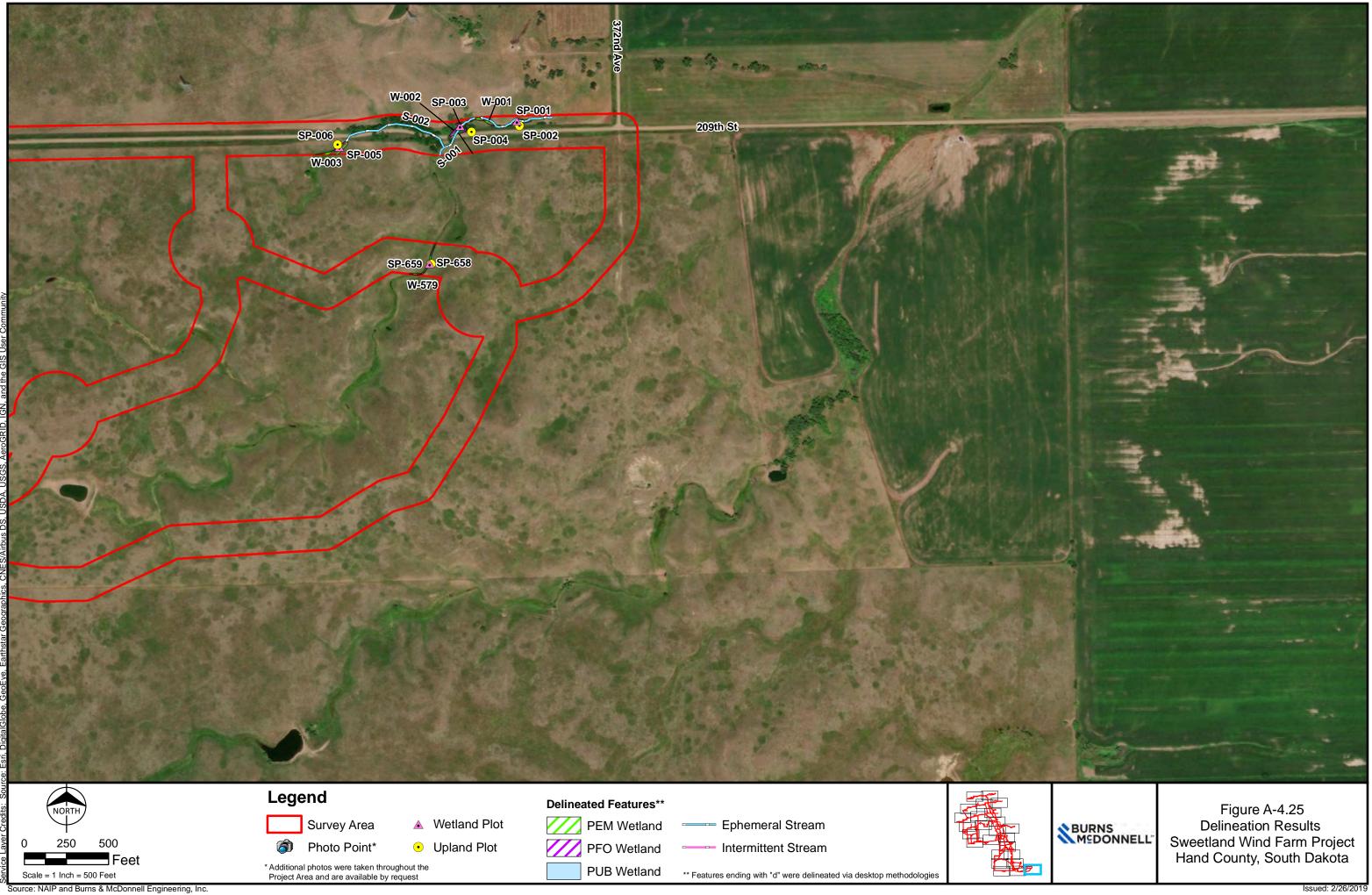
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### APPENDIX B - ROUTINE WETLAND DETERMINATION DATA FORMS, GREAT PLAINS REGION

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: <u>SD</u> Sampling Point: <u>SP-001</u>
Investigator(s): R. Williams, A. Woehler	Section, Township, Range: <u>S2, T110N, R66W</u>
Landform (hillslope, terrace, etc.) depression	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>2 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Reg	ion Lat: <u>44.356267</u> Long: <u>-98.743979</u> Datum: <u>NAD83</u>
Soil Map Unit Name:Betts-Java loams, steep	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time	e of year? 🛛 Yes 🗌 No (If no, explain in Remarks)
Vegetation         Soil         Hydrology           Significantly Disturbed?                   Image: Solid State S	Are "Normal Circumstances" present?  ⊠ Yes   □ No (If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.
YesNoHydrophytic Vegetation Present?Image: Comparison of the sent?Image: Comparison of the sent?Hydrology Present?Image: Comparison of the sent of	Remarks: Wetland sample plot located in emergent (PEM) wetland (W)-001.
VEGETATION – Use scientific names of plants	

Tree Stratum         (Plot size: <u>30'</u> )           1.         Salix bebbiana           2.	Absolute % Cover <u>20 %</u> % <u>%</u> 20 %	Dominant Species? 	Indicator Status FACW	Dominance Test Worksheet:         Number of Dominant Species that         are OBL, FACW, or FAC         (excluding FAC-):         Total Number of Dominant         Species Across All Strata:         (B)
Sapling/Shrub Stratum       (Plot size: <u>15'</u> )         1.				Percent of Dominant Species that are OBL, FACW, or FAC: (A/B) Prevalence Index Worksheet: Total % Cover of: Multiply by:
Herb Stratum(Plot size: 5')1.Hordeum jubatum2.Eleocharis palustris3.Phalaris arundinacea4.Ambrosia artemisiifolia	20 %	= Total Cove <u>Y</u> <u>Y</u> <u>N</u>	FACW OBL FACW FACU	OBL species%x 1 =0FACW species%x 2 =0FAC species%x 3 =0FACU species%x 4 =0UPL species%x 5 =0Column Totals:0%(A)0Prevalence Index = B/A =
<ol> <li><u>Bromus arvensis</u></li> <li><u>Pascopyrum smithii</u></li> <li><u>Leersia oryzoides</u></li> <li><u>Dactylis glomerata</u></li> <li><u>Xanthium strumarium</u></li> <li><u>Rumex crispus</u></li> <li><u>Vernonia fasciculata</u></li> </ol>	<u>    5   %</u> <u>    5   %</u>	N N N N N N	FACU FACU OBL FAC FAC FAC FAC	Hydrophytic Vegetation Indicators:         □       1 Rapid Test for Hydrophytic Vegetation         □       2 Dominance Test is >50%         □       3 Prevalence Index is ≤3.0 <sup>1</sup> □       4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
<ul> <li>12. <u>Medicago lupulina</u></li> <li>Woody Vine Stratum (Plot size: <u>30'</u>)</li> <li>1</li> <li>2</li> </ul>	<u>2 %</u> 132 %	N = Total Cove		Problematic Hydrophytic Vegetation <sup>1</sup> (explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>15</u> % Remarks: Rapid test for hydrophytic vegetation is met. Pho	Hydrophytic Vegetation Present? 🛛 Yes 🗌 No			

		-					absence of indicators	5.)
Depth Matrix				edox Fea				
(inches) Color (moist)	<u>%</u>		olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12 10YR 2/1 12-14 10YR 3/1	90		10YR 4/6	10	C	M	clay loam	w/ gravel
<u>12-14</u> 10YR 3/1	100						clay loam	
·			· -					
·			, _			·		
·			· _			·		
							<u>.</u>	
<sup>1</sup> Type: C=Concentration, D=De						d Sand Grains		ore Lining, M=Matrix
Hydric Soil Indicators: (Applie	cable to							ematic Hydric Soils <sup>3</sup> :
Histosol (A1)			Sandy Gle		· · /		1 cm Muck (A9) (I	
Histic Epipedon (A2)			Sandy Re					ox (A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)			Stripped N	•	,		Dark Surface (S7)	. ,
Hydrogen Sulfide (A4)	-)		Loamy Mu	•	. ,		High Plains Depre	of MLRA 72 & 73)
Stratified Layers (A5) (LRR F			Loamy Gl	-			Reduced Vertic (F	,
Depleted Below Dark Surface	-		Redox Da		,		Red Parent Mater	,
Thick Dark Surface (A12)	- (~ ( )		Depleted		. ,		Very Shallow Darl	( )
Sandy Mucky Mineral (S1)			Redox De		. ,		Other (Explain in I	
2.5 cm Mucky Peat or Peat (	S2) (LRR	<b>G. H</b> )	High Plain	•	. ,	)	<sup>3</sup> Indicators of hydropl	,
5 cm Mucky Peat or Peat (S3			(MLRA 7					ust be present, unless
Restrictive Layer (if present):							Hydric Soil Present	2
Turney		Denth	i (inches): 14				Yes INO	•
rype. gravel	_	Bobu	i (inches): <u>14</u>	•				
Remarks: Hydric soil indicator F	6 is met.						·	
	6 is met.							
HYDROLOGY								
	:	ired; ch	eck all that app				Secondary Indicators	s (2 or more required)
HYDROLOGY Wetland Hydrology Indicators	:							
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1)	:		] Salt Crust (B	 11)	(B13)		Surface Soil Crac	cks (B6)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)	:	[	] Salt Crust (B ] Aquatic Inver	11) tebrates			Surface Soil Crac	ks (B6) ed Concave Surface (B8)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	:	[ [ [	] Salt Crust (B ] Aquatic Inver ] Hydrogen Su	11) tebrates Ilfide Ode	or (C1)		☐ Surface Soil Crac ☐ Sparsely Vegetat ⊠ Drainage Pattern	cks (B6) ed Concave Surface (B8) s (B10)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	:	[ [ [ [ [	] Salt Crust (B ] Aquatic Inver ] Hydrogen Su ] Dry-Season \	11) tebrates Ilfide Ode Water Ta	or (C1) able (C2)	Roots (C3)	☐ Surface Soil Crac ☐ Sparsely Vegetat ⊠ Drainage Pattern	cks (B6) ed Concave Surface (B8) s (B10)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	:	[ [ [ [ [	] Salt Crust (B ] Aquatic Inver ] Hydrogen Su	11) tebrates Ilfide Ode Water Ta zosphere	or (C1) able (C2)	Roots (C3)	☐ Surface Soil Crac ☐ Sparsely Vegetat ☑ Drainage Pattern ☐ Oxidized Rhizosp	cks (B6) ed Concave Surface (B8) s (B10) oheres on Living Roots (C3)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	:	[ [ [ [ [	] Salt Crust (B ] Aquatic Inver ] Hydrogen Su ] Dry-Season \ ] Oxidized Rhi:	11) rtebrates Ilfide Odø Water Ta zosphere <b>t tilled)</b>	or (C1) able (C2) es on Living	Roots (C3)	☐ Surface Soil Crac ☐ Sparsely Vegetat ⊠ Drainage Pattern ☐ Oxidized Rhizosp (where tilled) ☐ Crayfish Burrows	cks (B6) ed Concave Surface (B8) s (B10) oheres on Living Roots (C3)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of a Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	:		Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhiz (where not	11) tebrates Ilfide Ode Water Ta zosphere <b>t tilled)</b> Reduceo	or (C1) able (C2) es on Living I Iron (C4)	Roots (C3)	☐ Surface Soil Crac ☐ Sparsely Vegetat ⊠ Drainage Pattern ☐ Oxidized Rhizosp (where tilled) ☐ Crayfish Burrows	cks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) e on Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	: one requi		Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhi: (where not Presence of I	11) rtebrates Ilfide Ode Water Ta zosphere <b>t tilled)</b> Reducec urface (C	or (C1) able (C2) es on Living H Iron (C4) C7)	Roots (C3)	<ul> <li>☐ Surface Soil Crac</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Posi</li> <li>☑ FAC-Neutral Tes</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) oheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of a 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)	: one requi		Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhi: (where not Presence of Thin Muck Su	11) rtebrates Ilfide Ode Water Ta zosphere <b>t tilled)</b> Reducec urface (C	or (C1) able (C2) es on Living H Iron (C4) C7)	Roots (C3)	<ul> <li>☐ Surface Soil Crac</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Posi</li> <li>☑ FAC-Neutral Tes</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) oheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 In	: one requi		Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season \ Oxidized Rhi: (where not Presence of Thin Muck Su	11) tebrates ilfide Odd Water Ta zosphere t tilled) Reduced urface (C in in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record		<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) oheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 II Water-Stained Leaves (B9)	: one requi	[ [ [ [ [ [ ] [ ] [ ] [ ] [ ] [ ] [ ] [	Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (where not Presence of I Thin Muck Si Other (Explai	11) tebrates ilfide Odd Water Ta zosphere t tilled) Reduced urface (C in in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5) mocks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of a 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 II Water-Stained Leaves (B9) Field Observations: Surface Water present?	: one requi magery (I	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (where not Presence of I Thin Muck Si Other (Explai	11) tebrates ilfide Odd Water Ta zosphere t tilled) Reduced urface (C in in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5) mocks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of a 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 II Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present?	: one requi magery ( Yes	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (where not Presence of I Thin Muck Si Other (Explai	11) tebrates ilfide Odd Water Ta zosphere t tilled) Reduced urface (C in in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5) mocks (D7) <b>(LRR F)</b>
HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of a         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 II         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Water Table present?         Saturation Present?	: one requi magery (I	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (where not Presence of I Thin Muck Si Other (Explai	11) tebrates ilfide Odd Water Ta zosphere t tilled) Reduced urface (C in in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5) mocks (D7) <b>(LRR F)</b>
HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of yeights)         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 II         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Water Table present?         Water Table present?         Water Table present?         (includes capillary fringe)	: one requi magery (I Yes	[ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [	Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhiz (where not Presence of I Thin Muck Si Other (Explai	11) tebrates ilfide Odd Water Ta zosphere t tilled) Reduced urface (C in in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) wheres on Living Roots (C3) (C8) e on Aerial Imagery (C9) tion (D2) t (D5) mocks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of a 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 II Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present? Saturation Present?	magery ( Yes	С С С С С С В7) С No М С С	Salt Crust (B Aquatic Inver Hydrogen Su Dry-Season V Oxidized Rhi: (where not Presence of I Thin Muck Su Other (Explai Depth (inches)	11) rtebrates Ilfide Odi Water Ta zosphere t tilled) Reducec urface (C in in Ren Dese insp	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>☐ Surface Soil Cract</li> <li>☐ Sparsely Vegetat</li> <li>☑ Drainage Pattern</li> <li>☐ Oxidized Rhizosp (where tilled)</li> <li>☐ Crayfish Burrows</li> <li>☐ Saturation Visible</li> <li>☑ Geomorphic Position</li> <li>☑ FAC-Neutral Test</li> <li>☐ Frost-Heave Hunding</li> </ul>	cks (B6) ed Concave Surface (B8) s (B10) wheres on Living Roots (C3 (C8) e on Aerial Imagery (C9) tion (D2) t (D5) mocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Project			City/County: Hand County Sampling Date: 6/25/2018					
Applicant/Owner: Sweetland Wind Farm,	LLC		State: SD Sampling Point: SP-002					
Investigator(s): R. Williams; A. Woehler			Section, Township, Range: <u>S9, T110N, R66W</u>					
Landform (hillslope, terrace, etc.) sideslo	ре		Local relief (concave, convex, none): Slope (%):5 %					
Subregion (LRR): Northern Great Plains	Spring W	/heat Regio	on Lat: <u>44.356196</u> Long: <u>-98.743919</u> Datum: <u>NAD83</u>					
Soil Map Unit Name: Betts-Java loams,	Soil Map Unit Name: Betts-Java loams, steep NWI Classification: PEM1A							
Are climate/hydrologic conditions on the site year?	e typical fo	or this time o	of 🛛 Yes 🔲 No (If no, explain in Remarks)					
Vegetation	Soil H	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No					
Significantly Disturbed?INaturally Problematic?I	$\square$		(If needed, explain any answers in Remarks)					
SUMMARY OF FINDINGS – Attach site	e map sl	nowing sa	ampling point locations, transects, important features, etc.					
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes	No F X X X	Remarks: Upland confirmation plot adjacent to PEM W-001.					
Is the Sampled Area within a Wetland?		$\boxtimes$						

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.	<u>%</u>			· · · · · · · · · · · · · · · · · · ·
4.	%			Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
, ° ° , <u> </u>	%			are OBL, FACW, or FAC: 0% (A/B)
•	<u>%</u>			
•	0/			Prevalence Index Worksheet:
3 4.	%			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =
( <u>-</u> /	60 %	Y	FACU	FACU species% x 4 =0
	20 %	Y	UPL	UPL species $\%$ x 5 = 0
	<u> </u>	<u> </u>	UPL	Column Totals:0 % (A)0 (B)
	5 %	<u> </u>	FACU	Prevalence Index = B/A =
5	2 %		FACU	
<u>Medicago lupulina</u> .	<u> </u>	<u> </u>	1 400	Hydrophytic Vegetation Indicators:
7.	<u>%</u>			1 Rapid Test for Hydrophytic Vegetation
8.	%			☐ 2 Dominance Test is >50%
9	%	<u> </u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	97 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>			must be present, unless disturbed or problematic
	0 %	= Total Cover	•	
Bare Ground in Herb Stratum <u>30</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: No test is met. Photograph C-2.				
<u> </u>				

Depth	Matrix		F	Redox Fea	tures		
(inches)	Color (moist)	% Co	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-5	10YR 2/1	100				·	silt loam
Type: C=Co	ncentration, D=Dep	letion, RM=Red	uced Matrix, 0	CS=Covere	ed or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix
lydric Soil I	ndicators: (Applic	able to all LRR	s, unless oth	erwise no	ted.)		Indicators for Problematic Hydric Soils
Stratified   1 cm Muc Depleted Thick Darl Sandy Mu 2.5 cm Mu 5 cm Muc	bedon (A2) ic (A3) Sulfide (A4) Layers (A5) ( <b>LRR F</b> k (A9) ( <b>LRR F, G, H</b> Below Dark Surface < Surface (A12) cky Mineral (S1) icky Peat or Peat (S3	l) : (A11) 62) ( <b>LRR G, H</b> )	Sandy G Sandy R Sandy R Stripped Loamy M Loamy G Depleted Redox D Redox D High Pla (MLRA	edox (S5) Matrix (S6 Jucky Mine Gleyed Mat I Matrix (F3 ark Surfac I Dark Surf epressions	5) eral (F1) rix (F2) 3) e (F6) face (F7) 5 (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G,</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unlest disturbed or problematic</li> </ul>
	ayer (if present):	Depth	(inches): 5				Hydric Soil Present? □ Yes ⊠ No
Remarks: No	hydric soil indicator	r is present. Soil	is naturally pr	oblematic	due to the p	resence of roc	I K.
	rology Indicators:						
•	ators (minimum of c		eck all that an	nlv)			Secondary Indicators (2 or more required
Surface W	•		] Salt Crust (I	<u> </u>			Surface Soil Cracks (B6)
High Wate	( )		Aquatic Inve	,	(B13)		Sparsely Vegetated Concave Surface
☐ Saturation	. ,		] Hvdrogen S		. ,		Drainage Patterns (B10)

Wetland Hydrology Indicators:							
Primary Indicators (minimum of o	ne requ	uired; c	heck all that apply)		Secondary Indicators (2 or more required)		
Surface Water (A1)			Salt Crust (B11)	)	Surface Soil Cracks (B6)		
High Water Table (A2)			Aquatic Invertet	orates (B13)	Sparsely Vegetated Concave Surface (B8)		
Saturation (A3)			Hydrogen Sulfic	de Odor (C1)	Drainage Patterns (B10)		
🗌 Water Marks (B1)			Dry-Season Wa	ater Table (C2)	Oxidized Rhizospheres on Living Roots (C3)		
Sediment Deposits (B2)			Oxidized Rhizos	spheres on Living Roots (C3)	(where tilled)		
Drift Deposits (B3)			(where not ti	lled)	Crayfish Burrows (C8)		
Algal Mat or Crust (B4)			Presence of Re	duced Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
☐ Iron Deposits (B5)			Thin Muck Surfa	ace (C7)	Geomorphic Position (D2)		
Inundation Visible on Aerial In	nagery	(B7)	Other (Explain i	n Remarks)	☐ FAC-Neutral Test (D5)		
☐ Water-Stained Leaves (B9)					Frost-Heave Hummocks (D7) (LRR F)		
Field Observations:	Vee	Nia	Depth		n gauge, monitoring well, aerial photos, previous		
	Yes	No	(inches)	inspections, etc.), if available:			
Surface Water present?		$\boxtimes$					
Water Table present?		$\boxtimes$					
Saturation Present?		$\boxtimes$					
(includes capillary fringe)							
Wetland Hydrology Present?		$\boxtimes$					
Remarks: No wetland hydrology i	indicato	r is pre	sent.				

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/25/2018						
Applicant/Owner: Sweetland Wind Farm, LLC		State: <u>SD</u> Sampling Point: <u>SP-003</u>						
Investigator(s): R. Williams; A. Woehler		Section, Township, Range: S3, T110N, R66W						
Landform (hillslope, terrace, etc.) depression		Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>3 %</u>						
Subregion (LRR): Northern Great Plains Sprin	g Wheat Regio	n Lat: <u>44.356198</u> Long: <u>-98.745270</u> Datum: <u>NAD83</u>						
Soil Map Unit Name: Betts-Java loams, steep								
Are climate/hydrologic conditions on the site typica year?	al for this time o	of 🛛 Yes 🗌 No (If no, explain in Remarks)						
Vegetation Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No						
Significantly Disturbed?INaturally Problematic?I		(If needed, explain any answers in Remarks)						
SUMMARY OF FINDINGS – Attach site map	showing sa	ampling point locations, transects, important features, etc.						
YesHydrophytic Vegetation Present?Image: Comparison of the sector of th	No F □ □	Remarks: Sample plot located in forested (PFO) W-002.						
Is the Sampled Area within a Wetland? $igsqcite{$								

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that
1. <u>Salix bebbiana</u>	<u> </u>	<u>     Y                               </u>	FACW	are OBL, FACW, or FAC
2. <u>Populus deltoides</u>		<u>Y</u>	FAC	(excluding FAC-):4_(A)
3			·	Total Number of Dominant
4			·	Species Across All Strata: 4 (B)
	80 %	= Total Cove	er	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: <u>100%</u> (A/B)
1				
2		. <u></u>		Prevalence Index Worksheet:
3		<u> </u>		Total % Cover of:Multiply by:
4				
5		. <u></u>	. <u> </u>	OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cove	er	FAC species % x 3 = 0
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\% x 4 = 0$
1. Phalaris arundinacea	30 %	Y	FACW	UPL species $\% x 5 = 0$
2. <u>Carex sp.*</u>	15 %	Y	FAC	Column Totals: $\underline{0}$ % (A) $\underline{0}$ (B)
3. Dactylis glomerata	10 %	N	FACU	
4. Plantago major		N	FAC	Prevalence Index = B/A =
5. Juncus torreyi	F 0/	N	FACW	Hydrophytic Vegetation Indicators:
6. <u>Hordeum jubatum</u>	5 %	N	FACW	
7. <u>Rumex crispus</u>		N	FAC	1 Rapid Test for Hydrophytic Vegetation
8	%			☑ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10		. <u></u>		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    77  %</u>	= Total Cove	er	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	%			must be present, unless disturbed or problematic
	0 %	= Total Cove	er	
Bare Ground in Herb Stratum _ <u>50</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. *Carex species could r status of FAC or wetter, an indicator status of FAC is ass			. Since mos	t carex species in this region have an indicator

Depth	Matrix			Redox Fea				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10	7.5YR 2.5/1	95	5YR 5/8	5	C	<u> </u>	silty clay loam	w/ gravel
		·		· · · · · · · · · · · · · · · · · · ·	·			
Type: C=C	oncentration, D=Depl	etion, RM=	Reduced Matrix, C	S=Cover	red or Coate	d Sand Grain	s <sup>2</sup> Location: PL=Po	 pre Lining, M=Matrix
lydric Soil	Indicators: (Applica	able to all	LRRs, unless oth	erwise n	oted.)		Indicators for Proble	ematic Hydric Soils <sup>3</sup> :
Black His Hydroger Stratified 1 cm Mud Depleted Thick Da Sandy M	ipedon (A2)	) (A11) 2) ( <b>LRR G,</b>		edox (S5) Matrix (S lucky Min leyed Ma Matrix (F ark Surfa Dark Surfa epressior ns Depre	) 6) ueral (F1) utrix (F2) F3) ce (F6) uface (F7) ns (F8) ussions (F16)	)	Dark Surface (S7)     High Plains Depre     (LRR H outside of     Reduced Vertic (F     Red Parent Materi     Very Shallow Dark     Other (Explain in F <sup>3</sup> Indicators of hydroph	bx (A16) ( <b>LRR F, G, H</b> ) ( <b>LRR G</b> ) ssions (F16) of <b>MLRA 72 &amp; 73)</b> 18) al (TF2) c Surface (TF 12) Remarks) nytic vegetation and
	cky Peat or Peat (S3)	(LRR F)		/2&/30	of LRR H)		wetland hydrology mu disturbed or problema	
☐ 5 cm Muo	cky Peat or Peat (S3) Layer (if present):	(LRR F)	(MLRA	(2 & /3 0	of LRR H)			atic
☐ 5 cm Mud Restrictive Type:		D	epth (inches): <u>1</u>	0	·	presence of g	disturbed or problema Hydric Soil Present? ⊠ Yes □ No	atic
5 cm Muc      Restrictive      Type:      Remarks: Hy  YDROLOG	Layer (if present): gravel ydric soil indicator F6	D	epth (inches): <u>1</u>	0	·	presence of g	disturbed or problema Hydric Soil Present? ⊠ Yes □ No	atic
5 cm Muc  Restrictive  Type:  Remarks: Hy  YDROLOG  Wetland Hy	Layer (if present): gravel ydric soil indicator F6 GY drology Indicators:	is present.	epth (inches): <u>1</u> Soil is naturally pr	0 oblematio	·	presence of g	disturbed or problema Hydric Soil Present? ⊠ Yes □ No ravel.	atic
	Layer (if present): gravel ydric soil indicator F6 Y Grology Indicators: cators (minimum of or	is present.	epth (inches): <u>1</u> Soil is naturally pr	0 oblematio	·	presence of g	disturbed or problema Hydric Soil Present? I Yes I No ravel.	atic
Scm Muc	Layer (if present): gravel ydric soil indicator F6 SY drology Indicators: cators (minimum of or Water (A1)	is present.	epth (inches): Soil is naturally pr	0 oblematio <u>bly)</u> 311)	c due to the p	presence of g	disturbed or problema Hydric Soil Present? Secondary Indicators Surface Soil Crac	atic ? <u>• (2 or more required)</u> ks (B6)
Scm Muc  Caracteristics  Sestrictive  Sestrictive Sestrictive  Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sestrictive Sest	Layer (if present): gravel ydric soil indicator F6 SY drology Indicators: cators (minimum of or Water (A1) ter Table (A2)	is present.	epth (inches): <u>1</u> Soil is naturally pr	0 oblematio <u>obly)</u> 311)	c due to the p	presence of g	disturbed or problema Hydric Soil Present? Secondary Indicators Surface Soil Crac	s (2 or more required) ks (B6) ed Concave Surface (B8
Scm Muc  Scm Muc  Restrictive  Fype: Scm Muc  Remarks: Hy  YDROLOG  Netland Hy  Primary India Surface W  High Wat Saturatio	Layer (if present): gravel ydric soil indicator F6 SY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) n (A3)	is present.	epth (inches): Soil is naturally pr	0 oblematio oblematio 2019) 311) ertebrates ulfide Ode	c due to the p (B13) or (C1)	presence of g	disturbed or problema Hydric Soil Present? ☑ Yes □ No ravel. Secondary Indicators □ Surface Soil Crac □ Sparsely Vegetate ☑ Drainage Patterns □ Oxidized Rhizosp	s (2 or more required) ks (B6) ed Concave Surface (B8 s (B10)
Staturatio	Layer (if present): gravel ydric soil indicator F6 GY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	is present.	epth (inches): Soil is naturally pr Soil is naturally pr Soil is naturally pr Soil Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	0 oblematio 2019) 311) ertebrates ulfide Ode Water Ta izosphere	c due to the p s (B13) or (C1) able (C2)		disturbed or problema Hydric Soil Present? ☑ Yes □ No ravel. Secondary Indicators □ Surface Soil Crac □ Sparsely Vegetate ☑ Drainage Patterns □ Oxidized Rhizosp (where tilled)	s (2 or more required) ks (B6) ed Concave Surface (B8 s (B10) heres on Living Roots (C
String S	Layer (if present): gravel ydric soil indicator F6 GY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	is present.	epth (inches): Soil is naturally pr	0 oblematio bly) 311) ertebrates ulfide Od Water Ta izosphero ot tilled)	c due to the p s (B13) or (C1) able (C2) es on Living		disturbed or problema Hydric Soil Present? ☑ Yes □ No ravel. Secondary Indicators □ Surface Soil Crac □ Sparsely Vegetate ☑ Drainage Patterns □ Oxidized Rhizosp (where tilled) □ Crayfish Burrows	<u>s (2 or more required)</u> ks (B6) ed Concave Surface (B8 s (B10) heres on Living Roots (C (C8)
Schemen Schem	Layer (if present): gravel ydric soil indicator F6 GY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	is present.	epth (inches): Soil is naturally pr Soil is na	oblemation oblemation	c due to the p c due to the p or (C1) able (C2) es on Living d Iron (C4)		disturbed or problema Hydric Soil Present? ☑ Yes □ No ravel. Secondary Indicators □ Surface Soil Crac □ Sparsely Vegetate ☑ Drainage Patterns □ Oxidized Rhizosp (where tilled) □ Crayfish Burrows □ Saturation Visible	s (2 or more required) ks (B6) ed Concave Surface (B8 s (B10) heres on Living Roots (C (C8) on Aerial Imagery (C9)
	Layer (if present): gravel ydric soil indicator F6 GY drology Indicators: cators (minimum of or Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	is present.	epth (inches): Soil is naturally pr Soil is naturally pr Soil is naturally pr Soll Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	0 oblemation oblematio	c due to the p c due to the p or (C1) able (C2) es on Living d Iron (C4) C7)		disturbed or problema Hydric Soil Present? ☑ Yes □ No ravel. Secondary Indicators □ Surface Soil Crac □ Sparsely Vegetate ☑ Drainage Patterns □ Oxidized Rhizosp (where tilled) □ Crayfish Burrows	s (2 or more required) ks (B6) ed Concave Surface (B8 s (B10) heres on Living Roots (C (C8) on Aerial Imagery (C9) tion (D2)

Water-Stained Leaves (B9)							
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:			
Surface Water present?		$\boxtimes$					
Water Table present?		$\boxtimes$					
Saturation Present?	$\boxtimes$		surface				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicator B10, D2, and D5 are present.							

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/25/2018					
Applicant/Owner: Sweetland Wind Farm, L	LLC	State: SD Sampling Point: SP-004					
Investigator(s): R. Williams; A. Woehler		Section, Township, Range: S3, T110N, R66W					
Landform (hillslope, terrace, etc.) toeslope	e	Local relief (concave, convex, none): <u>none</u> Slope (%): <u>7 %</u>					
Subregion (LRR): Northern Great Plains	Spring Wheat Re	gion Lat: <u>44.356105</u> Long: <u>-98.745013</u> Datum: <u>NAD83</u>					
Soil Map Unit Name: Betts-Java loams, s	steep	NWI Classification: PEM1A					
Are climate/hydrologic conditions on the site year?	typical for this tin	ne of 🛛 Yes 🗌 No 🛛 (If no, explain in Remarks)					
Vegetation	Soil Hydrolog	IV Are "Normal Circumstances" present? 🛛 Yes 🗌 No					
Significantly Disturbed?INaturally Problematic?I		(If needed, explain any answers in Remarks)					
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No	Remarks: Upland confirmation plot adjacent to PFO W-002.					
Is the Sampled Area within a Wetland?	$\Box$						

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
		·		are OBL, FACW, or FAC
				(excluding FAC-):0 (A)
				Total Number of Dominant
4		Tabal O		Species Across All Strata: 1 (B)
	0 %	= Total Cove	r	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: 0% (A/B)
1		·		
2	<u>%</u>		. <u> </u>	Prevalence Index Worksheet:
3				Total % Cover of: Multiply by:
4				
5				OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cove	r	FAC species% x 2 = % x 3 =
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\% x 4 = 0$
1. Bromus tectorum	90 %	Y	UPL	UPL species $\% x 5 = 0$
2. <u>Asclepias asperula</u>	5 %	<u>N</u>	UPL	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. <u>Convolvulus arvensis</u>	2 %	<u>N</u>	UPL	Prevalence Index = B/A =
4	0/			
5				Hydrophytic Vegetation Indicators:
6			. <u> </u>	☐ 1 Rapid Test for Hydrophytic Vegetation
7	0/			$\square$ 2 Dominance Test is >50%
			<u> </u>	
9 10.	<u>%</u>	·		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	97 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				□ Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>			must be present, unless disturbed or problematic
	0 %	= Total Cove	r	
Bare Ground in Herb Stratum20 %				Hydrophytic Vegetation Present? 🔲 Yes 🛛 No
Remarks: No test is met. Photograph C-4.				

Profile Descri	ption: (Describe	e to the dep	oth needed to doo	ument th	e indicator o	or confirm the	e absence of indicators	5.)
Depth	Matrix			Redox Fe				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/1	100					silt loam	w/ gravel/fill
<u> </u>								
<u> </u>					·			
					·			
					·	·· ·		
<sup>1</sup> Type: C=Con	centration, D=De	pletion, RM	=Reduced Matrix,	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix
Hydric Soil In	dicators: (Appli	cable to all	LRRs, unless of	herwise n	oted.)		Indicators for Proble	ematic Hydric Soils <sup>3</sup> :
Histosol (A	1)		🗌 Sandy (	Gleyed Ma	atrix (S4)		🗌 1 cm Muck (A9) ( <b>I</b>	<b>.RR I, J</b> )
Histic Epipe	edon (A2)		☐ Sandy F	-				ox (A16) ( <b>LRR F, G, H</b> )
Black Histic	c (A3)		Stripped	d Matrix (S	6)		Dark Surface (S7)	(LRR G)
Hydrogen S	Sulfide (A4)		🗌 Loamy I	•	• •		High Plains Depre	
	ayers (A5) ( <b>LRR I</b>		🗌 Loamy (	•	. ,			of MLRA 72 & 73)
	(A9) ( <b>LRR F, G</b> , I	-	Deplete	•	,		Reduced Vertic (F	,
•	elow Dark Surfac	e (A11)			. ,		Red Parent Mater Very Shallow Dark	( )
Thick Dark			Deplete		. ,		Other (Explain in I	· · · ·
-	ky Mineral (S1) ky Peat or Peat (	S2) /I BB C		•	ns (F8) essions (F16)			,
	y Peat or Peat (S	, ,			of LRR H)		<sup>3</sup> Indicators of hydroph	nytic vegetation and ust be present, unless
	y i eat of i eat (O	5)( <b>LIXIX I</b> )	(		<i></i>		disturbed or problema	atic
Restrictive La	yer (if present):						Hydric Soil Present	
Type: gravel/fill Depth (inches): 6					☐ Yes ☐ No			
				-				
Remarks: No h	nydric soil indicato	or is present	t.					
HYDROLOGY	,							
Wetland Hydr	ology Indicators	:						
-			d; check all that ap	oply)			Secondary Indicators	s (2 or more required)
Surface Wa	ater (A1)		Salt Crust	(B11)			Surface Soil Crac	ks (B6)
High Water	( )		Aquatic Inv	· /	s (B13)			ed Concave Surface (B8)
Saturation (	. ,		Hydrogen S		. ,		Drainage Pattern	
U Water Mark			Dry-Seaso				-	heres on Living Roots (C3)
Sediment D	□ Sediment Deposits (B2) □ Oxidized Rhizospheres on Living Roots (C3)						(where tilled)	
Drift Deposits (B3) (where not tilled)						Crayfish Burrows		
-	Algal Mat or Crust (B4)						on Aerial Imagery (C9)	
□ Iron Deposits (B5) □ Thin Muck Surface (C7) □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain in Remarks)					Geomorphic Posi	· · ·		
—		magery (B7		iain in Ke	marks)		☐ FAC-Neutral Test	(D5) imocks (D7) <b>(LRR F)</b>
U Water-Stair	ned Leaves (B9)							
Field Observa	itions:	Yes	Depth No (inches)			led Data (strea ), if available:	am gauge, monitoring we	ell, aerial photos, previous
Surface Water	present?		$\boxtimes$					
Water Table pr	•			_				
Saturation Pres				-				
(includes capill	lary fringe)		-	_				

Remarks: No wetland hydrology indicator is present.

 $\boxtimes$ 

Wetland Hydrology Present?

Project/Site: Sweetland Wind Project		City/County:	Hand County	Samplir	ng Date: <u>6/25/2018</u>			
Applicant/Owner: <u>Sweetland Wind Farm, LLC</u>			State:	SD Sar	mpling Point: <u>SP-005</u>			
Investigator(s): R. Williams; A. Woehler		Sectio	n, Township, Rang	e: <u>S10, T110N, R</u>	866W			
Landform (hillslope, terrace, etc.) depression	Lo	ocal relief (cond	ave, convex, none	): <u>concave</u>	Slope (%): <u>2 %</u>			
Subregion (LRR): Northern Great Plains Spring V	Vheat Region	Lat: 44.3	55893 Lon	g: <u>-98.748020</u>	Datum: NAD83			
Soil Map Unit Name: <u>Betts-Java loams, steep</u>				NWI Classification:	NA			
Are climate/hydrologic conditions on the site typical f year?	or this time of	Xes	s 🗌 No (lf r	io, explain in Remar	ks)			
Vegetation Soil	Hydrology	Are "	Normal Circumstan	ces" present?	Yes 🗌 No			
Significantly Disturbed?			(I <b>f</b> is a school					
Naturally Problematic?			(II needed, o	explain any answers	s in Remarks)			
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.								
Yes	No Re	emarks: Sample	e plot located in PE	M W-003.				
Hydrophytic Vegetation Present?								
Hydric Soil Present?								
Wetland Hydrology Present?								
Is the Sampled Area within a Wetland?								

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that
1		·	<u> </u>	are OBL, FACW, or FAC
2		<u> </u>		(excluding FAC-): (A)
3				Total Number of Dominant
4				Species Across All Strata: (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: (A/B)
1	%			
2				Prevalence Index Worksheet:
3	%			
4				Total % Cover of: Multiply by:
5.	0(			OBL species% x 1 =
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
	00.0/	V		FACU species% x 4 =
1. <u>Spartina pectinata</u>	<b>aa a</b> ′		FACW	UPL species% x 5 =
2. <u>Eleocharis palustris</u>			OBL	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. Juncus sp.*			FAC	Prevalence Index = B/A =
4. <u>Hordeum jubatum</u>		<u>N</u>	FACW	
5		·		Hydrophytic Vegetation Indicators:
6		·		☐ 1 Rapid Test for Hydrophytic Vegetation
7		·		
8		·		☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    117 %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. *Juncus species cou		ed past genus. I	n this regi	on most juncus species have an indicator of FAC or
wetter, therefore, an indicator of FAC is assumed. Pho	otograph C-5.			

		to the dep	oth needed to do			r confirm the	absence of indicators.)		
Depth (inches)	Matrix	0/	Color (moint)	Redox Fea		Loc <sup>2</sup>	Touturo	Domorko	
0-8	Color (moist) 10YR 2/1	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>		Texture muck	Remarks organic matter	
8-20	10YR 2/1	100					silty clay		
<sup>1</sup> Type: C=C	Direction, D=Dep		=Reduced Matrix	  CS=Cover	ed or Coated	Sand Grains	<sup>2</sup> l ocation <sup>.</sup> Pl =Por	e Lining, M=Matrix	
	ndicators: (Applic	-					Indicators for Probler	0.	
Histosol (			Sandy (				☐ 1 cm Muck (A9) ( <b>LF</b>	-	
Histic Epi	,		☐ Sandy I	,	( )		Coast Prairie Redo		
Black His			Strippe				Dark Surface (S7) (		
Hydroger	. ,		Loamy				High Plains Depres	,	
Stratified	Layers (A5) ( <b>LRR F</b>	·)	☐ Loamy				(LRR H outside of	f MLRA 72 & 73)	
🖾 1 cm Muc	k (A9) ( <b>LRR F, G, H</b>	<b>i</b> )	Deplete	ed Matrix (F	3)		Reduced Vertic (F1	,	
Depleted	Below Dark Surface	e (A11)	🗌 Redox I	Dark Surfac	ce (F6)		Red Parent Material (TF2)		
	k Surface (A12)		Deplete		. ,		Very Shallow Dark	, ,	
-	icky Mineral (S1)		Redox I	•	. ,		Other (Explain in Re	emarks)	
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)							<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic		
Restrictive	ayer (if present):						Hydric Soil Present?		
Type: Depth (inches):					Yes 🗌 No				
Remarks: Hy	dric soil indicators A	A3, A4, and	A9 are present.						
HYDROLOG	Y								
Wetland Hy	Irology Indicators:	:							
Primary India	ators (minimum of o	one require	d; check all that a	pply)			Secondary Indicators	(2 or more required)	
Surface Water (A1)							Surface Soil Crack	<b>\ /</b>	
-	High Water Table (A2)							d Concave Surface (B8)	
Saturation (A3) Hydrogen Sulfide Odor (C1)						Drainage Patterns	· /		
□ Water Marks (B1) □ Dry-Season Water Table (C2)						Oxidized Rhizosph (where tilled)	eres on Living Roots (C3)		
Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)						Crayfish Burrows (	(8)		
						Saturation Visible of	,		
□ Algal Mat or Crust (B4)       □ Presence of Reduced Iron (C4)         □ Iron Deposits (B5)       □ Thin Muck Surface (C7)						Geomorphic Positio	••••		
Inundation Visible on Aerial Imagery (B7)						FAC-Neutral Test (			
	ined Leaves (B9)		,				Frost-Heave Humn	nocks (D7) <b>(LRR F)</b>	
Field Obser	vations:	Yes	Depth No (inches)			ed Data (strea , if available:	m gauge, monitoring well	, aerial photos, previous	
Curfe en Mat	er present?		$\boxtimes$		. ,				

Water Table present?

(includes capillary fringe)
Wetland Hydrology Present?

Saturation Present?

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Remarks: Wetland hydrology indicators A2, A3, C1, B10, D2, and D5 are present.

surface

surface

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, I	LLC	State: <u>SD</u> Sampling Point: <u>SP-006</u>
Investigator(s): <u>R. Williams; A. Woehler</u>		Section, Township, Range: <u>S10, T110N, R66W</u>
Landform (hillslope, terrace, etc.) sideslo	ре	Local relief (concave, convex, none): <u>convex</u> Slope (%): <u>10 %</u>
Subregion (LRR): Northern Great Plains	Spring Wheat Reg	ion Lat: <u>44.355933</u> Long: <u>-98.748054</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Betts-Java loams, s	steep	NWI Classification: NA
Are climate/hydrologic conditions on the site year?	typical for this time	e of 🛛 Yes 🔲 No (If no, explain in Remarks)
Vegetation	Soil Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?INaturally Problematic?I		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site	e map showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No	Remarks: Upland confirmation plot adjacent to PEM W-003.
Is the Sampled Area within a Wetland?		

Tree Checkury (Dist size: 201)	Absolute % Cover		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
0	0/			(excluding FAC-):0 (A)
				Total Number of Dominant
4	<u>%</u>			Species Across All Strata: <u>2</u> (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: 0% (A/B)
1	%			
2	%			Prevalence Index Worksheet:
3	<b>0</b> /			Total % Cover of: Multiply by:
4				
5	%			OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover	•	FAC species $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$
Herb Stratum (Plot size: <u>5'</u> )				FACU species $$
1. Bromus inermis	70 %	Y	UPL	UPL species $\% x 5 = 0$
2. <u>Bromus arvensis</u>	20 %	Y	FACU	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. Bromus tectorum	5 %	N	UPL	
4. <u>Portulaca pilosa</u>	2 %	N	FACU	Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6				🗖 4 Denid Teet for Uludrenkutie Venetetien
7				1 Rapid Test for Hydrophytic Vegetation
8				2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	97 %	= Total Cover	•	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>			must be present, unless disturbed or problematic
	0 %	= Total Cover	•	
Bare Ground in Herb Stratum <u>30</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: No test is met. Photograph C-6.				
2 .				

Profile Description: (Descr Depth Mat	-			contirm the	absence of indicators.)	
Depth Mat (inches) Color (moist		Color (moist)	edox Features % Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-15 10YR 2/1	<u>, 78</u> 100		// туре		silt loam	Remarks
· _						
Type: C=Concentration, D=		Boducod Matrix C		Sand Craina	<sup>2</sup> Location: PL=Pore	Lipipa M-Motrix
Hydric Soil Indicators: (Ap	•				Indicators for Problema	0
Histosol (A1)			eyed Matrix (S4)		1 cm Muck (A9) ( <b>LRF</b>	-
Histic Epipedon (A2)		Sandy Re	• • • •		Coast Prairie Redox (	
Black Histic (A3)		Stripped N	( )		Dark Surface (S7) (L	
Hydrogen Sulfide (A4)			ucky Mineral (F1)		High Plains Depression	ons (F16)
Stratified Layers (A5) (LR			eyed Matrix (F2)		(LRR H outside of I	
1 cm Muck (A9) (LRR F, 0		Depleted	( )		Reduced Vertic (F18)	
Depleted Below Dark Sur	face (A11)		rk Surface (F6)		Red Parent Material (	, ,
Thick Dark Surface (A12)	、 、	•	Dark Surface (F7)		☐ Very Shallow Dark Su ☐ Other (Explain in Ren	, ,
Sandy Mucky Mineral (S1 2.5 cm Mucky Peat or Pea	,		pressions (F8) ns Depressions (F16)			
5 cm Mucky Peat or Peat			2 & 73 of LRR H)		<sup>3</sup> Indicators of hydrophytic wetland hydrology must	0
	(00)(ERRT)	(	,		disturbed or problematic	
Restrictive Layer (if presen	t):				Hydric Soil Present?	
Type: compact	D	epth (inches): 15	i		🗌 Yes 🖾 No	
Remarks: No hydric soil indic	ator is present.	Soil is naturally pro	blematic due to compa	ction encour	ntered at a depth of 15 inch	es.
IYDROLOGY						
Wetland Hydrology Indicate						
Primary Indicators (minimum	of one required	; check all that appl	<u>ly)</u>		Secondary Indicators (2	or more required)
Surface Water (A1)		☐ Salt Crust (B	,		Surface Soil Cracks	( )
High Water Table (A2)		Aquatic Inver			Sparsely Vegetated	. ,
Saturation (A3)		Hydrogen Su			Drainage Patterns (E	
□ Water Marks (B1) □ Sediment Deposits (B2)			Water Table (C2) zospheres on Living Ro	rate (C2)	Oxidized Rhizospher (where tilled)	es on Living Roots (C3
Drift Deposits (B3)		(where not		JOIS (C3)	Crayfish Burrows (Ca	3)
Algal Mat or Crust (B4)			, Reduced Iron (C4)		Saturation Visible on	
☐ Iron Deposits (B5)		Thin Muck Su	urface (C7)		Geomorphic Position	i (D2)
Inundation Visible on Aeri	al Imagery (B7)	🗌 Other (Explai	in in Remarks)		FAC-Neutral Test (D	/
UWater-Stained Leaves (BS	9)				Frost-Heave Hummo	ocks (D7) <b>(LRR F)</b>
Field Observations:	Yes N	Depth No (inches)	Describe Recorded inspections, etc.), i		m gauge, monitoring well, a	aerial photos, previous
Surface Water present?		⊠	. , ,,			
Water Table present?		⊠				
Saturation Present?		⊠				
(includes capillary fringe)	-					

Remarks: No wetland hydrology indicator is present.

 $\boxtimes$ 

Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/Co	ounty: Hand County	Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-007
Investigator(s): R. Williams; A. Woehler		Section, Township, Range:	S3, T110N, R66W
Landform (hillslope, terrace, etc.) depression	Local relie	ef (concave, convex, none):	none Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring W	/heat Region Lat:	44.355943 Long:	-98.756938 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 per	cent slopes	NW	I Classification: NA
Are climate/hydrologic conditions on the site typical for year?	or this time of	Yes No (If no, e	explain in Remarks)
Vegetation Soil	Hydrology	Are "Normal Circumstances	s" present? 🛛 Yes 🗌 No
Significantly Disturbed?INaturally Problematic?I		(If needed, exp	lain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site map s	nowing sampling	point locations, transect	s, important features, etc.
YesHydrophytic Vegetation Present?Hydric Soil Present?Wetland Hydrology Present?	No Remarks: V	Wetland sample plot located i	in PEM W-004.
Is the Sampled Area within a Wetland?			

	Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that	
1				are OBL, FACW, or FAC	
2				(excluding FAC-):	(A)
3				Total Number of Dominant	
4				Species Across All Strata:	(B)
	0 %	= Total Cove	r	Percent of Dominant Species that	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC:	(A/B)
1	%				( )
2	%			Prevalence Index Worksheet:	
3	%				
4.	%			Total % Cover of:Multiply	
5	%			OBL species% x 1 =	0
	0 %	= Total Cove	r	FACW species% x 2 =	0
Herb Stratum (Plot size: 5')				FAC species% x 3 =	0
1. <u>Phalaris arundinacea</u>	90 %	Y	FACW	FACU species % x 4 =	0
2. Persicaria amphibia		N	OBL	UPL species         % x 5 =           Column Totals:         0 % (A)	<u>0</u> (B)
3	0/			Column Totals: <u>0</u> % (A)	<u>0</u> (B)
4.	0/			Prevalence Index = B/A =	
5.				Hudronbutic Verstation Indicators	
6.	0/			Hydrophytic Vegetation Indicators:	
7				☑ 1 Rapid Test for Hydrophytic Vegetati	ion
8.				☐ 2 Dominance Test is >50%	
9	0/			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>	
10	%			☐ 4 Morphological Adaptations <sup>1</sup> (Provide	<b>a</b>
	<u>100 %</u>	= Total Cove	r	supporting data in Remarks or on a separat	e sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup>	(explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydric	drology
2	%			must be present, unless disturbed or pro	blematic
	0 %	= Total Cove	r		
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present? X Yes	s 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. P	hotograph C-7				
	0,				

Depth	Matrix		F	Redox Fea	tures					
(inches)	Color (moist)	% 0	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-6	10YR 3/1	75	5GY 6/1	20	D	М	clay loam			
			5YR 4/6	5	С	PL	clay loam	organic material		
6-20	10YR 2/1		5YR 3/4	5	C		clay			
<sup>1</sup> Type: C=Cc	oncentration, D=Dep	letion, RM=Re	duced Matrix, (	CS=Cover	ed or Coated	d Sand Grains	<sup>2</sup> Location: PL=P	ore Lining, M=Matrix		
Hydric Soil I	ndicators: (Applic	able to all LR	Rs, unless oth	erwise no	oted.)		Indicators for Probl	ematic Hydric Soils <sup>3</sup> :		
Histic Epiq     Black Hist     Hydrogen     Stratified I     1 cm Muc     Depleted     Thick Dar     Sandy Mu     2.5 cm Mu	ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F         5 cm Mucky Peat or Peat (S3) (LRR F)       MLRA 72 & 73 of LRR H				5) eral (F1) rix (F2) 3) ee (F6) face (F7) s (F8) ssions (F16)		Dark Surface (S7) High Plains Depre (LRR H outside Reduced Vertic (F Red Parent Mater Very Shallow Darl Other (Explain in <sup>3</sup> Indicators of hydropl	ox (A16) (LRR F, G, H) ) (LRR G) assions (F16) of MLRA 72 & 73) F18) ial (TF2) k Surface (TF 12) Remarks) hytic vegetation and ust be present, unless		
Restrictive L	_ayer (if present):						Hydric Soil Present	?		
Type: Depth (inches):							🖾 Yes 🔲 No			
IYDROLOG	rdric soil indicators F	6 and F7 are p	resent.							
-	ators (minimum of o	ne required; cl	neck all that ap	ply)			Secondary Indicator	<u>s (2 or more required)</u>		
Surface Water (A1)							Surface Soil Cracks (B6)			

<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial In</li> <li>Water-Stained Leaves (B9)</li> </ul>	nagery (E	37)	<ul> <li>Salt Crust (B11)</li> <li>Aquatic Invertet</li> <li>Hydrogen Sulfic</li> <li>Dry-Season Wa</li> <li>Oxidized Rhizos (where not till</li> <li>Presence of Re</li> <li>Thin Muck Surfa</li> <li>Other (Explain in</li> </ul>	orates (B13) le Odor (C1) iter Table (C2) spheres on Living Roots (C3) <b>lled)</b> duced Iron (C4) ace (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream inspections, etc.), if available:	gauge, monitoring well, aerial photos, previous
Surface Water present?		$\boxtimes$			
Water Table present?		$\boxtimes$			
Saturation Present?		$\boxtimes$			
(includes capillary fringe)					
Wetland Hydrology Present?	$\boxtimes$				
Remarks: Wetland hydrology indi	icators B	4, C9	, D2, and D5 are pro	esent.	

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, I	LLC	State: <u>SD</u> Sampling Point: <u>SP-008</u>
Investigator(s): R. Williams; A. Woehler		Section, Township, Range: <u>S3, T110N, R66W</u>
Landform (hillslope, terrace, etc.) toeslop	e	Local relief (concave, convex, none): <u>none</u> Slope (%): <u>5 %</u>
Subregion (LRR): Northern Great Plains	Spring Wheat Reg	ion Lat: <u>44.355968</u> Long: <u>-98.756745</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Glenham-Java loar	ms, rolling	NWI Classification: NA
Are climate/hydrologic conditions on the site year?	e typical for this time	e of 🛛 Yes 🗌 No 🛛 (If no, explain in Remarks)
Vegetation	Soil Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?INaturally Problematic?I		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site	e map showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No	Remarks: Upland confirmation plot adjacent to PEM W-004.
Is the Sampled Area within a Wetland?		

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover	Species?	Status	Number of Dominant Species that
· · · · · · · · · · · · · · · · · · ·				are OBL, FACW, or FAC
				(excluding FAC-):0 (A)
				Total Number of Dominant
4	<u>%</u>	= Total Cover		Species Across All Strata: 1 (B)
	0 %	= I otal Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: 0% (A/B)
1				
2				Prevalence Index Worksheet:
3.				Total % Cover of: Multiply by:
4 5.				$\frac{1}{\text{OBL species}} \qquad $
5	0 %	= Total Cover		FACW species $\% x 2 = 0$
	0 %			FAC species% x 3 =0
Herb Stratum (Plot size: <u>5'</u> )				FACU species % x 4 = 0
1. <u>Bromus inermis</u>		<u>Y</u>	UPL	UPL species % x 5 = 0
2. <u>Persicaria sp. *</u>		<u>N</u>	FAC	Column Totals: 0 % (A) 0 (B)
3. Bromus arvensis	5 %	N	FACU	Prevalence Index = B/A =
4. <u>Medicago lupulina</u>	2 %	N	FACU	
5	%			Hydrophytic Vegetation Indicators:
6				☐ 1 Rapid Test for Hydrophytic Vegetation
7	0/			
8	0/			☐ 2 Dominance Test is >50%
9	0/			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	97 %	= Total Cover		☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum20 %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. * Persica indicator of FAC or wetter, therefore, an indicator of FAC is a set of the				genus. Most of the species in this region have an

Depth	Matrix							
(inches)	Color (moist)	% Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-12	5YR 2.5/1	80 5YR 4/6	20	C	М	silty clay loam		
				·				
				·				
Гуре: С=С	oncentration, D=Dep	letion, RM=Reduced Matrix	, CS=Cove	red or Coate	d Sand Grains	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
ydric Soil	Indicators: (Application)	able to all LRRs, unless o	therwise n	oted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :	
] Histosol (	(A1)	🗌 Sandy	Gleyed Ma	trix (S4)		🗌 1 cm Muck (A9) ( <b>LRR</b>	l, J)	
] Histic Epi	ipedon (A2)	☐ Sandy	Redox (S5	)		Coast Prairie Redox (A	A16) ( <b>LRR F, G, H</b> )	
Black His	stic (A3)	🗌 Strippe	ed Matrix (S	6)		🗌 Dark Surface (S7) (LF	RR G)	
_ , 0	n Sulfide (A4)		Mucky Min	( )		High Plains Depression		
	Layers (A5) (LRR F)		Gleyed Ma			(LRR H outside of N	ILRA 72 & 73)	
□ 1 cm Muck (A9) (LRR F, G, H)       □ Depleted Matrix (F3)       □ Reduced Vertic (F18)         □ Depleted Below Dark Surface (A11)       ⊠ Redox Dark Surface (F6)       □ Red Parent Material (TF2)								
	rk Surface (A12)		ed Dark Su	( )		☐ Very Shallow Dark Surface (TF 12) ☐ Other (Explain in Remarks)		
- ,	ucky Mineral (S1)		Depression	( )		_ 、 、 ,		
	lucky Peat or Peat (S cky Peat or Peat (S3)		A 72 & 73 c	essions (F16) of LRR H)		<sup>3</sup> Indicators of hydrophytic wetland hydrology must b disturbed or problematic		
estrictive l	Layer (if present):					Hydric Soil Present?		
ype:	compact soil	Depth (inches):	12			🛛 Yes 🗌 No		
.emarks: Hy	ydric soil indicator F6	is met.						
DROLOG	βY							
•	drology Indicators:							
Primary India	<u>cators (minimum of o</u>	ne required; check all that a				Secondary Indicators (2	<u>or more required)</u>	
] Surface V	Vater (A1)	🗌 Salt Crus	t (B11)			Surface Soil Cracks (	B6)	
0	ter Table (A2)	Aquatic Ir		· · ·		Sparsely Vegetated C	,	
] Saturatio		Hydroger				Drainage Patterns (B		
] Water Ma	( )	Dry-Seas		· · ·		Oxidized Rhizosphere	es on Living Roots (0	
	t Deposits (B2)			es on Living	Roots (C3)	(where tilled)		
Drift Dep	( )	_ `	not tilled)	d Iron (C1)		Crayfish Burrows (C8	,	
J Algal Mat	t or Crust (B4)	Presence	or reduced	u iioii (C4)		Saturation Visible on	Aenai imagery (C9)	

Thin Muck Surface (C7)

Depth

(inches)

No

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Yes

Other (Explain in Remarks)

inspections, etc.), if available:

Wetland Hydrology Present?

Remarks: No hydrology indicator is present.

Inundation Visible on Aerial Imagery (B7)

Iron Deposits (B5)

Field Observations:

Saturation Present?

Surface Water present? Water Table present?

(includes capillary fringe)

□ Water-Stained Leaves (B9)

Geomorphic Position (D2)

Frost-Heave Hummocks (D7) (LRR F)

□ FAC-Neutral Test (D5)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LL	_C	State: <u>SD</u> Sampling Point: <u>SP-009</u>
Investigator(s): R. Williams; A. Woehler		Section, Township, Range: <u>S9, T110N, R66W</u>
Landform (hillslope, terrace, etc.) depression	on	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>3 %</u>
Subregion (LRR): Northern Great Plains S	pring Wheat Regi	ion Lat: <u>44.351336</u> Long: <u>-98.775405</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Betts-Java loams, ste	еер	NWI Classification: NA
Are climate/hydrologic conditions on the site ty year?	ypical for this time	e of 🛛 Yes 🗌 No (If no, explain in Remarks)
Vegetation Se	oil Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?   □     Naturally Problematic?   □		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site i	map showing s	ampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No	Remarks: Wetland sample plot located in PEM W-005.
Is the Sampled Area within a Wetland?		

Tree Stratum       (Plot size: <u>30'</u> )         1.		Dominant Species?	Indicator Status	Dominance Test Worksheet:         Number of Dominant Species that         are OBL, FACW, or FAC         (excluding FAC-):         2 (A)
4	<u>%</u> 0 %	 = Total Cove		Total Number of Dominant Species Across All Strata:2 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> ) 1.				Percent of Dominant Species that are OBL, FACW, or FAC:(A/B)
2.	%			Prevalence Index Worksheet:
3				Total % Cover of: Multiply by:
5	%	Tatal O		OBL species         %         x 1 =         0           FACW species         %         x 2 =         0
	0 %	= Total Cove	r	FAC species $\%$ x 3 = $0$
Herb Stratum (Plot size: <u>5'</u> )	E0 0/	V		FACU species% x 4 =
Schoenoplectus fluviatilis     Xanthium strumarium	<u> </u>	<u>Y</u> Y	OBL FAC	UPL species $\%$ x 5 = 0
	<u>     20  %</u> 5  %	<u> </u>	FAC	Column Totals: <u>0</u> % (A) <u>0</u> (B)
<ol> <li><u>Hordeum jubatum</u></li> <li>Rumex crispus</li> </ol>	2 %	<u> </u>	FAC	Prevalence Index = B/A =
5. Ambrosia artemisiifolia		N	FACU	Hydrophytic Vegetation Indicators:
6. Bromus inermis	0.0/	N	UPL	Hydrophytic vegetation indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8.				⊠ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>81 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	<u>%</u>		·	<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum 70 %				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
Remarks: Dominance test is met. Photograph C-9.				

Depth	Matrix		F	Redox Fea					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-20	10YR 2/1	95	10YR 4/4	5	C	M	silty clay loam	gravel	
Гуре: С=Со	ncentration, D=Dep	letion, RM	=Reduced Matrix, (	CS=Cover	ed or Coated	d Sand Grains	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix	
lydric Soil I	ndicators: (Application)	able to all	LRRs, unless oth	erwise no	oted.)		Indicators for Probler	matic Hydric Soils <sup>3</sup> :	
Stratified I 1 cm Mucl Depleted I Thick Darl Sandy Mu 2.5 cm Mu	pedon (A2)	) (A11) 2) ( <b>LRR G</b>		edox (S5) Matrix (S Mucky Min Gleyed Ma d Matrix (F bark Surfac d Dark Sur pepression	6) eral (F1) trix (F2) 3) ce (F6) face (F7) s (F8) ssions (F16)		1 cm Muck (A9) (LF     Coast Prairie Redo:     Dark Surface (S7) (     High Plains Depres     (LRR H outside o     Reduced Vertic (F1     Red Parent Materia     Very Shallow Dark     Other (Explain in Re <sup>3</sup> Indicators of hydrophy wetland hydrology mus disturbed or problemat	(A16) (LRR F, G, H) LRR G) sions (F16) f MLRA 72 & 73) 8) I (TF2) Surface (TF 12) emarks) ttic vegetation and st be present, unless	
Restrictive Layer (if present):							Hydric Soil Present?		
Restrictive L	.ayer (ii present):						Hydric Soll Present?		
Туре:	dric soil indicator F6	_	Depth (inches):				Yes No		
⊺ype: 	dric soil indicator F6	_	· · · <u> </u>				-		
Type: Remarks: Hyr YDROLOG	dric soil indicator F6	_	· · · <u> </u>				-		
Type: Remarks: Hyd YDROLOG Vetland Hyd	dric soil indicator F6	- is presen	i.				-	(2 or more required)	
Type: Remarks: Hyd YDROLOG Wetland Hyd Primary Indic Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundatior	dric soil indicator F6 Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	- is presen	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Odd N Water Ta nizosphere <b>ot tilled)</b> f Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) 27)	Roots (C3)	Yes □ No     Secondary Indicators     Surface Soil Crack     Sparsely Vegetated     Drainage Patterns	s (B6) d Concave Surface (B8 (B10) eres on Living Roots (( C8) on Aerial Imagery (C9) on (D2) D5)	
Type: Remarks: Hyd YDROLOG Wetland Hyd Primary Indic Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundatior	dric soil indicator F6 Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) visits (B3) or Crust (B4) sits (B5) n Visible on Aerial In- ined Leaves (B9)	- is presen	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Odd h Water Ta hizosphere <b>ot tilled)</b> f Reduced Surface (C ain in Ren	or (C1) able (C2) as on Living I Iron (C4) cribe Record	ed Data (strea	Xes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosph         (where tilled)         Crayfish Burrows (         Saturation Visible of         Geomorphic Positio         X FAC-Neutral Test (	s (B6) d Concave Surface (B8 (B10) eres on Living Roots ( C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>	
Type: Remarks: Hyd CONTROLOG Control (Control (Contro) (Control (Contro) (C	dric soil indicator F6 Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) usits (B3) or Crust (B4) sits (B5) n Visible on Aerial In- ined Leaves (B9) /ations:	ne require	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S Other (Expl Depth	B11) ertebrates Sulfide Odd h Water Ta hizosphere <b>ot tilled)</b> f Reduced Surface (C ain in Ren	or (C1) able (C2) as on Living I Iron (C4) cribe Record		Xes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible of Seconorphic Position         Xeconorphic Position         FAC-Neutral Test (         Frost-Heave Humm	s (B6) d Concave Surface (B8 (B10) eres on Living Roots ( C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>	

 $\boxtimes$ 

 $\boxtimes$ 

surface

Saturation Present?

(includes capillary fringe) Wetland Hydrology Present?

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LL	С	State: SD Sampling Point: SP-010
Investigator(s): R. Williams; A. Woehler		Section, Township, Range: <u>S9, T110N, R66W</u>
Landform (hillslope, terrace, etc.) terrace	Local relief (concave, convex, none): Slope (%): %	
Subregion (LRR): Northern Great Plains Sp	oring Wheat Reg	ion Lat: <u>44.351466</u> Long: <u>-98.775470</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Betts-Java loams, ste	ер	NWI Classification: NA
Are climate/hydrologic conditions on the site ty year?	pical for this time	e of 🛛 Yes 🗌 No (If no, explain in Remarks)
Vegetation So	il Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?   Image: Constraint of the second seco		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site n	nap showing s	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present?	/es No □ ⊠ □ ⊠ □ ⊠	Remarks: Upland confirmation plot adjacent to PEM W-005.
Is the Sampled Area within a Wetland?		

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1	-	Species	Status	Number of Dominant Species that
	0/		<u> </u>	are OBL, FACW, or FAC
		·		(excluding FAC-): 0 (A)
3 4.		·		Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata: <u>2</u> (B)
	0 78		I	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: 0% (A/B)
1		·	<u> </u>	
2		·		Prevalence Index Worksheet:
3				Total % Cover of: Multiply by:
5.				OBL species % x 1 = 0
·	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
· -/	50.0/	X	FACU	FACU species% x 4 =0
1. <u>Bromus arvensis</u>		<u>Y</u> Y	FACU	UPL species% x 5 =0
2. <u>Schedonorus arundinaceus</u>	40.0/	<u> </u>	FACU	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. Bromus inermis				Prevalence Index = B/A =
4. <u>Cirsium arvense</u>		<u>N</u>	FACU	
5. <u>Erigeron canadensis</u>			FACU	Hydrophytic Vegetation Indicators:
6. <u>Xanthium strumarium</u> 7		<u>N</u>	FAC_	1 Rapid Test for Hydrophytic Vegetation
8.	0/			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>105 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u> 0 %	= Total Cove	. <u> </u>	must be present, unless disturbed or problematic
	0 %	= I otal Cove	r	
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present?   Yes No
Remarks: Hydrophytic vegetation is not present. Photogra	ph C-10.			

Profile Description: (Describe to t Depth Matrix			edox Features			•)
Depth Matrix (inches) Color (moist)	% Co	lor (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	<u> </u>	ioi (moist)	<u> </u>		silty clay loam	organic material/
					only only four	gravel
					<u></u>	
Type: C=Concentration, D=Depletion				ated Sand Grains		ore Lining, M=Matrix
Hydric Soil Indicators: (Applicable	e to all LRR				Indicators for Proble	•
Histosol (A1)		_ ,	eyed Matrix (S4)		☐ 1 cm Muck (A9) (L	
Histic Epipedon (A2)		Sandy Re				ox (A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)		Stripped			Dark Surface (S7)	. ,
Hydrogen Sulfide (A4)			ucky Mineral (F1)		High Plains Depres	
Stratified Layers (A5) (LRR F)			leyed Matrix (F2)		•	of MLRA 72 & 73)
1 cm Muck (A9) ( <b>LRR F, G, H</b> )		Depleted	· · ·		Reduced Vertic (F	/
Depleted Below Dark Surface (A1	11)		ark Surface (F6)		Red Parent Materi	· /
Thick Dark Surface (A12)			Dark Surface (F7)		Very Shallow Dark	
Sandy Mucky Mineral (S1)			epressions (F8)		Other (Explain in F	,
2.5 cm Mucky Peat or Peat (S2) (	,	-	ns Depressions (F	,	<sup>3</sup> Indicators of hydroph	
☐ 5 cm Mucky Peat or Peat (S3) (Ll	RR F)	(MLRA /	72 & 73 of LRR H)		wetland hydrology mu	
					disturbed or problema	
Restrictive Layer (if present):					Hydric Soil Present?	•
···· ·· · · · · · · · · · · · · · · ·						
Type:		(inches):			🗌 Yes 🖾 No	
Гуре:		(inches):			☐ Yes ⊠ No	
Гуре:		(inches):			☐ Yes ⊠ No	
Type: Remarks: No hydric soil indicator is p		(inches):			☐ Yes ⊠ No	
Type: Remarks: No hydric soil indicator is p YDROLOGY Wetland Hydrology Indicators:	oresent.		<u></u>		Yes No Secondary Indicators	(2 or more required)
Гуре: Remarks: No hydric soil indicator is p	required; che			·		· · · · ·
Type: Remarks: No hydric soil indicator is p YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one p Surface Water (A1)	required; che	eck all that app ] Salt Crust (E	311)	·	Secondary Indicators	· · · · ·
Type: Remarks: No hydric soil indicator is p YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one i Surface Water (A1) High Water Table (A2)	required; che	eck all that app ] Salt Crust (E ] Aquatic Inve			Secondary Indicators	ks (B6) ed Concave Surface (B8)
Type: Remarks: No hydric soil indicator is p YDROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of one p Surface Water (A1) High Water Table (A2) Saturation (A3)	required; che	eck all that app ] Salt Crust (E ] Aquatic Inve ] Hydrogen St	311) ertebrates (B13)		Secondary Indicators	ks (B6) ed Concave Surface (B8)
Type:	required; che	eck all that app ] Salt Crust (E ] Aquatic Inve ] Hydrogen Si ] Dry-Season	311) ertebrates (B13) ulfide Odor (C1)	ng Roots (C3)	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi (where tilled)	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3
Type:	required; che	eck all that app ] Salt Crust (E ] Aquatic Inve ] Hydrogen Si ] Dry-Season ] Oxidized Rh (where no	ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled)	<b>o</b> ( )	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows	ks (B6) ed Concave Surface (B8) 5 (B10) heres on Living Roots (C3 (C8)
Type:	required; cha	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of	Partebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4	<b>o</b> ( )	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible	ks (B6) ed Concave Surface (B8) 5 (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9)
Type:	required; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S	Partebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi <b>ot tilled)</b> Reduced Iron (C4 Gurface (C7)	<b>o</b> ( )	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit	ks (B6) ed Concave Surface (B8) e (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2)
Type: Remarks: No hydric soil indicator is p YDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one i	required; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S	Partebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4	<b>o</b> ( )	Secondary Indicators Surface Soil Crace Sparsely Vegetate Drainage Patterns Oxidized Rhizospi (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test	ks (B6) ed Concave Surface (B8) e (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5)
Type:	required; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S	Partebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi <b>ot tilled)</b> Reduced Iron (C4 Gurface (C7)	<b>o</b> ( )	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizospi (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit	ks (B6) ed Concave Surface (B8) e (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5)
Type:	required; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) Prtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4 Burface (C7) ain in Remarks) Describe Rec	)	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	ks (B6) ed Concave Surface (B8) 6 (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type:	required; cha crequired; cha c c c c c c c c c c c c c c c c c c	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	B11) Prtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4 Burface (C7) ain in Remarks) Describe Rec	) orded Data (strea	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	ks (B6) ed Concave Surface (B8) e (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5)
Type:	ery (B7)	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	B11) Prtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4 Burface (C7) ain in Remarks) Describe Rec	) orded Data (strea	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	ks (B6) ed Concave Surface (B8) 6 (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type:	ery (B7)	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	B11) Prtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4 Burface (C7) ain in Remarks) Describe Rec	) orded Data (strea	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	ks (B6) ed Concave Surface (B8) 6 (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type:	ery (B7)	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	B11) Prtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4 Burface (C7) ain in Remarks) Describe Rec	) orded Data (strea	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	ks (B6) ed Concave Surface (B8) 5 (B10) heres on Living Roots (C3 (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type:	ery (B7)	eck all that app Salt Crust (E Aquatic Inve Hydrogen Si Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	B11) Prtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Livi ot tilled) Reduced Iron (C4 Burface (C7) ain in Remarks) Describe Rec	) orded Data (strea	Secondary Indicators Surface Soil Crac Sparsely Vegetate Drainage Patterns Oxidized Rhizosp (where tilled) Crayfish Burrows Saturation Visible Geomorphic Posit FAC-Neutral Test Frost-Heave Hum	ks (B6) ed Concave Surface (B8) 6 (B10) heres on Living Roots (C (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Project		City/County: Hand County Sampling Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC	;	State: <u>SD</u> Sampling Point: <u>SP-011</u>
Investigator(s): R. Williams; A. Woehler		Section, Township, Range: _ S9, T110N, R66W
Landform (hillslope, terrace, etc.) depression	<u> </u>	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>2 %</u>
Subregion (LRR): Northern Great Plains Spr	ing Wheat Regior	nLat:44.350397Long:98.770315Datum:NAD83
Soil Map Unit Name: <u>Tetonka silt loam, 0 to</u>	1 percent slopes	NWI Classification: PEM1C
Are climate/hydrologic conditions on the site typ year?	ical for this time o	of 🛛 Yes 🗌 No (If no, explain in Remarks)
Vegetation Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?		(If we added, something and successive in Descender)
Naturally Problematic?		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site ma	ap showing sa	mpling point locations, transects, important features, etc.
Ye	es No R	Remarks: Upland confirmation plot.
Hydrophytic Vegetation Present?		
Hydric Soil Present?		
Wetland Hydrology Present?		
Is the Sampled Area within a Wetland?		

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that
1		<u> </u>		are OBL, FACW, or FAC
2				(excluding FAC-): 0 (A)
3				Total Number of Dominant
4	%	<u> </u>		Species Across All Strata: 1 (B)
	0 %	= Total Cove	er	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			
2.				Prevalence Index Worksheet:
3.				Prevalence index worksheet:
4.				Total % Cover of: Multiply by:
5.				OBL species% x 1 =0
	0 %	= Total Cove	er	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
	<b>CO N</b> /	V	FACU	FACU species% x 4 =
1. Bromus arvensis		<u>Y</u>	FACU	UPL species% x 5 =0_
2. <u>Xanthium strumarium</u>		<u> </u>	FAC	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. <u>Eleocharis compressa</u>		<u>N</u>	FACW	Prevalence Index = B/A =
4		<u> </u>		
5				Hydrophytic Vegetation Indicators:
6 7	0/			☐ 1 Rapid Test for Hydrophytic Vegetation
8.				☐ 2 Dominance Test is >50%
9.				 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10.				
	70 %	= Total Cove	er	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> ) 1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1 2.	<u>%</u>	·		<sup>1</sup> Indicators of hydric soil and wetland hydrology
Z	0 %	= Total Cove		must be present, unless disturbed or problematic
			71	
Bare Ground in Herb Stratum <u>60</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-11.			

Brofile Descriptions (Description	aa ta tha da	nth needed t	doouma	nt the indicator o	r confirm the	abaanaa of indicatora )	
Profile Description: (Describ		pth needed t			r confirm the	absence of indicators.)	
Depth Matrix				ox Features		_	
(inches) Color (moist)	%	Color (mo	· · · ·	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u> </u>	95	10YR 3/	3	5 C	M	clay	
· · ·							
· · · · · · · _ /							
·							
· · · · · · · _ · _ · _ · _ ·							
1 <u>7</u> 0 0 1 1 0 0						21 11 01 0	
<sup>1</sup> Type: C=Concentration, D=D	epletion, RI	/I=Reduced IVI	atrix, CS=	Covered or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil Indicators: (App	licable to a	ll LRRs, unle	ss otherw	vise noted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sa	ndy Gleve	ed Matrix (S4)		🗌 1 cm Muck (A9) ( <b>LR</b>	R I, J)
☐ Histic Epipedon (A2)			ndy Redo			Coast Prairie Redox	
☐ Black Histic (A3)			ipped Ma	. ,		Dark Surface (S7) ( <b>I</b>	
☐ Hydrogen Sulfide (A4)				(V Mineral (F1)		High Plains Depress	,
Stratified Layers (A5) (LRR	<b>F</b> )			ed Matrix (F2)		(ĽRR H outside of	
1 cm Muck (A9) (LRR F, G,	,		pleted Ma			Reduced Vertic (F18	3)
Depleted Below Dark Surfa	-		•	Surface (F6)		Red Parent Material	(TF2)
☐ Thick Dark Surface (A12)	( )			rk Surface (F7)		Very Shallow Dark S	Surface (TF 12)
Sandy Mucky Mineral (S1)			•	essions (F8)		Other (Explain in Re	marks)
2.5 cm Mucky Peat or Peat	(S2) ( <b>LRR</b>		•	Depressions (F16)		<sup>3</sup> Indicators of hydrophyt	ic vegetation and
5 cm Mucky Peat or Peat (S	. , .	• • • =		& 73 of LRR H)		wetland hydrology must	be present, unless
						disturbed or problemation	0
Restrictive Layer (if present)	:					Hydric Soil Present?	
Туре:		Depth (inches	s):			🖾 Yes 🔲 No	
Remarks: Hydric soil indicator	F6 is preser	nt.					
HYDROLOGY							
Wetland Hydrology Indicator	rs:						
Primary Indicators (minimum o		ad: chack all t	nat annly)			Secondary Indicators (	2 or more required)
							· · ·
Surface Water (A1)			rust (B11			Surface Soil Cracks	( )
High Water Table (A2)				brates (B13)			Concave Surface (B8)
Saturation (A3)			0	de Odor (C1)		Drainage Patterns (	
Water Marks (B1)		•		ater Table (C2)		UXIDIZED Rhizosphe	eres on Living Roots (C3)
Sediment Deposits (B2)			ere not ti	spheres on Living F	Roots (C3)	Crayfish Burrows (C	201
Drift Deposits (B3)				•		Saturation Visible o	
Algal Mat or Crust (B4)			Muck Surf	duced Iron (C4)		Geomorphic Positio	••••
☐ Iron Deposits (B5)				in Remarks)		FAC-Neutral Test (I	
Inundation Visible on Aerial			(Lynaii)	n nemario)		Frost-Heave Humm	,
Water-Stained Leaves (B9)							
Field Observations:		De			(	m gauge, monitoring well,	aerial photos, previous
	Yes	No (incl	ies)	inspections, etc.)	if available:		
Surface Water present?		$\boxtimes$					
Water Table present?							
Saturation Present?							
(includes capillary fringe)	_						
Wetland Hydrology Present?	?	$\boxtimes$					

Remarks: Wetland hydrology indicator D2 is present.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-501
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T111N, R66W
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	54069 Long:	-98.813009 Datum: NAD83
Soil Map Unit Name:Betts-Java loams, steep		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the symbol       Image: Comparison of the symbol       R         Hydric Soil Present?       Image: Comparison of the symbol       Image: Comparison of the symbol       Image: Comparison of the symbol       R         Wetland Hydrology Present?       Image: Comparison of the symbol       R         Is the Sampled Area within a Wetland?       Image: Comparison of the symbol       R	emarks: Upland	sample plot.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.	0/			(excluding FAC-): 0 (A)
4.				Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	0/			OBL species % x 1 = 0
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Poa pratensis</u>	100 %	Y	FACU	FACU species% x 4 =
2	0/	<u> </u>		UPL species% x 5 =0
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4.				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	%			
7	%			1 Rapid Test for Hydrophytic Vegetation
8				□ 2 Dominance Test is >50%
9		. <u> </u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10		= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide
Marchelling Oberture (Distributed 201)	<u>100 %</u>	= Total Cove	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	0/			<sup>1</sup> Indicators of hydric soil and wetland hydrology
L	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photog	raph C-13.			

Depth	Matrix			Redox Featu				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 3/3	100					Silt Loam	
Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix,	CS=Covered	d or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore L	ining, M=Matrix
Hydric Soil I	ndicators: (Applic	able to all	LRRs, unless ot	herwise not	ed.)		Indicators for Problemat	tic Hydric Soils <sup>3</sup> :
Histosol (/	A1)		🗌 Sandy (	Gleyed Matrix	x (S4)		☐ 1 cm Muck (A9) ( <b>LRR</b>	I, J)
🗌 Histic Epi	pedon (A2)		🗌 Sandy F	Redox (S5)			🗌 Coast Prairie Redox (A	A16) ( <b>LRR F, G, H</b> )
Black Hist	tic (A3)		Stripped	d Matrix (S6)			Dark Surface (S7) (LR	<b>R G</b> )
] Hydrogen	Sulfide (A4)		🗌 Loamy I	Mucky Miner	al (F1)		High Plains Depression	
Stratified	Layers (A5) (LRR F)	)	Loamy	Gleyed Matri	x (F2)		(LRR H outside of M	LRA 72 & 73)
🗌 1 cm Muc	k (A9) ( <b>LRR F, G, H</b>	)	Deplete	d Matrix (F3)	)		Reduced Vertic (F18)	
Depleted	Below Dark Surface	(A11)	🗌 Redox [	Dark Surface	e (F6)		Red Parent Material (T	,
	k Surface (A12)			d Dark Surfa	. ,		Very Shallow Dark Sur	( )
	ıcky Mineral (S1)			Depressions	. ,		Other (Explain in Rema	arks)
	ucky Peat or Peat (S ky Peat or Peat (S3)	, (	. , _ 0	ains Depress 72 & 73 of I			<sup>3</sup> Indicators of hydrophytic wetland hydrology must b disturbed or problematic	
Restrictive L	.ayer (if present):						Hydric Soil Present?	
Type: Remarks: No	hydric soil indicator		Depth (inches):				☐ Yes ⊠ No	
	hydric soil indicator						-	
Remarks: No	·						-	
Remarks: No	·	is present					-	
Remarks: No YDROLOG Wetland Hyc	Y	is present	· · · · · · ·				-	or more required)
Remarks: No YDROLOG Wetland Hyd Primary Indic	Y drology Indicators: ators (minimum of o	is present	d; check all that ap	oply)			☐ Yes ⊠ No	
Remarks: No YDROLOG Wetland Hyd Drimary Indic	Y trology Indicators: ators (minimum of o Vater (A1)	is present	· · · · · · ·	<u>oply)</u> (B11)			Yes No	36)
Remarks: No         YDROLOG         Wetland Hyc         Primary Indic         Surface W         High Wate	Y drology Indicators: ators (minimum of o Vater (A1) er Table (A2)	is present	d <u>; check all that ar</u> □ Salt Crust	oply) (B11) rertebrates (I	 B13)		Yes ⊠ No     Secondary Indicators (2 c     Surface Soil Cracks (E	36) concave Surface (B8)
Remarks: No         YDROLOG         Vetland Hyc         Primary Indic         Surface W         High Wate         Saturation	Y trology Indicators: tators (minimum of o vater (A1) er Table (A2) h (A3)	is present	d; check all that ar □ Salt Crust □ Aquatic Inv	oply) (B11) vertebrates (I Sulfide Odor	B13) (C1)		Yes ⊠ No     Secondary Indicators (2 of     Surface Soil Cracks (E     Sparsely Vegetated C	36) concave Surface (B8) 10)
Remarks: No YDROLOG Vetland Hyc Crimary Indic Surface W High Wate Saturation Water Ma	Y trology Indicators: tators (minimum of o vater (A1) er Table (A2) h (A3)	is present	d; check all that and Salt Crust Aquatic Inv Hydrogen S Dry-Seaso	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres	B13) (C1) le (C2)	Roots (C3)	Yes ⊠ No     Secondary Indicators (2 o     Surface Soil Cracks (E     Sparsely Vegetated C     Drainage Patterns (B1     Oxidized Rhizosphere     (where tilled)	36) concave Surface (B8 10) s on Living Roots (C
Remarks: No YDROLOG Wetland Hyc Crimary Indic Surface W High Wate Saturatior Water Ma Sediment	Y trology Indicators: sators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)	is present	d; check all that an Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>tot tilled)</b>	B13) (C1) le (C2) on Living	Roots (C3)	Yes ⊠ No     Secondary Indicators (2 o     Surface Soil Cracks (E     Sparsely Vegetated C     Drainage Patterns (B1     Oxidized Rhizosphere     (where tilled)     Crayfish Burrows (C8)	36) concave Surface (B8) 10) ss on Living Roots (C )
Remarks: No         YDROLOG         Wetland Hyc         Primary Indic         Surface W         High Wate         Saturation         Water Ma         Sediment         Drift Depc         Algal Mat	Y drology Indicators: eators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	is present	d; check all that and Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres tot tilled) of Reduced I	B13) (C1) le (C2) on Living I ron (C4)	Roots (C3)	Yes       No         Secondary Indicators (2 of Surface Soil Cracks (E) Sparsely Vegetated C         Drainage Patterns (B1         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on A	36) concave Surface (B8) 10) ss on Living Roots (C ) Aerial Imagery (C9)
Remarks: No         YDROLOG         Wetland Hyce         Primary Indic         Surface W         High Wate         Saturation         Water Ma         Sediment         Drift Depc         Algal Mat         Iron Depo	Y trology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) isits (B5)	ne require	d; check all that and Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence c Thin Muck	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>not tilled)</b> of Reduced In Surface (C7	B13) (C1) le (C2) on Living ron (C4) )	Roots (C3)	☐ Yes       No         Secondary Indicators (2 of G Surface Soil Cracks (E G Sparsely Vegetated C G Drainage Patterns (B1 G Oxidized Rhizosphere (where tilled)         ☐ Crayfish Burrows (C8)         ☐ Saturation Visible on A G Geomorphic Position	36) concave Surface (B8) 10) ss on Living Roots (C ) Aerial Imagery (C9) (D2)
Remarks: No         YDROLOG         Wetland Hyce         Primary Indic         Surface W         High Wate         Saturation         Water Ma         Sediment         Drift Depc         Algal Mat         Iron Depo         Inundation	Y trology Indicators: <u>sators (minimum of o</u> Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In	ne require	d; check all that and Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence c Thin Muck	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>not tilled)</b> of Reduced In Surface (C7	B13) (C1) le (C2) on Living ron (C4) )	Roots (C3)	Yes       No         Secondary Indicators (2 c)         Surface Soil Cracks (E)         Sparsely Vegetated C)         Drainage Patterns (B1)         Oxidized Rhizosphere         (where tilled)         Crayfish Burrows (C8)         Saturation Visible on A         Geomorphic Position (         FAC-Neutral Test (D5)	36) concave Surface (B8) 10) es on Living Roots (C ) Aerial Imagery (C9) (D2) )
Remarks: No         YDROLOG         Wetland Hyce         Primary Indic         Surface W         High Wate         Saturation         Water Ma         Sediment         Drift Depc         Algal Mat         Iron Depo         Inundation	Y trology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) isits (B5)	ne require	d; check all that and Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence c Thin Muck	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>not tilled)</b> of Reduced In Surface (C7	B13) (C1) le (C2) on Living ron (C4) )	Roots (C3)	☐ Yes       No         Secondary Indicators (2 of G Surface Soil Cracks (E G Sparsely Vegetated C G Drainage Patterns (B1 G Oxidized Rhizosphere (where tilled)         ☐ Crayfish Burrows (C8)         ☐ Saturation Visible on A G Geomorphic Position	36) concave Surface (B8) 10) es on Living Roots (C ) Aerial Imagery (C9) (D2) )
Remarks: No         YDROLOG         YUROLOG         Wetland Hyc         Primary Indic         Saturation         High Wate         Saturation         Water Ma         Sediment         Drift Depc         Algal Mat         Iron Depo         Inundation         Water-Sta	Y drology Indicators: mators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5) n Visible on Aerial In ained Leaves (B9)	nagery (B7	d; check all that and Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence c Thin Muck	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>not tilled)</b> of Reduced I Surface (C7 lain in Rema	B13) (C1) le (C2) on Living I ron (C4) ) irks)	ed Data (strea	Yes       No         Secondary Indicators (2 c)         Surface Soil Cracks (E)         Sparsely Vegetated C)         Drainage Patterns (B1)         Oxidized Rhizosphere         (where tilled)         Crayfish Burrows (C8)         Saturation Visible on A         Geomorphic Position (         FAC-Neutral Test (D5)	36) concave Surface (B8) 10) ss on Living Roots (C ) Aerial Imagery (C9) (D2) ) cks (D7) <b>(LRR F)</b>
Remarks: No         YDROLOG         Wetland Hyc         Primary Indic         Surface W         High Wate         Saturation         Water Ma         Sediment         Drift Depc         Algal Mat         Iron Depo         Inundation         Water-Sta         Field Observity	Y drology Indicators: eators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5) n Visible on Aerial In ained Leaves (B9) vations:	nagery (B7	d; check all that ar Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence c Thin Muck ) Other (Exp Depth No (inches)	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>not tilled)</b> of Reduced I Surface (C7 lain in Rema	B13) (C1) le (C2) on Living I ron (C4) ) irks)		Yes       No         Secondary Indicators (2 of Surface Soil Cracks (E) Sparsely Vegetated C         Drainage Patterns (B1         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on A         Geomorphic Position         FAC-Neutral Test (D5         Frost-Heave Hummod	36) concave Surface (B8) 10) ss on Living Roots (C ) Aerial Imagery (C9) (D2) ) cks (D7) <b>(LRR F)</b>
Remarks: No <b>YDROLOG Wetland Hyc</b> Primary Indic         Surface W         High Wate         Saturatior         Water Ma         Sediment         Drift Depc         Algal Mat         Iron Depo         Inundation	Y trology Indicators: ators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present?	nagery (B7	d; check all that ar Salt Crust Aquatic Inv Hydrogen S Dry-Seaso Oxidized R (where r Presence c Thin Muck ) Other (Exp	oply) (B11) vertebrates (I Sulfide Odor n Water Tab hizospheres <b>not tilled)</b> of Reduced I Surface (C7 lain in Rema	B13) (C1) le (C2) on Living I ron (C4) ) irks)	ed Data (strea	Yes       No         Secondary Indicators (2 of Surface Soil Cracks (E) Sparsely Vegetated C         Drainage Patterns (B1         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on A         Geomorphic Position         FAC-Neutral Test (D5         Frost-Heave Hummod	36) concave Surface (B8 10) ss on Living Roots (C ) Aerial Imagery (C9) (D2) ) cks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicator D2 is present.

 $\boxtimes$ 

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-502
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T111N, 66W
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	54681 Long:	-98.820307 Datum: NAD83
Soil Map Unit Name:Betts-Java loams, steep		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland	sample plot.	

Tree Stratum       (Plot size: $\underline{30}$ )       % Cover       Species?       Status       Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-); $\underline{0}$ (A)         3. $\underline{-96}$ $\underline{-96}$ $\underline{-96}$ $\underline{-1}$ (B)         Sapling/Shrub Stratum       (Plot size: $\underline{15}$ ) $\underline{-96}$ $\underline{-1}$ (B)         1. $\underline{-96}$ $\underline{-96}$ $\underline{-1}$ (B)         Sapling/Shrub Stratum       (Plot size: $\underline{15}$ ) $\underline{-96}$ $\underline{-1}$ (B)         1. $\underline{-96}$ $\underline{-96}$ $\underline{-1}$ (B)         2. $\underline{-96}$ $\underline{-96}$ $\underline{-1}$ (B)         3. $\underline{-96}$ $\underline{-96}$ $\underline{-1}$ (B)         4. $\underline{-96}$ $\underline{-96}$ $\underline{-1}$ (B)         5. $\underline{-96}$ $\underline{-96}$ $\underline{-160}$ 6. $\underline{-96}$ $\underline{-96}$ $\underline{-10}$ (A)         7. $\underline{-96}$ $\underline{-96}$ $\underline{-96}$ $\underline{-10}$ (B)         8. $\underline{-96}$ $\underline{-96}$ $\underline{-96}$ $\underline{-96}$ $\underline{-96}$ 3. $\underline{-96}$ $\underline{-96}$ $\underline{-96}$ $\underline{-10}$ (B) $\underline{-96}$ $\underline{-10}$ (B)         4. $\underline{-96}$ $\underline{-96}$	The other time (Dist size: 20')	Absolute	Dominant	Indicator	Dominance Test Worksheet:
2.			Species?	Status	Number of Dominant Species that
3.	-				
4.		0/			$(excluding FAC-). \qquad \underline{0}(A)$
0 %       = Total Cover       Species Adds All statal.					
Sapling/Shrub Stratum       (Plot size: <u>15'</u> )       Percent of Dominant Species that are OBL, FACW, or FAC:	···		= Total Cove	r	Species Across All Strata: <u>1</u> (B)
1.	Sanling/Shrub Stratum (Plot size: 15')				
2.       96       96         3.       96       96         4.       96       96         5.       96       96         1.       90       96       96         1.       90       96       96         2.       96       96       96         3.       96       96       96         1.       Poa pratensis       10 %       Y       FACU species       96       96         3.       96       97       96       97       96       97       96       97       96       97       96       97       96       97       97       96       97       97       96       97       97       96       97       97       96       97       97       97       97       97       97<		%			are OBL, FACW, or FAC: 0% (A/B)
3.					
4. $\frac{1}{96}$ $\frac{1}{10}$ $\frac{1}{96}$ $\frac{1}{10}$ $\frac{1}{96}$ $\frac{1}{96}$ $\frac{1}{10}$ $\frac{1}{96}$					Prevalence Index Worksheet:
5.					Total % Cover of: Multiply by:
Image: Description of the stratum(Plot size: $5'$ )Image: Description of the stratumImage: Description of the stratum <thimage: description="" of="" stra<="" td="" the=""><td>r -</td><td>0/</td><td></td><td></td><td>OBL species % x 1 = 0</td></thimage:>	r -	0/			OBL species % x 1 = 0
Herb Stratum       (Plot size: 5')         1.       Poa pratensis         2.       %         3.       %         4.       %         5.       %         6.       %         7.       %         8.       %         9.       %         10.       %         %       %         10.       %         %       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.       %         11.       %         12.       %         13.       %         14.       %         15.       %         16.       %         10.       %         10.       %         10.       %         10.       %         10.       %         10.			= Total Cove		
1.       Poa pratensis       10 %       Y       FACU       FACU species       % x4 = 0         2.       %       %       9       0%       x5 = 0       0         3.       %       9%       9%       10 %       Y       FACU       FACU species       % x5 = 0       0         6.       %       %       9%       9%       10 %       9%       9%       10 %       9%       10 %       <	Herb Stratum (Plot size: 5')				
2.	(/	10 %	Y	FACU	
3.			<u> </u>		· · <u> </u>
4.       %       Prevalence Index = B/A =         5.       %       Hydrophytic Vegetation Indicators:         6.       %       1 Rapid Test for Hydrophytic Vegetation         7.       %       2 Dominance Test is >50%         9.       %       3 Prevalence Index is ≤3.01         10.       %       3 Prevalence Index is ≤3.01         10.       %       10 %         2.       %       Problematic Hydrophytic Vegetation1 (explain)         1.       %       Problematic Hydrophytic Vegetation1 (explain)         2.       %       Hydrophytic Vegetation Present? [] Yes [] No					Column Totals: <u>0</u> % (A) <u>0</u> (B)
5.	•				Prevalence Index = B/A =
6.       %	5				Hydrophytic Vegetation Indicators:
7.	6	%			
9.					1 Rapid Test for Hydrophytic Vegetation
10.       %	8				☐ 2 Dominance Test is >50%
10 %       = Total Cover       4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)         1.       %       Problematic Hydrophytic Vegetation <sup>1</sup> (explain)         2.       %       1         8are Ground in Herb Stratum       90 %					☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
Woody Vine Stratum       (Plot size: 30')         1.	10				4 Morphological Adaptations <sup>1</sup> (Provide
1.       %       Problematic Hydrophytic Vegetation <sup>1</sup> (explain)         2.       %       Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum       90 %       Hydrophytic Vegetation Present?       Yes       No		10 %	= Total Cove	r	
2.       %       1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum _90 %       90 %       Hydrophytic Vegetation Present? □ Yes ⊠ No	,	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
0 %       = Total Cover       must be present, unless disturbed or problematic         Bare Ground in Herb Stratum       90 %       Hydrophytic Vegetation Present? □ Yes ⊠ No					<sup>1</sup> Indicators of bydric soil and wetland bydrology
Bare Ground in Herb Stratum <u>90</u> %	£		= Total Cove	r	must be present, unless disturbed or problematic
Remarks: Hydrophytic vegetation is not present. Photograph C-14.	Bare Ground in Herb Stratum <u>90</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
	Remarks: Hydrophytic vegetation is not present. Photogra	ph C-14.			

Profile Description: (Describe						absence of indicators.)	
Depth Matrix (inches) Color (moist)	0/		Redox Fea		1 2	Taxtume	Damarka
(Inches) Color (moist) 0-8 10YR 3/2	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Silt Loam	Remarks
8-18 10YR 3/2	90	10YR 4/4	10	C		Silt Loam	
0-10 1011(3/2		1011(4/4				Ont Loann	
1Tumer 0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-						21 continue DI - Dev	- Lining M-Matuic
<sup>1</sup> Type: C=Concentration, D=De	•				d Sand Grains	<sup>2</sup> Location: PL=Por	0
Hydric Soil Indicators: (Appli	cable to all					Indicators for Probler	-
Histosol (A1)		☐ Sandy G	-			☐ 1 cm Muck (A9) ( <b>LF</b>	
Histic Epipedon (A2)		Sandy R				Coast Prairie Redo	
Black Histic (A3)		Stripped		,		Dark Surface (S7) (	,
Hydrogen Sulfide (A4)	=)	Loamy N	-			High Plains Depress (LRR H outside of	
<ul> <li>☐ Stratified Layers (A5) (LRR I</li> <li>☐ 1 cm Muck (A9) (LRR F, G, I</li> </ul>		☐ Loamy G ☐ Depleted	-			Reduced Vertic (F1	•
Depleted Below Dark Surfac		Redox D		,		Red Parent Materia	,
Thick Dark Surface (A12)	- ( )			· · /		Uery Shallow Dark	· · ·
Sandy Mucky Mineral (S1)		Redox D		. ,		Other (Explain in Re	emarks)
2.5 cm Mucky Peat or Peat (	S2) ( <b>LRR G</b>	i, H) 🗌 High Pla	ins Depre	ssions (F16)	)	<sup>3</sup> Indicators of hydrophy	tic vegetation and
5 cm Mucky Peat or Peat (S	3) ( <b>LRR F</b> )	(MLRA	72 & 73 o	f LRR H)		wetland hydrology mus	t be present, unless
						disturbed or problemati	С
Restrictive Layer (if present):						Hydric Soil Present?	
······································						Hyunc Son Fresent?	
Type:		Depth (inches):				Yes No	
Туре:		Depth (inches):		<u></u>		-	
Type: Remarks: Hydric soil indicator F		Depth (inches):				-	
Type: Remarks: Hydric soil indicator F	6 is met.	Depth (inches):				-	
Type: Remarks: Hydric soil indicator F YDROLOGY Wetland Hydrology Indicators	6 is met.					-	2 or more required)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of	6 is met.	d; check all that ap	<u>ply)</u>			Yes No	
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1)	6 is met.	d; check all that ap □ Salt Crust (I	<u>ply)</u> B11)			Yes No Secondary Indicators (	s (B6)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of	6 is met.	d; check all that ap	<u>ply)</u> B11) ertebrates	- (B13)		Yes No Secondary Indicators (	s (B6) I Concave Surface (B8)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)	6 is met.	d; check all that ap □ Salt Crust ( □ Aquatic Invo	<u>ply)</u> B11) ertebrates	- (B13) or (C1)		Yes No Secondary Indicators ( Surface Soil Cracke Sparsely Vegetated Drainage Patterns	s (B6) I Concave Surface (B8) (B10)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	6 is met.	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rł	<u>ply)</u> B11) ertebrates sulfide Ode Water Ta nizosphere	(B13) or (C1) able (C2)	Roots (C3)	Yes No Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns Oxidized Rhizospho (where tilled)	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	6 is met.	d; check all that ap Salt Crust ( Aquatic Inve Hydrogen S Dry-Seasor Oxidized Rf (where n	<u>ply)</u> B11) ertebrates sulfide Ode Water Ta nizosphere ot tilled)	(B13) or (C1) able (C2) es on Living	Roots (C3)	Yes □ No     Secondary Indicators (     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns     Oxidized Rhizospho (where tilled)     Crayfish Burrows (0)	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	6 is met.	d; check all that ap Salt Crust ( Aquatic Inve Hydrogen S Dry-Seasor Oxidized Rł (where n Presence o	<u>ply)</u> B11) ertebrates sulfide Odd Water Ta nizosphere ot tilled) f Reduced	(B13) or (C1) able (C2) es on Living I Iron (C4)	Roots (C3)	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) n Aerial Imagery (C9)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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)	6 is met.	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rh (where n Presence o Thin Muck S	<u>ply)</u> B11) ertebrates sulfide Odd i Water Ta nizosphere ot tilled) f Reduced Surface (C	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Xeomorphic Position	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2)
Type: Remarks: Hydric soil indicator F IYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 I	6 is met.	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rh (where n Presence o Thin Muck S	<u>ply)</u> B11) ertebrates sulfide Odd i Water Ta nizosphere ot tilled) f Reduced Surface (C	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5)
Type: Remarks: Hydric soil indicator F Wetland Hydrology Indicators Primary Indicators (minimum of 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)	6 is met.	d; check all that ap Salt Crust (i Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rh (where n Presence o Thin Muck S Other (Expl	<u>ply)</u> B11) ertebrates sulfide Odd i Water Ta nizosphere ot tilled) f Reduced Surface (C	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Xeomorphic Position	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5)
Type: Remarks: Hydric soil indicator F <b>IYDROLOGY</b> Wetland Hydrology Indicators Primary Indicators (minimum of 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 I Water-Stained Leaves (B9)	6 is met.	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rh (where n Presence o Thin Muck S	ply) B11) ertebrates sulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicator F <b>IYDROLOGY</b> Wetland Hydrology Indicators Primary Indicators (minimum of 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 I Water-Stained Leaves (B9) Field Observations:	6 is met. 6 is met. : one require magery (B7 Yes	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rł (where no Presence o Thin Muck S Other (Expl Depth No (inches)	ply) B11) ertebrates sulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicator F <b>IYDROLOGY</b> Wetland Hydrology Indicators Primary Indicators (minimum of 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 I Water-Stained Leaves (B9) Field Observations: Surface Water present?	6 is met.	d; check all that ap ☐ Salt Crust (I ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized Rł (where na ☐ Presence o ☐ Thin Muck S ☐ Other (Expl Depth No (inches) ☑	ply) B11) ertebrates sulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicator F <b>IYDROLOGY</b> Wetland Hydrology Indicators Primary Indicators (minimum of 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 I Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present?	6 is met.	d; check all that ap Salt Crust (I Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rt (where no Presence o Thin Muck S Other (Expl Depth No (inches)	ply) B11) ertebrates sulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Type:	6 is met.	d; check all that ap ☐ Salt Crust (I ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized Rł (where na ☐ Presence o ☐ Thin Muck S ☐ Other (Expl Depth No (inches) ☑	ply) B11) ertebrates sulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Type:	6 is met. 6 is met. : one require magery (B7	d; check all that ap Salt Crust (I Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rt (where no Presence o Thin Muck S Other (Expl Depth No (inches)	ply) B11) ertebrates sulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Xes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County: Hand Co	unty	Sampling	Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sam	pling Point: <u>SP-503</u>
Investigator(s):T. Beemer, W. Hirst	Section, Townsh	nip, Range:	S1, T111N, R67V	V
Landform (hillslope, terrace, etc.) swale	Local relief (concave, con	vex, none):	concave	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: <u>44.452187</u>	Long:	-98.827746	Datum: NAD83
Soil Map Unit Name:Betts-Java loams, steep		N	IWI Classification:	R4SBC
Are climate/hydrologic conditions on the site typical for this time of y	vear? 🛛 Yes 🗌 No	o (lf no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circ (If needed, expla pling point locations, f	in any answ	ers in Remarks.)	_
YesNoReHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Sample plot locate	d in PEM W	-501.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
			<u> </u>	are OBL, FACW, or FAC
				(excluding FAC-): (A)
3				Total Number of Dominant
4			<u> </u>	Species Across All Strata: (B)
	0 %	= Total Cover	ſ	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: (A/B)
1				
2				Prevalence Index Worksheet:
3				Tatal % Cause of Multiply by
4				Total % Cover of: Multiply by:
5				OBL species $\%$ x 1 = 0
	0 %	= Total Cover	r	FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0 FACU species $\%$ x 4 = 0
1. <u>Spartina pectinata</u>	90 %	<u> </u>	FACW	
2. <u>Carex sp.*</u>	<u>    10  %</u>	<u>N</u>	FAC	
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				Hydrophytic vegetation indicators.
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8	0/			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cover	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover	ſ	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. * Ca	arex species	could not be id	entified pa	st genus. Most Carex species in this region are
Facultative or wetter, therefore, an indicator of FAC is assu				

SOIL

Depth	Matrix	Redox	Features			
(inches)		6 Color (moist) 9	5 Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remar	rks
0-18	10YR 3/1 10	00			Silty Clay	
			,	·		
				·		
				<u> </u>		
ype: C=Cor	ncentration, D=Depletior	n, RM=Reduced Matrix, CS=C	overed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Ma	trix
dric Soil In	dicators: (Applicable	to all LRRs, unless otherwis	e noted.)		Indicators for Problematic Hydric So	oils³:
Histosol (A	.1)	Sandy Gleyed	Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )	
Histic Epip	edon (A2)	Sandy Redox			Coast Prairie Redox (A16) (LRR F,	<b>G</b> , <b>H</b> )
Black Histig	( )	Stripped Matri			Dark Surface (S7) (LRR G)	
] Hydrogen S		🗌 Loamy Mucky			High Plains Depressions (F16)	
	ayers (A5) (LRR F)	Loamy Gleyed	. ,		(LRR H outside of MLRA 72 & 73	5)
	(A9) ( <b>LRR F, G, H</b> )	Depleted Matr			Reduced Vertic (F18) Red Parent Material (TF2)	
•	Below Dark Surface (A11	/	( )		Very Shallow Dark Surface (TF 12)	
	Surface (A12) cky Mineral (S1)	Depleted Dark     Redox Depres	. ,		☐ Very Change Dank Canado (11 12) ☑ Other (Explain in Remarks)	
	cky Peat or Peat (S2) (L		. ,		<sup>3</sup> Indicators of hydrophytic vegetation ar	nd
	y Peat or Peat (S3) ( <b>LR</b>				wetland hydrology must be present, un disturbed or problematic	
estrictive La	ayer (if present):				Hydric Soil Present?	
/pe:		Depth (inches):			🖾 Yes 🔲 No	
					· · · · · · · · · · · · · · · · · · ·	
emarks: Red	lox is likely masked. The	e soil considered hydric soil ba	sed upon the po	sitive presence	of hydrophytic vegetation and wetland h	iydrolo
DROLOGY	1					
lotland Hude	rology Indicators:					
recianu nyu		equired; check all that apply)			Secondary Indicators (2 or more requi	red)
•	ators (minimum of one re					
r <u>imary Indica</u> ] Surface Wa	ater (A1)	Salt Crust (B11)			Surface Soil Cracks (B6)	
rimary Indica ] Surface Wa ] High Water	ater (A1) r Table (A2)	Salt Crust (B11)			Sparsely Vegetated Concave Surfa	ace (B
rimary Indica ] Surface Wa ] High Water ] Saturation	ater (A1) r Table (A2) (A3)	Salt Crust (B11)	Odor (C1)		Sparsely Vegetated Concave Surfa     Drainage Patterns (B10)	
rimary Indica ] Surface Wa ] High Water ] Saturation ] Water Marl	ater (A1) r Table (A2) (A3) ks (B1)	Salt Crust (B11) CAquatic Invertebr Hydrogen Sulfide Dry-Season Wate	Odor (C1) er Table (C2)		<ul> <li>Sparsely Vegetated Concave Surfa</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living R</li> </ul>	-
rimary Indica ] Surface Wa ] High Water ] Saturation ] Water Marl ] Sediment [	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	Salt Crust (B11) C Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate	Odor (C1) er Table (C2) oheres on Living	Roots (C3)	<ul> <li>Sparsely Vegetated Concave Surfa</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living R (where tilled)</li> </ul>	
rimary Indica ] Surface Wa ] High Water ] Saturation ] Water Marl ] Sediment [ ] Drift Depos	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	Salt Crust (B11) CAquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not till	odor (C1) er Table (C2) oheres on Living ed)	Roots (C3)	<ul> <li>Sparsely Vegetated Concave Surfa</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living R (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	Roots (
Primary Indica Surface Wa High Water Saturation Water Marl Sediment [ Drift Depos Algal Mat c	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	Salt Crust (B11) CAquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red	Odor (C1) er Table (C2) oheres on Living ed) uced Iron (C4)	Roots (C3)	<ul> <li>Sparsely Vegetated Concave Surfa</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living R (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imager</li> </ul>	Roots (
Primary Indica Surface Wa High Water Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos	ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	Salt Crust (B11) C Aquatic Invertebr Hydrogen Sulfide Dry-Season Wate Oxidized Rhizosp (where not tille Presence of Red Thin Muck Surface	Odor (C1) er Table (C2) oheres on Living ed) uced Iron (C4) ce (C7)	Roots (C3)	<ul> <li>Sparsely Vegetated Concave Surfa</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living R (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	Roots (

					· / ·	,
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, inspections, etc.), if available:	aerial photos, p	previous
Surface Water present?		$\boxtimes$				
Water Table present?		$\boxtimes$				
Saturation Present?		$\boxtimes$				
(includes capillary fringe)						
Wetland Hydrology Present?	$\boxtimes$					
Remarks: Wetland hydrology ind	icators [	D2 and E	05 are present.			

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling [	Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampl	ing Point: SP-504
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S1, T111N, R67W	
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): <u>3 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	52245 Long:	-98.827764	Datum: NAD83
Soil Map Unit Name: Betts-Java loams, steep		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	□ No es, etc.
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the symptotic symptot symptotic symptot sy	emarks: An upla	nd plot adjacent to PEN	И W-501.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	<u>%</u>			are OBL, FACW, or FAC
				(excluding FAC-): 0 (A)
				Total Number of Dominant
4	<u>%</u> 0%	= Total Cover		Species Across All Strata: <u>1</u> (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC: 0% (A/B)
1				
2			<u> </u>	Prevalence Index Worksheet:
-				Total % Cover of: Multiply by:
	<u></u> %		<u> </u>	$\frac{1}{\text{OBL species}} \qquad \frac{1}{Matter product of the second seco$
5	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
(Distriction 51)	0 70			FAC species $\% x 3 = 0$
Herb Stratum (Plot size: <u>5'</u> )	70.0/	V		FACU species % x 4 = 0
1. <u>Poa pratensis</u>	<u>70 %</u>		FACU	UPL species % x 5 = 0
2. <u>Euphorbia sp.*</u>	<u>    10  %</u>	<u>     N     </u>	-	Column Totals: 0 % (A) 0 (B)
3	<u>%</u> %			Prevalence Index = B/A =
4				
5				Hydrophytic Vegetation Indicators:
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			 ∏ 3 Prevalence Index is ≤3.0¹
10	%			
	80 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	<u>%</u>			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. * Euphorb	ia species co	ould not be ider	tified past	genus, no indicator is given. Photograph C-16.

Profile Description: (Describe	to the de	epth n				or confirm the	absence of indicators.)	
Depth Matrix				edox Fea				
(inches) Color (moist)	%	Co	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u> </u>	100						Silt Loam	
6-18 10YR 4/3	100					·	Silt Loam	
·								
<sup>1</sup> Type: C=Concentration, D=Dep	oletion, RM	M=Red	luced Matrix, C	S=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining	g, M=Matrix
Hydric Soil Indicators: (Applic	able to a	II LRR	s, unless othe	erwise no	oted.)		Indicators for Problematic H	ydric Soils <sup>3</sup> :
Histosol (A1)			🗌 Sandy Gl	eyed Mat	trix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )	
Histic Epipedon (A2)			Sandy Re	edox (S5)	)		Coast Prairie Redox (A16)	(LRR F, G, H)
Black Histic (A3)			Stripped	Matrix (S	6)		Dark Surface (S7) (LRR G)	
Hydrogen Sulfide (A4)			Loamy M	ucky Min	eral (F1)		High Plains Depressions (F	16)
Stratified Layers (A5) (LRR F	)		🗌 Loamy G	leyed Ma	trix (F2)		(LRR H outside of MLRA	72 & 73)
1 cm Muck (A9) (LRR F, G, H			Depleted	-			Reduced Vertic (F18)	
Depleted Below Dark Surface	e (A11)		Redox Da				Red Parent Material (TF2)	
Thick Dark Surface (A12)			Depleted	Dark Sur	face (F7)		Very Shallow Dark Surface	· ,
Sandy Mucky Mineral (S1)			🗌 Redox De	epression	ıs (F8)		Other (Explain in Remarks)	
2.5 cm Mucky Peat or Peat (S	52) ( <b>LRR</b>	<b>G, H</b> )	🗌 High Plai				<sup>3</sup> Indicators of hydrophytic vege	etation and
5 cm Mucky Peat or Peat (S3	6) (LRR F)	)	(MLRA 7	2 & 73 o	f LRR H)		wetland hydrology must be pre disturbed or problematic	esent, unless
Restrictive Layer (if present):							Hydric Soil Present?	
Туре:		Depth	i (inches):				🗌 Yes 🛛 No	
Remarks: No hydric soil indicato	r is presei							
IYDROLOGY								
Wetland Hydrology Indicators								
Primary Indicators (minimum of	one reauir	ed: ch	eck all that app	olv)			Secondary Indicators (2 or mo	ore required)
Surface Water (A1)			] Salt Crust (E				Surface Soil Cracks (B6)	···· /
High Water Table (A2)		_	Aquatic Inve	,	(B13)		Sparsely Vegetated Conca	we Surface (B8)
$\Box$ Saturation (A3)			Hydrogen Si				Drainage Patterns (B10)	we Sunace (DO)
Water Marks (B1)		-	Dry-Season		( )		Oxidized Rhizospheres on	Living Roots (C3
Sediment Deposits (B2)			Oxidized Rh		. ,	Roots (C3)	(where tilled)	Living Roots (00
Drift Deposits (B3)		L	(where no			10013 (00)	Crayfish Burrows (C8)	
Algal Mat or Crust (B4)		Г	Presence of	,	l Iron (C4)		Saturation Visible on Aeria	l Imagery (C9)
☐ Iron Deposits (B5)			_ ] Thin Muck S		· · ·		Geomorphic Position (D2)	5 5 ()
Inundation Visible on Aerial Ir	nagery (B	-	Other (Expla	-			FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)		.,			,		Frost-Heave Hummocks (	07) <b>(LRR F)</b>
Field Observations:			Depth	Des	cribe Record	ed Data (strea	m gauge, monitoring well, aerial	photos, previous
o ( ) W ( )	Yes	No	(inches)			), if available:	-	
Surface Water present?		$\boxtimes$						
Water Table present?		$\boxtimes$						
Saturation Present?		$\boxtimes$						
(includes capillary fringe)								
Wetland Hydrology Present?		$\boxtimes$						

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	oling Point: <u>SP-505</u>
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S1, T111N, R67V	V
Landform (hillslope, terrace, etc.)	Local relief (cor	ncave, convex, none):	concave	Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	53695 Long:	98.828842	Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slo	opes	N	WI Classification:	PEM1A
Are climate/hydrologic conditions on the site typical for this time of ye	ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Second Seco	marks: Upland	confirmation plot.		

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-): 0 (A)
4.				Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:0% (A/B)
2.				Description of the description of the
3				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.				OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Poa pratensis</u>	100 %	<u> </u>	FACU	FACU species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
2				UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6				
7				□ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9			. <u> </u>	☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1 2.	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cove	 r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?   Yes  No
Remarks: No test is met. Photograph C-17.				

SOIL

Depth Matrix Redox Feature		absence of indicators.)	
	Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-18 10YR 3/2 100	Туре сос	Silty Loam	Remarks
		<b>,</b>	
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered		<sup>2</sup> Location: PL=Pore	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted	•	Indicators for Problem	•
Histosol (A1) Sandy Gleyed Matrix	(S4)	1 cm Muck (A9) (LR	
□ Histic Epipedon (A2)       □ Sandy Redox (S5)         □ Black Histic (A3)       □ Stripped Matrix (S6)		Coast Prairie Redox	
Hydrogen Sulfide (A4)     Sulped Mathx (S6)     Loamy Mucky Mineral	L (E1)	High Plains Depress	,
□ Stratified Layers (A5) (LRR F) □ Loamy Gleyed Matrix		(LRR H outside of	
□ 1 cm Muck (A9) (LRR F, G, H) □ Depleted Matrix (F3)	(· -)	Reduced Vertic (F18	•
□ Depleted Below Dark Surface (A11) □ Redox Dark Surface (	F6)	Red Parent Material	(TF2)
Thick Dark Surface (A12)     Depleted Dark Surface		Very Shallow Dark S	urface (TF 12)
Sandy Mucky Mineral (S1)		Other (Explain in Re	marks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depression	ons (F16)	<sup>3</sup> Indicators of hydrophyt	ic vegetation and
□ 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of L	RR H)	wetland hydrology must disturbed or problemation	be present, unless
Restrictive Layer (if present):		Hydric Soil Present?	
Type:         Depth (inches):		🗌 Yes 🛛 No	
Wetland Hydrology Indicators:		Secondary Indicators (	
Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)		Surface Soil Cracks	(B6)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B2)	-	Surface Soil Cracks	(B6) Concave Surface (B8)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B2)         Saturation (A3)       Hydrogen Sulfide Odor (G	C1)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> </ul>	(B6) Concave Surface (B8) B10)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B <sup>2</sup> )         Saturation (A3)       Hydrogen Sulfide Odor (C         Water Marks (B1)       Dry-Season Water Table	C1) e (C2)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> </ul>	(B6) Concave Surface (B8) B10)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B1)         Saturation (A3)       Hydrogen Sulfide Odor (C)         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres c	C1) e (C2)	Surface Soil Cracks	(B6) Concave Surface (B8) B10) res on Living Roots (C3
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B1)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)	C1) (C2) on Living Roots (C3)	☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns (I ☐ Oxidized Rhizosphe (where tilled)	(B6) Concave Surface (B8) B10) res on Living Roots (C3
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B <sup>-1</sup> )         Saturation (A3)       Hydrogen Sulfide Odor (C         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron         Iron Deposits (B5)       Thin Muck Surface (C7)	C1) + (C2) on Living Roots (C3) on (C4)	□ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (I         □ Oxidized Rhizosphe         (where tilled)         □ Crayfish Burrows (C         □ Saturation Visible or         ⊠ Geomorphic Positio	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B1)         Saturation (A3)       Hydrogen Sulfide Odor (C         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (Where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron	C1) + (C2) on Living Roots (C3) on (C4)	Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B1)         Saturation (A3)       Hydrogen Sulfide Odor (C)         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Drift Deposits (B3)       Presence of Reduced Iro         Iron Deposits (B5)       Thin Muck Surface (C7)	C1) + (C2) on Living Roots (C3) on (C4)	□ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (I         □ Oxidized Rhizosphe         (where tilled)         □ Crayfish Burrows (C         □ Saturation Visible or         ⊠ Geomorphic Positio	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B <sup>-</sup> )         Saturation (A3)       Hydrogen Sulfide Odor (C         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Drift Deposits (B3)       Presence of Reduced Iroo         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark         Water-Stained Leaves (B9)       Depth	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E	(B6) Concave Surface (B8) B10) res on Living Roots (C3) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B*)         Saturation (A3)       Hydrogen Sulfide Odor (f         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of         Drift Deposits (B3)       (where not tilled)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark         Water-Stained Leaves (B9)       Yes       Depth (inches)	C1) ; (C2) on Living Roots (C3) on (C4) <s)< td=""><td><ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul></td><td>(B6) Concave Surface (B8) B10) res on Living Roots (C3) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b></td></s)<>	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B*)         Saturation (A3)       Hydrogen Sulfide Odor (0)         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Infit Deposits (B3)       Presence of Reduced Iro         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark (B9)         Field Observations:       Yes       Depth (inches)         Surface Water present?       Image (B2)       Describ inspection	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B <sup>2</sup> )         Saturation (A3)       Hydrogen Sulfide Odor (C         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iro         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark         Water-Stained Leaves (B9)       Yes       Depth (inches)         Surface Water present?       Mater       Mater         Water Table present?       Mater       Mater	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B1)         Saturation (A3)       Hydrogen Sulfide Odor (G1)         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Drift Deposits (B3)       Presence of Reduced Iro         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark)         Water-Stained Leaves (B9)       Yes         Field Observations:       Yes         Surface Water present?       Mater Mater Present?         Water Table present?       Mater Mater Present?         Saturation Present?       Mater Mater Present?	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B*         Saturation (A3)       Hydrogen Sulfide Odor (0         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Orift Deposits (B3)       Presence of Reduced Iroc         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark)         Water-Stained Leaves (B9)       Yes         Field Observations:       Yes         Yes       Depth (inches)         Surface Water present?       Mater Table present?         Water Table present?       Mater Ma	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B*         Saturation (A3)       Hydrogen Sulfide Odor (f         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iro         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark         Water-Stained Leaves (B9)       Yes       Depth (inches)         Field Observations:       Yes       No       Inspectio         Surface Water present?       Mater       Mater       Depth (inches)         Surface Water present?       Mater       Mater       Describ inspectio         Saturation Present?       Mater       Mater       Mater         Water Table present?       Mater </td <td>C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea</td> <td><ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul></td> <td>(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b></td>	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B*         Saturation (A3)       Hydrogen Sulfide Odor (0         Water Marks (B1)       Dry-Season Water Table         Sediment Deposits (B2)       Oxidized Rhizospheres of (where not tilled)         Drift Deposits (B3)       Presence of Reduced Iro         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remark         Water-Stained Leaves (B9)       Yes       Depth (inches)         Field Observations:       Yes       Depth (inches)         Surface Water present?       Z	C1) (C2) on Living Roots (C3) on (C4) (s) e Recorded Data (strea	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	(B6) Concave Surface (B8) B10) res on Living Roots (C3 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Samı	pling Point: <u>SP-515</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T111N, R66W	V
Landform (hillslope, terrace, etc.) depression	Local relief (co	ncave, convex, none):	concave	Slope (%): 10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	42974 Long:	-98.820747	Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent s	slopes	N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe ocations, transects,	ers in Remarks.)	_
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Upland	sample plot.		

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
				(excluding FAC-):0 (A)
				Total Number of Dominant
4	<u>%</u> 0 %	= Total Cover		Species Across All Strata: 1 (B)
	0 %			Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: 0% (A/B)
1				
2				Prevalence Index Worksheet:
3				Total % Cover of: Multiply by:
4		<u> </u>		
5				OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover	-	FAC species $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\%$ x 4 = $0$
1. <u>Poa pratensis</u>			FACU	UPL species $\% x 5 = 0$
2. <u>Salvia sp.*</u>		<u>N</u>		Column Totals: <u>0</u> % (A) <u>0</u> (B)
3				Prevalence Index = B/A =
4				
5		<u> </u>		Hydrophytic Vegetation Indicators:
6				☐ 1 Rapid Test for Hydrophytic Vegetation
7				
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 95 %	= Total Cover		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	95 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %			
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. * Salvia s Photograph C-18.	species could	not be identifie	d beyond g	genus, therefore, no indicator status is listed.

Depth (inchos)	Matrix	01		Redox Features		<b>-</b> ,	<b>.</b> .
(inches)	Color (moist)	<u>%</u>	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>		Remarks
<u>0-8</u> 8-18	10YR 3/2 10YR 3/3	<u>100</u> 100		· ·		Silt Loam Silt Loam	
0-10	101R 3/3	100	<u> </u>	· ·		Silt Loam	
				·			
	oncentration, D=Dep				ted Sand Grain		0.
Hydric Soil I	ndicators: (Applic	able to all	LRRs, unless oth	erwise noted.)		Indicators for Problemati	ic Hydric Soils <sup>3</sup> :
Histosol (	,		_ ,	Bleyed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I</b> ,	-
Histic Epi			🗌 Sandy R			🗌 Coast Prairie Redox (A	
Black His	. ,			l Matrix (S6)		Dark Surface (S7) (LRF	,
	Sulfide (A4)			Mucky Mineral (F1)		High Plains Depression	
	Layers (A5) (LRR F)	,	-	Gleyed Matrix (F2)		(LRR H outside of ML	_RA / Z & / 3)
	k (A9) ( <b>LRR F, G, H</b>			d Matrix (F3)		Reduced Vertic (F18) Red Parent Material (TF	E2)
•	Below Dark Surface	e (A11)		Dark Surface (F6)		Very Shallow Dark Surf	,
	k Surface (A12)			d Dark Surface (F7)		Other (Explain in Rema	
-	icky Mineral (S1)			Depressions (F8)		_ 、 .	,
	ucky Peat or Peat (S ky Peat or Peat (S3	, ,		ains Depressions (F <sup>-</sup> 72 & 73 of LRR H)	10)	<sup>3</sup> Indicators of hydrophytic w wetland hydrology must be disturbed or problematic	
Restrictive I	_ayer (if present):					Hydric Soil Present?	
	,					-	
Туре:		[	Depth (inches):			🗌 Yes 🖾 No	
Type:	hydric soil indicator					🗌 Yes 🛛 No	
	hydric soil indicator					☐ Yes ⊠ No	
Remarks: No						☐ Yes ⊠ No	
Remarks: No		r is present				☐ Yes ⊠ No	
Remarks: No	Y	r is present	· · · · · · · · · · · · · · · · · · ·			☐ Yes ⊠ No Secondary Indicators (2 of	r more required)
Remarks: No YDROLOG Wetland Hyd	Y trology Indicators: ators (minimum of c	r is present	d; check all that ap	 אומע <u>ר</u>			<u> </u>
Primary Indic	Y trology Indicators: ators (minimum of c vater (A1)	r is present	d <u>; check all that ap</u> □ Salt Crust (	<u>uply)</u> B11)		Secondary Indicators (2 or	6)
Remarks: No         YDROLOG         Vetland Hyo         Primary Indic         Surface V         High Wate	Y drology Indicators: sators (minimum of c vater (A1) er Table (A2)	r is present	d; check all that ap □ Salt Crust ( □ Aquatic Inv	<u>אומע</u>		Secondary Indicators (2 or	6) oncave Surface (B8)
Remarks: No         YDROLOG         YDROLOG         Primary Indic         Surface V         High Wate         Saturation	Y trology Indicators: sators (minimum of c vater (A1) er Table (A2) n (A3)	r is present	d; check all that ap □ Salt Crust ( □ Aquatic Inv □ Hydrogen S	p <u>ply)</u> B11) ertebrates (B13)		Secondary Indicators (2 or Surface Soil Cracks (B Sparsely Vegetated Co	6) oncave Surface (B8 0)
Remarks: No         YDROLOG         YDROLOG         Primary Indic         Surface V         High Wate         Saturation         Water Ma	Y trology Indicators: sators (minimum of c vater (A1) er Table (A2) n (A3)	r is present	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir	ng Roots (C3)	Secondary Indicators (2 or Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled)	6) oncave Surface (B8 0)
Remarks: No         YDROLOG         Wetland Hyo         Primary Indic         Surface V         High Wate         Saturation         Water Ma         Sediment	Y trology Indicators: sators (minimum of c Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)	r is present	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri (where n	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir ot tilled)	,	Secondary Indicators (2 of Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8)	6) oncave Surface (B8) 0) s on Living Roots (C
Remarks: No         YDROLOG         YDROLOG         Wetland Hyo         Primary Indic         Surface V         High Wate         Saturation         Water Ma         Sediment         Drift Deport	Y trology Indicators: sators (minimum of c Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)	r is present	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Rl (where n	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir <b>ot tilled)</b> f Reduced Iron (C4)	,	Secondary Indicators (2 of Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A	6) oncave Surface (B8) 0) s on Living Roots (C erial Imagery (C9)
Remarks: No         YDROLOG         Wetland Hyo         Primary Indic         Surface V         High Wate         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat         Iron Depo	Y trology Indicators: ators (minimum of c vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5)	r is present	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	p <u>ply)</u> B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir <b>ot tilled)</b> of Reduced Iron (C4) Surface (C7)	,	Secondary Indicators (2 or Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I	6) oncave Surface (B8) 0) s on Living Roots (C erial Imagery (C9) D2)
Remarks: No         YDROLOG         Wetland Hyo         Primary Indic         Surface V         High Wate         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundation	Y trology Indicators: <u>sators (minimum of c</u> Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In	r is present	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir <b>ot tilled)</b> f Reduced Iron (C4)	,	Secondary Indicators (2 or Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I FAC-Neutral Test (D5)	6) oncave Surface (B8) 0) s on Living Roots (C erial Imagery (C9) D2)
Remarks: No         YDROLOG         Wetland Hyo         Primary Indic         Surface V         High Wate         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundation	Y trology Indicators: ators (minimum of c vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5)	r is present	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	p <u>ply)</u> B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir <b>ot tilled)</b> of Reduced Iron (C4) Surface (C7)	,	Secondary Indicators (2 or Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I	6) oncave Surface (B8 0) s on Living Roots (C erial Imagery (C9) D2)
Remarks: No         YDROLOG         YUROLOG         Wetland Hyo         Primary Indic         Saturation         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundation         Water-Sta	Y drology Indicators: eators (minimum of co Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9)	nagery (B7	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir ot tilled) of Reduced Iron (C4) Surface (C7) lain in Remarks) Describe Reco		Secondary Indicators (2 of Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I FAC-Neutral Test (D5) Frost-Heave Hummock	6) oncave Surface (B8 0) s on Living Roots (C erial Imagery (C9) D2) ks (D7) <b>(LRR F)</b>
Remarks: No YDROLOG Wetland Hyo Primary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ	Y drology Indicators: eators (minimum of co vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) usits (B5) n Visible on Aerial In ained Leaves (B9) vations:	nagery (B7	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S ) Other (Expl Depth	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir ot tilled) of Reduced Iron (C4) Surface (C7) lain in Remarks) Describe Reco	orded Data (stre	Secondary Indicators (2 of Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I FAC-Neutral Test (D5) Frost-Heave Hummock	6) oncave Surface (B8 0) s on Living Roots (C erial Imagery (C9) D2) ks (D7) <b>(LRR F)</b>
Remarks: No         YDROLOG         Wetland Hyo         Primary Indic         Surface V         High Wate         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundation	Y trology Indicators: ators (minimum of c vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present?	nagery (B7	d; check all that ap Salt Crust ( Aquatic Inv. Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S ) Other (Expl Depth No (inches)	pply) B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) hizospheres on Livir ot tilled) of Reduced Iron (C4) Surface (C7) lain in Remarks) Describe Reco	orded Data (stre	Secondary Indicators (2 of Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B10 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (I FAC-Neutral Test (D5) Frost-Heave Hummock	6) oncave Surface (B8 0) s on Living Roots (C erial Imagery (C9) D2) ks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicator D2 is present.

 $\boxtimes$ 

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling D	ate: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Sampli	ng Point: <u>SP-516</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T11N, R66W	
Landform (hillslope, terrace, etc.) depression	Local relief (co	ncave, convex, none):	concave	Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	13806 Long:	-98.819913 I	Datum: NAD83
Soil Map Unit Name:Glenham-Prosper loams, 1 to 6 percent s	lopes	N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	□ No s, etc.
YesNoReHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	I sample plot located in	PEM W-507.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
				Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.				OBL species % x 1 = 0
•	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Spartina pectinata</u>	90 %	Y	FACW	FACU species% x 4 =0
2		<u> </u>		UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4.				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	90 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2	0 %	= Total Cove	 r	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pr	otograph C-1	9.		1
······································	3	-		

(inches)	Matrix		F	Redox Fea	atures			
, ,	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/1	100					Silt Loam	
4-20	10YR 3/1	90	10YR 5/6	10	C	M	Silt Loam	
			<u> </u>	·				
Type: C=C	Concentration, D=Dep	letion RM=	Reduced Matrix	S=Cover	ed or Coate		<sup>2</sup> Location: PL=Pore	Lining M=Matrix
	Indicators: (Applic						Indicators for Problema	0.
			Sandy G				1 cm Muck (A9) ( <b>LRF</b>	-
	vipedon (A2)		Sandy C		· · ·		Coast Prairie Redox (	
Black His			Stripped				Dark Surface (S7) (LI	
	n Sulfide (A4)		Loamy N		,		High Plains Depression	,
	Layers (A5) ( <b>LRR F</b> )	)	Loamy G	-			(LRR H outside of I	( -)
	ck (A9) (LRR F, G, H		Depleted	-			Reduced Vertic (F18)	
Depleted	Below Dark Surface	(A11)	🛛 Redox D	ark Surfac	ce (F6)		Red Parent Material (	,
Thick Da	rk Surface (A12)		Depleted	Dark Sur	face (F7)		Very Shallow Dark Su	· · · ·
	lucky Mineral (S1)		🗌 Redox D	•	. ,		Other (Explain in Ren	narks)
_	lucky Peat or Peat (S	, ,	, _ 0	•	· · ·		<sup>3</sup> Indicators of hydrophytic	
🗌 5 cm Mu	cky Peat or Peat (S3)	) ( <b>LRR F</b> )	(MLRA	72 & 73 0	f LRR H)		wetland hydrology must disturbed or problematic	be present, unless
Restrictive	Layer (if present):						Hydric Soil Present?	
Туре:		De	epth (inches):				🛛 Yes 🗌 No	
Remarks <sup>.</sup> H	ydric soil indicator F6	is present						
rtemanto. H		lo present.						
	27							
	-							
Wetland Hy	GY rdrology Indicators: icators (minimum of o		check all that ap	<u> </u>			Secondary Indicators (2	or more required)
Wetland Hy Primary Indi	vdrology Indicators:						-	
Wetland Hy Primary Indi	<b>rdrology Indicators:</b> icators (minimum of o Water (A1)		Salt Crust (E	311)	(B13)		Surface Soil Cracks	(B6)
Wetland Hy Primary Indi	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2)		Salt Crust (E	311) ertebrates			-	(B6) Concave Surface (B8)
Wetland Hy Primary Indi O Surface High Wa Saturatic	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3)		Salt Crust (E	311) ertebrates ulfide Odo	or (C1)		Surface Soil Cracks	(B6) Concave Surface (B8) 110)
Wetland Hy Primary Indi U Surface High Wa Saturatic Water Ma	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3)		☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh	311) ertebrates ulfide Odo Water Ta iizosphere	or (C1) able (C2)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospher (where tilled)</li> </ul>	(B6) Concave Surface (B8) 510) es on Living Roots (C
Wetland Hy Primary Indi U Surface High Wa Saturatic Water Ma	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)		Salt Crust (F Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	311) ertebrates ulfide Odo Water Ta izosphere ot tilled)	or (C1) able (C2) es on Living	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	(B6) Concave Surface (B8) 910) es on Living Roots (C 3)
Wetland Hy Primary Indi Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)		Salt Crust (F Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of	311) ertebrates ulfide Odd Water Ta izosphere ot tilled) FReduced	or (C1) able (C2) es on Living I Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (Ca</li> <li>Saturation Visible on</li> </ul>	(B6) Concave Surface (B8) (10) es on Living Roots (C 3) Aerial Imagery (C9)
Wetland Hy Primary Indi Surface V High Wa Saturatic Water M Sedimen Drift Dep Algal Ma Iron Dep	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5)	ne required;	Salt Crust (F Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (Ca</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> </ul>	(B6) Concave Surface (B8) (10) es on Living Roots (C 3) Aerial Imagery (C9) (D2)
Wetland Hy Primary Indi Surface High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatic	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) t Deposits (B2) oosits (B3) t or Crust (B4) osits (B5) on Visible on Aerial In	ne required;	Salt Crust (F Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (Ca</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D</li> </ul>	(B6) Concave Surface (B8) (10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)
Primary Indi U Surface High Wa Saturatic Water Ma Sedimen Drift Dep Algal Ma Iron Dep Inundatic	rdrology Indicators: icators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) arks (B1) t Deposits (B2) iosits (B3) t or Crust (B4) osits (B5)	ne required;	Salt Crust (F Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (Ca</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> </ul>	(B6) Concave Surface (B8) (10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)

Remarks: Wetland hydrology indicators	D2 a	and D5	are pre	esent.

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Surface Water present?

(includes capillary fringe)
Wetland Hydrology Present?

Water Table present?

Saturation Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date:	6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	Sampling Poin	nt: <u>SP-517</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T111N, R66W	
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none Slope	e (%): <u>1 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	43847 Long:	-98.819407 Datum	NAD83
Soil Map Unit Name: <u>Glenham-Propser loams, 1 to 6 percent</u>	slopes	N	WI Classification: NA	
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the second s	emarks: An upla	nd plot adjacent to PEN	1 W-507 and PEM W-508.	

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				· · · · · · · · · · · · · · · · · · ·
4				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cover		FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. Poa pratensis	95 %	Y	FACU	FACU species $-\%$ x 4 = $-0$
2				UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				☐ 1 Rapid Test for Hydrophytic Vegetation
7				
8				☐ 2 Dominance Test is >50%
9			<u> </u>	☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	95 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide
Woody Vine Stratum (Plot size: <u>30'</u> )				supporting data in Remarks or on a separate sheet)
1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present?  Yes  No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-20.			

Depth	Matrix	F	Redox Features			
(inches)	Color (moist) %	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2 10	0			Silt Loam	
8-18	<u> </u>	0			Silt Loam	
	oncentration, D=Depletion			d Sand Grains		0,
-	Indicators: (Applicable 1				Indicators for Problema	•
Histosol (	· · ·		leyed Matrix (S4)		1 cm Muck (A9) ( <b>LRR</b>	
	ipedon (A2)	Sandy R			Coast Prairie Redox (	
Black His	. ,	Stripped			☐ Dark Surface (S7) (LF ☐ High Plains Depressio	,
	n Sulfide (A4) Layers (A5) ( <b>LRR F</b> )	-	lucky Mineral (F1) Bleyed Matrix (F2)		(LRR H outside of N	
	ck (A9) ( <b>LRR F, G, H</b> )	Depleted			Reduced Vertic (F18)	
	Below Dark Surface (A11		ark Surface (F6)		Red Parent Material (	
•	rk Surface (A12)		Dark Surface (F7)		Very Shallow Dark Su	rface (TF 12)
	ucky Mineral (S1)		epressions (F8)		Other (Explain in Rem	narks)
•	ucky Peat or Peat (S2) (LI		ins Depressions (F16)	)	<sup>3</sup> Indicators of hydrophytic	vegetation and
			72 & 73 of LRR H)			
5 cm Muo	cky Peat or Peat (S3) ( <b>LRF</b>				wetland hydrology must b disturbed or problematic	be present, unless
	cky Peat or Peat (S3) (LRF Layer (if present):				disturbed or problematic Hydric Soil Present?	be present, unless
Restrictive		Depth (inches):	·		disturbed or problematic	
Restrictive		Depth (inches):	·		disturbed or problematic Hydric Soil Present?	
Restrictive	Layer (if present):	Depth (inches):	·		disturbed or problematic Hydric Soil Present?	
Restrictive	Layer (if present):	Depth (inches):	·		disturbed or problematic Hydric Soil Present?	
Restrictive	Layer (if present):	Depth (inches):	·		disturbed or problematic Hydric Soil Present?	
Restrictive ype: Remarks:Hy YDROLOG Vetland Hy	Layer (if present): dric soil indicators are not	Depth (inches): present.			disturbed or problematic Hydric Soil Present?	
Restrictive	Layer (if present): dric soil indicators are not SY drology Indicators: cators (minimum of one re-	Depth (inches): present. quired; check all that ap			disturbed or problematic Hydric Soil Present? ☐ Yes ⊠ No	or more required)
Restrictive	Layer (if present): dric soil indicators are not SY drology Indicators: cators (minimum of one re-	Depth (inches): present. quired; check all that ap			disturbed or problematic Hydric Soil Present? ☐ Yes ⊠ No Secondary Indicators (2	or more required) B6)
Restrictive         Type:	Layer (if present): dric soil indicators are not SY drology Indicators: cators (minimum of one re- Vater (A1) ter Table (A2)	Depth (inches): present. quired; check all that ap Salt Crust (I Quired Crust (I	<u></u>		disturbed or problematic         Hydric Soil Present?         Yes       No         Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B)	<u>or more required)</u> B6) Concave Surface (B8 10)
Restrictive	Layer (if present): dric soil indicators are not GY drology Indicators: cators (minimum of one re- Nater (A1) ter Table (A2) n (A3) arks (B1)	Depth (inches): present. quired; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	<u>bly)</u> 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2)		disturbed or problematic         Hydric Soil Present?         Yes         Yes         No             Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B)         Oxidized Rhizosphered	<u>or more required)</u> B6) Concave Surface (B8 10)
Restrictive         Гуре:	Layer (if present): dric soil indicators are not GY drology Indicators: cators (minimum of one re- Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	Depth (inches): present. quired; check all that ap Salt Crust (i Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	bly) B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living	Roots (C3)	disturbed or problematic         Hydric Soil Present?         Yes         Yes         No             Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B)         Oxidized Rhizosphere (where tilled)	<u>or more required)</u> B6) Concave Surface (B8 10) es on Living Roots (0
Restrictive  Type:  Remarks:Hy  YDROLOG  Vetland Hy  Primary India Surface V  High Wat Saturatio Water Ma Sedimeni Dirift Depute	Layer (if present): dric soil indicators are not GY drology Indicators: cators (minimum of one re- Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3)	Depth (inches): present. guired; check all that app Salt Crust (i Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	<u>oly)</u> 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living ot tilled)	Roots (C3)	disturbed or problematic         Hydric Soil Present?         Yes         Yes         No             Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)	or more required) B6) Concave Surface (B8 10) es on Living Roots (C
Restrictive         Type:         Remarks:Hy         YDROLOG         YDROLOG	Layer (if present): dric soil indicators are not dric soil indicators are not GY drology Indicators: cators (minimum of one re- Water (A1) rer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	Depth (inches): present. quired; check all that app Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of	<u>ply)</u> 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4)	Roots (C3)	disturbed or problematic         Hydric Soil Present?         Yes         Yes         No             Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on	or more required) B6) Concave Surface (B8 10) es on Living Roots (0 3) Aerial Imagery (C9)
Restrictive         Type:         Remarks:Hy         YDROLOG         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturatio         Water Ma         Sediment         Drift Dep         Algal Mat         Iron Depo	Layer (if present): dric soil indicators are not dric soil indicators are not GY drology Indicators: cators (minimum of one re- Water (A1) rer Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	Depth (inches): present. guired; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rt (where no Presence of Thin Muck S	<u>ply)</u> 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4)	Roots (C3)	disturbed or problematic         Hydric Soil Present?         Yes         Yes         No             Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)	or more required) B6) Concave Surface (B8 10) es on Living Roots (( 3) Aerial Imagery (C9) (D2)

				_ (),(),(),(),(),(),(),(),(),(),(),(),(),(
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: No hydrology indicator	present	•		

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Sampling Point: SP-518
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T111N, R66W
Landform (hillslope, terrace, etc.) depression	Local relief (co	ncave, convex, none):	concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	13892 Long:	-98.818880 Datum: NAD83
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification: PEM1A
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	I sample plot located in	PEM W-508.

Tree Stratum (Plot size: 30')	Absolute Dominant Indicato % Cover Species? Status	r Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Number of Dominant Species that
2.		are OBL, FACW, or FAC
3.		- (excluding FAC-):(A)
4.		Total Number of Dominant
	0 % = Total Cover	- Species Across All Strata: (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )		Percent of Dominant Species that
1	%	are OBL, FACW, or FAC:(A/B)
2.		
3	<u>%</u>	Prevalence Index Worksheet:
4	<u>%</u>	Total % Cover of: Multiply by:
5	• /	OBL species         % x 1 =
	<u>0 %</u> = Total Cover	FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )		FAC species% x 3 =0
1. <u>Spartina pectinata</u>	<u>90 %</u> Y FACW	FACU species % x 4 = 0
2		UPL species% x 5 =
3	• /	Column Totals: <u>0</u> % (A) <u>0</u> (B)
4		Prevalence Index = B/A =
5	0/	<ul> <li>Hydrophytic Vegetation Indicators:</li> </ul>
6	0/	
7	<u>%</u>	_ ☐ 1 Rapid Test for Hydrophytic Vegetation
8	%	_ ☐ 2 Dominance Test is >50%
9		- ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10		- ☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>90 %</u> = Total Cover	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )		Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1		-
2		<sup>1</sup> Indicators of hydric soil and wetland hydrology
	<u>    0  %</u> = Total Cover	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %		Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. P	Photograph C-21.	

Depth	Matrix		F	Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/1	100					Silt Loam	
4-20	10YR 3/1	90	10YR 5/6	10	C	M	Silt Loam	
					·			
					·			
Type: C=C	oncentration, D=Dep	oletion, RM=	Reduced Matrix, 0	CS=Cove	red or Coate	d Sand Grain	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil	ndicators: (Applic	able to all L	.RRs, unless oth	erwise n	oted.)		Indicators for Problema	ntic Hydric Soils <sup>3</sup> :
🗌 Histosol (	A1)		🗌 Sandy G	leyed Ma	trix (S4)		☐ 1 cm Muck (A9) ( <b>LRR</b>	: I, J)
🗌 Histic Epi	pedon (A2)		☐ Sandy R	edox (S5	)		Coast Prairie Redox (	A16) ( <b>LRR F, G, H</b> )
Black His			Stripped	-			Dark Surface (S7) (LF	
Hydroger	Sulfide (A4)		□ Loamy M	•	,		High Plains Depression	
	Layers (A5) ( <b>LRR F</b>	)	🗌 Loamy G	-			(LRR H outside of M	•
🗌 1 cm Muc	k (A9) ( <b>LRR F, G, H</b>	1)	Depleted	Matrix (F	-3)		Reduced Vertic (F18)	
Depleted	Below Dark Surface	e (A11)	🛛 Redox D	ark Surfa	ce (F6)		Red Parent Material (	,
	k Surface (A12)		Depleted	Dark Su	rface (F7)		Very Shallow Dark Su	· ·
	icky Mineral (S1)		🗌 Redox D	epressior	ns (F8)		Other (Explain in Rem	narks)
🗌 2.5 cm M	ucky Peat or Peat (S	62) ( <b>LRR G</b> ,		•	essions (F16)	)	<sup>3</sup> Indicators of hydrophytic	vegetation and
🗌 5 cm Muc	ky Peat or Peat (S3	) (LRR F)	(MLRA	72 & 73 c	of LRR H)		wetland hydrology must l disturbed or problematic	pe present, unless
Restrictive I	ayer (if present):						Hydric Soil Present?	
Туре:		De	epth (inches):				🛛 Yes 🔲 No	
Remarks: H	dric soil indicator F6	3 is present						
IYDROLOG	Y							
Wetland Hy	Irology Indicators:							
Primary India	ators (minimum of o	one required	check all that ap	oly)			Secondary Indicators (2	or more required)
Surface V	/ater (A1)		🗌 Salt Crust (I	311)			Surface Soil Cracks (	(B6)
	er Table (A2)		Aquatic Inve		s (B13)		Sparsely Vegetated (	Concave Surface (B8)
Saturation			Hydrogen S				Drainage Patterns (B	. ,
Water Ma			Dry-Season				Oxidized Rhizospher	
	Deposits (B2)		Oxidized R		es on Living	Roots (C3)	(where tilled)	
Drift Depo			(where no	,	-		Crayfish Burrows (C8	
	or Crust (B4)		Presence of		· · ·		Saturation Visible on	••••
Iron Depo	sits (B5)		Thin Muck S				Geomorphic Position	
Inundatio	n Visible on Aerial Ir	magery (B7)	Other (Explanation)	ain in Rer	narks)		FAC-Neutral Test (D	
UWater-Sta	ined Leaves (B9)						Frost-Heave Hummo	cks (D7) <b>(LRR F)</b>
Field Obser	vations:		Depth	Des	cribe Record	led Data (stre	am gauge, monitoring well, a	aerial photos, previou
		Yes N	lo (inches)			), if available:	and gauge, morntoning won, e	

Remarks: Wetland hydrology indicators	D2 and	D5 are	present.

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Surface Water present?

(includes capillary fringe)
Wetland Hydrology Present?

Water Table present? Saturation Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/25/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-519
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T111N, R66W
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	45278 Long:	-98.808208 Datum: NAD83
Soil Map Unit Name:Betts-Java loams, steep		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland	sample plot.	

Tree Stratum       (Plot size: $\underline{30}$ )       % Cover       Species?       Status       Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-); $\underline{0}$ (A)         3. $\underline{-96}$ $$	The other time (Dist size: 20')	Absolute	Dominant	Indicator	Dominance Test Worksheet:
2.			Species?	Status	
3.					
4.					(excluding FAC-): U(A)
0 %       = Total Cover       Species Across All strata:      (B)         1.       %      (B)         2.       %      (A/B)         3.       %      (A/B)         4.       %      (B)         5.       %      (B)         1.       %      (B)         4.       %      (B)         5.       %      (B)         1.       %      (B)         1.       %      (B)         4.       %      (B)         5.       %      (B)         1.       Paratensis       100 %       Y       FACU         9      (B)       %      (B)      (B)         1.       Paratensis       100 %       Y       FACU         9      (B)       %      (B)      (B)         1.       Poa pratensis       100 %       Y       FACU         9      (B)      (B)      (B)         1.       %      (B)      (C)         2.       %      (B)      (B) </td <td></td> <td></td> <td></td> <td></td> <td></td>					
Sapling/Shrub Stratum       (Plot size: 15)         1.       %         2.       %         3.       %         3.       %         4.       %         5.       %         1.       %         6.       %         7.       %         7.       %         7.       %         7.       %         7.       %         7.       %         7.       %         7.       %         9.       %         9.       %         9.       %         9.       %         9.       %         100 %       Y         FACU       species         9%       X = 0         UPL species       %         9%       0%         11.       %         12.       %         13.       %         14.       %         15.       %         16.       %         17.       %         10.       %         9%       1         10.<			= Total Cove		Species Across All Strata:1 (B)
1.	Sapling/Shrub Stratum (Plot size: 15')	<u> </u>			
2.		%			are OBL, FACW, or FAC:0% (A/B)
3. $\frac{\%}{6}$ $\frac{1}{7}$ 4. $\frac{\%}{6}$ $\frac{1}{96}$ 5. $\frac{9}{6}$ $\frac{1}{96}$ 1. $\frac{9}{20}$ pratensis $\frac{100\%}{7}$ $\frac{7}{4}$ 2. $\frac{9}{6}$ $\frac{9}{6}$ $\frac{100\%}{7}$ $\frac{7}{4}$ 3. $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{7}$ 5. $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ 5. $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ 7. $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ 10. $\frac{9}{6}$ $\frac{9}{5}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ 10. $\frac{9}{6}$ $\frac{9}{5}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ $\frac{9}{6}$ 10. $\frac{9}{6}$	-				Description of the description of the
5.	3.	%			Prevalence index worksneet:
0 %       = Total Cover       FACW species       % x2 =       0         1.       Poa pratensis       100 %       Y       FACU       FACU species       % x3 =       0         2.       %	4	<u>%</u>			Total % Cover of: Multiply by:
Herb Stratum       (Plot size: 5')         1.       Poa pratensis         2.       %         3.       %         4.       %         5.       %         6.       %         7.       %         8.       %         9.       %         100 %       Y         9.       %         10.       %         9.       %         10.       %         9.       %         10.       %         9.       %         10.       %         9.       %         10.       %         9.       %         10.       %         95 %       = Total Cover         11       Problematic Hydrophytic Vegetation 1 (explain)         1       Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         1       No         8are Ground in Herb Stratum       0 %	5.	%			OBL species% x 1 =0
1.       Poa pratensis       100 %       Y       FACU       FACU species       % x4 =       0         2.       %       %       %       %       %       0%       0       0         3.       %       %       %       %       %       %       %       0       0       (B)         4.       %		0 %	= Total Cove	r	
1.       Poa pratensis       100 %       Y       FACU       FACU species       % x 4 =       0         2.       %       %       9       % x 5 =       0       0       (B)         3.       %       %       %       %       %       %       0       %       0       (B)         4.       % </td <td>Herb Stratum (Plot size: 5')</td> <td></td> <td></td> <td></td> <td>· · · · · · · · · · · · · · · · · · ·</td>	Herb Stratum (Plot size: 5')				· · · · · · · · · · · · · · · · · · ·
2. $\frac{\%}{1}$ $\frac{1}{1}$ Rapid Test for Hydrophytic Vegetation $\frac{1}{1}$ Rapid Test for Hydrophytic Vegetation         8. $\frac{\%}{1}$ $\frac{\%}{1}$ $\frac{1}{2}$ Dominance Test is >50% $\frac{1}{3}$ Prevalence Index is $\leq 3.0^1$ 9. $\frac{\%}{1}$ $\frac{\%}{2}$ $\frac{1}{2}$ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) $\frac{1}{95\%}$ $\frac{1}{2}$ Hydrophytic Vegetation <sup>1</sup> (explain)         1. $\frac{9\%}{2}$ $\frac{\%}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum $\underline{0}\%$ $\frac{0}{5}\%$ $\frac{1}{2}$ Total Cover       Hydrophytic Vegetation Present? $\underline{1}$ Yes $\underline{X}$ No		100 %	Y	FACU	
3.					
4.       7.         6.       %         7.       %         8.       %         9.       %         10.       %         9.       %         10.       %         9.       %         10.       %         9.       %         10.       %         95.%       = Total Cover         Woody Vine Stratum       (Plot size: 30')         1.       %         2.       %         8are Ground in Herb Stratum       0 %					Column rotals. $0\%$ (A) $0$ (B)
6.	4	%			Prevalence Index = B/A =
6.       %	5	%			Hydrophytic Vegetation Indicators:
8.       %       □ 2 Dominance Test is >50%         9.       %       □ 3 Prevalence Index is <3.01	6	%			
9.	7	%			1 Rapid Test for Hydrophytic Vegetation
10.       %	8				☐ 2 Dominance Test is >50%
Woody Vine Stratum       (Plot size: <u>30'</u> )         1.			<u> </u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
Woody Vine Stratum       (Plot size: 30')         1.	10				4 Morphological Adaptations <sup>1</sup> (Provide
1.       %       Image: Constraint of the stratum of the stratumod of the stratumod of the s		95 %	= Total Cove	ſ	
2.       %       1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum0 %       Hydrophytic Vegetation Present? □ Yes ⊠ No	, , , , , , , , , , , , , , , , , , , ,	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
0 %       = Total Cover       must be present, unless disturbed or problematic         Bare Ground in Herb Stratum       0 %       Hydrophytic Vegetation Present? □ Yes ⊠ No					<sup>1</sup> Indicators of hydric soil and wetland hydrology
Bare Ground in Herb Stratum _0%		0 %	= Total Cove	r	
Remarks: Hydrophytic vegetation is not present. Photograph C-22.	Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?  Yes  No
	Remarks: Hydrophytic vegetation is not present. Photogra	aph C-22.			

SOIL

Depth Ma	atrix		edox Features			absence of indicators.	
(inches) Color (mois	· · · · ·	Color (moist)				Texture	Remarks
0-20 10YR 3/2				<u> </u>		Clay Loam	
							<u></u>
·			· ·				
			<u></u>				
Type: C=Concentration, D	=Depletion, RM	I=Reduced Matrix, C	S=Covered or	r Coated Sa	nd Grains	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix
Hydric Soil Indicators: (A	pplicable to al	I LRRs, unless oth	erwise noted.	)		Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sandy G	leyed Matrix (S	64)		☐ 1 cm Muck (A9) (LI	RR I, J)
] Histic Epipedon (A2)		Sandy R		,		Coast Prairie Redo	-
Black Histic (A3)		Stripped	Matrix (S6)			Dark Surface (S7)	(LRR G)
Hydrogen Sulfide (A4)		🗌 Loamy M	lucky Mineral (	(F1)		High Plains Depres	
Stratified Layers (A5) (LI	RR F)		leyed Matrix (F			(LRR H outside o	f MLRA 72 & 73)
] 1 cm Muck (A9) (LRR F,		Depleted				Reduced Vertic (F1	,
Depleted Below Dark Su	rface (A11)	🗌 Redox D	ark Surface (F	6)		Red Parent Materia	. ,
Thick Dark Surface (A12	2)	Depleted	Dark Surface	(F7)		Very Shallow Dark	
Sandy Mucky Mineral (S			epressions (F8	3)		Other (Explain in R	emarks)
2.5 cm Mucky Peat or Pe	eat (S2) ( <b>LRR 0</b>		ns Depression	. ,		<sup>3</sup> Indicators of hydrophy	/tic vegetation and
∃ 5 cm Mucky Peat or Pea	t (S3) ( <b>LRR F</b> )	(MLRA )	72 & 73 of LRI	R H)		wetland hydrology mus disturbed or problemat	
Restrictive Layer (if prese	nt):					Hydric Soil Present?	
						-	
Туре:		Depth (inches):				🗌 Yes 🛛 No	
Type:						U Yes 🛛 No	
						∐ Yes ⊠ No	
Remarks: No hydric soil indi						_ Yes ⊠ No	
Remarks: No hydric soil indi YDROLOGY Wetland Hydrology Indica	icator is presen	t.				∐ Yes ⊠ No	
Remarks: No hydric soil indi YDROLOGY Vetland Hydrology Indica	icator is presen	t.				Secondary Indicators	(2 or more required)
Remarks: No hydric soil indi YDROLOGY Vetland Hydrology Indica Primary Indicators (minimun	icator is presen	t.	<del></del>				· · · · · ·
Remarks: No hydric soil indi <b>/DROLOGY</b> Vetland Hydrology Indica Primary Indicators (minimun ] Surface Water (A1)	icator is presen	t. ed; check all that ap	311)	3)		Secondary Indicators	s (B6)
Remarks: No hydric soil indi         /DROLOGY         Vetland Hydrology Indicators (minimun         Primary Indicators (minimun         Surface Water (A1)         High Water Table (A2)	icator is presen	t. ed; check all that apj	B11) ertebrates (B13	,		Secondary Indicators	s (B6) d Concave Surface (B8)
Remarks: No hydric soil indi         YDROLOGY         Vetland Hydrology Indica         Primary Indicators (minimun         Surface Water (A1)         High Water Table (A2)         Saturation (A3)	icator is presen	t. ed; check all that app Salt Crust (E	311) ertebrates (B13 ulfide Odor (C <sup>2</sup>	1)		Secondary Indicators	s (B6) d Concave Surface (B8) (B10)
Remarks: No hydric soil indi YDROLOGY Vetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	icator is presen	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	311) ertebrates (B13 ulfide Odor (C Water Table ( izospheres on	1) C2)	ts (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled)	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C
Remarks: No hydric soil indi YDROLOGY Vetland Hydrology Indica Primary Indicators (minimun Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	icator is presen	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	B11) ertebrates (B13 ulfide Odor (C <sup>-</sup> Water Table ( izospheres on ot tilled)	1) C2) Living Root	ts (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows (	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8)
YDROLOGY         YDROLOGY         Vetland Hydrology Indication         Primary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	icator is presen	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of	and Prtebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron	1) C2) Living Root	ts (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9)
YDROLOGY         YDROLOGY         Yetland Hydrology Indica         Primary Indicators (minimun         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)	tors:	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	All Prtebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7)	(C4)	ts (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Secomorphic Positi	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2)
Primarks: No hydric soil indi         YDROLOGY         Wetland Hydrology Indica         Primary Indicators (minimum)         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 Aet	tors: n of one require	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	All Prtebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7)	(C4)	ts (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test	(B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5)
Remarks: No hydric soil indi         YDROLOGY         Vetland Hydrology Indica         Primary Indicators (minimum)         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 Aet	tors: n of one require	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	All Prtebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7)	(C4)	ts (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Secomorphic Positi	(B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5)
Remarks: No hydric soil indi         YDROLOGY         Vetland Hydrology Indicators (minimum         Primary Indicators (minimum         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 Aer         Water-Stained Leaves (E	tors: n of one require	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7) ain in Remarks	(C4) Recorded E	Data (strear	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indi         YDROLOGY         Vetland Hydrology Indica         Primary Indicators (minimun         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 Aei         Water-Stained Leaves (Ei	tors: n of one require	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	B11) ertebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7) ain in Remarks	1) C2) Living Roof (C4)	Data (strear	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indi         YDROLOGY         Vetland Hydrology Indica         Primary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Diff Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aet         Water-Stained Leaves (E         Field Observations:         Surface Water present?	tors: n of one require 39) Yes	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Explain Depth No (inches)	B11) ertebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7) ain in Remarks	(C4) Recorded E	Data (strear	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indi         YDROLOGY         Wetland Hydrology Indica         Primary Indicators (minimum)         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 Aet         Water-Stained Leaves (E         Field Observations:         Surface Water present?         Water Table present?	tors: n of one require 39) Yes	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Thin Muck S Other (Explain No Depth (inches)	B11) ertebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7) ain in Remarks	(C4) Recorded E	Data (strear	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test Frost-Heave Humr	(B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5)
Remarks: No hydric soil indi         YDROLOGY         Wetland Hydrology Indication         Primary Indicators (minimum)         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 Aei         Water-Stained Leaves (Ei         Field Observations:         Surface Water present?         Nater Table present?         Saturation Present?	tors: n of one require 39) Yes	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Explain Depth No (inches)	B11) ertebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7) ain in Remarks	(C4) Recorded E	Data (strear	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indi         YDROLOGY         Vetland Hydrology Indica         Primary Indicators (minimum)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Diff Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aet         Water-Stained Leaves (E         Field Observations:         Surface Water present?	tors: n of one require 39) Yes	t. ed; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Thin Muck S Other (Explain No Depth (inches)	B11) ertebrates (B13 ulfide Odor (C' Water Table ( izospheres on ot tilled) Reduced Iron Surface (C7) ain in Remarks	(C4) Recorded E	Data (strear	Secondary Indicators Surface Soil Crack Sparsely Vegetate Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible Geomorphic Positi FAC-Neutral Test Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Sampling Date: 6/26/2018		
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	) Sam	oling Point: SP-522		
Investigator(s):T. Beemer, W. Hirst	Section	on, Township, Range:	S12, T111N, R67	W		
Landform (hillslope, terrace, etc.) depression	Local relief (cor	ncave, convex, none):	concave	Slope (%): 2 %		
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.44	10352 Long:	-98.829151	Datum: NAD83		
Soil Map Unit Name: Hoven silt loam, 0 to 1 percent slopes		N	WI Classification:	PEM1C		
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (If no, e	xplain in Remarks.	)		
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_		
		I sample plot located in 0 due to adjacent agric		pland sample plot was		

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
-				(excluding FAC-): (A)
				Total Number of Dominant
4				Species Across All Strata: (B)
	0 %	= Total Cove		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: (A/B)
1				
2		<u> </u>		Prevalence Index Worksheet:
	0/			Total % Cover of: Multiply by:
4 5.				OBL species % x 1 = 0
· · · · · · · · · · · · · · · · · · ·	0 %	= Total Cove		FACW species% x 2 =
Herb Stratum (Plot size: 5')		- 1000 0000		FAC species % x 3 = 0
	80 %	Y	OBL	FACU species % x 4 = 0
				UPL species % x 5 = 0
2				Column Totals: <u>0</u> % (A) <u>0</u> (B)
3				Prevalence Index = B/A =
4				
5				Hydrophytic Vegetation Indicators:
6 7	<b>A</b> (			☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	80 %	= Total Cove	r	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met.	Photograph C-2	3.		
	<u> </u>			

	•	to the depth r				or confirm the	absence of indicators.)	
Depth	Matrix		F	Redox Fea	itures			
(inches)	Color (moist)		olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/1	100					Clay Loam	
2-10	10YR 3/1	85	10YR 4/6	15	С	M	Clay Loam	
10-20	10YR 3/1		10YR 5/6	25	<u> </u>		Clay Loam	
<sup>1</sup> Type: C=Co	ncentration, D=Dep	letion, RM=Re	duced Matrix, (	 CS=Cover	ed or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil I	ndicators: (Applic	able to all LRI	Rs, unless oth	erwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
<ul> <li>1 cm Mucl</li> <li>Depleted I</li> <li>Thick Darl</li> <li>Sandy Mu</li> <li>2.5 cm Mu</li> </ul>	bedon (A2) ic (A3)	) (A11) 52) ( <b>LRR G, H</b> )		edox (S5) Matrix (S6 Jucky Mine Gleyed Mat I Matrix (F ark Surfac I Dark Sur epression	5) eral (F1) trix (F2) 3) ce (F6) face (F7) s (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRI</li> <li>Coast Prairie Redox</li> <li>Dark Surface (S7) (L</li> <li>High Plains Depressi (LRR H outside of</li> <li>Reduced Vertic (F18</li> <li>Red Parent Material</li> <li>Very Shallow Dark S</li> <li>Other (Explain in Rer</li> <li><sup>3</sup>Indicators of hydrophyti wetland hydrology must disturbed or problemation</li> </ul>	(A16) (LRR F, G, H) RR G) ions (F16) MLRA 72 & 73) ) (TF2) urface (TF 12) marks) ic vegetation and be present, unless
Restrictive L	ayer (if present):						Hydric Soil Present?	
Туре:		Dept	h (inches):				🛛 Yes 🗌 No	
Remarks: Hy	dric soil indicator F6	is present.						
IYDROLOG	Y							
Wetland Hyd	rology Indicators:							

Primary Indicators (minimum of o	Secondary Indicators (2 or more required)						
Surface Water (A1)			Salt Crust (B11)	)	Surface Soil Cracks (B6)		
High Water Table (A2)			Aquatic Inverteb	orates (B13)	Sparsely Vegetated Concave Surface (B8)		
Saturation (A3)			Hydrogen Sulfid	le Odor (C1)	Drainage Patterns (B10)		
🗌 Water Marks (B1)			Dry-Season Wa	ter Table (C2)	Oxidized Rhizospheres on Living Roots (C3)		
Sediment Deposits (B2)				spheres on Living Roots (C3)	(where tilled)		
Drift Deposits (B3)			(where not til	,	Crayfish Burrows (C8)		
Algal Mat or Crust (B4)			Presence of Re	duced Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Iron Deposits (B5)			Thin Muck Surfa	ace (C7)	Geomorphic Position (D2)		
Inundation Visible on Aerial In	nagery (E	37)	Other (Explain i	n Remarks)	☑ FAC-Neutral Test (D5)		
□ Water-Stained Leaves (B9)		,			Frost-Heave Hummocks (D7) (LRR F)		
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream inspections, etc.), if available:	gauge, monitoring well, aerial photos, previous		
Surface Water present?		$\boxtimes$					
Water Table present?		$\boxtimes$					
Saturation Present?	$\boxtimes$		8				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicators D2 and D5 present. Although saturation was observed at a depth of 8 inches, an accompanying water table was not observed. Therefore, indicator A3 is not met.							

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-532
Investigator(s):T. Beemer, W. Hirst	Section	on, Township, Range:	S26, T111N, R67W
Landform (hillslope, terrace, etc.) depression	Local relief (cor	ncave, convex, none):	concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.38	37995 Long:	-98.853210 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes		N	WI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
		I sample plot located in 5 due to adjacent agric	PEM W-515. No upland sample plot was ultrual fields.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4	<u>%</u>			Total Number of Dominant
T	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.	%			Prevalence Index Worksheet:
3	%			
4	0/			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =
1. <u>Persicaria maculosa</u>	80 %	Y	FACW	FACU species % x 4 = 0
2.	%			UPL species% x 5 =
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4.				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	%			
7	<u>%</u>			I Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	80 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-24	1.		

Profile Desc	ription: (Describe	to the dep	th needed to docu	iment the	e indicator o	or confirm the	absence of indicators.)		
Depth	Matrix		R	edox Fea	atures				
(inches)	Color (moist) % Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>						Texture	Remarks	
0-2	10YR 3/1	100					Clay Loam		
2-10	10YR 3/1	85	10YR 4/6	15	С	М	Clay Loam		
10-20	10YR 3/1	75	10YR 5/6	25	С	M	Clay Loam		
		<u> </u>							
		<u> </u>			. <u> </u>				
		·							
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM	Reduced Matrix, C	S=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless oth	erwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
🗌 Histosol (	A1)		🗌 Sandy Gl	leyed Mat	trix (S4)		1 cm Muck (A9) (LRF	R I, J)	
🗌 Histic Epi	pedon (A2)		🗌 Sandy Re	edox (S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )	
Black His	tic (A3)		Stripped	Matrix (S	6)		Dark Surface (S7) (LRR G)		
Hydrogen	Sulfide (A4)		🗌 Loamy M	ucky Min	eral (F1)		High Plains Depressions (F16)		
Stratified	Layers (A5) (LRR F)	)	🗌 Loamy G	leyed Ma	trix (F2)		(LRR H outside of MLRA 72 & 73)		
🗌 1 cm Muc	k (A9) ( <b>LRR F, G, H</b>	l)	Depleted	Matrix (F	3)		Reduced Vertic (F18)		
Depleted	Below Dark Surface	(A11)	🛛 Redox Da	ark Surfa	ce (F6)		Red Parent Material (TF2)		
Thick Dar	k Surface (A12)		Depleted	Dark Sur	face (F7)		Very Shallow Dark Surface (TF 12)		
•	ucky Mineral (S1)		🗌 Redox De	•	. ,		Other (Explain in Rer	narks)	
	ucky Peat or Peat (S	, ,		•	· · ·	1	<sup>3</sup> Indicators of hydrophyti		
🗌 5 cm Muc	ky Peat or Peat (S3)	) ( <b>LRR F</b> )	(MLRA 7	72 & 73 o	f LRR H)		wetland hydrology must be present, unless		
							disturbed or problematic		
Restrictive I	_ayer (if present):						Hydric Soil Present?		
Туре:		_ C	Depth (inches):				🛛 Yes 🔲 No		
Remarks: Hv	dric soil indicator F6	is present							
		, io processi							
HYDROLOG	Ϋ́								
Wetland Hyd	drology Indicators:								
Primary Indicators (minimum of one required; check all that apply)							Secondary Indicators (2 or more required)		

Surface Water (A1)			Salt Crust (B11)	)	Surface Soil Cracks (B6)		
High Water Table (A2)			Aquatic Invertet	orates (B13)	Sparsely Vegetated Concave Surface (B8)		
Saturation (A3)			Hydrogen Sulfic	le Odor (C1)	Drainage Patterns (B10)		
Water Marks (B1)			Dry-Season Wa	iter Table (C2)	Oxidized Rhizospheres on Living Roots (C3)		
Sediment Deposits (B2)			—	spheres on Living Roots (C3)	(where tilled)		
Drift Deposits (B3)			(where not ti	lled)	Crayfish Burrows (C8)		
☐ Algal Mat or Crust (B4)			Presence of Re	duced Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Iron Deposits (B5)			Thin Muck Surfa	ace (C7)	Geomorphic Position (D2)		
Inundation Visible on Aerial Im	nagery (	B7)	Other (Explain i	n Remarks)	☑ FAC-Neutral Test (D5)		
Water-Stained Leaves (B9)					Frost-Heave Hummocks (D7) (LRR F)		
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (strean inspections, etc.), if available:	n gauge, monitoring well, aerial photos, previous		
Surface Water present?		$\boxtimes$					
Water Table present?		$\boxtimes$					
Saturation Present?	$\boxtimes$		6				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicators D2 and D5 are present. Although saturation was observed at 6 inches, an accompanying water table was not observed. Therefore, indicator A3 is not met.							

Project/Site: Sweetland Wind Project	City/County: H	Hand County	Sampling	Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SD	) Samp	oling Point: <u>SP-533</u>
Investigator(s): T. Beemer, W. Hirst	Section	, Township, Range:	S23, T111N, R67	W
Landform (hillslope, terrace, etc.) swale	Local relief (conca	ave, convex, none):	concave	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: <u>44.408</u> 2	279 Long:	-98.843908	Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent sl	opes	N\	WI Classification:	PEM1C
Are climate/hydrologic conditions on the site typical for this time of y	rear? 🛛 🛛 Yes	🗌 No 🛛 (If no, e	xplain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If neede	rmal Circumstances" ; ed, explain any answe ations, transects, i	ers in Remarks.)	_
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Constraint of the sent of t	emarks: Sample pl	ot located in PEM W-	517.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
•	<u>%</u>	<u> </u>		are OBL, FACW, or FAC
				(excluding FAC-):1 (A)
				Total Number of Dominant
4	<u>%</u>	= Total Cover		Species Across All Strata: 1 (B)
Capita a / Charte Charter (Distained 45')	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/_			are OBL, FACW, or FAC: <u>100%</u> (A/B)
1 2.	<u>%</u> %			
			<u> </u>	Prevalence Index Worksheet:
	<u></u> %	<u> </u>		Total % Cover of: Multiply by:
4 5.	%			OBL species % x 1 = 0
J	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: 5')	0 /0			FAC species % x 3 = 0
()	100 %	Y	OBL	FACU species % x 4 = 0
		<u> </u>		UPL species % x 5 = 0
2	<u>%</u>			Column Totals: 0 % (A) 0 (B)
3				Prevalence Index = B/A =
4	<u>%</u>	<u> </u>		
5	<u>%</u>	<u> </u>		Hydrophytic Vegetation Indicators:
6 7		<u> </u>		☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			□ 3 Prevalence Index is $\leq 3.0^{1}$
10	%			
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %	<u> </u>		
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	ograph C-26	3.		1
	- <u>-</u>			

Depth	pth Matrix Redox Features							
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/1	100					Clay Loam	
2-10	10YR 3/1	85	10YR 4/6	15	С	М	Clay Loam	
10-20	10YR 3/1	75	10YR 5/6	25	С	М	Clay Loam	
		·				·		
<sup>1</sup> Type: C=Co	oncentration, D=Dep	bletion, RM=	Reduced Matrix, C	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore I	Lining, M=Matrix
Hydric Soil I	ndicators: (Applic	able to all	LRRs, unless oth	erwise no	oted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :
Stratified  Stratified  Completed  Thick Dar  Sandy Mu  2.5 cm Mi	pedon (A2)	) 9 (A11) 62) ( <b>LRR G</b>		edox (S5) Matrix (S6 lucky Mine ileyed Mat Matrix (F ark Surfac Dark Sur epression	5) eral (F1) trix (F2) 3) ee (F6) face (F7) s (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRR</li> <li>Coast Prairie Redox (A</li> <li>Dark Surface (S7) (LR</li> <li>High Plains Depressio (LRR H outside of M</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (1</li> <li>Very Shallow Dark Sur</li> <li>Other (Explain in Rem</li> <li><sup>3</sup>Indicators of hydrophytic wetland hydrology must b disturbed or problematic</li> </ul>	A16) ( <b>LRR F, G, H</b> ) <b>R G</b> ) ns (F16) <b>ILRA 72 &amp; 73)</b> IF2) rface (TF 12) arks) vegetation and
	ayer (if present):						Hydric Soil Present?	
Туре:		_ C	epth (inches):				🛛 Yes 🔲 No	
Remarks: Hy	dric soil indicator F6	∂ is present						
YDROLOG	Y							
Wetland Hyd	Irology Indicators:							
- Primary Indic	ators (minimum of c	one required	d; check all that ap	olv)			Secondary Indicators (2)	or more required)

Surface Water (A1)			Salt Crust (B11)	)	Surface Soil Cracks (B6)
High Water Table (A2)			Aquatic Inverteb	orates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)				le Odor (C1)	🛛 Drainage Patterns (B10)
Water Marks (B1)			Dry-Season Wa	ter Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)			Oxidized Rhizos	spheres on Living Roots (C3)	(where tilled)
Drift Deposits (B3)			(where not til	lled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)				duced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)			Thin Muck Surfa	ace (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Im	agery (	B7)	Other (Explain in Control of the	n Remarks)	KAC-Neutral Test (D5)
UWater-Stained Leaves (B9)					Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	Na	Depth (inches)	i i	n gauge, monitoring well, aerial photos, previous
	res	No	(inches)	inspections, etc.), if available:	
Surface Water present?		$\boxtimes$			
Water Table present?		$\boxtimes$			
Saturation Present?	$\boxtimes$		6		
(includes capillary fringe)					
Wetland Hydrology Present?	$\boxtimes$				
Remarks: Wetland hydrology india Therefore, indicator A3 is not met		310, D	2, and D5 present. /	Although saturation was present,	an accompanying water table was not observed.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: <u>SP-534</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S23, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	08481 Long:	-98.843995 Datum: NAD83
Soil Map Unit Name: <u>Glenham-Propser loams, 1 to 6 percent</u>	slopes	N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (If no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answ ocations, transects,	ers in Remarks.)
YesNoFHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Upland	confirmation plot adjac	ent to PEM W-517.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				· · · · · · · · · · · · · · · · · · ·
4	%			Total Number of DominantSpecies Across All Strata:1 (B)
	0 %	= Total Cove	r	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			
2		<u> </u>		Prevalence Index Worksheet:
3	0/			Total % Cover of:Multiply by:
4 5.				$\begin{array}{c} \hline \\ OBL species \\ \hline \\ Show \\ \end{array} \\ \begin{pmatrix} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$
J	0 %	= Total Cove		FACW species $3$ $3$ $3$ $4$ $4$ $-2$ $0$
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
	90 %	Y	FACU	FACU species% x 4 =0
1. Poa pratensis     2. Solidago canadensis		N	FACU	UPL species% x 5 =
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cove	r	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1				□ Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: No test is met. Photograph C-27.				•

Depth	ription: (Describe Matrix	to the depth i		<b>ument the</b> Redox Fea		or confirm the	absence of indicators.)		
(inches)	Color (moist)	% (	Color (moist)	Kedox Fea %	Type <sup>1</sup>	Loc <sup>2</sup>	Toxturo Pom	arke	
0-2	10YR 3/1	100		/0	Туре		TextureRemarks Clay Loam		
2-10	10YR 3/1	85	10YR 4/6	15	С		Clay Loam		
10-20	10YR 3/1	75	10YR 5/6	25	C		Clay Loam		
	·								
Type: C=Co	oncentration, D=Dep	Diletion, RM=Re	duced Matrix, (	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=N	latrix	
••	Indicators: (Applic						Indicators for Problematic Hydric		
Stratified         1 cm Muc         Depleted         Thick Dar         Sandy Mu         2.5 cm Mu         5 cm Muc	pedon (A2) tic (A3) a Sulfide (A4) Layers (A5) ( <b>LRR F</b> , k (A9) ( <b>LRR F, G, H</b> Below Dark Surface k Surface (A12) ucky Mineral (S1) ucky Peat or Peat (S3	6) • (A11) 62) ( <b>LRR G, H</b> )		Advix (S5) Matrix (S6 Mucky Mine Gleyed Mat Matrix (F Dark Surfac Dark Surfac Dark Surfac	5) eral (F1) rrix (F2) 3) ee (F6) face (F7) s (F8) ssions (F16)	1	<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR I</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp;</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation wetland hydrology must be present, or disturbed or problematic</li> </ul>	<b>73)</b> 2) and	
Restrictive I	Layer (if present):						Hydric Soil Present?		
Туре:		Dep	th (inches):				🛛 Yes 🔲 No		
Remarks: Hy	/dric soil indicator F6	) is present.							
IYDROLOG	iΥ								
Wetland Hyd	drology Indicators:								
Primary Indic	<u>cators (minimum of c</u>	one required; c	heck all that ap	ply)			Secondary Indicators (2 or more req	<u>uired)</u>	
🗌 Surface V	Vater (A1)		Salt Crust (	B11)			Surface Soil Cracks (B6)		
🗌 High Wat	er Table (A2)		Aquatic Inv	ertebrates	(B13)		Sparsely Vegetated Concave Su	rface (B	
_									

Wetland Hydrology Indicators:					
Primary Indicators (minimum of c	ne requi	red; c	heck all that apply)		Secondary Indicators (2 or more required)
Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Inverteb         Saturation (A3)       Hydrogen Sulfad         Water Marks (B1)       Dry-Season Wat         Sediment Deposits (B2)       Oxidized Rhizos         Drift Deposits (B3)       (where not till         Algal Mat or Crust (B4)       Presence of Rec         Iron Deposits (B5)       Thin Muck Surfat         Inundation Visible on Aerial Imagery (B7)       Other (Explain in				orates (B13) le Odor (C1) iter Table (C2) spheres on Living Roots (C3) <b>lled)</b> duced Iron (C4) ace (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (strean inspections, etc.), if available:	n gauge, monitoring well, aerial photos, previous
Surface Water present? Water Table present? Saturation Present? (includes capillary fringe) Wetland Hydrology Present? Remarks: No hydrology indicator	s presen	⊠ ⊠ ⊻ t.			

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-535
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S14, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	18335 Long:	-98.843885 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?            Naturally Problematic?            SUMMARY OF FINDINGS – Attach site map showing same	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Comparison of the sent of	emarks: Upland	confirmation plot.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-):0 (A)
4.				Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species <u>% x 1 = 0</u>
	0 %	= Total Cove	r	FACW species% $x 2 = 0$
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. Poa pratensis	100 %	Y	FACU	FACU species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
2.	%			UPL species $\%$ x 5 = 0
3.	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7	<b>A</b> (			1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>100 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %			
2	0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: No test is met. Photograph C-28.				

Depth (inches)	Matrix			Redox Feat			_	_
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-6</u> 6-18	<u> </u>	<u>100</u> 100					<u> </u>	
0-10	101R 3/3	100		·				
				·				
Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, (	CS=Covere	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless oth	erwise not	ted.)		Indicators for Problema	ntic Hydric Soils <sup>3</sup> :
Black His Hydroger Stratified 1 cm Mud Depleted Thick Da Sandy Mi 2.5 cm M	ipedon (A2)	) (A11) 2) ( <b>LRR G</b>		edox (S5) Matrix (S6 Aucky Mine Gleyed Matri Matrix (F3 ark Surface Dark Surface Dark Surface	) ral (F1) rix (F2) 3) e (F6) ace (F7) 5 (F8) sions (F16)	1	<ul> <li>1 cm Muck (A9) (LRR</li> <li>Coast Prairie Redox (</li> <li>Dark Surface (S7) (LF</li> <li>High Plains Depression (LRR H outside of M</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (</li> <li>Very Shallow Dark Su</li> <li>Other (Explain in Rem</li> <li><sup>3</sup>Indicators of hydrophytic wetland hydrology must b</li> </ul>	A16) (LRR F, G, H) RR G) ons (F16) <i>I</i> ILRA 72 & 73) TF2) urface (TF 12) narks) c vegetation and
							disturbed or problematic	
Туре:	Layer (if present):		Depth (inches):				disturbed or problematic Hydric Soil Present? ☐ Yes ⊠ No	
Type:	o hydric soil indicator						Hydric Soil Present?	
Type: Remarks: No	o hydric soil indicator						Hydric Soil Present?	
Type: Remarks: No YDROLOG Wetland Hy	o hydric soil indicator	is present	· · · · · ·				Hydric Soil Present?	or more required)
Type: Remarks: No YDROLOG Wetland Hy Primary India	o hydric soil indicator SY drology Indicators: cators (minimum of o	is present	· · · · · ·	<u>פוע)</u>			Hydric Soil Present? ☐ Yes ⊠ No	<u> </u>
Type:	o hydric soil indicator GY drology Indicators: cators (minimum of o Nater (A1) ter Table (A2) n (A3) arks (B1)	is present	d; check all that ap	<u>plγ)</u> B11) ertebrates ( Sulfide Odoi η Water Tat	(B13) r (C1) ole (C2)	Roots (C3)	Hydric Soil Present?	B6) Concave Surface (B8 10)
Type: Remarks: No YDROLOG Wetland Hy Primary India Surface V High Wat Saturatio Saturatio Saturatio Saturatio Dift Dep	o hydric soil indicator GY drology Indicators: cators (minimum of o Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2)	is present	d; check all that ap Salt Crust ( Aquatic Inve Hydrogen S Dry-Seasor Oxidized Rł (where n Presence o	<u>ply)</u> B11) ertebrates ( Sulfide Odol 1 Water Tak nizospheres <b>ot tilled)</b> f Reduced	(B13) r (C1) ble (C2) s on Living Iron (C4)	Roots (C3)	Hydric Soil Present?         Yes         Yes         Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated (         Drainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on	B6) Concave Surface (B8 10) es on Living Roots ( 3) Aerial Imagery (C9)
Type: Remarks: No YDROLOG Wetland Hy Primary India G Surface V High Wat Saturatio Water Ma Sediment Drift Dep Algal Mat Iron Depo Inundatio	o hydric soil indicator GY drology Indicators: cators (minimum of o Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	ne required	d; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rh (where no Presence o Thin Muck S	<u>ply)</u> B11) ertebrates ( Sulfide Odor n Water Tab nizospheres <b>ot tilled)</b> f Reduced Surface (C7	(B13) r (C1) ble (C2) s on Living Iron (C4) 7)	Roots (C3)	Hydric Soil Present?         ☐ Yes       No         Secondary Indicators (2)         ☐ Surface Soil Cracks (         ☐ Sparsely Vegetated (         ☑ Drainage Patterns (B)         ☐ Oxidized Rhizosphere (where tilled)         ☐ Crayfish Burrows (C8)	B6) Concave Surface (B8 10) es on Living Roots (( 3) Aerial Imagery (C9) (D2) 5)

Water Table present?

(includes capillary fringe)
Wetland Hydrology Present?

Saturation Present?

 $\boxtimes$ 

Remarks: Hydrology indicator B10 and D2 present.

 $\boxtimes$ 

 $\boxtimes$ 

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-536
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S23, T111N, R67W
Landform (hillslope, terrace, etc.) drainage L	_ocal relief (concave, convex, none): Slope (%):2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.409783 Long: -98.853713 Datum: NAD83
Soil Map Unit Name: Water	NWI Classification: PABFh
Are climate/hydrologic conditions on the site typical for this time of year	ar? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation     Soil     Hydrology       Significantly Disturbed?     Image: Comparison of the second sec	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampl	ling point locations, transects, important features, etc.
Yes       No       Rem         Hydrophytic Vegetation Present?       □       □         Hydric Soil Present?       □       □         Wetland Hydrology Present?       □       □         Is the Sampled Area within a Wetland?       □       □	narks: Wetland sample plot located in PEM W-518.

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.		Species?	Status	Number of Dominant Species that
2.	0/			are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4.				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				Burnels and the days Microlasta
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.				OBL species% x 1 =0
	0 %	= Total Cover	-	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =
1. <u>Hordeum jubatum</u>	60 %	Y	FACW	FACU species $-\%$ x 4 = $-0$
2. <u>Persicaria maculosa</u>		Y	FACW	UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3. <u>Phalaris arundinacea</u>	20 %	<u>N</u>	FACW	
4	%			Prevalence Index = B/A =
5	%	. <u></u>		Hydrophytic Vegetation Indicators:
6				
7				I Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 110 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide
Weeder Vine Chartenne (Diet size: 20)	110 %	- Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Ph	otograph C-2	9.		
	σ.			

Depth	Matrix	to the dept		Redox Fea		or commune	absence of indicators.)	
(inches)	Color (moist)	%	Color (moist)	% Keutox rea	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	100					Clay Loam	Komano
4-10	10YR 3/2	95	10YR 4/6	5	С	M	Clay Loam	
10-20	10YR 3/2	90	10YR 4/6	10	С	М	Clay Loam	
Type: C=C	oncentration, D=Dep	letion, RM=	Reduced Matrix, 0	CS=Cover	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore L	ining, M=Matrix
Hydric Soil	Indicators: (Applic	able to all L	RRs, unless oth	erwise no	oted.)		Indicators for Problemat	ic Hydric Soils <sup>3</sup> :
Stratified         1 cm Muc         Depleted         Thick Dar         Sandy Mr         2.5 cm Muc         5 cm Muc	pedon (A2) tic (A3) n Sulfide (A4) Layers (A5) ( <b>LRR F</b> ck (A9) ( <b>LRR F, G, H</b> Below Dark Surface rk Surface (A12) ucky Mineral (S1) ucky Peat or Peat (S3	) (A11) 62) ( <b>LRR G,</b>	, -	edox (S5) Matrix (S lucky Min Gleyed Ma I Matrix (F ark Surfa I Dark Sur epression	) 6) eral (F1) ttrix (F2) 3) ce (F6) tface (F7) hs (F8) ssions (F16)	)	<ul> <li>1 cm Muck (A9) (LRR I</li> <li>Coast Prairie Redox (A</li> <li>Dark Surface (S7) (LRI</li> <li>High Plains Depression (LRR H outside of Mi</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (T</li> <li>Very Shallow Dark Sur</li> <li>Other (Explain in Rema</li> <li><sup>3</sup>Indicators of hydrophytic of wetland hydrology must be disturbed or problematic</li> </ul>	<ul> <li>(16) (LRR F, G, H)</li> <li>R G)</li> <li>ns (F16)</li> <li>LRA 72 &amp; 73)</li> <li>F2)</li> <li>face (TF 12)</li> <li>arks)</li> <li>vegetation and</li> </ul>
Restrictive	Layer (if present):						Hydric Soil Present?	
Туре:		D(	epth (inches):				🛛 Yes 🔲 No	
Remarks: Hy	ydric soil indicator F€	) is present.						
-	drology Indicators:						Occurrent to the form	
	cators (minimum of c	one required					Secondary Indicators (2 c	
Surface V	· · ·		Salt Crust (I	,			Surface Soil Cracks (E	,
High Wat Saturation	er Table (A2) n (A3)		Aquatic Inve		. ,		☐ Sparsely Vegetated Co ☑ Drainage Patterns (B1	•

Dry-Season Water Table (C2)

Presence of Reduced Iron (C4)

(where not tilled)

Thin Muck Surface (C7)

Depth

(inches)

Other (Explain in Remarks)

Oxidized Rhizospheres on Living Roots (C3)

inspections, etc.), if available:

UWater Marks (B1)

Drift Deposits (B3)

Iron Deposits (B5)

**Field Observations:** 

Surface Water present?

(includes capillary fringe) Wetland Hydrology Present?

Water Table present?

Saturation Present?

Sediment Deposits (B2)

Algal Mat or Crust (B4)

□ Water-Stained Leaves (B9)

Inundation Visible on Aerial Imagery (B7)

Yes

 $\boxtimes$ 

Remarks: Wetland hydrology indicators B10, D2 and D5 are present.

No

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Oxidized Rhizospheres on Living Roots (C3)

Saturation Visible on Aerial Imagery (C9)

Frost-Heave Hummocks (D7) (LRR F)

(where tilled)

Crayfish Burrows (C8)

FAC-Neutral Test (D5)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous

Geomorphic Position (D2)

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling I	Date: 6/26/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampl	ling Point: SP-537
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S23, T111N, 67W	
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): <u>5 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	09805 Long:	-98.853890	Datum: NAD83
Soil Map Unit Name:Water		N	WI Classification:	PABFh
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	□ No es, etc.
Yes       No       R         Hydrophytic Vegetation Present?       Image: Second Secon	emarks: Upland	sample plot adjacent to	9 PEM W-518.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	<u>%</u>			(excluding FAC-): 0 (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of:Multiply by:
5.	<u>%</u>			OBL species         %         x 1 =         0
· · ·	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Poa pratensis</u>	90 %	Y	FACU	FACU species% x 4 =
2. Solidago canadensis	15 %	N	FACU	UPL species% x 5 =0
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				
6	0/			Hydrophytic Vegetation Indicators:
7.				1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				□ □ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	105 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-30.			

SOIL

Depth         Matrix         Redox Features           (inches)         Color (moist)         %         Color (moist)         %           0-20         10YR 3/2         100	Tester
0-20 10YR 3/2 100	
	Texture Remarks
	Clay Loam
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix
	dicators for Problematic Hydric Soils <sup>3</sup> :
	1 cm Muck (A9) ( <b>LRR I, J</b> )
	Coast Prairie Redox (A16) (LRR F, G, H)
	Dark Surface (S7) (LRR G)
	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F)	(LRR H outside of MLRA 72 & 73)
	Reduced Vertic (F18)
	Red Parent Material (TF2)
	Very Shallow Dark Surface (TF 12)
	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)	dicators of hydrophytic vegetation and
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) we	etland hydrology must be present, unless sturbed or problematic
Restrictive Layer (if present):	/dric Soil Present?
Type: Depth (inches):	Yes 🖾 No
Remarks: No hydric soil indicator is present.	
Wetland Hydrology Indicators:	
Wetland Hydrology Indicators:	econdary Indicators (2 or more required)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Sector	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)	] Surface Soil Cracks (B6)
Wetland Hydrology Indicators:       Second Sec	] Surface Soil Cracks (B6) ] Sparsely Vegetated Concave Surface (B8)
Wetland Hydrology Indicators:       Surface Vater (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)       Salt Crust (B11)         Sturation (A3)       Hydrogen Sulfide Odor (C1)       Salt Crust (B10)	] Surface Soil Cracks (B6) ] Sparsely Vegetated Concave Surface (B8) ] Drainage Patterns (B10)
Wetland Hydrology Indicators:       Sector 1         Primary Indicators (minimum of one required; check all that apply)       Sector 1         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)	] Surface Soil Cracks (B6) ] Sparsely Vegetated Concave Surface (B8)
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)	] Surface Soil Cracks (B6) ] Sparsely Vegetated Concave Surface (B8) ] Drainage Patterns (B10) ] Oxidized Rhizospheres on Living Roots (C3)
Wetland Hydrology Indicators:       Sectors (minimum of one required; check all that apply)       Sectors (minimum of one required; check all that appl	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> </ul>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>
Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> </ul>
Primary Indicators (minimum of one required; check all that apply)       Si         Primary Indicators (minimum of one required; check all that apply)       Si         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> </ul>
Wetland Hydrology Indicators:       Sector Sec	<ul> <li>] Surface Soil Cracks (B6)</li> <li>] Sparsely Vegetated Concave Surface (B8)</li> <li>] Drainage Patterns (B10)</li> <li>] Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>] Crayfish Burrows (C8)</li> <li>] Saturation Visible on Aerial Imagery (C9)</li> <li>] Geomorphic Position (D2)</li> <li>] FAC-Neutral Test (D5)</li> </ul>
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Set         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth (inches)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Set         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Describe Recorded Data (stream gain spections, etc.), if available:	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Set         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth (inches)         Surface Water present?       Depth (inches)         Water Table present?       D         Water Table present?       D	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Set         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Pepth (inches)         Surface Water present?       Depth (inches)         Surface Water present?       Mater Table present?         Saturation Present?       Mater Table present?	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators:       Primary Indicators (minimum of one required; check all that apply)       Set         Primary Indicators (minimum of one required; check all that apply)       Set         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth (inches)         Surface Water present?       Depth (inches)         Water Table present?       D         Water Table present?       D	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Samp	oling Point: SP-538
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S20, T111N, R66	W
Landform (hillslope, terrace, etc.)swale	Local relief (co	ncave, convex, none):	concave	Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Regio	n Lat: 44.4	11377 Long:	-98.790429	Datum: NAD83
Soil Map Unit Name: Betts-Java loams, steep		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	f year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.	)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Comparison of the second secon	(If nee	Normal Circumstances" eded, explain any answe	ers in Remarks.)	_
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Wetland	d sample plot located in	PEM W-520.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4.	<u>%</u>			Total Number of Dominant
7.	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )			I	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				<b>_</b>
3				Prevalence Index Worksheet:
4.	%			Total % Cover of: Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Carex vulpinoidea</u>	100 %	Y	FACW	FACU species% x 4 =
2	<u> </u>	<u> </u>	<u></u>	UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8	<u>%</u>			□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>   100 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	<u>%</u> 0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				······································
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-3	1.		

Depth	Matrix			Redo	x Featur	res					
(inches)	Color (moist)	%	Color (moist)	9	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-2	10YR 3/1	100						Clay Loam			
2-12	10YR 5/2	85	10YR 4/6		15	<u>C</u>	<u> </u>	Clay Loam			
12-20	10YR 5/1	85	10YR 5/6	1	15	С	M	Clay Loam			
<sup>1</sup> Type: C=C	Concentration, D=Dep	oletion, RM	Reduced Matri	x, CS=C	Covered	or Coate	d Sand Grair	ns <sup>2</sup> Location: PL=Pore	Lining, M=Matrix		
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless o	otherwis	se note	d.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :		
Histosol	(A1)		Sandy	/ Gleyed	d Matrix	(S4)		☐ 1 cm Muck (A9) ( <b>LRF</b>	R I, J)		
🗌 Histic Ep	ipedon (A2)		☐ Sandy	/ Redox	(S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )		
Black His	stic (A3)		☐ Stripp	ed Matr	rix (S6)			🗌 Dark Surface (S7) (L	RR G)		
	n Sulfide (A4)		🗌 Loam					High Plains Depressi			
	Layers (A5) ( <b>LRR F</b>		🗌 Loam			: (F2)		(LRR H outside of I	,		
	ck (A9) ( <b>LRR F, G, H</b>		🛛 Deple		. ,			Reduced Vertic (F18)			
	Below Dark Surface	e (A11)				. ,			Red Parent Material (TF2)		
	rk Surface (A12)					• •		☐ Very Shallow Dark Surface (TF 12) ☐ Other (Explain in Remarks)			
•	lucky Mineral (S1)			•		,		_ 、:	,		
	lucky Peat or Peat (S cky Peat or Peat (S3	, ,			73 of L			<sup>3</sup> Indicators of hydrophytic wetland hydrology must disturbed or problematic	be present, unless		
Restrictive	Layer (if present):							Hydric Soil Present?			
Туре:		_ [	Depth (inches):					Yes 🗌 No			
Remarks: H	ydric soil indicator F3	3 is present									
IYDROLOG	GY										
Wetland Hy	drology Indicators:										
-	cators (minimum of c		d; check all that	apply)				Secondary Indicators (2	or more required)		
Surface \	Water (A1)		Salt Crus	st (B11)				Surface Soil Cracks	· · · · ·		
	ter Table (A2)		Aquatic I			13)		Sparsely Vegetated	· /		
Saturatio			Hydroge					Drainage Patterns (E			
Water Mater Mater Mater			Dry-Seas	son Wat	ter Table	e (C2)	Oxidized Rhizospher	es on Living Roots (C3			
Sedimen	t Deposits (B2)		Oxidized			on Living	Roots (C3)	(where tilled)			
🗌 Drift Dep	( )			not till				Crayfish Burrows (Ca			
-	t or Crust (B4)					on (C4)		Saturation Visible on	••••		
Iron Dep	( )					1)		Geomorphic Position			
	on Visible on Aerial Ir tained Leaves (B9)	magery (B7	) 🗌 Other (E:	xpiain in	i Kemar	KS)		☑ FAC-Neutral Test (D ☐ Frost-Heave Hummo	,		
Field Obser	rvations:	Yes	Depth No (inches				ed Data (stre ), if available:	eam gauge, monitoring well, a	aerial photos, previous		

Surface Water present?

(includes capillary fringe)

Wetland Hydrology Present?

Water Table present?

Saturation Present?

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Remarks: Wetland hydrology indicators A1, A2, A3, B10, D2 and D5 present.

1

0

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Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Dat	te: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling	g Point: <u>SP-539</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S20, T111N, R66W	
Landform (hillslope, terrace, etc.) hillslope	Local relief (co	ncave, convex, none):	convex	Slope (%): <u>10 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	11369 Long:	-98.790267 Da	atum: NAD83
Soil Map Unit Name:Betts-Java loams, steep		N	WI Classification: N	A
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	□ No , <b>etc</b> .
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland	sample plot adjacent to	PEM W-520.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
	0/			(excluding FAC-):0 (A)
				Total Number of Dominant
4	%	= Total Cove		Species Across All Strata:(B)
	%		er	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )		V	FACU	are OBL, FACW, or FAC: 0% (A/B)
1. <u>Lonicera japonica</u> 2.	20 %	<u>     Y     </u>	FACU	
	0/			Prevalence Index Worksheet:
3 4				Total % Cover of: Multiply by:
5.	0/			OBL species % x 1 = 0
·	20 %	= Total Cove	er	FACW species % x 2 = 0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
	80 %	Y	FACU	FACU species % x 4 = 0
		<u> </u>		UPL species % x 5 = 0
2. <u>Solidago canadensis</u>	0/	<u> </u>	FACU	Column Totals: 0 % (A) 0 (B)
3	0/			Prevalence Index = B/A =
4				
5 6.				Hydrophytic Vegetation Indicators:
6 7				□ 1 Rapid Test for Hydrophytic Vegetation
8	0/			□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cove	er	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2				<sup>1</sup> Indicators of hydric soil and wetland hydrology
£	0 %	= Total Cove	er	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present?  Yes  No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-32.			•
,				

		e to the d	epth n					or confirm th	e absence of indicators.)	
Depth (inches)	Matrix	0/			Redox	k ⊢eat %		Loc <sup>2</sup>	Touturo	Demortes
0-6	Color (moist) 10YR 3/2	<u>%</u> 100		olor (moist)			Type <sup>1</sup>		Texture Clay Loam	Remarks
6-18	10YR 3/3	100							Clay Loam	
0 10										
								·		
Type: C=Cor	ncentration, D=De	pletion, R	.M=Rec	duced Matrix,	CS=C	overe	d or Coated	Sand Grain	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix
	dicators: (Appli								Indicators for Problema	atic Hydric Soils <sup>3</sup> :
 Histosol (A				Sandy (					☐ 1 cm Muck (A9) ( <b>LRR</b>	(I. J)
Histic Epip	,			Sandy I	-		ix (01)		Coast Prairie Redox (	
Black Histi				Strippe			)		Dark Surface (S7) (L	
 Hydrogen \$	. ,			Loamy		•	,		High Plains Depression	,
	ayers (A5) (LRR F	=)		Loamy	-				(LRR H outside of M	
	(A9) ( <b>LRR F, G, I</b>	,		Deplete	-				Reduced Vertic (F18)	
Depleted B	elow Dark Surfac	e (A11)		🗌 Redox I	Dark S	urface	e (F6)		Red Parent Material (	,
	Surface (A12)			Deplete	ed Darl	< Surfa	ace (F7)		Very Shallow Dark Su	( )
-	cky Mineral (S1)			🗌 Redox I	•		. ,		Other (Explain in Rem	narks)
	cky Peat or Peat ( y Peat or Peat (S	, ,	• •				sions (F16) LRR H)		<sup>3</sup> Indicators of hydrophytic wetland hydrology must l	
									disturbed or problematic	
	ayer (if present):		Donth	(inches);					Hydric Soil Present?	
Туре:		_	Depu	n (inches):						
Remarks: No	hydric soil indicato	or is prese	ent.							
YDROLOGY										
	rology Indicators		rad: ab	ook all that a	nnhu)				Sacandany Indicators (2	or more required)
	ators (minimum of	one requi							Secondary Indicators (2	
Surface Wa				Salt Crust					Surface Soil Cracks (	
☐ High Wate				☐ Aquatic Inv ☐ Hydrogen					Sparsely Vegetated ( Drainage Patterns (B)	
Water Marl				Dry-Seaso			. ,		Oxidized Rhizospher	,
	Deposits (B2)			Oxidized F			. ,	Roots (C3)	(where tilled)	
Drift Depos			L	(where i				(00)	Crayfish Burrows (C8	3)
Algal Mat c			[	Presence		•	Iron (C4)		Saturation Visible on	
Iron Depos			[	Thin Muck	Surfa	ce (C7	7)		Geomorphic Position	(D2)
	Visible on Aerial I	magery (E	37) [	Other (Exp	olain in	Rem	arks)		FAC-Neutral Test (D	
	ned Leaves (B9)		,						Frost-Heave Hummo	cks (D7) <b>(LRR F)</b>
ield Observa	ations:	Yes	No	Depth (inches)				ed Data (stre , if available:	eam gauge, monitoring well, a	aerial photos, previou
Surface Water	r present?		$\boxtimes$				,)	,		
	•		$\boxtimes$		_					
/Vater Table p										
Water Table p Saturation Pre			$\boxtimes$		_					

Remarks: No hydrology indicators are present.

 $\boxtimes$ 

Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>6/27/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-540
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S15, T111N, R67W
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	21106 Long:	-98.864751 Datum: NAD83
Soil Map Unit Name: Hoven silt loam, 0 to 1 percent slopes		N	WI Classification: PEM1A
Are climate/hydrologic conditions on the site typical for this time of	/ear? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	d sample plot located in	PEM W-521.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that
1	<u>    %</u>	·		are OBL, FACW, or FAC
2	<u>%</u>	·		(excluding FAC-): (A)
3		·		Total Number of Dominant
4	<u>%</u>			Species Across All Strata: (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC: (A/B)
1	<u>%</u>	<u> </u>		
2		<u> </u>	<u> </u>	Prevalence Index Worksheet:
3	0/	- <u></u>		Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species         %         x 1 =         0
···	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
A Tumba latifalia	40 %	Y	OBL	FACU species% x 4 =0
<u>Typna latirolia     Spartina pectinata </u>	40 %		FACW	UPL species% x 5 =
3. Alisma triviale	40.0/		OBL	Column Totals: <u>0</u> % (A) <u>0</u> (B)
4			OBL	Prevalence Index = B/A =
5	0/			
6	%			Hydrophytic Vegetation Indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>	·	<u> </u>	
Z	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
Bare Ground in Herb Stratum <u>10</u> %				
Remarks: Rapid test for hydrophytic vegetation is met. Phote	ograph C-3	3.		

Depth	Matrix	F	Redox Fea	atures			
(inches)	Color (moist)	% Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/1	100				Clay Loam	
2-10	10YR 3/1	85 10YR 4/6	15	С	М	Clay Loam	
10-20	10YR 3/1	75 10YR 5/6	25	C	M	Clay Loam	
Type: C=C	oncentration, D=Deplet	tion, RM=Reduced Matrix, (	CS=Cover	ed or Coated	I Sand Grains	<sup>2</sup> Location: PL=Pore Lining	g, M=Matrix
lydric Soil	Indicators: (Applicat	le to all LRRs, unless oth	erwise n	oted.)		Indicators for Problematic H	ydric Soils <sup>3</sup> :
Black His Hydroger Stratified 1 cm Mud Depleted Thick Da Sandy M 2.5 cm M	ipedon (A2)	Depleted     Redox D     (LRR G, H) High Pla	edox (S5) Matrix (S Jucky Min Gleyed Ma Matrix (F ark Surfa Dark Surfa epression	6) eral (F1) trix (F2) 3) ce (F6) face (F7) is (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F (LRR H outside of MLRA</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vege wetland hydrology must be pre- disturbed or problematic</li> </ul>	(LRR F, G, H) 
Restrictive	Layer (if present):					Hydric Soil Present?	
Гуре:	,,	Depth (inches):				Yes No	
Remarks: Hy	ydric soil indicator F6 is	present.					
Vetland Hy	drology Indicators:						
Primary Indi	cators (minimum of one	e required; check all that ap	<u>ply)</u>			Secondary Indicators (2 or mo	ore required)
Saturatio Uater Ma Sediment Drift Dep	ter Table (A2) n (A3) arks (B1) t Deposits (B2)	☐ Salt Crust ( ☐ Aquatic Inv ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized RI (where n ☐ Presence o	ertebrates Sulfide Od n Water Ta nizosphere <b>ot tilled)</b>	or (C1) able (C2) es on Living I	Roots (C3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Conca</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aeria</li> </ul>	n Living Roots (C

I hin Muck Surface (C7)	
Other (Explain in Remarks)	)

<ul> <li>Inundation Visible on Aerial Ir</li> <li>Water-Stained Leaves (B9)</li> </ul>	magery (	B7)	Other (Explain i	in Remarks) ⊠ FAC-Neutral Test (D5) □ Frost-Heave Hummocks (D7) (LRR F)			
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:			
Surface Water present?		$\boxtimes$					
Water Table present?	$\boxtimes$		10				
Saturation Present?	$\boxtimes$		4				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicators A2, A3, D2, and D5 are present.							

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018			
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Sampling Point: SP-541			
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S15, T111N, R67W			
Landform (hillslope, terrace, etc.) swale	Local relief (cor	ncave, convex, none):	concave Slope (%): 2 %			
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.42	21129 Long:	-98.864577 Datum: NAD83			
Soil Map Unit Name: Houdek-Dudley complex, 0 to 2 percent slopes NWI Classification: NA						
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)			
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)			
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Comparison of the second	marks: Upland	sample plost adjacent t	to PEM W-521.			

Tas a Chasterna (Dist size 202)	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC
3.	%			(excluding FAC-): 0 (A)
4.	<u>%</u>			Total Number of Dominant
T	0 %	= Total Cove		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of:Multiply by:
5.	<u>%</u>			OBL species % x 1 = 0
· · · · · · · · · · · · · · · · · · ·	0 %	= Total Cove	r	FACW species % x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
1. <u>Poa pratensis</u>	100 %	Y	FACU	FACU species% x 4 =
2	<u>    100 %</u>	<u> </u>	17100	UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			
6				Hydrophytic Vegetation Indicators:
7	0/			1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				□ □ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-34.			•

•	Matrix		F	Redox Featu	ires			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 3/1	100					Clay Loam	
6-18	10YR 3/2	100					Clay Loam	
					·			
	Dincentration, D=Dep		Reduced Matrix, (	CS=Covered	l or Coated		<sup>2</sup> Location: PL=Pore	0
Hydric Soil I	Indicators: (Applic	able to all L	RRs, unless oth	erwise not	ed.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :
Stratified 1 cm Muc Depleted Thick Dar Sandy Mu 2.5 cm Muc 5 cm Muc Restrictive L Type:	pedon (A2)	) (A11) 52) ( <b>LRR G, I</b> ) ( <b>LRR F</b> ) De		edox (S5) Matrix (S6) Jucky Miner Sleyed Matri I Matrix (F3) ark Surface I Dark Surfa epressions ins Depress 72 & 73 of I	al (F1) x (F2) (F6) ce (F7) (F8) ions (F16) <b>_RR H)</b>		1 cm Muck (A9) (LRR     Coast Prairie Redox (     Dark Surface (S7) (LF     High Plains Depressio     (LRR H outside of M     Reduced Vertic (F18)     Red Parent Material (     Very Shallow Dark Su     Other (Explain in Rem <sup>3</sup> Indicators of hydrophytic     wetland hydrology must b     disturbed or problematic     Hydric Soil Present?     Yes ⊠ No	A16) (LRR F, G, H) RR G) ons (F16) ILRA 72 & 73) TF2) Irface (TF 12) narks) c vegetation and
Wetland Hyd	drology Indicators:			nh()			Secondary Indianters (0	
Wetland Hyd Primary Indic	drology Indicators: cators (minimum of o						Secondary Indicators (2	
Wetland Hyd Primary Indic Surface V High Wate Saturatior Water Ma	drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3)		☐ Salt Crust ( ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized Rł	B11) ertebrates (f Sulfide Odor I Water Tab nizospheres	(C1) le (C2)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> </ul>	B6) Concave Surface (B8 10) es on Living Roots ((
Wetland Hyd Primary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation	drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) osits (B3) or Crust (B4)	ne required;	☐ Salt Crust ( ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor	B11) ertebrates (f Gulfide Odor I Water Tab nizospheres ot tilled) f Reduced II Gurface (C7	(C1) le (C2) on Living F ron (C4) )	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere</li> </ul>	B6) Concave Surface (B8 10) es on Living Roots (( 3) Aerial Imagery (C9) (D2) 5)
Primary Indic Surface V High Wate Saturatior Water Ma Sediment Sediment Drift Depo Algal Mat Iron Depo Inundation	drology Indicators: eators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial In ained Leaves (B9)	ne required;	□ Salt Crust () □ Aquatic Invo □ Hydrogen S □ Dry-Season □ Oxidized Rł (where no □ Presence o □ Thin Muck S □ Other (Expl	B11) ertebrates (f Sulfide Odor N Water Tab nizospheres ot tilled) f Reduced In Surface (C7 ain in Rema	(C1) e (C2) on Living F ron (C4) rks) be Recorde		<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5)</li> </ul>	B6) Concave Surface (B8 10) es on Living Roots (0 ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>

Water Table present?		$\boxtimes$						
Saturation Present?		$\boxtimes$						
(includes capillary fringe)								
Wetland Hydrology Present?		$\boxtimes$						
Remarks: Wetland hydrology indicator D2 is present.								

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: <sub>SD</sub> Sampling Point: <sub>SP-542</sub>
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S18, T111N, R66W
Landform (hillslope, terrace, etc.) depression	Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.418413 Long: -98.813270 Datum: NAD83
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent slo	NWI Classification: PEM1A
Are climate/hydrologic conditions on the site typical for this time of year	ear? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Comparison of the state of the s	Are "Normal Circumstances" present?  Ves  D No (If needed, explain any answers in Remarks.)
Yes       No       Ref         Hydrophytic Vegetation Present?       Image: Constraint of the second	narks: Sample plot located in PEM W-523.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
	0/			are OBL, FACW, or FAC
2 3	<u>%</u>			(excluding FAC-): (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )			I	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				
3.				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species % x 1 = 0
•	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Carex vulpinoidea</u>	70 %	Y	FACW	FACU species% x 4 =0
2	<u> </u>	<u> </u>		UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7	%			☑ 1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	70 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	<u>%</u> 0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
			1	······································
Bare Ground in Herb Stratum <u>30</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-36	6.		

Geomorphic Position (D2)

FAC-Neutral Test (D5)

Saturation Visible on Aerial Imagery (C9)

Profile Desc	ription: (Describe	to the dep	th needed to doc	ument the	indicator o	or confirm the	absence of indicators.)		
Depth	Matrix		F	Redox Fea	itures				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-2	10YR 3/1	100					Clay Loam		
2-10	10YR 3/1	85	10YR 4/6	15	C	M	Clay Loam		
10-20	10YR 3/1	75	10YR 5/6	25	C	M	Clay Loam		
		·							
<sup>1</sup> Type: C=Co	ncentration, D=Dep	bletion, RM=	Reduced Matrix, (	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore L	ining, M=Matrix	
Hydric Soil	ndicators: (Applic	able to all	LRRs, unless oth	erwise no	oted.)		Indicators for Problemat	ic Hydric Soils <sup>3</sup> :	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)						)	<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G, H)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>		
Restrictive I	ayer (if present):						Hydric Soil Present?		
Туре:		_ C	epth (inches):				🛛 Yes 🔲 No		
	dric soil indicator F6	∂ is present.					1		
IYDROLOG	Y								
Wetland Hyd	Irology Indicators:								
Primary Indic	ators (minimum of c	one required	l; check all that ap	<u>ply)</u>			Secondary Indicators (2 c	or more required)	
Surface V	/ater (A1)		Salt Crust (	B11)			Surface Soil Cracks (E	36)	
⊠ High Wate ⊠ Saturatior	er Table (A2) n (A3)		Aquatic Inve Hydrogen S		☐ Sparsely Vegetated C ☐ Drainage Patterns (B1	· ·			

	Dialitage Fallerins (DTU)
Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Oxidized Rhizospheres on Living Roots (C3)	(where tilled)
(where not tilled)	Crayfish Burrows (C8)

(where not tilled) Presence of Reduced Iron (C4)

Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)
Iron Deposits (B5)	Thin Muck Surface (C7)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)
Water Otalizad Laguag (DO)	

Water-Stained Leaves (B9)	nagery (	57) -		Frost-Heave Hummocks (D7) (LRR F)			
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:			
Surface Water present?		$\boxtimes$					
Water Table present?	$\boxtimes$		12				
Saturation Present?	$\boxtimes$		6				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicators A2, A3, D2, and D5 present.							

UWater Marks (B1)

Drift Deposits (B3)

Sediment Deposits (B2)

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-543
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S18, T111N, R66W
Landform (hillslope, terrace, etc.) hillslope	Local relief (co	ncave, convex, none):	convex         Slope (%):         10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	18407 Long:	-98.813386 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent sl	lopes	N	WI Classification: PEM1A
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Comparison of the second	əmarks: Upland	sample plot aadjacent i	to PEM W-523.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	-	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				· · · · · · · · · · · · · · · · · · ·
4.				Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	<u>%</u>			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	<u>%</u>			OBL species% x 1 =
	0 %	= Total Cove	r	FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
1. <u>Poa pratensis</u>	100 %	<u> </u>	FACU	FACU species $-\%$ x 4 = $-0$
2				UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6				
7				□ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	100 %	= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide
Woody Vine Stratum (Plot size: 30')				supporting data in Remarks or on a separate sheet)
1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	ph C-37.			•

Depth	Matrix		Redox Fe	atures			
(inches)	Color (moist)	% Color	(moist) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
0-6	10YR 3/2	100				Clay Loam	
6-18	10YR 3/3	100				Clay Loam	
	Concentration, D=Dep	bletion, RM=Reduce	d Matrix, CS=Cove	red or Coate		<sup>2</sup> Location: PL=Pore Lining, M=Matrix	
-	Indicators: (Applic					Indicators for Problematic Hydric Soils	
Histosol	( )		Sandy Gleyed Ma	. ,		□ 1 cm Muck (A9) ( <b>LRR I, J</b> )	
	ipedon (A2)		Sandy Redox (S5			Coast Prairie Redox (A16) ( <b>LRR F, G</b> ,	
Black His	. ,		Stripped Matrix (S	,		Dark Surface (S7) (LRR G)	
	n Sulfide (A4) I Layers (A5) ( <b>LRR F</b>		Loamy Mucky Mir Loamy Gleyed Ma			High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)	
	ck (A9) ( <b>LRR F, G, H</b>		Depleted Matrix (I			Reduced Vertic (F18)	
	Below Dark Surface		Redox Dark Surfa	,		Red Parent Material (TF2)	
	irk Surface (A12)	Very Shallow Dark Surface (TF 12)					
Thick Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (TF 12)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)       Other (Explain in Remarks)							
2.5 cm N	lucky Peat or Peat (S cky Peat or Peat (S3	, , , _	High Plains Depre (MLRA 72 & 73 o	. ,	)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic	
Restrictive	Layer (if present):					Hydric Soil Present?	
Туре:	· • • • • • • •	Depth (ind	hes):	<u> </u>		🗌 Yes 🖾 No	
Remarks: N	o hydric soil indicato	r is present.					
IYDROLOO	GΥ						
Wetland Hy	drology Indicators:	1					
Primary Indi	cators (minimum of o	one required; check	all that apply)			Secondary Indicators (2 or more required)	
Surface V	Water (A1)	🗌 Sa	alt Crust (B11)			Surface Soil Cracks (B6)	
High Wa	ter Table (A2)		quatic Invertebrates			Sparsely Vegetated Concave Surface	
Saturatio	on (A3)		/drogen Sulfide Oc			Drainage Patterns (B10)	
U Water Ma			y-Season Water T	. ,		Oxidized Rhizospheres on Living Root	
	t Deposits (B2)		kidized Rhizospher	es on Living	Roots (C3)	(where tilled)	
Drift Dep	( )		(where not tilled)	d Iron (C4)		Crayfish Burrows (C8)	
-	t or Crust (B4)		esence of Reduce	( )		Saturation Visible on Aerial Imagery (C Geomorphic Position (D2)	
	Iron Deposits (B5)						

<ul> <li>Inundation Visible on Aerial In</li> <li>Water-Stained Leaves (B9)</li> </ul>	nagery (I	37)	☐ Other (Explain i	·	] FAC-Neutral Test (D5) ] Frost-Heave Hummocks (D7) <b>(LRR F)</b>		
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gainspections, etc.), if available:	auge, monitoring well, aerial photos, previous		
Surface Water present?		$\boxtimes$					
Water Table present?		$\boxtimes$					
Saturation Present?		$\boxtimes$					
(includes capillary fringe)							
Wetland Hydrology Present?		$\boxtimes$					
Remarks: No hydrology indicators are present.							

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Sam	oling Point: SP-544
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S18, T111N, R66	ŚW
Landform (hillslope, terrace, etc.) depression	Local relief (co	ncave, convex, none):	concave	Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	17732 Long:	-98.815380	Datum: NAD83
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification:	PABFh
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Wetland	d sample plot located in	PEM W-524.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
	<u>%</u>			are OBL, FACW, or FAC
		<u> </u>		(excluding FAC-): (A)
		·		Total Number of Dominant
4	<u>%</u>	= Total Cove		Species Across All Strata:(B)
	0 %	= Total Cove		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: (A/B)
1	<u>%</u>			
2				Prevalence Index Worksheet:
	<u>%</u>			Total % Cover of: Multiply by:
4 5.	<u>%</u>			OBL species % x 1 = 0
•	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
· · · · · · · · · · · · · · · · · · ·	50 %	Y	OBL	FACU species % x 4 = 0
	40 %	<u> </u>	FACW	UPL species % x 5 = 0
=: <u></u>	<u>40 %</u> %		TACW	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3	<u>%</u> %			Prevalence Index = B/A =
	<u>%</u>			
5				Hydrophytic Vegetation Indicators:
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	90 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	<u>%</u> 0%	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
Bare Ground in Herb Stratum <u>10</u> %				
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-38	3.		

Profile Desc	cription: (Describe	to the depth r	needed to doc	ument the	indicator o	or confirm the	absence of indicators.)	
Depth	Matrix							
(inches)	Color (moist)	<u>%</u> C	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 3/1	100					Clay Loam	
2-10	10YR 3/1	85	10YR 4/6	15	С	M	Clay Loam	
10-20	10YR 3/1	75	10YR 5/6	25	C	M	Clay Loam	
	·							
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM=Re	duced Matrix, (	CS=Covere	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore I	Lining, M=Matrix
Hydric Soil	Indicators: (Applic	able to all LRI	Rs, unless oth	erwise no	oted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)							1 cm Muck (A9) (LRR      Coast Prairie Redox (A      Dark Surface (S7) (LR      High Plains Depressio     (LRR H outside of M      Reduced Vertic (F18)      Red Parent Material (1      Very Shallow Dark Su      Other (Explain in Rem <sup>3</sup> Indicators of hydrophytic     wetland hydrology must b     disturbed or problematic      Hydric Soil Present?	A16) (LRR F, G, H) R G) INS (F16) ILRA 72 & 73) IF2) Iface (TF 12) arks) vegetation and
Туре:		Dent	h (inches):				Yes No	
IYDROLOG		·					I	
•	drology Indicators:							
	cators (minimum of o		-				Secondary Indicators (2	
Surface V	( )		Salt Crust (				Surface Soil Cracks (	,
N	T 11 (AO)							

Wetland Hydrology Indicators:								
Primary Indicators (minimum of	one requ	Secondary Indicators (2 or more required)						
Surface Water (A1)			Salt Crust (B11	)	Surface Soil Cracks (B6)			
High Water Table (A2)			Aquatic Invertel	brates (B13)	Sparsely Vegetated Concave Surface (B8)			
Saturation (A3)			Hydrogen Sulfic	de Odor (C1)	Drainage Patterns (B10)			
☐ Water Marks (B1)			Dry-Season Wa	ater Table (C2)	Oxidized Rhizospheres on Living Roots (C3)			
Sediment Deposits (B2)				spheres on Living Roots (C3)	(where tilled)			
Drift Deposits (B3)			(where not ti	,	Crayfish Burrows (C8)			
Algal Mat or Crust (B4)			Presence of Re	( )	Saturation Visible on Aerial Imagery (C9)			
☐ Iron Deposits (B5)			Thin Muck Surfa	( )	Geomorphic Position (D2)			
Inundation Visible on Aerial I	magery	(B7)	Other (Explain i	in Remarks)	FAC-Neutral Test (D5)			
□ Water-Stained Leaves (B9)					Frost-Heave Hummocks (D7) (LRR F)			
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (strear inspections, etc.), if available:	m gauge, monitoring well, aerial photos, previous			
Surface Water present?	$\boxtimes$		2					
Water Table present?	$\boxtimes$		0					
Saturation Present?	$\boxtimes$		0					
(includes capillary fringe)								
Wetland Hydrology Present?	$\boxtimes$							
Remarks: Wetland hydrology inc	Remarks: Wetland hydrology indicators A1, A2, A3, D2, and D5 are present.							

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Sampling Point: SP-545
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S18, T111N, R66W
Landform (hillslope, terrace, etc.) roadside ditch	Local relief (cor	ncave, convex, none):	concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	17936 Long:	-98.815433 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent s	opes	N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Comparison of the system	marks: Upland	sample plot adjacent to	9 PEM W-524.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				· · · · · · · · · · · · · · · · · · ·
4				Total Number of Dominant Species Across All Strata: 1 (B)
	0 %	= Total Cove	r	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:0% (A/B)
2		<u> </u>		Prevalence Index Worksheet:
3			. <u> </u>	Tatal % Cause of Multiply by
4				Total % Cover of: Multiply by:
5			. <u> </u>	OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cove	r	FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\% x 4 = 0$
1. <u>Poa pratensis</u>		<u>Y</u>	FACU	UPL species $\%$ x 5 = 0
2. <u>Toxicodendron radicans</u>		<u>     N    </u>	FACU	Column Totals: $0\%$ (A) $0$ (B)
3				
4				Prevalence Index = B/A =
5			<u> </u>	Hydrophytic Vegetation Indicators:
6 7	0/			☐ 1 Rapid Test for Hydrophytic Vegetation
8.				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogr	aph C-39.			
· · · · · · · · · · · · · · · · · · ·				

Depth	Matrix	Re	dox Features		
(inches)	Color (moist)	% Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-6	10YR 3/2	100			Clay Loam
6-18	10YR 3/3	100			Clay Loam
Type: C=C	oncentration, D=Deplet	ion, RM=Reduced Matrix, CS			
lydric Soil	Indicators: (Applicab	le to all LRRs, unless other	wise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
Black His Hydroger Stratified 1 cm Mud Depleted Thick Da Sandy Mi 2.5 cm M	ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) ( <b>LRR F</b> ) ck (A9) ( <b>LRR F, G, H</b> ) Below Dark Surface (A rk Surface (A12) ucky Mineral (S1) lucky Peat or Peat (S2)	Sandy Red Stripped M Loamy Mu Loamy Gle Depleted M 11) Redox Dar Depleted D Redox Dep (LRR G, H) High Plains	atrix (S6) cky Mineral (F1) yed Matrix (F2) Matrix (F3) k Surface (F6) Park Surface (F7) pressions (F8) s Depressions (F16)		<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G, H)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and</li> </ul>
5 cm Muo	cky Peat or Peat (S3) ( <b>L</b>	.RR F) (MLRA 72	& 73 of LRR H)		wetland hydrology must be present, unless disturbed or problematic
Restrictive	Layer (if present):				Hydric Soil Present?
уре:		Depth (inches):			☐ Yes ⊠ No
Remarks: No	o hydric soil indicator is	present.			
	drology Indicators:				
	0,	required; check all that apply	<u>()</u>		Secondary Indicators (2 or more required)
☐ Saturatio ☐ Water Ma ☐ Sediment ☐ Drift Dep	ter Table (A2) n (A3) arks (B1) t Deposits (B2)	(where not	ebrates (B13) fide Odor (C1) /ater Table (C2) ospheres on Living I	Roots (C3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (Bi</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots ( (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> </ul>
Iron Depo	. ,	Thin Muck Su	rface (C7)		Geomorphic Position (D2)

Water-Stained Leaves (B9)	nagery (	B7) L		Frost-Heave Hummocks (D7) (LRR F)			
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:			
Surface Water present?		$\boxtimes$					
Water Table present?		$\boxtimes$					
Saturation Present?		$\boxtimes$					
(includes capillary fringe)							
Wetland Hydrology Present?		$\boxtimes$					
Remarks: Wetland hydrology indicator D2 is met.							

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-548
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S19, T111N, R66W
Landform (hillslope, terrace, etc.) depression	Local relief (cor	ncave, convex, none):	concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	12908 Long:	-98.810003 Datum: NAD83
Soil Map Unit Name:		N	WI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	I sample plot located in	PEM W-526.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
•	%		<u> </u>	are OBL, FACW, or FAC
2 3	%		<u> </u>	(excluding FAC-): (A)
	<u>%</u>		<u> </u>	Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0 70		1	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.	%			Burnels and a landar Wenter baset
3.				Prevalence Index Worksheet:
4.	%			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Spartina pectinata</u>	100 %	<u> </u>	FACW	FACU species% x 4 =
2	%			UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3	%			
4	%			Prevalence Index = B/A =
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6				
7				I Rapid Test for Hydrophytic Vegetation
8				□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide
Marsha)/inc. Otrations (Distribute 001)	100 %	- Total Cove	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
Z	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	ograph C-40	Э.		
	<b>U</b> 1 2 1			

Profile Desc	ription: (Describe	to the de	epth ne	eded to doc	ument th	e indicator o	or confirm the	e absence of indicators.)	
Depth	Matrix			F	Redox Fe	atures			
(inches)	Color (moist)	%	Co	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	100					<u> </u>	Silt Loam	
4-18	10YR 3/2	95		10YR 4/6	5	C	M	Silt Loam	
							<u> </u>		·
							. <u> </u>		
						·			
						·	<u> </u>		
<sup>1</sup> Type: C=Co	ncentration, D=Dep	pletion R	M=Red	uced Matrix (	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	lining M=Matrix
	ndicators: (Applic							Indicators for Problem	0.
-									•
Histosol (A	,			Sandy G	-			1 cm Muck (A9) (LR	
Histic Epip				Sandy R				Coast Prairie Redox	
Black Hist				☐ Stripped ☐ Loamy N		,		□ Dark Surface (S7) (L □ High Plains Depress	,
	Layers (A5) ( <b>LRR F</b>	)			-			(LRR H outside of	
	(A9) (LRR F, G, H				-			Reduced Vertic (F18	•
	Below Dark Surface			Redox D		,		Red Parent Material	,
	Surface (A12)	; (ATT)				( )		Uery Shallow Dark S	· /
	cky Mineral (S1)			Redox D		. ,		Other (Explain in Re	. ,
•	icky Peat or Peat (S	52) ( <b>LRR</b>	<b>G. H</b> )		•	essions (F16)	)	<sup>3</sup> Indicators of hydrophyt	
	ky Peat or Peat (S3	, (	• •			of LRR H)		wetland hydrology must disturbed or problematio	be present, unless
Restrictive L	ayer (if present):							Hydric Soil Present?	
Type:			Depth	(inches):				Yes 🗌 No	
				. ,					
Remarks: Hy	dric soil indicator F6	3 is prese	nt.						
HYDROLOG	Y								
Wetland Hvd	rology Indicators:								
-	ators (minimum of c		red: che	eck all that ap	vla)			Secondary Indicators (2	2 or more required)
Surface W		9 011		] Salt Crust (				Surface Soil Cracks	
High Wate	( )		_	Aquatic Inve	,	(P12)		Sparsely Vegetated	· · /
				] Hydrogen S				Drainage Patterns (	
Water Mai	( )			] Dry-Seasor					eres on Living Roots (C3
	Deposits (B2)			Oxidized R		. ,	Roots (C3)	(where tilled)	
Drift Depo			L	(where n			10013 (00)	Crayfish Burrows (C	(8)
Algal Mat	( )		Γ	Presence of		d Iron (C4)		Saturation Visible or	
				_ Thin Muck \$				Geomorphic Positio	0,0,0,0
•	Visible on Aerial Ir	nagerv (F	_	_ ] Other (Expl				☐ FAC-Neutral Test ([	. ,
	ined Leaves (B9)		.,			,		Frost-Heave Humm	ocks (D7) <b>(LRR F)</b>
	· · /			Depth	Dee	oribo Doos	lad Data (at		
Field Observ	ations:	Yes	No	(inches)			ied Data (strea ), if available:	am gauge, monitoring well,	aeriai photos, previous
Surface Wate	r present?		$\boxtimes$	. ,			,,		
	•	_			-				
Water Table					-				
Saturation Pr			$\boxtimes$		-				
(includes cap	• • •		_						
wetland Hyd	rology Present?	$\boxtimes$							

Remarks: Wetland hydrology indicator D2 and D5 are present.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-549
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S19, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none Slope (%): <u>3 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	13227 Long:	-98.809759 Datum: NAD83
Soil Map Unit Name:		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Upland	sample plot adjacent to	PEM W-526.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	%			(excluding FAC-): 0 (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )			1	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of:Multiply by:
5.	<u>%</u>			OBL species         %         x 1 =         0
···	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
( <u> </u>	100 %	Y	FACU	FACU species% x 4 =0
1. <u>Poa pratensis</u> 2	<u> </u>	<u> </u>		UPL species% x 5 =0
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			
6	%			Hydrophytic Vegetation Indicators:
7.				☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				□ □ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
Mandu Mine Checkurg (Dick size: 201)	<u>   100 %</u>	= Total Cove	r	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-41.			•

Profile Description: (Describe	e to the de	pth nee				or confirm the	absence of indicators.)	
Depth Matrix				Redox Fea				
(inches) Color (moist)	%	Col	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u> </u>	100						Silt Loam	
6-18 10YR 3/3	100						Silt Loam	
· · · · · · · · · · · · · · · · · · · _ · · · · _ · · · · · · · · · · · · · · · · · · ·								
<sup>1</sup> Type: C=Concentration, D=De	pletion, RN	/I=Redu	ced Matrix, C	S=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining	g, M=Matrix
Hydric Soil Indicators: (Appli	cable to al	ll LRRs	, unless oth	erwise n	oted.)		Indicators for Problematic H	ydric Soils <sup>3</sup> :
Histosol (A1)			Sandy G	leyed Ma	trix (S4)		☐ 1 cm Muck (A9) (LRR I, J)	
Histic Epipedon (A2)			Sandy Re	edox (S5)	)		Coast Prairie Redox (A16)	(LRR F, G, H)
Black Histic (A3)			Stripped Stripped	Matrix (S	6)		Dark Surface (S7) (LRR G)	1
Hydrogen Sulfide (A4)			🗌 Loamy M	-			High Plains Depressions (F	16)
Stratified Layers (A5) (LRR I			🗌 Loamy G	-			(LRR H outside of MLRA	72 & 73)
1 cm Muck (A9) (LRR F, G, I	,		Depleted				Reduced Vertic (F18)	
Depleted Below Dark Surfac	e (A11)		Redox Da		· · /		Red Parent Material (TF2)	(TE 40)
Thick Dark Surface (A12)					• •		<ul> <li>Very Shallow Dark Surface</li> <li>Other (Explain in Remarks)</li> </ul>	. ,
Sandy Mucky Mineral (S1)		• ••		•	( )		,	
2.5 cm Mucky Peat or Peat (		-	High Plai		ssions (F16) of LRR H)		<sup>3</sup> Indicators of hydrophytic vege	
5 cm Mucky Peat or Peat (S	5) ( <b>LKK F</b> )			2 0 7 5 0			wetland hydrology must be pre disturbed or problematic	sent, unless
Restrictive Layer (if present):							Hydric Soil Present?	
Туре:		Depth (	inches):				☐ Yes ⊠ No	
Remarks: No hydric soil indicate	or is preser	nt.						
IYDROLOGY								
Wetland Hydrology Indicators			ما ما الم	- 1- 1)			Casardam (Indiantana (O.a. ma	
Primary Indicators (minimum of	one require						Secondary Indicators (2 or mo	ore required)
Surface Water (A1)			Salt Crust (E	,			Surface Soil Cracks (B6)	
High Water Table (A2)			Aquatic Inve				Sparsely Vegetated Conca	ve Surface (B8)
Saturation (A3)			Hydrogen S		· · /		Drainage Patterns (B10)	
Water Marks (B1)			Dry-Season		. ,	D t. (00)	Oxidized Rhizospheres on (where tilled)	Living Roots (C3
Sediment Deposits (B2)			Oxidized Rh (where no		es on Living	Roots (C3)	Crayfish Burrows (C8)	
<ul> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> </ul>			Presence of		l Iron (C4)		Saturation Visible on Aeria	I Imagery (C9)
☐ Aigai Mat of Clust (B4) ☐ Iron Deposits (B5)			Thin Muck S		( )		Geomorphic Position (D2)	(cc)
Inundation Visible on Aerial I	magery (B	_	Other (Expla	-	-		FAC-Neutral Test (D5)	
Water-Stained Leaves (B9)	magery (B	·) —	<b>、</b> 1		,		Frost-Heave Hummocks (I	07) <b>(LRR F)</b>
			Depth	Due				,, ,
Field Observations:	Yes	No	(inches)			led Data (strea ), if available:	m gauge, monitoring well, aerial	photos, previous
Surface Water present?	_		/	linsh	COUCHS, CIU.	, " available.		
Water Table present? Saturation Present?								
		$\boxtimes$						
(includes capillary fringe)								
Wetland Hydrology Present?		$\boxtimes$						

Remarks: No hydrology indicators are present.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-550
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S19, T111N, R66W
Landform (hillslope, terrace, etc.) drainage	Local relief (co	ncave, convex, none):	concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	07978 Long:	-98.812164 Datum: NAD83
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (If no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answ cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?Image: Comparison of the sent of the sen	emarks: Wetland	d sample plot located in	PEM W-527.

#### **VEGETATION – Use scientific names of plants**

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that
1				are OBL, FACW, or FAC
2		<u> </u>		(excluding FAC-): (A)
3				Total Number of Dominant
4				Species Across All Strata: (B)
	0 %	= Total Cover	ſ	Bereast of Deminant Creasion that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: (A/B)
1	%			
2	%			Prevalence Index Worksheet:
3	%	<u> </u>		
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cover	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
1. <u>Alopecurus pratensis</u>	80 %	Y	FACW	FACU species % x 4 = 0
2. <u>Carex sp. *</u>		N	FAC	UPL species% x 5 =
3. Persicaria hydropiperoides		N	OBL	Column Totals: <u>0</u> % (A) <u>0</u> (B)
		<u> </u>		Prevalence Index = B/A =
4				
5				Hydrophytic Vegetation Indicators:
6 7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				
	95 %	= Total Cover	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2		<u> </u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover	ſ	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
	Consultant of the second	المحاط والمحالية المحاد	and the all to a	l
Remarks: Rapid test for hydrophytic vegetation is met. *	Carex species	could not be id	entified be	yong genus. Carex species in this region are

typically facultative or wetter, therefore, indicator is assumed to be FAC. Photograph C-42.

Profile Desc	ription: (Describe	to the de	oth needed to	docum	ent the	e indicator (	or confirm th	e absence of indicators.)	
Depth	Matrix				dox Fea				
(inches)	Color (moist)	%	Color (mo		%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 3/2	100			/0			Silt Loam	Komano
4-18	10YR 3/2	95	10YR 4/	<u> </u>	5	С	М	Silt Loam	
<sup>1</sup> Type: C=Co	ncentration, D=Dep	letion, RN	I=Reduced M	atrix, CS=	=Cover	ed or Coate	d Sand Grains	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil I	ndicators: (Applic	able to al	l LRRs, unles	s otherv	wise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A	<b>\</b> 1)		🗌 Sa	ndy Gley	ed Mat	trix (S4)		🗌 1 cm Muck (A9) (LRI	R I, J)
Histic Epip	pedon (A2)			ndy Red				Coast Prairie Redox	
Black Hist	ic (A3)		🗌 Str	ipped Ma	atrix (Se	6)		🗌 Dark Surface (S7) (L	
Hydrogen	Sulfide (A4)		🗌 Lo	amy Muc	ky Min	eral (F1)		High Plains Depressi	
	ayers (A5) (LRR F	-		amy Gley				(LRR H outside of	,
	k (A9) ( <b>LRR F, G, H</b>	-		pleted M		,		Reduced Vertic (F18	, ,
•	Below Dark Surface	e (A11)		dox Dark		( )		Red Parent Material	· /
	surface (A12)			•		face (F7)		Very Shallow Dark S	· · ·
-	cky Mineral (S1)			dox Depi		. ,		Other (Explain in Rer	,
	icky Peat or Peat (S	, ,				ssions (F16) <b>f LRR H)</b>		<sup>3</sup> Indicators of hydrophyti	
	ky Peat or Peat (S3	)(LRR F)	(14	LKA /Z	a 130			wetland hydrology must disturbed or problematic	
Postrictivo I	ayer (if present):							Hydric Soil Present?	
_	ayer (il present).							$\boxtimes$ Yes $\square$ No	
Туре:		_	Depth (inches	):		<u> </u>			
Remarks: Hyd	dric soil indicator F6	is presen	t.						
HYDROLOG	Y								
Wetland Hyd	rology Indicators:								
Primary Indic	ators (minimum of c	one require	ed; check all t	at apply	)			Secondary Indicators (2	or more required)
Surface W	ater (A1)	-	🗌 Salt C	rust (B11	- 1)			Surface Soil Cracks	(B6)
High Wate	( )			•	,	(B13)		Sparsely Vegetated	
Saturation						. ,		Drainage Patterns (F	
Water Mar			Dry-S	-		. ,			res on Living Roots (C3)
	Deposits (B2)					es on Living	Roots (C3)	(where tilled)	<b>o</b> ( )
Drift Depo	,		(wh	ere not t	tilled)	Ū	· · · ·	Crayfish Burrows (C	8)
Algal Mat	or Crust (B4)					l Iron (C4)		Saturation Visible or	
Iron Depo	□ Iron Deposits (B5) □ Thin Muck Surface (C7)						Geomorphic Position		
Inundation	n Visible on Aerial Ir	nagery (B7	7) 🗌 Other	(Explain	in Ren	narks)		☑ FAC-Neutral Test (E	
🗌 Water-Sta	ined Leaves (B9)							Frost-Heave Hummo	ocks (D7) <b>(LRR F)</b>
Field Observ	ations:		Dep		Desc	cribe Record	led Data (stre	am gauge, monitoring well,	aerial photos, previous
		Yes	No (incl	es)			), if available:	5 6 / S 12,	. ,
Surface Wate	er present?		$\boxtimes$						
Water Table p	present?								
Saturation Pr	esent?								
(includes cap	illary fringe)			_					
Wetland Hyd	Irology Present?	$\boxtimes$							

Remarks: Wetland hydrology indicator D2 and D5 are present.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>6/27/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	Sampling Point: SP-551
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S19, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	07936 Long:	-98.812115 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification: <u>PEM1C</u>
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Comparison of the system	əmarks: Upland	sample plot adjacent to	PEM W-527.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that are OBL, FACW, or FAC
2				(excluding FAC-): <u>1 (</u> A)
3				Total Number of Dominant
4	<u>%</u> 0 %	= Total Cover		Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: <u>50%</u> (A/B)
2.	0/			Prevalence Index Worksheet:
3				
4		·		Total % Cover of: Multiply by:
5				OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover		FACW species $\%$ $x 2 = 0$ FAC species $\%$ $x 3 = 0$
Herb Stratum (Plot size: <u>5'</u> )	/			FACU species $\% x 4 = 0$
1. <u>Poa pratensis</u>	<u>60 %</u>	<u> </u>	FACU	UPL species $\% \times 5 = 0$
2. <u>Alopecurus pratensis</u>		<u>Y</u>	FACW	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3	0/			Prevalence Index = B/A =
4		·		
5 6.	0/	·		Hydrophytic Vegetation Indicators:
7	0/			1 Rapid Test for Hydrophytic Vegetation
8	0/			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10		= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide
Weedy Vine Stretum (Plet size: 20')	80 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> ) 1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	0/			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-43.			

	cription: (Describe to the	-		or confirm the	absence of indicators.)		
Depth (inches)	Matrix		edox Features				
(inches)	Color (moist) %		% Type <sup>1</sup>	Loc <sup>2</sup>		Remarks	
<u> </u>	<u>10YR 3/2</u> 10	20			Silt Loam		
0-18	10YR 3/310				Silt Loam		
••	Concentration, D=Depletion			d Sand Grains	<sup>2</sup> Location: PL=Pore Lir	0	
Hydric Soil	Indicators: (Applicable	to all LRRs, unless othe	erwise noted.)		Indicators for Problemation	: Hydric Soils <sup>3</sup> :	
Histosol	· · ·		eyed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I,</b>		
	ipedon (A2)	Sandy Re			Coast Prairie Redox (A1		
Black His	. ,	Stripped	. ,		Dark Surface (S7) (LRR	,	
	n Sulfide (A4)	-	ucky Mineral (F1)		High Plains Depressions (LRR H outside of ML)		
	l Layers (A5) ( <b>LRR F</b> ) ck (A9) ( <b>LRR F, G, H</b> )	Depleted	leyed Matrix (F2) Matrix (F3)		Reduced Vertic (F18)		
	Below Dark Surface (A11		ark Surface (F6)		Red Parent Material (TF	2)	
•	irk Surface (A12)	/	Dark Surface (F7)		☐ Very Shallow Dark Surface (TF 12)		
	lucky Mineral (S1)	-	epressions (F8)		Other (Explain in Remarks)		
•	lucky Peat or Peat (S2) (L	<sup>3</sup> Indicators of hydrophytic ve	egetation and				
🗌 5 cm Mu	cky Peat or Peat (S3) (LRI	RF) (MLRA7	72 & 73 of LRR H)		wetland hydrology must be disturbed or problematic		
Restrictive	Layer (if present):				Hydric Soil Present?		
Туре:		Depth (inches):			🗌 Yes 🛛 No		
Remarks: N	o hydric soil indicator is pr	esent.					
HYDROLOG	GY						
Wetland Hy	drology Indicators:						
Primary Indi	cators (minimum of one re	quired; check all that app	<u>bly)</u>		Secondary Indicators (2 or	more required)	
Surface \	Water (A1)	🗌 Salt Crust (E	311)		Surface Soil Cracks (B6	6)	
🗌 High Wa	ter Table (A2)	Aquatic Inve	rtebrates (B13)		Sparsely Vegetated Co	ncave Surface (B8)	
Saturatio			ulfide Odor (C1)		Drainage Patterns (B10	,	
Water Mater Mater	. ,		Water Table (C2)		Oxidized Rhizospheres	on Living Roots (C3)	
	t Deposits (B2)		izospheres on Living	Roots (C3)	(where tilled)		
Drift Dep		(where no			Crayfish Burrows (C8)	vial Imagon (CO)	
-	t or Crust (B4)	Thin Muck S	Reduced Iron (C4)		☐ Saturation Visible on Ae ☐ Geomorphic Position (D	••••	
	osits (B5) on Visible on Aerial Imager	_			FAC-Neutral Test (D5)	·-)	
	ained Leaves (B9)				Frost-Heave Hummock	s (D7) <b>(LRR F)</b>	

Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: No hydrology indicator	rs are pr	esent.		

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018				
Applicant/Owner: Sweetland Wind Farm, LLC		State: SD	Sampling Point: SP-552				
Investigator(s): T. Beemer, W. Hirst	Sectio	on, Township, Range:	S19, T111N, R66W				
Landform (hillslope, terrace, etc.) depression	Local relief (con	Local relief (concave, convex, none): concave Slope (					
Subregion (LRR): Northern Great Plains Spring Wh	neat Region Lat: 44.40	)6381 Long:	-98.806473 Datum: NAD83				
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA							
Are climate/hydrologic conditions on the site typical for this time of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)							
Significantly Disturbed?       Naturally Problematic?	I (If need	lormal Circumstances" p ded, explain any answer	s in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.							
YesHydrophytic Vegetation Present?Hydric Soil Present?Wetland Hydrology Present?	No Remarks: Upland s ⊠ ⊠ ⊠	sample plot.					
Is the Sampled Area within a Wetland?	$\boxtimes$						

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
		<u> </u>		are OBL, FACW, or FAC
				(excluding FAC-):1 (A)
				Total Number of Dominant
4	<u>%</u> 0 %	= Total Cover		Species Across All Strata: <u>2</u> (B)
	0 %	= Total Cover	ſ	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: 50% (A/B)
1		<u> </u>		
2		<u> </u>		Prevalence Index Worksheet:
		<u> </u>		Total % Cover of: Multiply by:
4		<u> </u>		
5	<u>%</u>			OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover	ſ	FAC species $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\%$ x 4 = 0
1. Poa pratensis	60 %	<u>Y</u>	FACU	UPL species $\% x 5 = 0$
2. <u>Alopecurus pratensis</u>	20 %		FACW	Column Totals: 0 % (A) 0 (B)
3. <u>Salvia sp.*</u>		<u>         N                           </u>		
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cover	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. * Salvia sp	pecies could	not be identifie	d past gen	us, therefore, no indicator status is listed.
Photograph C-44.				

	ription: (Describe	to the depth	needed to docum	ient the indicator o	r confirm the	absence of indicators.)		
Depth	Matrix		Re	dox Features				
(inches)	Color (moist)	<u>%</u>	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-6	10YR 3/2	100				Silt Loam		
6-18	10YR 3/3	100				Silt Loam		
		·	·					
			·		<u> </u>			
<sup>1</sup> Type: C=Co	ncentration, D=Dep	pletion, RM=R	educed Matrix, CS	=Covered or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
Hydric Soil I	ndicators: (Applic	able to all LR	Rs, unless other	wise noted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
Histosol (A	A1)		Sandy Glev	ved Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRI</b>	(L. J.)	
Histic Epip	,		Sandy Red			Coast Prairie Redox		
Black Hist			Stripped M			$\Box$ Dark Surface (S7) ( <b>LRR G</b> )		
Hydrogen	. ,		••	xky Mineral (F1)		☐ High Plains Depressions (F16)		
	_ayers (A5) ( <b>LRR F</b>	;)	•	yed Matrix (F2)		(LRR H outside of MLRA 72 & 73)		
	k (A9) (LRR F, G, F	,	Depleted M			Reduced Vertic (F18		
	Below Dark Surface	-	Redox Dar			Red Parent Material		
	K Surface (A12)			ark Surface (F7)		Uery Shallow Dark S	. ,	
	cky Mineral (S1)		Redox Dep	· · ·		Other (Explain in Rer	· · ·	
-	icky Peat or Peat (\$	32) (I <b>RR G H</b>		Depressions (F16)		_ 、 ·	,	
	ky Peat or Peat (S3			& 73 of LRR H)		<sup>3</sup> Indicators of hydrophyti wetland hydrology must		
			(	,		disturbed or problematic		
Restrictive L	ayer (if present):					Hydric Soil Present?		
Type:	<b>,</b> , , , , , , , , , , , , , , , , , ,	Der	th (inches):			🗌 Yes 🖾 No		
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
HYDROLOG	Y							
Wetland Hyd	rology Indicators	:						
Primary Indic	ators (minimum of o	one required: c						
			heck all that apply	<u>)</u>		Secondary Indicators (2	or more required)	
Surface W	/ater (A1)	<u></u>	heck all that apply Salt Crust (B1	-		Secondary Indicators (2	· · · ·	
High Wate	( )	<u></u>	• • •	1)			(B6)	
	er Table (A2)		Salt Crust (B1	- 1) ebrates (B13)		Surface Soil Cracks	(B6) Concave Surface (B8)	
High Wate	er Table (A2) (A3)		Salt Crust (B1	- 1) ebrates (B13) ïde Odor (C1)		☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns (E	(B6) Concave Surface (B8)	
☐ High Wate ☐ Saturation ☐ Water Ma	er Table (A2) (A3)		☐ Salt Crust (B1 ☐ Aquatic Invert ☐ Hydrogen Sult ☐ Dry-Season W	- 1) ebrates (B13) ïde Odor (C1)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3)	
☐ High Wate ☐ Saturation ☐ Water Ma	er Table (A2) (A3) rks (B1) Deposits (B2)		Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b>	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3)	
High Wate Saturation Water Ma	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3)		Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (I</li> <li>Oxidized Rhizosphe (where tilled)</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8)	
High Wate	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) a Aerial Imagery (C9)	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) n (D2) 5)	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)		Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) n (D2) 5)	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) t Visible on Aerial Ir ined Leaves (B9)		Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) in Remarks) Describe Recorde	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) 6 (D2) (5) pocks (D7) <b>(LRR F)</b>	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) t Visible on Aerial In ined Leaves (B9) rations:	magery (B7) Yes No	Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su Other (Explain Depth	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) ⊢in Remarks)	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Hummon</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) 6 (D2) (5) pocks (D7) <b>(LRR F)</b>	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Field Observ Surface Wate	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ined Leaves (B9) rations:	magery (B7) Yes No	Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su Other (Explain Depth	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) in Remarks) Describe Recorde	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Hummon</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) a (D2) (5) pocks (D7) <b>(LRR F)</b>	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta <b>Field Observ</b> Surface Wate Water Table	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir ined Leaves (B9) rations: er present?	magery (B7) Yes No □ ⊠ □ ⊠	Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su Other (Explain Depth	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) in Remarks) Describe Recorde	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Hummon</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) 6 (D2) (5) pocks (D7) <b>(LRR F)</b>	
High Wate Saturation Sediment Drift Depo Algal Mat Inundatior Water-Sta Field Observ Surface Wate Saturation Pr	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Aerial Ir ined Leaves (B9) rations: er present? esent?	magery (B7) Yes No	Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su Other (Explain Depth	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) in Remarks) Describe Recorde	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Hummon</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) 6 (D2) (5) pocks (D7) <b>(LRR F)</b>	
High Wate High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Field Observ Surface Wate Water Table Saturation Pr (includes cap	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) t Visible on Aerial Ir ined Leaves (B9) rations: er present? present? esent? illary fringe)	magery (B7) Yes No □ ⊠ □ ⊠	Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su Other (Explain Depth	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) in Remarks) Describe Recorde	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Hummon</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) a (D2) (5) pocks (D7) <b>(LRR F)</b>	
High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatior Water-Sta Surface Wate Saturation Pr (includes cap Wetland Hyc	er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) or Visible on Aerial Ir ined Leaves (B9) rations: er present? esent?	magery (B7) Yes No □ ⊠ □ ⊠	Salt Crust (B1 Aquatic Invert Hydrogen Sult Dry-Season W Oxidized Rhiz (where not Presence of R Thin Muck Su Other (Explain Depth (inches)	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living F <b>tilled)</b> educed Iron (C4) face (C7) in Remarks) Describe Recorde	ed Data (strear	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Hummon</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C3) 8) A Aerial Imagery (C9) 6 (D2) (5) pocks (D7) <b>(LRR F)</b>	

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/27/2018						
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-561						
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range:S30, T111N, R66W						
Landform (hillslope, terrace, etc.) swale	Local relief (concave, convex, none): Slope (%):3 %						
Subregion (LRR): Northern Great Plains Spring Wheat Re	egion Lat: <u>44.394612</u> Long: <u>-98.806047</u> Datum: <u>NAD83</u>						
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA							
Are climate/hydrologic conditions on the site typical for this time	ne of year? 🛛 Yes 🗌 No 🛛 (If no, explain in Remarks.)						
Vegetation Soil Hydrolog Significantly Disturbed?	gy Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.) sampling point locations, transects, important features, etc.						
· · · ·							
Yes     No       Hydrophytic Vegetation Present?     Image: Comparison of the sector	Remarks: Wetland sample plot located in PEM W-533.						
Is the Sampled Area within a Wetland?							

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
1 2	%			are OBL, FACW, or FAC
3				(excluding FAC-): <u>2</u> (A)
4.	%			Total Number of Dominant
т	0 %	= Total Cover		Species Across All Strata:2 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: <u>100%</u> (A/B)
2.				<b>_</b>
3.				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Persicaria maculosa</u>	60 %	<u> </u>	FACW	FACU species $\%$ x 4 = 0
2. <u>Rumex crispus</u>	20 %	<u> </u>	FAC	UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3. <u>Carex vulpinoidea</u>	10 %	<u>         N                           </u>	FACW	
4	%			Prevalence Index = B/A =
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6				
7				1 Rapid Test for Hydrophytic Vegetation
8				⊠ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 90 %	= Total Cover		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
Marsha) //in a Otherhum (Distained OO!)	90 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2.	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test for hydrophytic vegetation is met.	. Photograph	ו C-45.		1
, , , , , , , , , , , , , , , , , , , ,	5			

Depth (inchos)	Matrix	<u>.</u>		Redox Fea				<b>_</b> .
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-4</u> 4-18	<u> </u>	<u>100</u> 95	10YR 4/6	5	C		Silty Loam	
4-10		95	101 K 4/0					
Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, C	S=Cove	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless oth	erwise n	oted.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :
Stratified 1 cm Muc Depleted Thick Dar Sandy Mu 2.5 cm M	ipedon (A2)	(A11) (A12) (LRR G	., _ •	edox (S5 Matrix (S lucky Min leyed Ma Matrix (F ark Surfa Dark Su epressior ns Depre	6) eral (F1) trix (F2) 3) ce (F6) face (F7) is (F8)	)	1 cm Muck (A9) (LRR  Coast Prairie Redox ( Dark Surface (S7) (LI High Plains Depression (LRR H outside of M Reduced Vertic (F18) Red Parent Material ( Very Shallow Dark Su Other (Explain in Ren Indicators of hydrophytic wetland hydrology must	A16) (LRR F, G, H) RR G) ons (F16) MLRA 72 & 73) TF2) urface (TF 12) narks) c vegetation and
							disturbed or problematic	
Туре:	Layer (if present):	_	Depth (inches):				disturbed or problematic         Hydric Soil Present?         ⊠ Yes       No	
Type: Remarks: Hy <b>YDROLOG</b>	ydric soil indicator F6	is met.	Depth (inches):				Hydric Soil Present?	
Type: Remarks: Hy IYDROLOG Wetland Hy	ydric soil indicator F6 SY drology Indicators:	i is met.					Hydric Soil Present? ⊠ Yes □ No	
Type: Remarks: Hy YDROLOG Wetland Hy Primary India Surface V High Wat Saturation Saturation Sediment Drift Depo Algal Mat Iron Depo Inundatio	ydric soil indicator F6 GY drology Indicators: cators (minimum of c Nater (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	i is met.	d; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	311) ertebrates ulfide Od Water Ta izospher ot tilled) Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	Hydric Soil Present?	(B6) Concave Surface (B8 310) es on Living Roots (( 3) Aerial Imagery (C9) (D2) 5)

Water Table present?

(includes capillary fringe)
Wetland Hydrology Present?

Saturation Present?

 $\boxtimes$ 

Remarks: Wetland hydrology indicators D2 and D5 are met.

 $\boxtimes$ 

 $\boxtimes$ 

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-562
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S30, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	94736 Long:	-98.806108 Datum: NAD83
Soil Map Unit Name:		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of y	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?            Naturally Problematic?            SUMMARY OF FINDINGS – Attach site map showing same	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Second Sec	emarks: Upland	sample plot associated	with PEM W-533.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
				(excluding FAC-):(A)
	%			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: 1 (B)
Conling/Chruh Stratum (Diat aiza, 15)	0 78			Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC: 0% (A/B)
1 2.				
2		·		Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.		·		OBL species % x 1 = 0
···	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Poa pratensis</u>	90 %	Y	FACU	FACU species% x 4 =
2. Solidago canadensis	5 %	N	FACU	UPL species% x 5 =0
3		<u> </u>		Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	0/	·		Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	0/			
7	<u>%</u>			1 Rapid Test for Hydrophytic Vegetation
8	<u>%</u>			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			4 Morphological Adaptations <sup>1</sup> (Provide
	<u>95 %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	pn C-46.			

Profile Description: (Describe	e to the de	pth ne	eded to doc	ument	the indicator	or confirm the	e absence of indicators.)	
Depth Matrix		· . <u></u>			Features		_	_
(inches) Color (moist)	%	Co	lor (moist)	%		Loc <sup>2</sup>	Texture	Remarks
0-6 10YR 3/2	100	·		·		·	Silty Loam	
6-18 10YR 3/3	100	·					Silty Loam	
		·						
		·		<u></u>				
<sup>1</sup> Type: C=Concentration, D=De	pletion, RN	∕I=Redι	uced Matrix,	CS=Co	vered or Coate	ed Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil Indicators: (Appli	cable to a	ll LRRs	s, unless oth	nerwise	e noted.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :
Histosol (A1)			Sandy G	Sleyed N	Matrix (S4)		1 cm Muck (A9) (LRR	R I, J)
Histic Epipedon (A2)			Sandy R	Redox (S	S5)		Coast Prairie Redox (	
Black Histic (A3)			Stripped	I Matrix	(S6)		🗌 Dark Surface (S7) (LI	RR G)
Hydrogen Sulfide (A4)			🗌 Loamy N	-			High Plains Depression	
Stratified Layers (A5) (LRR I			🗌 Loamy (	-			(LRR H outside of N	
1 cm Muck (A9) (LRR F, G,			Depleted		. ,		Reduced Vertic (F18)	
Depleted Below Dark Surfac	e (A11)		Redox D		( )		Red Parent Material (	/
Thick Dark Surface (A12)			•		Surface (F7)		Very Shallow Dark Su	· · ·
Sandy Mucky Mineral (S1)		• ••		•	. ,		Other (Explain in Ren	
2.5 cm Mucky Peat or Peat (	, ,				pressions (F16 <b>3 of LRR H)</b>	)	<sup>3</sup> Indicators of hydrophytic	
5 cm Mucky Peat or Peat (S	3) ( <b>LRR F</b> )			1201	<b>5 01 LKK П</b> )		wetland hydrology must disturbed or problematic	be present, unless
Restrictive Layer (if present):							Hydric Soil Present?	
Туре:		Depth	(inches) <sup>.</sup>				🗌 Yes 🖾 No	
	_		· / _					
Remarks: No hydric soil indicate	or is preser	nt.						
IYDROLOGY								
Wetland Hydrology Indicators	•							
Primary Indicators (minimum of		od: obo	ok all that an	n hu)			Secondary Indicators (2	or more required)
							,	· · ·
Surface Water (A1)			] Salt Crust (				Surface Soil Cracks	· /
High Water Table (A2)			Aquatic Inv		. ,		Sparsely Vegetated	
Saturation (A3)			] Hydrogen S ] Dry-Seasor		· · ·		Drainage Patterns (B Oxidized Rhizospher	,
☐ Water Marks (B1) ☐ Sediment Deposits (B2)					neres on Living	Poote (C3)	(where tilled)	es on Living Roots (Ca
Drift Deposits (B3)			(where n			R0015 (C3)	Crayfish Burrows (C8	3)
Algal Mat or Crust (B4)					ced Iron (C4)		Saturation Visible on	-
Iron Deposits (B5)			Thin Muck		· · ·		Geomorphic Position	••••
Inundation Visible on Aerial I	magerv (B	_	] Other (Expl				FAC-Neutral Test (D	5)
☐ Water-Stained Leaves (B9)	5 7 (	/					Frost-Heave Hummo	cks (D7) <b>(LRR F)</b>
Field Observations:			Depth	ח	escribe Recor	ded Data (strea	am gauge, monitoring well, a	aerial photos previous
	Yes	No	(inches)		spections, etc		J	
Surface Water present?		$\boxtimes$		_				
Water Table present?		$\boxtimes$		_				
Saturation Present?		$\boxtimes$		_				
(includes capillary fringe)								
Wetland Hydrology Present?		$\boxtimes$						

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-570
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S18, T111N, R66W
Landform (hillslope, terrace, etc.)roadside ditch	Local relief (co	ncave, convex, none):	concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	13980 Long:	-98.804757 Datum: NAD83
Soil Map Unit Name: Glenham loam, rolling		N	WI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation         Soil         Hydrology           Significantly Disturbed?         Image: Comparison of the state of the s	(If nee	Normal Circumstances" eded, explain any answe	ers in Remarks.)
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the system       Image: Comparison of the system         Hydric Soil Present?       Image: Comparison of the system       Image: Comparison of the system       Image: Comparison of the system         Wetland Hydrology Present?       Image: Comparison of the system       Image: Comparison of the system       Image: Comparison of the system         Is the Sampled Area within a Wetland?       Image: Comparison of the system       Image: Comparison of the system       Image: Comparison of the system	Remarks: Wetland	d sample plot located in	PEM W-537.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	<u>%</u>	·		are OBL, FACW, or FAC
	<u>%</u>	·		(excluding FAC-): (A)
		·		Total Number of Dominant
4	<u>%</u> 0 %	= Total Cover		Species Across All Strata:(B)
	0 %	- Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC:(A/B)
1 2.				
		·		Prevalence Index Worksheet:
-	<u>%</u>	·		Total % Cover of: Multiply by:
4 5	<u>%</u>			OBL species         %         x 1 =         0
J	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
( <u> </u>	100 %	Y	OBL	FACU species % x 4 = 0
		<u> </u>		UPL species % x 5 = 0
2	<u>%</u>			Column Totals: 0 % (A) 0 (B)
3	<u>%</u> %			Prevalence Index = B/A =
4	<u>%</u>	·		
5		·		Hydrophytic Vegetation Indicators:
6 7		·		☑ 1 Rapid Test for Hydrophytic Vegetation
8		·		☐ 2 Dominance Test is >50%
9				☐ ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10.	%			
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %			
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-4	7.		•

(inchoo)	Matrix	01			itures	1 2	Trade	
(inches) 0-10	Color (moist) 10YR 5/1	<u>%</u> 80	Color (moist) 10YR 5/6	<u>%</u> 20	<u>Type<sup>1</sup></u> C	<u>Loc<sup>2</sup></u>	Texture Clay Loam	Remarks
10-20	10YR 6/1	80	10YR 5/6	20	C	M	Clay Loam	
10 20							oldy Loann	
							·	
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM	=Reduced Matrix,	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil	ndicators: (Applic	able to all	LRRs, unless oth	nerwise no	oted.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (	,		🗌 Sandy C	Gleyed Mat	rix (S4)		☐ 1 cm Muck (A9) ( <b>LRR</b>	R I, J)
Histic Epi			Sandy F				Coast Prairie Redox (	
Black His	. ,		Stripped	•	,		Dark Surface (S7) (LI	,
_ , .	Sulfide (A4) Layers (A5) ( <b>LRR F</b> )		☐ Loamy I ☐ Loamy (	-			High Plains Depression (LRR H outside of M	
	Layers (A5) (LRR F, k (A9) (LRR F, G, H		⊡ Loamy 0 ⊠ Deplete	-			Reduced Vertic (F18)	•
	Below Dark Surface	,		•	,		Red Parent Material (	
•	k Surface (A12)	()			· · ·		Very Shallow Dark Su	urface (TF 12)
	ucky Mineral (S1)		Redox [		. ,		Other (Explain in Ren	narks)
-	ucky Peat or Peat (S	2) ( <b>LRR G</b>	6, H) 🗌 High Pla	ains Depre	ssions (F16)	1	<sup>3</sup> Indicators of hydrophytic	c vegetation and
5 cm Muc	ky Peat or Peat (S3)	) (LRR F)	(MLRA	72 & 73 o	f LRR H)		wetland hydrology must l disturbed or problematic	
Restrictive I	_ayer (if present):						Hydric Soil Present?	
		1	Depth (inches):				🖾 Yes 🔲 No	
Туре:								
· · ·	uluia a sil in dia stan <b>F</b> O							
Type: Remarks: Hy	dric soil indicator F3		· · · · · <u> </u>					
	rdric soil indicator F3							
· · ·	dric soil indicator F3		, _					
· · ·	rdric soil indicator F3							
Remarks: Hy YDROLOG	Ŷ	is met.						
Remarks: Hy YDROLOG	Y drology Indicators:	is met.					Secondary Indicators (2	
Remarks: Hy YDROLOG Wetland Hy Primary Indic	Y drology Indicators: cators (minimum of o	is met.	d; check all that ap	pply)			Secondary Indicators (2	
Remarks: Hy YDROLOG Wetland Hy Primary Indic	Y drology Indicators: cators (minimum of o Vater (A1)	is met.	d; check all that ap □ Salt Crust (	<u>oply)</u> (B11)			Surface Soil Cracks	(B6)
Remarks: Hy         YDROLOG         Wetland Hyo         Primary India         Surface V         High Wat	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2)	is met.	d; check all that ar □ Salt Crust ( □ Aquatic Inv	oply) (B11) rertebrates	(B13)		Surface Soil Cracks	(B6) Concave Surface (B8
Remarks: Hy         YDROLOG         Wetland Hy         Primary Indic         Surface V         High Wat         Saturation	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3)	is met.	d; check all that ar □ Salt Crust ( □ Aquatic Inv □ Hydrogen \$	oply) (B11) rertebrates Sulfide Odd	(B13) or (C1)		☐ Surface Soil Cracks ( ☐ Sparsely Vegetated ( ☐ Drainage Patterns (B	(B6) Concave Surface (B8 310)
Remarks: Hy         YDROLOG         Wetland Hy         Primary Indic         Surface V         High Wat         Saturation         Water Ma	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1)	is met.	d; check all that ap ☐ Salt Crust ( ☐ Aquatic Inv ☐ Hydrogen S ☐ Dry-Season	oply) (B11) retebrates Sulfide Odo n Water Ta	(B13) or (C1) bble (C2)	Roots (C3)	Surface Soil Cracks	(B6) Concave Surface (B8 310)
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Water Ma         Sediment	Y drology Indicators: eators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)	is met.	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Season	oply) (B11) retebrates Sulfide Odo n Water Ta	(B13) or (C1) bble (C2)	Roots (C3)	☐ Surface Soil Cracks ( ☐ Sparsely Vegetated ( ☐ Drainage Patterns (B ☐ Oxidized Rhizospher	(B6) Concave Surface (B8 310) es on Living Roots ((
Remarks: Hy         YDROLOG         Wetland Hy         Primary Indic         Surface V         High Wat         Saturation         Water Ma         Sediment         Drift Deport	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3)	is met.	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Season	oply) (B11) rertebrates Sulfide Odo n Water Ta hizosphere <b>tilled)</b>	(B13) or (C1) ible (C2) es on Living	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated (</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizospher (where tilled)</li> </ul>	(B6) Concave Surface (B8 310) res on Living Roots (( 3)
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Water Ma         Sediment         Drift Deport	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	is met.	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n Presence c Thin Muck	oply) (B11) rertebrates Sulfide Odd n Water Ta hizosphere <b>tilled)</b> of Reduced Surface (C	(B13) or (C1) ible (C2) es on Living I Iron (C4) 57)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated (</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> </ul>	(B6) Concave Surface (B8 810) es on Living Roots (( 3) Aerial Imagery (C9) 9 (D2)
Remarks: Hy         YDROLOG         Wetland Hy         Primary Indic         Surface V         High Wat         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat         Iron Depo	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	ne require	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n Presence c Thin Muck	oply) (B11) rertebrates Sulfide Odd n Water Ta hizosphere <b>tilled)</b> of Reduced Surface (C	(B13) or (C1) ible (C2) es on Living I Iron (C4) 57)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated (</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (C6</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D</li> </ul>	(B6) Concave Surface (B8 810) es on Living Roots (( 3) Aerial Imagery (C9) (D2) 5)
Remarks: Hy         YDROLOG         Wetland Hy         Primary Indic         Surface V         High Wat         Saturation         Water Mat         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundatio	Y drology Indicators: eators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5)	ne require	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n Presence c Thin Muck	oply) (B11) rertebrates Sulfide Odd n Water Ta hizosphere <b>tilled)</b> of Reduced Surface (C	(B13) or (C1) ible (C2) es on Living I Iron (C4) 57)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated (</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> </ul>	(B6) Concave Surface (B8 810) es on Living Roots (( 3) Aerial Imagery (C9) (D2) 5)
Remarks: Hy         YDROLOG         Wetland Hye         Primary Indic         Surface V         High Wat         Saturation         Vater Mat         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundatio	Y drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9)	ne require	d; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Season Oxidized R (where n Presence c Thin Muck	2017) (B11) rertebrates Sulfide Odo n Water Ta hizosphere tot tilled) of Reduced Surface (C lain in Ren	(B13) or (C1) able (C2) es on Living I Iron (C4) cr) narks) cribe Record		<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated (</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (C6</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D</li> </ul>	(B6) Concave Surface (B8 310) es on Living Roots (( 3) Aerial Imagery (C9) (D2) 5) ccks (D7) <b>(LRR F)</b>

Wetland Hydrology Present?	$\boxtimes$		
Remarks: Wetland hydrology indic	ators A1,	A2, A3, D2, and D5 an	e met.

 $\boxtimes$ 

 $\boxtimes$ 

0

0

Water Table present?

(includes capillary fringe)

Saturation Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/27/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-571
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S18, T111N, R66W
Landform (hillslope, terrace, etc.)berm	Local relief (co	ncave, convex, none):	convex Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	14015 Long:	-98.805000 Datum: NAD83
Soil Map Unit Name: <u>Glenham loam, rolling</u>		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (If no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answ cations, transects,	ers in Remarks.)
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the second s	emarks: Upland	sample plot adjacent to	o W-537.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				
4.	<u> </u>			Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species $\%$ x 1 = $0$
	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. <u>Poa pratensis</u>	100 %	<u> </u>	FACU	FACU species $-\%$ x 4 = $-0$
2				UPL species $\%$ x 5 = $0$
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			
7				1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    100 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2	%	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	- Total Cove		must be present, unless disturbed of problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogr	raph C-48.			

Depth	Matrix			Redox Feat				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-8</u> 8-18	<u>10YR 3/2</u> 10YR 3/3	<u>100</u> 100		<u> </u>			Clay Loam Clay Loam	
0-10				·				
	concentration, D=Dep		-Reduced Matrix			d Sand Grains	<sup>2</sup> Location: PL=Pore	Liping M-Matrix
,,	Indicators: (Applic						Indicators for Problema	0.
Black His Hydroger Stratified 1 cm Mu Depleted Thick Da Sandy M	ipedon (A2) stic (A3) n Sulfide (A4) I Layers (A5) ( <b>LRR F</b> ) ck (A9) ( <b>LRR F, G, H</b> I Below Dark Surface rk Surface (A12) ucky Mineral (S1) fucky Peat or Peat (S	) (A11)		edox (S5) Matrix (S6 Jucky Mine Gleyed Matri Matrix (F3 ark Surface Dark Surface Dark Surface	) ral (F1) ix (F2) i) e (F6) ace (F7) (F8)		1 cm Muck (A9) (LRF     Coast Prairie Redox (     Dark Surface (S7) (L)     High Plains Depressie     (LRR H outside of I     Reduced Vertic (F18)     Red Parent Material (     Very Shallow Dark St     Other (Explain in Rem <sup>3</sup> Indicators of hydrophytic	(A16) ( <b>LRR F, G, H</b> ) <b>RR G</b> ) ons (F16) <b>MLRA 72 &amp; 73)</b> ) (TF2) urface (TF 12) narks)
] 5 cm Mu	cky Peat or Peat (S3)	(LRR F)	(MLRA	72 & 73 of	LRR H)		wetland hydrology must disturbed or problematic	
<b>Restrictive</b> Type:	cky Peat or Peat (S3) Layer (if present): o hydric soil indicator		Depth (inches):		,			
Restrictive Fype: Remarks: No YDROLOG	Layer (if present):         o hydric soil indicator         GY		Depth (inches):		,		disturbed or problematic Hydric Soil Present?	
Restrictive Type: Remarks: No YDROLOG Wetland Hy	Layer (if present): o hydric soil indicator	_ E	Depth (inches):		,		disturbed or problematic Hydric Soil Present? ☐ Yes ⊠ No	
Restrictive Type: Remarks: N  YDROLOG  YDROLOG  Wetland Hy Primary Indi Surface N  GUIDED Surface N  GUIDED Algal Ma Iron Dep Inundatic	Layer (if present): o hydric soil indicator GY drology Indicators: cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	_ E	Depth (inches): d; check all that ap Salt Crust ( Aquatic Inv Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	<u>ply)</u> B11) ertebrates ( Gulfide Odor I Water Tat nizospheres ot tilled) f Reduced Surface (C7	B13) r (C1) ble (C2) s on Living lron (C4) 7)	Roots (C3)	disturbed or problematic Hydric Soil Present?	Cor more required) (B6) Concave Surface (B4 310) res on Living Roots ( 8) A Aerial Imagery (C9) n (D2) 5)

Water Table present?

(includes capillary fringe)

Wetland Hydrology Present?

Remarks: No hydrology indicators are present.

Saturation Present?

 $\boxtimes$ 

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 $\boxtimes$ 

Project/Site: Sweetland Wind Project C	ity/County: <u>Hand County</u> Sampling Date: <u>6/28/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-574
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) depression Lo	cal relief (concave, convex, none): <u>concave</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat:44.393359 Long:98.798896 Datum:NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slope	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of year	? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
Yes       No       Remain         Hydrophytic Vegetation Present?       Image: Comparison of the symptotic symptot symptotic symptot symptotic	rks: Wetland sample plot located in PEM W-539.

#### **VEGETATION – Use scientific names of plants**

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
1 2				are OBL, FACW, or FAC
				(excluding FAC-):1 (A)
				Total Number of Dominant
4	%	= Total Cove		Species Across All Strata: <u>2 (B)</u>
	%	= Total Cove	ſ	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: 50% (A/B)
1 2.				
				Prevalence Index Worksheet:
				Total % Cover of: Multiply by:
				$\frac{1}{\text{OBL species}} = 10\% \text{ x 1} = 10$
5	%	= Total Cove		FACW species $40\%$ x 2 = $80$
	%	= Total Cove	ſ	FAC species $0\% \times 3 = 0$
Herb Stratum (Plot size: <u>5'</u> )				FACU species $70\% \times 4 = 280$
1. Poa pratensis		<u>Y</u>	FACU	UPL species $0\% \times 5 = 0$
2. <u>Alopecurus pratensis</u>		<u>     Y    </u>	FACW	Column Totals: 120 % (A) 370 (B)
3. <u>Alisma triviale</u>		<u>N</u>	OBL	
4	%			Prevalence Index = B/A = <u>3.08</u>
5				Hydrophytic Vegetation Indicators:
6				A Devid Test for the dress bestic Menodestics
7				□ 1 Rapid Test for Hydrophytic Vegetation
8				□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>120 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2				<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum 0 %				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
	hand upor the	t haing lagets	d within	actively grazed pacture. The positive processes of
Remarks: Problematic hydrophytic vegetation is present	based upon plo	r neing iocate	u wiunin an	actively grazed pasture. The positive presence of

Remarks: Problematic hydrophytic vegetation is present based upon plot being located within an actively grazed pasture. The positive presence of hydric soil and wetland hydrology indicate that hydrophytic vegetation would be present if grazing activities ceased. Photograph C-49.

Depth	Matrix	F	Redox Fea	atures	<u> </u>	
(inches)	Color (moist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-8	10YR 3/2 90	10YR 4/6	10	С	M	Clay Loam
8-18	10YR 3/2 80	10YR 5/6	20	C	M	Clay Loam
Type: C=C	concentration, D=Depletion, RM=					<sup>2</sup> Location: PL=Pore Lining, M=Matrix
lydric Soil	Indicators: (Applicable to all	LRRs, unless oth	erwise no	oted.)		Indicators for Problematic Hydric Soils <sup>3</sup>
Black His Hydroger Stratified 1 cm Mud Depleted Thick Da Sandy M 2.5 cm M	ipedon (A2)	· -	eedox (S5) Matrix (S Aucky Min Gleyed Ma d Matrix (F Park Surfa d Dark Surfa pepression	6) eral (F1) trix (F2) 3) ce (F6) face (F7) is (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G, I)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>
Restrictive	Layer (if present):					Hydric Soil Present?
Гуре:		epth (inches):				Yes 🗌 No
YDROLOG	ydric soil indicator F6 is met.					
Netland Hv	drology Indicators:					
	cators (minimum of one required	t check all that an	nlv)			Secondary Indicators (2 or more required)
Surface \		Salt Crust (				Surface Soil Cracks (B6)
	ter Table (A2)	Aquatic Inv		(B13)		Sparsely Vegetated Concave Surface
] Saturatio		Hydrogen S				Drainage Patterns (B10)
] Water Ma		Dry-Seasor		. ,		Oxidized Rhizospheres on Living Root
	t Deposits (B2)	Oxidized RI		. ,	Roots (C3)	(where tilled)
_ Drift Dep		(where n		0	. ,	Crayfish Burrows (C8)
		Presence o	f Reduced	l Iron (C4)		Saturation Visible on Aerial Imagery (C
Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)						Geomorphic Position (D2)
_ Iron Depo		Other (Expl				☐ Geomorphic Position (D2) ☑ FAC-Neutral Test (D5)

Remarks: Wetland hydrology indicators D2 and D5 present.

inspections, etc.), if available:

Depth

(inches)

No

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 $\boxtimes$ 

 $\boxtimes$ 

Yes

 $\boxtimes$ 

Inundation Visible on Aerial Imagery (B7)

□ Water-Stained Leaves (B9)

Field Observations:

Saturation Present?

Surface Water present? Water Table present?

(includes capillary fringe) Wetland Hydrology Present? Frost-Heave Hummocks (D7) (LRR F)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Samp	bling Point: <u>SP-575</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S29, T111N, R66	W
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	93303 Long:	-98.798899	Datum: NAD83
Soil Map Unit Name: <u>Glenham-Propser loams, 1 to 6 percent</u>	slopes	N	IWI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (If no, e	explain in Remarks.)	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answ ocations, transects,	ers in Remarks.)	_
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the second s	emarks: Upland	sample plot adjacent to	9 PEM W-539.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
2 3				(excluding FAC-):0 (A)
				Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: 1 (B)
One line (Oberthe Obertheren (Distributed E))	0 70			Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> ) 1.	%			are OBL, FACW, or FAC: 0% (A/B)
				Prevalence Index Worksheet:
				Total % Cover of: Multiply by:
				$\frac{1}{\text{OBL species}} \qquad \frac{1}{\text{Wattply By}}$
5	<u>%</u> 0 %	= Total Cover		FACW species $70 \times 1 = 0$ $\% \times 2 = 0$
	%	= Total Cover		FAC species $$
Herb Stratum (Plot size: <u>5'</u> )	<u> </u>		FAOL	FACU species $\%$ x 4 = $0$
1. <u>Poa pratensis</u>			FACU	UPL species % x 5 = 0
2. <u>Salvia sp.*</u>		<u>N</u>		Column Totals: 0% (A) 0 (B)
3				Prevalence Index = B/A =
4				
5				Hydrophytic Vegetation Indicators:
6		·		☐ 1 Rapid Test for Hydrophytic Vegetation
7	0/			
8	<b>0</b> (			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	85 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide
Woody Vine Stratum (Plot size: 30')				supporting data in Remarks or on a separate sheet)
1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>15</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. *Salvia s Photograph C-50.	pecies could i	not be identified	l beyond g	enus, therefore, no indicator status is listed.

SOIL

Depth Matrix		R	edox Features			
(inches) Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-18 10YR 3/2	100				Clay Loam	
			·			
Type: C=Concentration, D=De	pletion RM=		S=Covered or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore L	ining M=Matrix
lydric Soil Indicators: (Applie					Indicators for Problemat	0
] Histosol (A1)			eyed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR</b>	•
] Histic Epipedon (A2)		Sandy Re			Coast Prairie Redox (A	
Black Histic (A3)		Stripped I			Dark Surface (S7) (LR	
Hydrogen Sulfide (A4)			ucky Mineral (F1)		High Plains Depression	,
Stratified Layers (A5) (LRR F	•)		leyed Matrix (F2)		(LRR H outside of M	
$\Box$ 1 cm Muck (A9) (LRR F, G, H	,	Depleted			Reduced Vertic (F18)	,
Depleted Below Dark Surface	-		ark Surface (F6)		Red Parent Material (T	F2)
Thick Dark Surface (A12)	2 (711)		Dark Surface (F7)		Very Shallow Dark Sur	,
Sandy Mucky Mineral (S1)			epressions (F8)		Other (Explain in Rema	arks)
2.5 cm Mucky Peat or Peat (	S2) (L <b>RR G</b>		ns Depressions (F16)		<sup>3</sup> Indicators of hydrophytic	
∃ 5 cm Mucky Peat or Peat (S3	, ,		2 & 73 of LRR H)		wetland hydrology must b disturbed or problematic	
Restrictive Layer (if present):		-			Hydric Soil Present?	
Гуре:	С	Depth (inches):			🗌 Yes 🖾 No	
Remarks: No hydric soil indicato	r is present.					
YDROLOGY						
Vetland Hydrology Indicators	:					
Primary Indicators (minimum of		t check all that apr			Coordon / Indiantona (2)	
		a, one on an ende app	<u>ly)</u>		Secondary Indicators (2 d	or more required)
Surface Water (A1)		Salt Crust (B	 :11)		Surface Soil Cracks (E	36)
☐ Surface Water (A1) ☐ High Water Table (A2)		☐ Salt Crust (B ☐ Aquatic Inve	rtebrates (B13)		☐ Surface Soil Cracks (I ☐ Sparsely Vegetated C	36) oncave Surface (B8
☐ Surface Water (A1) ☐ High Water Table (A2) ] Saturation (A3)		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su	rtebrates (B13) Ilfide Odor (C1)		☐ Surface Soil Cracks (E ☐ Sparsely Vegetated C ☐ Drainage Patterns (B1	36) oncave Surface (B8 0)
] Surface Water (A1) ] High Water Table (A2) ] Saturation (A3) ] Water Marks (B1)		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season	rtebrates (B13) Ifide Odor (C1) Water Table (C2)	Poots (C3)	Surface Soil Cracks (E Sparsely Vegetated C Drainage Patterns (B1 Oxidized Rhizosphere	36) oncave Surface (B8 0)
] Surface Water (A1) ] High Water Table (A2) ] Saturation (A3) ] Water Marks (B1) ] Sediment Deposits (B2)		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen St ☐ Dry-Season ☐ Oxidized Rhi	rtebrates (B13) Itebrates (B13) Ilfide Odor (C1) Water Table (C2) izospheres on Living F	Roots (C3)	Surface Soil Cracks (E Sparsely Vegetated C Drainage Patterns (B1 Oxidized Rhizosphere (where tilled)	36) oncave Surface (B8 0) s on Living Roots (C
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> </ul>		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no	rtebrates (B13) Ifide Odor (C1) Water Table (C2) izospheres on Living F <b>t tilled)</b>	Roots (C3)	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	36) oncave Surface (B8 0) s on Living Roots (C
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> </ul>		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of	rtebrates (B13) Iffide Odor (C1) Water Table (C2) izospheres on Living F <b>t tilled)</b> Reduced Iron (C4)	Roots (C3)	Surface Soil Cracks (E Sparsely Vegetated C Drainage Patterns (B1 Oxidized Rhizosphere (where tilled) Crayfish Burrows (C8) Saturation Visible on A	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9)
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> </ul>	2000r.4 (D 2)	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S	rtebrates (B13) Iffide Odor (C1) Water Table (C2) izospheres on Living F <b>t tilled)</b> Reduced Iron (C4) urface (C7)	Roots (C3)	Surface Soil Cracks (E Sparsely Vegetated C Drainage Patterns (B1 Oxidized Rhizosphere (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) (D2)
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial In</li> </ul>	magery (B7)	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S	rtebrates (B13) Iffide Odor (C1) Water Table (C2) izospheres on Living F <b>t tilled)</b> Reduced Iron (C4) urface (C7)	Roots (C3)	Surface Soil Cracks (E Sparsely Vegetated C Drainage Patterns (B1 Oxidized Rhizosphere (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position FAC-Neutral Test (D5	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2)
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial In</li> </ul>	magery (B7)	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S ☐ Other (Expla	rtebrates (B13) Iffide Odor (C1) Water Table (C2) izospheres on Living F <b>t tilled)</b> Reduced Iron (C4) urface (C7) in in Remarks)		<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummoor</li> </ul>	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial In</li> <li>Water-Stained Leaves (B9)</li> </ul>		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S ) ☐ Other (Expla	The formation of the fo	ed Data (strea	Surface Soil Cracks (E Sparsely Vegetated C Drainage Patterns (B1 Oxidized Rhizosphere (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position FAC-Neutral Test (D5	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>
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 In Water-Stained Leaves (B9) Field Observations:	Yes I	□ Salt Crust (B         □ Aquatic Inve         □ Hydrogen Su         □ Dry-Season         □ Oxidized Rhi         (where no         □ Presence of         □ Thin Muck S         □ Other (Expla         Depth         No	rtebrates (B13) Iffide Odor (C1) Water Table (C2) izospheres on Living F <b>t tilled)</b> Reduced Iron (C4) urface (C7) in in Remarks)	ed Data (strea	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummoor</li> </ul>	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>
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 II Water-Stained Leaves (B9) Field Observations: Surface Water present?	Yes I	□ Salt Crust (B         □ Aquatic Inve         □ Hydrogen Su         □ Dry-Season         □ Oxidized Rhi         (where no         □ Presence of         □ Thin Muck S         □ Other (Expla         Depth         No         □ Depth         □	The formation of the fo	ed Data (strea	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummoor</li> </ul>	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>
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 II Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present?	Yes I	□ Salt Crust (B         □ Aquatic Inve         □ Hydrogen Su         □ Dry-Season         □ Oxidized Rhi         (where no         □ Presence of         □ Thin Muck S         ○ Other (Expla         Depth         No         □ Depth         ○	The formation of the fo	ed Data (strea	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummoor</li> </ul>	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>
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 II Water-Stained Leaves (B9) Field Observations: Surface Water present? Nater Table present? Saturation Present?	Yes I	□ Salt Crust (B         □ Aquatic Inve         □ Hydrogen Su         □ Dry-Season         □ Oxidized Rhi         (where no         □ Presence of         □ Thin Muck S         □ Other (Expla         Depth         No         □ Depth         □	The formation of the fo	ed Data (strea	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummoor</li> </ul>	36) oncave Surface (B8 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>
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 In Water-Stained Leaves (B9) Field Observations: Surface Water present? Saturation Present? (includes capillary fringe) Wetland Hydrology Present?	Yes I	□ Salt Crust (B         □ Aquatic Inve         □ Hydrogen Su         □ Dry-Season         □ Oxidized Rhi         (where no         □ Presence of         □ Thin Muck S         ○ Other (Expla         Depth         No         □ Depth         ○	The formation of the fo	ed Data (strea	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummoor</li> </ul>	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>

Remarks: No hydrology indicators are present.

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-576
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) _swale I	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>3 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.395699 Long: -98.796411 Datum: NAD83
Soil Map Unit Name: Betts-Java loams, steep	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of ye	ear? 🛛 Yes 🗌 No (If no, explain in Remarks.)
VegetationSoilHydrologySignificantly Disturbed?Naturally Problematic?	Are "Normal Circumstances" present?  ☑ Yes   ☐ No (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing samp	ling point locations, transects, important features, etc.
Yes       No       Rer         Hydrophytic Vegetation Present?       Image: Comparison of the sent of	narks: Wetland sample plot located in PEM W-540.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC
3.	%			(excluding FAC-): (A)
4.	%			Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: (A/B)
2.				Brouglance Index Worksheets
3.				Prevalence Index Worksheet:
4	0/			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. Spartina pectinata	100 %	Y	FACW	FACU species $\% x 4 = 0$
2. <u>Carex vulpinoidea</u>	10 %	<u>N</u>	FACW	UPL species         % x 5 =         0           Column Totals:         0%         (A)         0         (B)
3	%			
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				I Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 110 %	= Total Cove		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
Maadu Vina Chratum (Distaire: 20)	110 %	- Total Cove	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-5	1.		•

Depth Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-10	10YR 5/1	80	10YR 5/6	20	С	M	Clay Loam			
10-20	10YR 6/1	80	10YR 5/6	20	<u> </u>	<u> </u>	Clay Loam			
		·								
	oncentration, D=Dep					d Sand Grains				
Hydric Soil	Indicators: (Applic	able to all LR	Rs, unless oth	nerwise n	oted.)		Indicators for Problematic	Hydric Soils <sup>3</sup> :		
Histosol	(A1)		🗌 Sandy G	Bleyed Ma	trix (S4)		🗌 1 cm Muck (A9) ( <b>LRR I, J</b>	)		
Histic Ep	ipedon (A2)		🗌 Sandy F	Redox (S5	)		🗌 Coast Prairie Redox (A16	) (LRR F, G, H)		
Black His	( )		Stripped	•	,		Dark Surface (S7) (LRR 0	,		
	n Sulfide (A4)		🗌 Loamy N				High Plains Depressions (			
	Layers (A5) (LRR F		🗌 Loamy (	-			(LRR H outside of MLR	A /2 & /3)		
	ck (A9) ( <b>LRR F, G, F</b>		Depleted		,		Reduced Vertic (F18) Red Parent Material (TF2)			
	Below Dark Surface	e (A11)			( )			Very Shallow Dark Surface (TF 12)		
	rk Surface (A12)				( )		Other (Explain in Remarks)			
-	ucky Mineral (S1)						_ 、 .	,		
	lucky Peat or Peat (S cky Peat or Peat (S3			•	essions (F16) of LRR H)	)	<sup>3</sup> Indicators of hydrophytic vec wetland hydrology must be p disturbed or problematic			
Restrictive	Layer (if present):						Hydric Soil Present?			
Туре:		Dep	oth (inches):				Yes 🗌 No			
Remarks: H	ydric soil indicator F	3 is met.								
YDROLOG	6Y									
Wetland Hy	drology Indicators:	:								
Primary Indi	cators (minimum of o	one required; o	heck all that ap	oply)			Secondary Indicators (2 or m	nore required)		
Surface \	Water (A1)		Salt Crust (	B11)			Surface Soil Cracks (B6)			
🛛 High Wat	ter Table (A2)		Aquatic Inv	ertebrates	s (B13)		Sparsely Vegetated Cond	cave Surface (B8)		
Saturatio			Hydrogen S				Drainage Patterns (B10)	. ,		
] Water Ma	arks (B1)		Dry-Seasor	n Water Ta	able (C2)		Oxidized Rhizospheres o	n Living Roots (C		
Sedimen	t Deposits (B2)		Oxidized R		es on Living	Roots (C3)	(where tilled)			
Drift Dep	( )		(where n	,			Crayfish Burrows (C8)			
	t or Crust (B4)				( )		Saturation Visible on Aer	0,0,0		
□ Iron Deposits (B5) □ Thin Muck Surface (C7)							Geomorphic Position (D2	)		

Ihin	Muck	Sur	face	(Ci	()	
0.11	<b>/</b>					

<ul> <li>Inundation Visible on Aerial Ir</li> <li>Water-Stained Leaves (B9)</li> </ul>	magery (	B7)	☐ Other (Explain	in Remarks) ⊠ FAC-Neutral Test (D5) □ Frost-Heave Hummocks (D7) (LRR F)			
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:			
Surface Water present?	$\boxtimes$		2				
Water Table present?	$\boxtimes$		0				
Saturation Present?	$\boxtimes$		0				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicators A1, A2, A3, D2, and D5 present.							

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	<u>D</u> Samp	bling Point: <u>SP-577</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S29, T111N, R66	W
Landform (hillslope, terrace, etc.) hillslope	Local relief (co	ncave, convex, none):	convex	Slope (%): <u>15 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	95702 Long:	-98.796500	Datum: NAD83
Soil Map Unit Name:Betts-Java loams, steep		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland	sample plot adjacent to	9 PEM W-540.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
0				are OBL, FACW, or FAC
				(excluding FAC-): 0 (A)
				Total Number of Dominant
4				Species Across All Strata: 2 (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: 0% (A/B)
1		<u> </u>		,
2		<u> </u>		Prevalence Index Worksheet:
3				Total % Cover of Multiply by
4				Total % Cover of: Multiply by:
5	<u>%</u>			OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover		
Herb Stratum (Plot size: <u>5'</u> )				· · · · · · · · · · · · · · · · · · ·
1. <u>Poa pratensis</u>	<u>    60  %</u>	<u> </u>	FACU	
2. <u>Solidago canadensis</u>	30 %	<u>Y</u>	FACU	UPL species         % x 5 =         0           Column Totals:         0%         (A)         0         (B)
3. <u>Salvia sp.*</u>	5 %	N	-	
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6				Tydrophytic vegetation indicators.
7				1 Rapid Test for Hydrophytic Vegetation
8.	0/			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10.	%			
	95 %	= Total Cover	,	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. *Salvia sp	ecies could i	not be identified	bevond a	enus, therefore, no indicator status is listed
Photograph C-52.			- , 9	,,

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the Depth Matrix Redox Features							absence of multiduis.)		
(inches)	Color (moist)	% Color	(moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-8	10YR 3/2	100		70	туре		Silt Loam	Remarks	
		100							
	<u> </u>						·		
Type: C=C	oncentration, D=Deplet	tion, RM=Reduce	ed Matrix, CS	S=Covere	ed or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore Li	ning, M=Matrix	
Ivdric Soil	Indicators: (Applicab	ble to all LRRs. I	unless other	rwise no	ted.)		Indicators for Problemati	c Hvdric Soils <sup>3</sup> :	
] Histosol (			] Sandy Gle				1 cm Muck (A9) ( <b>LRR I</b> ,	•	
_ 、	ipedon (A2)		Sandy Cle	5	IX (04)		Coast Prairie Redox (A		
Black His			Stripped N		5)		Dark Surface (S7) (LRF		
	n Sulfide (A4)		 ] Loamy Mu	-			High Plains Depression	,	
	Layers (A5) (LRR F)		 ] Loamy Gle	-			(LRR H outside of ML		
1 cm Mud	ck (A9) ( <b>LRR F, G, H</b> )	C	Depleted N	Matrix (F3	3)		Reduced Vertic (F18)		
Depleted	Below Dark Surface (A	A11) [	Redox Dar	rk Surfac	e (F6)		Red Parent Material (TF	,	
	rk Surface (A12)		Depleted		. ,		Very Shallow Dark Surf	· /	
-	ucky Mineral (S1)		Redox Dep		. ,		Other (Explain in Rema	rks)	
	lucky Peat or Peat (S2) cky Peat or Peat (S3) (I		High Plain: (MLRA 72)				<sup>3</sup> Indicators of hydrophytic v wetland hydrology must be		
	cky real of real (33) (I				<b>L</b> ((()))		disturbed or problematic	present, unless	
Restrictive	Layer (if present):						Hydric Soil Present?		
Гуре: С	Compacted	Depth (ir	ches): 8				🗌 Yes 🖾 No		
		(							
Remarks: No	o hydric soil indicator is	s present.							
DROLOG	SY .								
	drology Indicators:								
	cators (minimum of one	e required: check	all that apply	V)			Secondary Indicators (2 or	more required)	
 	•	-	Salt Crust (B1				Surface Soil Cracks (B		
	ter Table (A2)		quatic Invert		(B13)		Sparsely Vegetated Co	/	
Saturatio	. ,		lydrogen Sul				Drainage Patterns (B10		
 Water Ma	. ,		) Dry-Season V				Oxidized Rhizospheres	,	
	t Deposits (B2)		xidized Rhiz	zosphere	. ,	Roots (C3)	(where tilled)	- (	
Drift Dep	osits (B3)	_	(where not	,	-		Crayfish Burrows (C8)		
Algal Mat	t or Crust (B4)		Presence of F		· · ·		Saturation Visible on A	/	
Iron Depo		_	hin Muck Su	-	-		Geomorphic Position (	02)	
	n Visible on Aerial Ima	agery (B7) ロC	Other (Explain	n in Rem	arks)		FAC-Neutral Test (D5)		
	ained Leaves (B9)						Frost-Heave Hummocks (D7) (LRR F)		

inspections, etc.), if available:

Depth

(inches)

Yes

Remarks: No wetland hydrology indicators are present.

No

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Field Observations:

Surface Water present?

(includes capillary fringe) Wetland Hydrology Present?

Water Table present?

Saturation Present?

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	) Sam	pling Point: <u>SP-588</u>
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S29, T111N, R66	SW
Landform (hillslope, terrace, etc.) depression	Local relief (coi	ncave, convex, none):	concave	Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	0492 Long:	-98.801447	Datum: NAD83
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent slo	opes	N	WI Classification:	PEM1C
Are climate/hydrologic conditions on the site typical for this time of ye	ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	.)
Vegetation         Soil         Hydrology           Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes No Rer	marks: Wetland	I sample plot located in	PEM W-546.	
Hydrophytic Vegetation Present?				
Hydric Soil Present?				
Wetland Hydrology Present?				
Is the Sampled Area within a Wetland?				

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
	<u>%</u>			are OBL, FACW, or FAC
				(excluding FAC-): (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')	0 %	= Total Cove	ſ	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of:Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cove	r	FACW species % x 2 = 0
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
	100 %	Y	FACW	FACU species% x 4 =0
	<u>    100 %</u>		1700	UPL species% x 5 =
2				Column Totals: <u>0</u> % (A) <u>0</u> (B)
3	<u>%</u> %			Prevalence Index = B/A =
	<u>%</u>			
5 6				Hydrophytic Vegetation Indicators:
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cove	r	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	<u>%</u> 0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-53	3.		

		to the dept				or confirm the	absence of indicators.)		
Depth Matrix (inches) Color (moist) %				Redox Fea					
( )	$\frac{\text{Color (moist)}}{1000} \frac{\%}{200} \frac{\text{Color (moist)}}{1000} \frac{\%}{100} \frac{\text{Type}^{-1}}{1000} \frac{\text{Loc}^2}{1000}$						Texture	Remarks	
<u>0-4</u> 4-14	10YR 3/2 10YR 3/2	<u>90</u> 85	10YR 4/6 10YR 5/6	<u>10</u> 15	 	<u> </u>	Silty Clay Silty Clay		
4-14			101 K 3/0						
			Reduced Matrix		ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Li	ning M=Matrix	
	ndicators: (Applic						Indicators for Problemati		
Stratified 1 cm Muc Depleted Thick Dar Sandy Mu 2.5 cm M	pedon (A2)	) (A11) 52) ( <b>LRR G,</b>		edox (S5) Matrix (S6 Jucky Mino Gleyed Ma J Matrix (F Jark Surfac J Dark Sur Jepression	6) eral (F1) trix (F2) 3) ce (F6) face (F7) s (F8) ssions (F16)	)	<ul> <li>1 cm Muck (A9) (LRR I,</li> <li>Coast Prairie Redox (A</li> <li>Dark Surface (S7) (LRF</li> <li>High Plains Depression (LRR H outside of ML</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF</li> <li>Very Shallow Dark Surf</li> <li>Other (Explain in Rema</li> <li><sup>3</sup>Indicators of hydrophytic v wetland hydrology must be disturbed or problematic</li> </ul>	16) (LRR F, G, H) R G) s (F16) .RA 72 & 73) F2) ace (TF 12) rks) regetation and	
Restrictive I	ayer (if present):						Hydric Soil Present?		
Type: <u>C</u>	ompacted	_ D	epth (inches): <u>1</u>	4			🛛 Yes 🗌 No		
Remarks: Hy	dric soil indicator F6	is met.							
IYDROLOG	Y								
Wetland Hyd	Irology Indicators:								
Primary Indic	ators (minimum of c	ne required	<u>check all that ap</u>	ply)			Secondary Indicators (2 or	<u>more required)</u>	
Surface V	/ater (A1)		🗌 Salt Crust (I	B11)			Surface Soil Cracks (B	6)	
☐ High Wat ☐ Saturation	er Table (A2) ı (A3)		☐ Aquatic Inve ☐ Hydrogen S		· · ·		<ul> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> </ul>		

Saturation (A3)	Hydrogen Sulfide Odor (C1)
U Water Marks (B1)	Dry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3) (where not tilled)
Drift Deposits (B3)	(where not thed)
Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)
☐ Iron Deposits (B5)	Thin Muck Surface (C7)

Algal Mat or Crust (B4)		[	Presence of Re	educed Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)		[	Thin Muck Surf	ace (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial Ir	☐ Inundation Visible on Aerial Imagery (B7)			in Remarks)	🛛 FAC-Neutral Test (D5)
UWater-Stained Leaves (B9)					Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (strean inspections, etc.), if available:	n gauge, monitoring well, aerial photos, previous
Surface Water present?		$\boxtimes$			
Water Table present?		$\boxtimes$			
Saturation Present?		$\boxtimes$			
(includes capillary fringe)					
Wetland Hydrology Present?	$\boxtimes$				
Remarks: Wetland hydrology ind	licators D	02 and	D5 are met.		

Oxidized Rhizospheres on Living Roots (C3)

Saturation Visible on Aerial Imagery (C9)

(where tilled)

Crayfish Burrows (C8)

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	oling Point: <u>SP-589</u>
Investigator(s):T. Beemer, W. Hirst	Section	on, Township, Range:	S29, T111N, R66	W
Landform (hillslope, terrace, etc.) depression	Local relief (cor	ncave, convex, none):	concave	Slope (%): <u>1</u> %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.39	00364 Long:	-98.801324	Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes		N	WI Classification:	PEM1C
Are climate/hydrologic conditions on the site typical for this time of y	year? 🛛 🛛 Yes	s 🗌 No (If no, e	explain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Comparison of the sent of	əmarks: Upland	sample plot adjacent to	9 PEM W-546.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.	0/			are OBL, FACW, or FAC
3.				(excluding FAC-):0(A)
4				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				Duran la la deu Werkeheet
3	%			Prevalence Index Worksheet:
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cover	-	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species $\%$ x 3 = 0
1. <u>Poa pratensis</u>	100 %	Y	FACU	FACU species $-\%$ x 4 = $-0$
2. Asclepias speciosa	<u> </u>	<u> </u>	FAC	UPL species $\%$ x 5 = 0Column Totals:0 % (A)0 (B)
3	%			
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	<u>%</u>	. <u> </u>		
7				□ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    105 % </u>	= Total Cover	•	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				- , , , , , , , , , , , , , , , , , , ,
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	ph C-54.			•

SOIL

Profile Description: (Describe	e to the dep			ator or confirm th	e absence of indicators.)	
Depth Matrix		F	Redox Features			
(inches) Color (moist)	%	Color (moist)	Тур	be <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-14 10YR 3/2	100				Silt Loam	
	. <u> </u>		<u> </u>			
· ·			<u> </u>			
				·		
	. <u> </u>		·			
				<u> </u>		
<sup>1</sup> Type: C=Concentration, D=De	pletion, RM	Reduced Matrix, C	S=Covered or C	Coated Sand Grain	s <sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil Indicators: (Appli	cable to all	LRRs, unless oth	erwise noted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sandy G	leyed Matrix (S4	)	1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epipedon (A2)		☐ Sandy R			Coast Prairie Redox	
Black Histic (A3)		Stripped			Dark Surface (S7) ( <b>I</b>	
Hydrogen Sulfide (A4)			lucky Mineral (F	1)	High Plains Depress	,
Stratified Layers (A5) (LRR I	=)		leyed Matrix (F2		(ĽRR H outside of	
1 cm Muck (A9) (LRR F, G, I	,	Depleted			Reduced Vertic (F18	3)
Depleted Below Dark Surfac	-		ark Surface (F6)		Red Parent Material	(TF2)
☐ Thick Dark Surface (A12)	. ,		Dark Surface (F		Very Shallow Dark S	Surface (TF 12)
☐ Sandy Mucky Mineral (S1)		•	epressions (F8)		🗌 Other (Explain in Re	marks)
2.5 cm Mucky Peat or Peat (	S2) ( <b>LRR G</b>		ns Depressions	(F16)	<sup>3</sup> Indicators of hydrophyt	ic vegetation and
5 cm Mucky Peat or Peat (S			72 & 73 of LRR	H)	wetland hydrology must disturbed or problematio	t be present, unless
Restrictive Layer (if present):					Hydric Soil Present?	
Type: Compacted		Depth (inches): 1	4		🗌 Yes 🖾 No	
Remarks: No hydric soil indicato	or is present					
HYDROLOGY						
Wetland Hydrology Indicators	:					
Primary Indicators (minimum of		d; check all that ap	oly)		Secondary Indicators (	2 or more required)
Surface Water (A1)		Salt Crust (E			Surface Soil Cracks	(B6)
High Water Table (A2)			ertebrates (B13)		Sparsely Vegetated	
Saturation (A3)						. ,
Water Marks (B1)			ulfide Odor (C1) Water Table (C2		Drainage Patterns (	eres on Living Roots (C3)
Sediment Deposits (B2)		- •	`	<ul> <li>iving Roots (C3)</li> </ul>	(where tilled)	
Drift Deposits (B3)		(where no		iving Roots (C3)	Crayfish Burrows (C	:8)
— • • • •			Reduced Iron (0		Saturation Visible o	,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)			,	- · /	Geomorphic Positio	<b>UUUU</b>
Inundation Visible on Aerial I	magery /B7		ain in Remarks)		FAC-Neutral Test (I	
Water-Stained Leaves (B9)	mayery (D7	, <u> </u>			Frost-Heave Humm	
_ ( )		Depth	Describe P	and Data (atra		
Field Observations:	Yes	No (inches)		ecorded Data (stre , etc.), if available:	eam gauge, monitoring well,	aenai priotos, previous
Surface Water present?		$\boxtimes$		··		
Water Table present?		⊠				
Saturation Present?			·			
(includes capillary fringe)		⊠	·			
Wetland Hydrology Present?		$\boxtimes$				
		K M	1			

Remarks: Wetland hydrology indicator D2 is met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	pling Point: <u>SP-590</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S24, T111N, R67	Ŵ
Landform (hillslope, terrace, etc.) depression	Local relief (co	ncave, convex, none):	concave	Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	12609 Long:	-98.825605	Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification:	PEM1A
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoReHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	I sample plot located in	PEM W-547.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	<u>%</u>	·		are OBL, FACW, or FAC
	<u>%</u>	·		(excluding FAC-): (A)
				Total Number of Dominant
4	<u>%</u> 0 %	= Total Cove		Species Across All Strata:(B)
	0 %	- Total Cove		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC:(A/B)
1 2.				
				Prevalence Index Worksheet:
-	<u>%</u>	·		Total % Cover of: Multiply by:
	<u>%</u>			OBL species         %         x 1 =         0
5	0 %	= Total Cove		FACW species $\%$ x 2 = $0$
(Dist sizes 51)	0 70			FAC species $\%$ x 3 = 0
Herb Stratum (Plot size: <u>5'</u> )	50.0/	V		FACU species % x 4 = 0
1. <u>Spartina pectinata</u>	<u> </u>	<u>     Y    </u>	FACW	UPL species % x 5 = 0
2	<u>%</u>	·		Column Totals: 0 % (A) 0 (B)
3		<u> </u>		Prevalence Index = B/A =
4			. <u> </u>	
5	<u>%</u>	<u> </u>		Hydrophytic Vegetation Indicators:
6				☐ 1 Rapid Test for Hydrophytic Vegetation
7 8				☐ 2 Dominance Test is >50%
9				_
10.	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	50 %	= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>	<u> </u>		
2	<u>%</u> 0%	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>50</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-5	5.		
	5.			

Depth	Matrix		Redox Fea	atures		
(inches)	Color (moist)	% Color (moi	st) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-10	10YR 3/2	90 10YR 4/0	<u> </u>	<u> </u>	M	Clay Loam
Гуре: С=С	oncentration, D=Dep	Detion, RM=Reduced Ma	itrix, CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix
ydric Soil	Indicators: (Applic	able to all LRRs, unles	s otherwise n	oted.)		Indicators for Problematic Hydric Soils
Black His Hydroger Stratified 1 cm Muc Depleted Thick Dar Sandy Mi 2.5 cm M	pedon (A2)	□ Sa □ Str □ Loa 1) □ De e (A11) □ De □ De □ De □ De □ Re 52) (LRR G, H) □ Hig	ndy Gleyed Ma ndy Redox (S5 pped Matrix (S amy Mucky Min amy Gleyed Ma bleted Matrix (F dox Dark Surfa bleted Dark Su dox Depressior h Plains Depre LRA 72 & 73 c	) 6) leral (F1) atrix (F2) F3) ce (F6) rface (F7) hs (F8) essions (F16)	)	<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G,</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>
Restrictive	Layer (if present):					Hydric Soil Present?
	Compacted	Depth (inches	): 10			⊠ Yes □ No
Remarks: Hy	ydric soil indicator F6	∂ is met.				1
DROLOG	Υ					
Vetland Hy	drology Indicators:					
rimary India	<u>cators (minimum of c</u>	one required; check all th	at apply)			Secondary Indicators (2 or more required
] Surface V	Vater (A1)	🗌 Salt C	rust (B11)			Surface Soil Cracks (B6)
] High Wat	er Table (A2)	🗌 Aquat	c Invertebrates	s (B13)		Sparsely Vegetated Concave Surface
] Saturatio	n (A3)	🗌 Hydro	gen Sulfide Od	or (C1)		Drainage Patterns (B10)
] Water Ma	( )		eason Water Ta			Oxidized Rhizospheres on Living Root
_	t Deposits (B2)		ed Rhizospher	es on Living	Roots (C3)	(where tilled)
] Drift Dep	· · /	_ `	ere not tilled)	$d \ln n (0.1)$		Crayfish Burrows (C8)
J Algal Mat	t or Crust (B4)		nce of Reduced	u iron (C4)		Saturation Visible on Aerial Imagery (C

Thin Muck Surface (C7)

Depth

(inches)

Other (Explain in Remarks)

inspections, etc.), if available:

Wetland Hydrology Present?

Yes

No

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Remarks: Wetland hydrology indicators D2 and D5 are met.

Iron Deposits (B5)

Field Observations:

Surface Water present?

(includes capillary fringe)

Water Table present?

Saturation Present?

□ Water-Stained Leaves (B9)

Inundation Visible on Aerial Imagery (B7)

Geomorphic Position (D2)

Frost-Heave Hummocks (D7) (LRR F)

FAC-Neutral Test (D5)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling [	Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	<u>D</u> Sampl	ling Point: SP-591
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S24, T111N, R67V	N
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	12711 Long:	-98.825603	Datum: NAD83
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)	1
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	□ No es, etc.
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland	sample plot adjacent to	9 PEM W-547.	

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1	% Cover %	Species	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.	%			
4.	%			Total Number of Dominant Species Across All Strata: 1 (B)
	0 %	= Total Cover	-	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			are OBL, FACW, or FAC:0% (A/B)
2	<u>%</u>			Prevalence Index Worksheet:
3	%			
4	<u>%</u>	<u> </u>		Total % Cover of: Multiply by:
5	%			OBL species $\%$ x 1 = 0
	0 %	= Total Cover	-	FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\frac{76}{3} \times 3 = \frac{0}{10}$ FACU species $\frac{76}{3} \times 4 = 0$
1. <u>Poa pratensis</u>	80 %	<u> </u>	FACU	UPL species $\%$ x 5 = 0
2	%			Column Totals: $\underline{0}$ % (A) $\underline{0}$ (B)
3	%			
4	%			Prevalence Index = B/A =
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6 7.	<u>%</u> %			☐ 1 Rapid Test for Hydrophytic Vegetation
7 8	<u>%</u>			$\square$ 2 Dominance Test is >50%
9.	%			□ 3 Prevalence Index is $\leq 3.0^{1}$
10	%			
	80 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present?   Yes  No
Remarks: Hydrophytic vegetation is not present. Photograph	C-56.			

SOIL

Profile Description: (Describ		eptil needed to doct		maioutor		absence of indicators	•)
Depth Matrix		F	Redox Fea	atures			
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10 10YR 3/2	100	<u></u>				Silt Loam	
10-20 10YR 3/3	100					Silt Loam	
<sup>1</sup> Type: C=Concentration, D=De	epletion, RI	M=Reduced Matrix, 0	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pc	ore Lining, M=Matrix
Hydric Soil Indicators: (Appl	icable to a	III LRRs, unless oth	erwise no	oted.)		Indicators for Proble	ematic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sandy G	leved Mat	rix (S4)		🗌 1 cm Muck (A9) (L	RR I. J)
Histic Epipedon (A2)		☐ Sandy R	-				ox (A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)		☐ Stripped				Dark Surface (S7)	
Hydrogen Sulfide (A4)		□ Loamy M		,		High Plains Depres	, ,
Stratified Layers (A5) (LRR	F)	Loamy G	-			(ĽRR H outside o	of MLRA 72 & 73)
☐ 1 cm Muck (A9) ( <b>LRR F, G</b> ,		Depleted	-			Reduced Vertic (F	18)
Depleted Below Dark Surfac		☐ Redox D				Red Parent Materia	al (TF2)
Thick Dark Surface (A12)	. /	Depleted		( )		Very Shallow Dark	Surface (TF 12)
Sandy Mucky Mineral (S1)		🗌 Redox D	epression	s (F8)		Other (Explain in F	Remarks)
2.5 cm Mucky Peat or Peat	(S2) ( <b>LRR</b>	G, H) 🗌 High Plai	ins Depre	ssions (F16)	1	<sup>3</sup> Indicators of hydroph	vtic vegetation and
☐ 5 cm Mucky Peat or Peat (S	3) ( <b>LRR F</b> )	) (MLRA	72 & 73 o	f LRR H)		wetland hydrology mu disturbed or problema	ist be present, unless
Restrictive Layer (if present):						Hydric Soil Present?	
		Douth (inches)				-	
Type:		Depth (inches):				☐ Yes ⊠ No	
Туре:						-	
Туре:						-	
Type: Remarks: No hydric soil indicat	or is prese					-	
Type: Remarks: No hydric soil indicat	or is prese	nt.	<u>ply)</u>			-	. (2 or more required)
Type: Remarks: No hydric soil indicat	or is prese	nt.				☐ Yes ⊠ No	
Type: Remarks: No hydric soil indicat HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1)	or is prese	nt. red; check all that ap	B11)	(B13)		☐ Yes ⊠ No Secondary Indicators ☐ Surface Soil Crack	ks (B6)
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I	B11) ertebrates			☐ Yes ⊠ No <u>Secondary Indicators</u> ☐ Surface Soil Cracl ☐ Sparsely Vegetate	ks (B6) ed Concave Surface (B8)
Type: Remarks: No hydric soil indicat HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)	or is prese	nt. red; check all that ap	311) ertebrates ulfide Ode	or (C1)		☐ Yes ⊠ No Secondary Indicators ☐ Surface Soil Cracl ☐ Sparsely Vegetate ☐ Drainage Patterns	ks (B6) ed Concave Surface (B8)
Type: Remarks: No hydric soil indicat HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S	311) ertebrates ulfide Ode Water Ta	or (C1) able (C2)	Roots (C3)	☐ Yes ⊠ No Secondary Indicators ☐ Surface Soil Cracl ☐ Sparsely Vegetate ☐ Drainage Patterns	ks (B6) ed Concave Surface (B8) s (B10)
Type: Remarks: No hydric soil indicat HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	or is prese	red; check all that app Salt Crust (I Aquatic Inve Hydrogen S	311) ertebrates ulfide Ode Water Ta izosphere	or (C1) able (C2)	Roots (C3)	☐ Yes ⊠ No Secondary Indicators ☐ Surface Soil Cracl ☐ Sparsely Vegetate ☐ Drainage Patterns ☐ Oxidized Rhizospl	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3)
Type: Remarks: No hydric soil indicat HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	or is prese	nt. red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	B11) ertebrates ulfide Ode Water Ta hizosphere ot tilled)	or (C1) able (C2) es on Living	Roots (C3)	☐ Yes ⊠ No Secondary Indicators ☐ Surface Soil Crack ☐ Sparsely Vegetate ☐ Drainage Patterns ☐ Oxidized Rhizosph (where tilled) ☐ Crayfish Burrows	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3)
Type: Remarks: No hydric soil indicat HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	or is prese	red; check all that ap Salt Crust (f Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne	311) ertebrates ulfide Odd Water Ta nizosphere ot tilled) f Reduced	or (C1) able (C2) es on Living I Iron (C4)	Roots (C3)	☐ Yes ⊠ No Secondary Indicators ☐ Surface Soil Crack ☐ Sparsely Vegetate ☐ Drainage Patterns ☐ Oxidized Rhizosph (where tilled) ☐ Crayfish Burrows	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9)
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	311) ertebrates ulfide Ode Water Ta nizosphere ot tilled) f Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	Yes ⊠ No     Secondary Indicators     Surface Soil Cract     Sparsely Vegetate     Drainage Patterns     Oxidized Rhizospl     (where tilled)     Crayfish Burrows     Saturation Visible     Geomorphic Posit     FAC-Neutral Test	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5)
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	311) ertebrates ulfide Ode Water Ta nizosphere ot tilled) f Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	Yes ⊠ No     Secondary Indicators     Surface Soil Cract     Sparsely Vegetate     Drainage Patterns     Oxidized Rhizospl     (where tilled)     Crayfish Burrows     Saturation Visible     Geomorphic Posit	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5)
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>Yes ⊠ No</li> <li>Secondary Indicators</li> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows</li> <li>Saturation Visible</li> <li>Geomorphic Posit</li> <li>FAC-Neutral Test</li> <li>Frost-Heave Hum</li> </ul>	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5)
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (i Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Thin Muck S Other (Explain Depth No (inches)	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record		<ul> <li>Yes ⊠ No</li> <li>Secondary Indicators</li> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows</li> <li>Saturation Visible</li> <li>Geomorphic Posit</li> <li>FAC-Neutral Test</li> <li>Frost-Heave Hum</li> </ul>	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S S7) Other (Explain Depth No (inches)	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>Yes ⊠ No</li> <li>Secondary Indicators</li> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows</li> <li>Saturation Visible</li> <li>Geomorphic Posit</li> <li>FAC-Neutral Test</li> <li>Frost-Heave Hum</li> </ul>	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S 37) Other (Explain No (inches) Salt Crust (I Content of the content of	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>Yes ⊠ No</li> <li>Secondary Indicators</li> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows</li> <li>Saturation Visible</li> <li>Geomorphic Posit</li> <li>FAC-Neutral Test</li> <li>Frost-Heave Hum</li> </ul>	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type:	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S S7) Other (Explain Depth No (inches)	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>Yes ⊠ No</li> <li>Secondary Indicators</li> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows</li> <li>Saturation Visible</li> <li>Geomorphic Posit</li> <li>FAC-Neutral Test</li> <li>Frost-Heave Hum</li> </ul>	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>
Type: Remarks: No hydric soil indicat	or is prese	red; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S 37) Other (Explain No (inches) Salt Crust (I Content of the content of	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled) f Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (strea	<ul> <li>Yes ⊠ No</li> <li>Secondary Indicators</li> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows</li> <li>Saturation Visible</li> <li>Geomorphic Posit</li> <li>FAC-Neutral Test</li> <li>Frost-Heave Hum</li> </ul>	ks (B6) ed Concave Surface (B8) s (B10) heres on Living Roots (C3) (C8) on Aerial Imagery (C9) ion (D2) (D5) mocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-592
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S13, T111N, R67W
Landform (hillslope, terrace, etc.) swale	Local relief (concave, convex, none): Slope (%): %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat:Long:98.832553 Datum:NAD83
Soil Map Unit Name: Water	NWI Classification: PABFh
Are climate/hydrologic conditions on the site typical for this time of y	ear? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation     Soil     Hydrology       Significantly Disturbed?     Image: Comparison of the second sec	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sam	pling point locations, transects, important features, etc.
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Comparison of the sent of t	emarks: Wetland sample plot located in PEM W-548.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: <u>30'</u> )	% Cover	Species?	Status	Number of Dominant Species that	
1	<u>%</u>	<u> </u>		are OBL, FACW, or FAC	
2	<u>%</u>	<u> </u>		(excluding FAC-):	(A)
3	<u>%</u>	<u> </u>		Total Number of Dominant	
4	<u>%</u>			Species Across All Strata:	(B)
	0%	= Total Cover	•	Percent of Dominant Species that	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				are OBL, FACW, or FAC:	(A/B)
1	<u>    %</u>				、 ,
2				Prevalence Index Worksheet:	
	0/			Total % Cover of:Mul	tiply by:
4 5.	<u>%</u>	<u> </u>		OBL species % x 1 =	
J	0 %	= Total Cover		FACW species % x 2 =	
Herb Stratum (Plot size: 5')				FAC species % x 3 =	
	60 %	Y	FACW	FACU species % x 4 =	
	<u> </u>		OBL	UPL species % x 5 =	= 0
				Column Totals: <u>0</u> % (A)	<u>     0  </u> (B)
3				Prevalence Index = B/A =	
4 5					
6				Hydrophytic Vegetation Indicators:	
7				☑ 1 Rapid Test for Hydrophytic Vege	etation
8	0/			☐ 2 Dominance Test is >50%	
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>	
10	<u>%</u>				
	90 %	= Total Cover	-	4 Morphological Adaptations <sup>1</sup> (Pro supporting data in Remarks or on a sep	
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation	on <sup>1</sup> (explain)
1	<u>%</u> %				,
Z	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland must be present, unless disturbed or	problematic
				Hydrophytic Vegetation Present?	Yes 🗌 No
Bare Ground in Herb Stratum <u>10</u> %				, , , ,	
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-5	7.			

Depth (inches)	Matrix			Redox Fea			<b>-</b> .	<b>.</b> .
, ,	Color (moist)	<u>%</u>	Color (moist)	<u>%</u> 20	<u>Type<sup>1</sup></u> C		Texture	Remarks
<u>0-10</u> 10-20	10YR 5/1 10YR 6/1	<u>80</u> 80	10YR 5/6 10YR 5/6	20	 C	<u> </u>	Clay Loam Clay Loam	
10-20			1011( 3/0					
		·						
Type: C=Co	oncentration, D=Dep	letion, RM=	Reduced Matrix, C	 CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore I	_ining, M=Matrix
	ndicators: (Applic						Indicators for Problema	0.
Stratified 1 cm Muc Depleted Thick Dar Sandy Mu 2.5 cm Muc 5 cm Muc Restrictive L Type:	pedon (A2)	) (A11) 52) ( <b>LRR G</b> ) ( <b>LRR F</b> ) 	. , _ 0	edox (S5) Matrix (S6 Iucky Minu- ileyed Ma Matrix (F ark Surfac Dark Surfac Dark Surfac Dark Surfac Pression ins Depres 72 & 73 o	6) eral (F1) trix (F2) 3) ce (F6) face (F7) s (F8) ssions (F16) <b>f LRR H)</b>		1 cm Muck (A9) (LRR     Coast Prairie Redox (/     Dark Surface (S7) (LR     High Plains Depressio     (LRR H outside of M     Reduced Vertic (F18)     Red Parent Material ('     Very Shallow Dark Su     Other (Explain in Rem <sup>3</sup> Indicators of hydrophytic     wetland hydrology must b     disturbed or problematic     Hydric Soil Present?     Yes □ No	A16) ( <b>LRR F, G, H</b> ) <b>R G</b> ) ns (F16) <b>ILRA 72 &amp; 73</b> ) IF2) rface (TF 12) arks) vegetation and
IYDROLOG	Y							
Wetland Hyd	drology Indicators:							
	ators (minimum of c	ne required					Secondary Indicators (2	or more required)
•	Surface Water (A1)							
Primary Indic							Surface Soil Cracks (	/
Primary Indic ⊠ Surface W ⊠ High Wate	er Table (A2)		Aquatic Inve	ertebrates			Sparsely Vegetated C	, Concave Surface (B8
Primary Indic Surface W High Wate	er Table (A2) n (A3)		Aquatic Inve Hydrogen S	ertebrates ulfide Odo	or (C1)		☐ Sparsely Vegetated C ☐ Drainage Patterns (B	Concave Surface (B8 10)
Primary Indic ⊠ Surface W ⊠ High Wate ⊠ Saturatior □ Water Ma	er Table (A2) n (A3) rks (B1)		☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season	ertebrates ulfide Odo Water Ta	or (C1) Ible (C2)	Roots (C3)	Sparsely Vegetated C	Concave Surface (B8 10)
Primary Indic ⊠ Surface W ⊠ High Wate ⊠ Saturatior □ Water Ma □ Sediment	er Table (A2) n (A3) rks (B1) Deposits (B2)		Aquatic Inve Hydrogen S	ertebrates ulfide Odo Water Ta iizosphere	or (C1) Ible (C2)	Roots (C3)	☐ Sparsely Vegetated C ☐ Drainage Patterns (B ☐ Oxidized Rhizosphere	Concave Surface (B8 10) es on Living Roots ((
Primary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo	er Table (A2) n (A3) rks (B1) Deposits (B2)		Aquatic Inve Hydrogen S Dry-Season	ertebrates ulfide Odo Water Ta nizosphere ot tilled)	or (C1) able (C2) es on Living	Roots (C3)	☐ Sparsely Vegetated C ☐ Drainage Patterns (B ☐ Oxidized Rhizosphere (where tilled)	Concave Surface (B8 10) es on Living Roots (( )
Primary Indic Surface W High Wate Saturation Water Ma Sediment Drift Depo	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)		Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C	br (C1) able (C2) es on Living I Iron (C4) 27)	Roots (C3)	<ul> <li>☐ Sparsely Vegetated C</li> <li>☐ Drainage Patterns (B</li> <li>☐ Oxidized Rhizosphere (where tilled)</li> <li>☐ Crayfish Burrows (C8</li> <li>☐ Saturation Visible on</li> <li>⊠ Geomorphic Position</li> </ul>	Concave Surface (B8 10) es on Living Roots (( ) Aerial Imagery (C9) (D2)
Primary Indic Surface W High Wate Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	nagery (B7	Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C	br (C1) able (C2) es on Living I Iron (C4) 27)	Roots (C3)	□       Sparsely Vegetated C         □       Drainage Patterns (B         □       Oxidized Rhizosphere         (where tilled)       Crayfish Burrows (C8         □       Saturation Visible on         ⊠       Geomorphic Position         ⊠       FAC-Neutral Test (D5)	Concave Surface (B8 10) es on Living Roots (( ) Aerial Imagery (C9) (D2)
Primary Indic Surface W High Wate Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo Inundation	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) isits (B5)	nagery (B7	Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C	br (C1) able (C2) es on Living I Iron (C4) 27)	Roots (C3)	<ul> <li>☐ Sparsely Vegetated C</li> <li>☐ Drainage Patterns (B</li> <li>☐ Oxidized Rhizosphere (where tilled)</li> <li>☐ Crayfish Burrows (C8</li> <li>☐ Saturation Visible on</li> <li>⊠ Geomorphic Position</li> </ul>	Concave Surface (B8 10) es on Living Roots (C ) Aerial Imagery (C9) (D2)
Primary Indic Surface W High Wate Saturatior Water Ma Sediment Drift Depc Algal Mat Iron Depo Inundation	er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9)		Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Surface (C ain in Ren	or (C1) able (C2) as on Living I Iron (C4) 7) narks) cribe Record		□       Sparsely Vegetated C         □       Drainage Patterns (B         □       Oxidized Rhizosphere         (where tilled)       Crayfish Burrows (C8         □       Saturation Visible on         ⊠       Geomorphic Position         ⊠       FAC-Neutral Test (D5)	Concave Surface (B8 10) es on Living Roots (( ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>

Wetland Hydrology Present?	$\boxtimes$				
Remarks: Wetland hydrology ind	licators	A1, A2, A	.3, D2, an	id D5 ar	e met.

 $\boxtimes$ 

 $\boxtimes$ 

0

0

Water Table present?

(includes capillary fringe) Wetland Hydrology Present?

Saturation Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>6/28/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-593
Investigator(s):T. Beemer, W. Hirst	Sectio	on, Township, Range:	S13, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope	Local relief (con	cave, convex, none):	none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.42	7162 Long:	-98.832692 Datum: NAD83
Soil Map Unit Name: Water		N	WI Classification: PABFh
Are climate/hydrologic conditions on the site typical for this time of	/ear? 🛛 🛛 Yes	🗌 No 🛛 (If no, e	xplain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	(If need	ormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Second Sec	emarks: Upland s	sample plot adjacent to	PEM W-548.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
3.				(excluding FAC-): 1 (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: 1 (B)
Conting (Church Streeture (Dist size: 45))	0 70			Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC: <u>100%</u> (A/B)
1 2.				
				Prevalence Index Worksheet:
		<u> </u>		Total % Cover of: Multiply by:
4 5.	<u>%</u>			OBL species % x 1 = 0
J	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
	90 %	Y	FACW	FACU species % x 4 = 0
	00.0/		FACU	UPL species % x 5 = 0
		<u> </u>	FACU	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3	0/			Prevalence Index = B/A =
4 5				
6				Hydrophytic Vegetation Indicators:
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8	%			⊠ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	110 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	<u>    %</u>			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>    %</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover	-	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-58.				•

Depth	Matrix		I	Redox Fea	atures			
(inches)	Color (moist)	% C	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-10	10YR 3/3	100					Silt Loam	
					. <u> </u>			
ype: C=C	oncentration, D=Deple	tion, RM=Re	duced Matrix, (	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
ydric Soil	ndicators: (Applicat	ble to all LR	Rs, unless oth	nerwise no	oted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
] Black His ] Hydroger ] Stratified ] 1 cm Muc ] Depleted ] Thick Dar ] Sandy Mu	pedon (A2)	) (LRR G, H)	-	Redox (S5) I Matrix (S Mucky Min Gleyed Ma d Matrix (F Dark Surfad d Dark Surfad Dark Surfad Dark Surfad Dark Surfad Dark Surfad Dark Surfad	6) eral (F1) trix (F2) 3) ce (F6) face (F7) is (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LR</li> <li>Coast Prairie Redox</li> <li>Dark Surface (S7) (I</li> <li>High Plains Depress (LRR H outside of</li> <li>Reduced Vertic (F18</li> <li>Red Parent Material</li> <li>Very Shallow Dark S</li> <li>Other (Explain in Re</li> <li><sup>3</sup>Indicators of hydrophylic</li> </ul>	(A16) ( <b>LRR F, G, H</b> ) <b>LRR G</b> ) sions (F16) <b>MLRA 72 &amp; 73</b> ) 8) ( (TF2) Surface (TF 12) emarks) tic vegetation and
	ky Peat or Peat (S3) (	LRR F)	(MLRA	72 & 73 o	f LRR H)		wetland hydrology must disturbed or problemati	
] 5 cm Muc	_ayer (if present):				f LRR H)		disturbed or problemation Hydric Soil Present?	
] 5 cm Muc Restrictive I		Dept	h (inches): _1	10		iction at 10 inch	disturbed or problemation Hydric Soil Present? ☐ Yes ⊠ No	
] 5 cm Muc estrictive I ype: <u>C</u> lemarks: No <b>/DROLOG</b>	Ager (if present): Compacted	Dept	h (inches): _1	10		iction at 10 inch	disturbed or problemation Hydric Soil Present? ☐ Yes ⊠ No	
] 5 cm Mud sestrictive I ype: <u>C</u> lemarks: No <b>/DROLOG</b> /etland Hyd	Ager (if present): Compacted b hydric soil indicator is b hydric soil indicator is Y drology Indicators:	Dept s present. Na	h (inches): <u>1</u> turally problem	10 natic soil d		iction at 10 inch	disturbed or problemation Hydric Soil Present? ☐ Yes ⊠ No hes.	c
] 5 cm Muc estrictive I ype: <u>C</u> lemarks: No <b>DROLOG</b> /etland Hyo rimary Indic	Ager (if present): Compacted hydric soil indicator is y Y drology Indicators: cators (minimum of one	Dept s present. Na e required; cł	h (inches): _1 turally problem	10 natic soil d		iction at 10 inch	disturbed or problemation Hydric Soil Present? ☐ Yes ⊠ No nes. <u>Secondary Indicators (</u>	2 or more required)
] 5 cm Muc estrictive I ype: <u>C</u> emarks: No <b>DROLOG</b> /etland Hyu rimary Indio ] Surface V	Ager (if present): Compacted b hydric soil indicator is Y drology Indicators: cators (minimum of one Vater (A1)	Dept s present. Na e required; cł	h (inches):	10 natic soil d pply) B11)	ue to compa	iction at 10 inch	disturbed or problemati Hydric Soil Present? ☐ Yes ⊠ No nes. Secondary Indicators ( ☐ Surface Soil Cracks	2 or more required) (B6)
] 5 cm Muc estrictive I ype: emarks: No /DROLOG /etland Hyo rimary India ] Surface V ] High Wat	Ager (if present): Compacted b hydric soil indicator is Y drology Indicators: cators (minimum of one Vater (A1) er Table (A2)	Dept s present. Na e required; cł	h (inches):	10 natic soil d pply) [B11) ertebrates	ue to compa	iction at 10 inch	disturbed or problemation         Hydric Soil Present?         ☐ Yes       No         nes.         Secondary Indicators (         ☐ Surface Soil Cracks         ☐ Sparsely Vegetated	c 2 or more required) s (B6) I Concave Surface (B8
] 5 cm Mud estrictive I ype: emarks: No /DROLOG /etland Hyd rimary India ] Surface V ] High Wat ] Saturation	Ager (if present): Compacted b hydric soil indicator is Y drology Indicators: cators (minimum of one Vater (A1) er Table (A2) n (A3)	Dept s present. Na e required; ch	h (inches):	10 natic soil d pply) [B11) ertebrates Sulfide Ode	(B13) or (C1)	iction at 10 inch	disturbed or problemati Hydric Soil Present? ☐ Yes ⊠ No nes. Secondary Indicators ( ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns (	<u>2 or more required)</u> s (B6) I Concave Surface (B8 (B10)
] 5 cm Mud eestrictive I ype: /eemarks: No /organization ] Surface V ] High Wat ] Saturation ] Water Ma	Ager (if present): Compacted b hydric soil indicator is y Y drology Indicators: cators (minimum of one Vater (A1) er Table (A2) h (A3) rks (B1)	Dept s present. Na <u>e required; c</u>	h (inches): turally problem <u>heck all that ap</u> Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	10 natic soil d pply) B11) ertebrates Sulfide Ode n Water Ta	(B13) or (C1) able (C2)		disturbed or problemati Hydric Soil Present? ☐ Yes ⊠ No nes. Secondary Indicators ( ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns ( ☐ Oxidized Rhizosphe	<u>2 or more required)</u> s (B6) I Concave Surface (B8 (B10)
] 5 cm Mud estrictive I ype: <u>C</u> emarks: No marks: No <b>DROLOG</b> /etland Hyd rimary India ] Surface V ] High Wat ] Saturation ] Water Ma ] Sediment	Ager (if present): Compacted b hydric soil indicator is y Y drology Indicators: eators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)	Dept s present. Na <u>e required; c</u>	h (inches): turally problem <u>heck all that ap</u> Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri	10 natic soil d pply) (B11) ertebrates Sulfide Ode n Water Ta hizosphere	(B13) or (C1) able (C2)		disturbed or problemati Hydric Soil Present? ☐ Yes ⊠ No nes. Secondary Indicators ( ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns ( ☐ Oxidized Rhizosphe (where tilled)	<u>2 or more required)</u> s (B6) I Concave Surface (B8 (B10) eres on Living Roots ((
] 5 cm Mud eestrictive I ype: <u>C</u> eemarks: No <b>/DROLOG</b> /etland Hyd rimary India ] Surface V ] High Wat ] Saturation ] Water Ma ] Sediment ] Drift Depo	Ager (if present): Compacted b hydric soil indicator is y Y drology Indicators: cators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) psits (B3)	Dept s present. Na <u>e required; c</u>	h (inches): turally problem <u>heck all that ap</u> Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	10 natic soil d (B11) ertebrates Sulfide Ode n Water Ta hizosphere ot tilled)	(B13) or (C1) able (C2) es on Living		disturbed or problemation Hydric Soil Present? ☐ Yes  ☐ No hes. Secondary Indicators ( ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns ( ☐ Oxidized Rhizospher (where tilled) ☐ Crayfish Burrows (0)	<u>2 or more required)</u> s (B6) d Concave Surface (B8 (B10) eres on Living Roots (0 28)
5 cm Muc	Ager (if present): Compacted b hydric soil indicator is hydric soil indicator is y trology Indicators: cators (minimum of one Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4)	Dept s present. Na	h (inches): turally problem  	10 natic soil d pply) B11) ertebrates Sulfide Ode n Water Ta hizosphere ot tilled) f Reduced	(B13) or (C1) able (C2) es on Living		disturbed or problemati Hydric Soil Present? ☐ Yes ⊠ No nes. Secondary Indicators ( ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns ( ☐ Oxidized Rhizosphe (where tilled)	<u>2 or more required)</u> s (B6) d Concave Surface (B8 (B10) eres on Living Roots ( C8) n Aerial Imagery (C9)

<ul> <li>Inundation Visible on Aerial Ir</li> <li>Water-Stained Leaves (B9)</li> </ul>	5 , ( )				] FAC-Neutral Test (D5) ] Frost-Heave Hummocks (D7) <b>(LRR F)</b>
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream ga inspections, etc.), if available:	uge, monitoring well, aerial photos, previous
Surface Water present?		$\boxtimes$			
Water Table present?		$\boxtimes$			
Saturation Present?		$\boxtimes$			
(includes capillary fringe)					
Wetland Hydrology Present?		$\boxtimes$			
Remarks: Wetland hydrology ind	icator D5	5 is me	t.		

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/28/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-596
Investigator(s):T. Beemer, W. Hirst	Section	n, Township, Range:	S14, T111N, R67W
Landform (hillslope, terrace, etc.) swale	Local relief (cond	cave, convex, none):	concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.42	5833 Long:	-98.844313 Datum: NAD83
Soil Map Unit Name:Glenham loam, undulating		N	NI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	□ No (If no, e	xplain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If need	ormal Circumstances" ed, explain any answe ations, transects,	ers in Remarks.)
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the system       Image: Comparison of the system       Image: Comparison of the system         Hydric Soil Present?       Image: Comparison of the system       Image:	emarks: Wetland s	sample plot located in	PEM W-550.

### **VEGETATION – Use scientific names of plants**

г

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	<u>%</u>		·	are OBL, FACW, or FAC
2	<u>%</u>		·	(excluding FAC-): (A)
	<u>%</u>		·	Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')	0 70			Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of:Multiply by:
5.	%			OBL species% x 1 =
	0 %	= Total Cove		FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
	100 %	Y	FACW	FACU species% x 4 =0
	<u>    100 %</u> %	<u> </u>	1701	UPL species% x 5 =0
2				Column Totals: <u>0</u> % (A) <u>0</u> (B)
3				Prevalence Index = B/A =
5				
6	%			Hydrophytic Vegetation Indicators:
7.				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
Marchel (marchestern	100 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>		·	<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-59	9.		
	5 1 2 2			

Profile Dese Depth	cription: (Describe Matrix	to the depth needed to doc			or confirm the	absence of indicators.)		
(inches)	Color (moist)	% Color (moist)	Redox Fe %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-10	10YR 5/1	80 10YR 5/6	20	C C	<u>LOC</u>	Clay Loam	Remarks	
10-20	10YR 6/1	80 10YR 5/6	20	M	Clay Loam			
				C				
	Concentration, D=Dep	letion, RM=Reduced Matrix,	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Li	ining, M=Matrix	
		Indicators for Problemati	ic Hydric Soils <sup>3</sup> :					
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)						1 cm Muck (A9) (LRR I      Coast Prairie Redox (A      Dark Surface (S7) (LRF      High Plains Depression     (LRR H outside of MI      Reduced Vertic (F18)      Red Parent Material (TI      Very Shallow Dark Surf      Other (Explain in Rema      Indicators of hydrophytic v     wetland hydrology must be     disturbed or problematic	16) ( <b>LRR F, G, H</b> ) <b>R G</b> ) Is (F16) <b>LRA 72 &amp; 73)</b> F2) face (TF 12) arks) vegetation and	
Type:	Layer (if present):	Depth (inches):				Hydric Soil Present?		
Remarks: H	ydric soil indicator F3	is met.				·		
IYDROLOO	-							
	drology Indicators:					<b>.</b>		
-		ne required; check all that ap				Secondary Indicators (2 o		
Surface \	( )	Salt Crust	· /			Surface Soil Cracks (B		
_ 0	ter Table (A2)	Aquatic Inv		· · /		Sparsely Vegetated Co		
Saturatio	( )	Hydrogen S		· · ·		Drainage Patterns (B1	,	
Water Ma		Dry-Seaso		( )	$D_{a,a,b,a}(O_{a,a})$	Oxidized Rhizospheres (where tilled)	3 on Living Roots (C3	
	t Deposits (B2)	Oxidized R (where r	hizospher I <b>ot tilled)</b>	es on Living	R0015 (U3)	Crayfish Burrows (C8)		
Drift Dep	. ,	_ `	,	d Iron (C4)				
□ Algal Mat or Crust (B4)       □ Presence of Reduced Iron (C4)       □ Saturation Visible on Aerial Imagery (         □ Iron Deposits (B5)       □ Thin Muck Surface (C7)       ☑ Geomorphic Position (D2)								

Thin Muck Surface (C7) - ... nlain in D

<ul> <li>Inundation Visible on Aerial Imagery (B7)</li> <li>Other (Explain i</li> <li>Water-Stained Leaves (B9)</li> </ul>			☐ Other (Explain i	in Remarks)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?	$\boxtimes$		0	
Water Table present?	$\boxtimes$		0	
Saturation Present?	$\boxtimes$		0	
(includes capillary fringe)				
Wetland Hydrology Present?	$\boxtimes$			
Remarks: Wetland hydrology ind	icators A	.1, A2,	A3, B10, D2, and	D5 are met.

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 6/28/2018						
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-597						
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S14, T111N, R67W						
Landform (hillslope, terrace, etc.) toeslope	Local relief (concave, convex, none): Slope (%):3 %						
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat:44.425766Long:98.844374Datum:NAD83						
Soil Map Unit Name: Glenham loam, undulating NWI Classification: NA							
Are climate/hydrologic conditions on the site typical for this time of year? Xes No (If no, explain in Remarks.)							
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes □ No (If needed, explain any answers in Remarks.)						
	ming point locations, transects, important leatures, etc.						
Yes       No       Ren         Hydrophytic Vegetation Present?       Image: Second Sec	marks: Upland sample plot adjacent to PEM W-550.						

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.	%			
4.	%	·		Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				<b>_</b>
3.				Prevalence Index Worksheet:
4.	%			Total % Cover of:Multiply by:
5.	%			OBL species% x 1 =
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =0
1. <u>Poa pratensis</u>	90 %	Y	FACU	FACU species% x 4 =0
2. <u>Solidago canadensis</u>	5 %		FACU	UPL species% x 5 =
3	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hudrophytic Vegetation Indicators
6	%			Hydrophytic Vegetation Indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	<u>95 %</u>	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%	·		<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograph	C-60.			

	•	to the depth needed to do		or confirm the	absence of indicators.)	
Depth (inchoo)	Matrix		Redox Features			
(inches)	Color (moist)	<u>%</u> Color (moist)	%Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks	
<u> </u>	<u>10YR 3/1</u> 10YR 3/2	<u>100</u> 100		·	Silt Loam Silt Loam	
0-12	101K 3/2					
		letion, RM=Reduced Matrix		d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix	
<ul> <li>Histosol</li> <li>Histic Ep</li> <li>Black His</li> <li>Hydroge</li> <li>Stratified</li> <li>1 cm Mu</li> <li>Depleted</li> <li>Thick Da</li> <li>Sandy W</li> <li>2.5 cm M</li> </ul>	(A1) Dipedon (A2)	□ Sandy □ Strippe □ Loamy ) □ Deplete (A11) □ Redox □ Deplete □ Redox 22) (LRR G, H) □ High P	Gleyed Matrix (S4) Redox (S5) ad Matrix (S6) Mucky Mineral (F1) Gleyed Matrix (F2) ed Matrix (F3) Dark Surface (F6) ed Dark Surface (F7) Depressions (F8) lains Depressions (F16 A 72 & 73 of LRR H)	)	Indicators for Problematic Hydric Soils <sup>3</sup> : 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 (TF 12) Other (Explain in Remarks) <sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic	
Restrictive	Layer (if present):				Hydric Soil Present?	
Туре:	Compacted	_ Depth (inches): _	12		Yes 🛛 No	
Remarks: No hydric soil indicator is present.						
IYDROLO	GY					
-	drology Indicators:					
Primary Ind	icators (minimum of o	ne required; check all that a	ipply)		Secondary Indicators (2 or more required)	
Surface	( )	Salt Crust	( )		Surface Soil Cracks (B6)	
0	iter Table (A2)	•	vertebrates (B13)		Sparsely Vegetated Concave Surface (B8)	
			Sulfide Odor (C1)		Drainage Patterns (B10)	
Water M	( )		on Water Table (C2)		Oxidized Rhizospheres on Living Roots (C3	
	nt Deposits (B2)		Rhizospheres on Living <b>not tilled)</b>	Roots (C3)	(where tilled) Crayfish Burrows (C8)	
	. ,	_ `	of Reduced Iron (C4)		Saturation Visible on Aerial Imagery (C9)	
Iron Dep	at or Crust (B4) posits (B5)		Surface (C7)		Geomorphic Position (D2)	

Fiold	Observations:	
Field		

<ul> <li>Inon Deposits (DS)</li> <li>Inundation Visible on Aerial In</li> <li>Water-Stained Leaves (B9)</li> </ul>	nagery (E	37)	☐ Other (Explain i	,	<ul> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream inspections, etc.), if available:	gauge, monitoring well, aerial photos, previous
Surface Water present?		$\boxtimes$			
Water Table present?		$\boxtimes$			
Saturation Present? (includes capillary fringe)		$\boxtimes$			
Wetland Hydrology Present?		$\boxtimes$			
Remarks: No wetland hydrology	indicators	s are p	present.		

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 6/28/2018				
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-600				
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S14, T111N, R67W				
Landform (hillslope, terrace, etc.) swale	Local relief (cor	ncave, convex, none):	concave Slope (%): 0 %				
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.42	23495 Long:	-98.858857 Datum: NAD83				
Soil Map Unit Name: Glenham loam, undulating NWI Classification: PABFh							
Are climate/hydrologic conditions on the site typical for this time of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)							
Vegetation       Soil       Hydrology         Significantly Disturbed?            Naturally Problematic?            SUMMARY OF FINDINGS – Attach site map showing same	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)				
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Second Sec	emarks: Upland	sample plot.					

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	%			(excluding FAC-): 0 (A)
4.	%			Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:0% (A/B)
2.				<b>_</b>
3.				Prevalence Index Worksheet:
4.	%			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Poa pratensis</u>	100 %	Y	FACU	FACU species% x 4 =
2	%			UPL species $\% x 5 = 0$
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			Hydrophytic vegetation indicators.
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cove	r	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-61.			

SOIL

(inches)	Matrix		Redox Features						
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-12	10YR 3/2	100					Silt Loam		
				<u> </u>	<u> </u>	······································			
			Deduced Metrix (				21 acations DI - Dana	Lizion M-Matrix	
	Concentration, D=Depl					a Sand Grains	<sup>2</sup> Location: PL=Pore	0	
-	Indicators: (Applica	able to all I					Indicators for Problem	-	
Histosol	( )		-	leyed Matrix	: (S4)		1 cm Muck (A9) ( <b>LRF</b>		
Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)							Coast Prairie Redox		
	n Sulfide (A4)			Matrix (S6) Nucky Minera	al (E1)		□ Dark Surface (S7) (L □ High Plains Depressi	,	
	Layers (A5) (LRR F)			Gleyed Matrix	. ,		(LRR H outside of		
	ck (A9) ( <b>LRR F, G, H</b> )			Matrix (F3)			Reduced Vertic (F18)	)	
Depleted Below Dark Surface (A11)							Red Parent Material	· · ·	
□ Thick Dark Surface (A12) □ Depleted Dark Surface (F7)							☐ Very Shallow Dark Surface (TF 12)		
	lucky Mineral (S1)			epressions	. ,		Other (Explain in Rer	narks)	
2.5 cm Mucky Peat or Peat (S2) (LRR G, H) High Plains Depressions (F16)							<sup>3</sup> Indicators of hydrophytic vegetation and		
_ 5 cm Mu	cky Peat or Peat (S3)	(LRR F)	(MLRA	72 & 73 of L	.RR H)		wetland hydrology must disturbed or problematic	be present, unless	
Restrictive	Layer (if present):						Hydric Soil Present?		
	Compacted	П	epth (inches): 1	2			☐ Yes ⊠ No		
iypo. •	computied	- 0	opur (moneo). <u> </u>	2					
<u> </u>	o hydric soil indicator	is present.							
	o hydric soil indicator	is present.							
	o hydric soil indicator	is present.							
	o hydric soil indicator	is present.							
Remarks: N		is present.							
Remarks: N		is present.							
Remarks: N YDROLOO	GY	·	; check all that ap	<u>ply)</u>			Secondary Indicators (2	or more required)	
Remarks: N YDROLOC Wetland Hy Primary Indi	GY /drology Indicators: icators (minimum of or	·	<u>; check all that ap</u> □ Salt Crust (				Secondary Indicators (2		
Remarks: N YDROLOC Netland Hy Primary Indi Surface N	GY /drology Indicators: icators (minimum of or	·		B11)	:13)			(B6)	
Remarks: N       YDROLOO       YDROLOO       Wetland Hy       Primary Indi       Surface N       High Wa       Saturatio	GY rdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) nn (A3)	·	☐ Salt Crust( ☐ Aquatic Inve ☐ Hydrogen S	B11) ertebrates (E sulfide Odor	(C1)		Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E	(B6) Concave Surface (B8) 310)	
Remarks: N YDROLOO Vetland Hy Primary Indi Surface V High Wa Saturatio Water Ma	GY rdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1)	·	☐ Salt Crust ( ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor	B11) ertebrates (E Sulfide Odor Water Tabl	(C1) e (C2)		Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (E     Oxidized Rhizosphere)	(B6) Concave Surface (B8) 310)	
Remarks: N         YDROLOO         YDROLOO         Wetland Hy         Primary Indi         Surface N         High Wa'         Saturatio         Water M:         Sedimen	GY rdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)	·	☐ Salt Crust ( ☐ Aquatic Inv ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized RI	B11) ertebrates (E Sulfide Odor Water Tabl nizospheres	(C1) e (C2)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphere (where tilled)</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C	
YDROLOO         YDROLOO         YUROLOO         YUROLOOO         YUROLOOOO         YUROLOOOO	GY rdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) posits (B3)	·	☐ Salt Crust ( ☐ Aquatic Inv ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized RI (where n	B11) ertebrates (E Gulfide Odor N Water Tabl nizospheres ot tilled)	(C1) e (C2) on Living I	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizospheretilled)</li> <li>Crayfish Burrows (Comparison of the second se</li></ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C 8)	
YDROLOO         YDROLOO         YDROLOO         Wetland Hy         Primary Indi         Surface N         High Wat         Saturation         Water Mater         Sedimen         Drift Dep         Algal Ma	GY rdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) t or Crust (B4)	·	☐ Salt Crust ( ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized RI (where n ☐ Presence o	B11) ertebrates (E Gulfide Odor I Water Tabl Nizospheres ot tilled) f Reduced Ir	(C1) e (C2) on Living I on (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphereitilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C 8) a Aerial Imagery (C9)	
YDROLOO         YDROLOO         YDROLOO         Wetland Hy         Primary Indi         Surface N         High War         Saturation         Water Mater Mater         Sedimen         Drift Dep         Algal Ma         Iron Dep	GY vdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) to Deposits (B2) oosits (B3) t or Crust (B4) osits (B5)	ne required	☐ Salt Crust ( ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized Rl (where n ☐ Presence o ☐ Thin Muck S	B11) ertebrates (E Gulfide Odor h Water Tabl hizospheres ot tilled) f Reduced Ir Surface (C7)	(C1) e (C2) on Living on (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> <li>Geomorphic Position</li> </ul>	(B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2)	
YDROLOG         YDROLOG         YDROLOG         Wetland Hy         Primary Indi         Surface N         High Wa'         Saturation         Water Main         Sedimen         Drift Dep         Algal Ma         Iron Dep         Inundation	GY rdrology Indicators: icators (minimum of or Water (A1) ter Table (A2) on (A3) arks (B1) it Deposits (B2) oosits (B3) t or Crust (B4)	ne required	☐ Salt Crust ( ☐ Aquatic Invo ☐ Hydrogen S ☐ Dry-Seasor ☐ Oxidized RI (where n ☐ Presence o	B11) ertebrates (E Gulfide Odor h Water Tabl hizospheres ot tilled) f Reduced Ir Surface (C7)	(C1) e (C2) on Living on (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks</li> <li>Sparsely Vegetated</li> <li>Drainage Patterns (E</li> <li>Oxidized Rhizosphereitilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible or</li> </ul>	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) (5)	

Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aeria inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology ind	icator D	2 is me	t.	

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>6/28/2</u>	2018			
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	Sampling Point: S	SP-602			
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S11, T111N, R67W				
Landform (hillslope, terrace, etc.) depression	Local relief (co	ncave, convex, none):	concave Slope (%):	0 %			
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	37189 Long:	-98.858378 Datum: NA	D83			
Soil Map Unit Name: Glenham-Prosper loams, 0 to 2 percent slopes NWI Classification: PABFh							
Are climate/hydrologic conditions on the site typical for this time of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)							
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answ cations, transects,	ers in Remarks.)				
YesNoRHydrophytic Vegetation Present?Image: Comparison of the sent of the sen	emarks: Wetland	d sample plot located in	PEM W-552.				

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	0/			are OBL, FACW, or FAC
2 3				(excluding FAC-): (A)
4.				Total Number of Dominant
T	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				Burnels and a landar Wenter baset
3				Prevalence Index Worksheet:
4	0/			Total % Cover of: Multiply by:
5				OBL species% x 1 =0
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. Alisma triviale	60 %	<u> </u>	OBL	FACU species% x 4 =
2				UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3				
4	%			Prevalence Index = B/A =
5	0/			Hydrophytic Vegetation Indicators:
6		<u> </u>		
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				□ 2 Dominance Test is >50%
9		<u> </u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	60 %	= Total Cove	•	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>    %</u> %			
2	0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum 40 %				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
	ata manh O O	2		
Remarks: Rapid test for hydrophytic vegetation is met. Pho	olograph C-62	۷.		

	-	Matrix		Redox Fea					
(inches)	Color (moist)		Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
<u>0-10</u> 10-20	10YR 5/1 10YR 6/1	<u>80</u> 80	10YR 5/6 10YR 5/6	<u>20</u> 20	<u> </u>	<u> </u>	<u> </u>		
10-20									
Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, 0	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless oth	erwise no	oted.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :	
🗌 Histosol (	,		🗌 Sandy G	•	. ,		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )		
Histic Epi			🗌 Sandy R				Coast Prairie Redox (A16) (LRR F, G, H)		
Black His	. ,		Stripped		,		Dark Surface (S7) ( <b>LRR G</b> )		
	Sulfide (A4)		Loamy M	-			High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)		
	Layers (A5) ( <b>LRR F</b> ) ck (A9) ( <b>LRR F, G, H</b>		☐ Loamy G ⊠ Depleted	-			Reduced Vertic (F18)		
	Below Dark Surface	,	Redox D				Red Parent Material (TF2)		
•	rk Surface (A12)	(((1))			( )		☐ Very Shallow Dark Surface (TF 12)		
	ucky Mineral (S1)		Redox D		• •		Other (Explain in Rem	narks)	
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)						<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless			
							disturbed or problematic		
Restrictive Layer (if present):					Hydric Soil Present?				
Type:         Depth (inches):						🛛 Yes 🔲 No			
туре:									
··	/dric soil indicator F3	is met.					I		
··	/dric soil indicator F3	is met.							
Remarks: Hy		is met.							
Remarks: Hy YDROLOG									
Remarks: Hy YDROLOG	εY		d; check all that ap	<u>oly)</u>			Secondary Indicators (2	or more required)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V	<b>;Y</b> drology Indicators: cators (minimum of c Vater (A1)		Salt Crust (I	311)			Surface Soil Cracks (	(B6)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat	<b>GY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2)		☐ Salt Crust (I ☐ Aquatic Inve	B11) ertebrates			Surface Soil Cracks (	(B6) Concave Surface (B8	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3)		☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S	311) ertebrates ulfide Ode	or (C1)		☐ Surface Soil Cracks ( ☐ Sparsely Vegetated ( ☐ Drainage Patterns (B	(B6) Concave Surface (B8 10)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturatio         Water Mater	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1)		☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season	311) ertebrates ulfide Ode Water Ta	or (C1) able (C2)	Booto (02)	☐ Surface Soil Cracks ( ☐ Sparsely Vegetated ( ☐ Drainage Patterns (B ☐ Oxidized Rhizospher	(B6) Concave Surface (B8 10)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Water Ma         Sediment	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2)		Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	311) ertebrates ulfide Ode Water Ta iizosphere	or (C1) able (C2)	Roots (C3)	☐ Surface Soil Cracks ( ☐ Sparsely Vegetated 0 ☐ Drainage Patterns (B ☐ Oxidized Rhizospher (where tilled)	(B6) Concave Surface (B8 (10) es on Living Roots (0	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Water Ma         Sediment         Drift Deport	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) i: Deposits (B2) posits (B3)		☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season	311) ertebrates ulfide Ode Water Ta hizosphere ot tilled)	or (C1) able (C2) es on Living	Roots (C3)	☐ Surface Soil Cracks ( ☐ Sparsely Vegetated ( ☐ Drainage Patterns (B ☐ Oxidized Rhizospher	(B6) Concave Surface (B8 (10) es on Living Roots (0	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Water Ma         Sediment         Drift Depo         Algal Mat	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)		Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne	B11) ertebrates ulfide Odd Water Ta nizosphere ot tilled)	or (C1) able (C2) es on Living I Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated 0</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizospher (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	(B6) Concave Surface (B8 (10) es on Living Roots (C 3) Aerial Imagery (C9)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Water Ma         Sediment         Drift Dep         Algal Mat         Iron Depo	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)	ne require	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates ulfide Odd Water Ta nizosphere ot tilled) Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	□ Surface Soil Cracks (         □ Sparsely Vegetated C         □ Drainage Patterns (B         □ Oxidized Rhizospher         (where tilled)         □ Crayfish Burrows (C8         □ Saturation Visible on         ⊠ Geomorphic Position         ⊠ FAC-Neutral Test (D8	(B6) Concave Surface (B8 (10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Sediment         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundatio	<b>iY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) posits (B5)	ne require	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates ulfide Odd Water Ta nizosphere ot tilled) Reduced Surface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	□ Surface Soil Cracks (         □ Sparsely Vegetated C         □ Drainage Patterns (B         □ Oxidized Rhizospher         (where tilled)         □ Crayfish Burrows (C8         □ Saturation Visible on         ⊠ Geomorphic Position	(B6) Concave Surface (B8 (10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)	
Remarks: Hy         YDROLOG         Wetland Hy         Primary India         Surface V         High Wat         Saturation         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundatio	<b>Y</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4) posits (B5) n Visible on Aerial In ained Leaves (B9)	ne require	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	311) ertebrates ulfide Od Water Ta nizosphere ot tilled) Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living H Iron (C4) C7) narks) cribe Record		□ Surface Soil Cracks (         □ Sparsely Vegetated C         □ Drainage Patterns (B         □ Oxidized Rhizospher         (where tilled)         □ Crayfish Burrows (C8         □ Saturation Visible on         ⊠ Geomorphic Position         ⊠ FAC-Neutral Test (D8	(B6) Concave Surface (B8 (10) es on Living Roots (0 3) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>	

Remarks: Wetland hydrology indicators A2, A3, D2, and D5 are met.

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Water Table present?

(includes capillary fringe)
Wetland Hydrology Present?

Saturation Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 6/28/2018			
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	pling Point: <u>SP-603</u>			
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S11, T111N, R67	Ŵ			
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): <u>5 %</u>			
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.4	37162 Long:	-98.858469	Datum: NAD83			
Soil Map Unit Name: Glenham-Prosper loams, 0 to 2 percent slopes NWI Classification: PABFh							
Are climate/hydrologic conditions on the site typical for this time of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)							
Vegetation       Soil       Hydrology         Significantly Disturbed?            Naturally Problematic?            SUMMARY OF FINDINGS – Attach site map showing same	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_			
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Second Sec	emarks: Upland	sample plot adjacent to	9 PEM W-552.				

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				
4.				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1.	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of:Multiply by:
5				OBL species         %         x 1 =         0
	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: <u>5'</u> )				FAC species         % x 3 =         0           FACU species         % x 4 =         0
1. Poa pratensis	100 %	Y	FACU	FACU species         % x 4 =         0           UPL species         % x 5 =         0
2	%			OPL species $\%$ x 5 - $0$ Column Totals: $0$ % (A)00
3	%			
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				☐ 1 Rapid Test for Hydrophytic Vegetation
7 8				$\square$ 2 Dominance Test is >50%
9				$\square$ 3 Prevalence Index is $\leq 3.0^1$
10	%			
	<u>   100 %</u>	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	0/			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photog	graph C-63.			
	· ·			

SOIL

(in a k )	Matrix			edox Features		_	_	
(inches)	Color (moist)	<u>%</u>	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-12	10YR 3/2	100				Sill Loam		
						·		
					·	·		
				S=Covered or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore L	0	
-	ndicators: (Applic	able to all				Indicators for Problema	•	
] Histosol (A	,		-	eyed Matrix (S4)		1 cm Muck (A9) ( <b>LRR</b>		
] Histic Epip			Sandy Re	. ,				
Black Hist Hydrogen	. ,		Stripped I	ucky Mineral (F1)		□ Dark Surface (S7) ( <b>LR</b> □ High Plains Depressio	,	
	_ayers (A5) ( <b>LRR F</b> )	(LRR H outside of M						
	k (A9) (LRR F, G, H		Depleted	eyed Matrix (F2) Matrix (F3)		Reduced Vertic (F18)		
	Below Dark Surface		Redox Da	irk Surface (F6)		Red Parent Material (1	/	
	k Surface (A12)		Depleted	Dark Surface (F7)		Very Shallow Dark Surface (TF 12)		
	cky Mineral (S1)			pressions (F8)		Other (Explain in Rem	arks)	
	icky Peat or Peat (S	, (	•	ns Depressions (F16	)	<sup>3</sup> Indicators of hydrophytic		
_ 5 cm Mucl	ky Peat or Peat (S3	) (LRR F)	(MLRA /	2 & 73 of LRR H)		wetland hydrology must b disturbed or problematic	e present, unless	
Restrictive L	ayer (if present):					Hydric Soil Present?		
Гуре: С	ompacted		Depth (inches): 12			🗌 Yes 🖾 No		
	handele e ell'he d'he et en							
	hydric soil indicator	is present						
Containts. No								
Containts. No								
Cinants. No								
	×							
(DROLOG	Y Irology Indicators:							
/DROLOG Vetland Hyd			d; check all that app	<u>lv)</u>		Secondary Indicators (2)	or more required)	
YDROLOG Vetland Hyd Primary Indic	rology Indicators: ators (minimum of c		d; check all that app □ Salt Crust (B				· · · ·	
<b>Primary Indic</b>	rology Indicators: ators (minimum of c l'ater (A1)			11)		Secondary Indicators (2 o	36)	
YDROLOG Wetland Hyd Primary Indic Surface W High Wate	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2)		Salt Crust (B	11) rtebrates (B13)		☐ Surface Soil Cracks (I ☐ Sparsely Vegetated C ☐ Drainage Patterns (B <sup>2</sup>	36) oncave Surface (B8 10)	
YDROLOG Wetland Hyd Primary Indic Surface W High Wate Saturation	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3)		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su	11) rtebrates (B13)		Surface Soil Cracks (I Sparsely Vegetated C Drainage Patterns (B Oxidized Rhizosphere	36) oncave Surface (B8 10)	
YDROLOG Vetland Hyd Primary Indic Surface W High Wate Saturation Water Mar Sediment	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen St ☐ Dry-Season ☐ Oxidized Rhi	 11) Iftebrates (B13) Ilfide Odor (C1) Water Table (C2) zospheres on Living	Roots (C3)	□ Surface Soil Cracks (I □ Sparsely Vegetated C □ Drainage Patterns (B <sup>2</sup> □ Oxidized Rhizosphere (where tilled)	36) oncave Surface (B8 10) is on Living Roots (C	
YDROLOG Netland Hyd Primary Indic Surface W High Wate Saturation Water Mar Sediment Drift Depo	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3)		Salt Crust (B Aquatic Inve Hydrogen Su Dry-Season Oxidized Rhi (where no	rtebrates (B13) Ilfide Odor (C1) Water Table (C2) zospheres on Living <b>t tilled)</b>	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	36) oncave Surface (B8 10) is on Living Roots (C	
YDROLOG Wetland Hyd Primary Indic Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of	rtebrates (B13) Ilfide Odor (C1) Water Table (C2) zospheres on Living <b>t tilled)</b> Reduced Iron (C4)	Roots (C3)	Surface Soil Cracks (I Sparsely Vegetated C Drainage Patterns (B Oxidized Rhizosphere (where tilled) Crayfish Burrows (C8) Saturation Visible on D	36) oncave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9)	
YDROLOG Vetland Hyd Primary Indic Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	one required	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S	The second secon	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	36) oncave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9) (D2)	
YDROLOG  Vetland Hyd  Primary Indic  Surface W High Wate Saturation Water Mai Sediment Drift Depo Algal Mat Iron Depo Inundation	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	one required	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S	The second secon	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on a</li> <li>Geomorphic Position</li> </ul>	36) oncave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9) (D2) )	
YDROLOG Wetland Hyd Primary Indic Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depo Inundatior	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) o Visible on Aerial In ined Leaves (B9)	ne required	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S ☐ Other (Expla	11) rtebrates (B13) Ilfide Odor (C1) Water Table (C2) zospheres on Living <b>t tilled)</b> Reduced Iron (C4) urface (C7) in in Remarks)		<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5)</li> </ul>	36) oncave Surface (B8 10) is on Living Roots (C Aerial Imagery (C9) (D2) ) iks (D7) <b>(LRR F)</b>	
DROLOG     Vetland Hyd     Primary Indic     Surface W     High Wate     Saturation     Water Mai     Sediment     Drift Depo     Algal Mat     Iron Depo:     Inundatior     Water-Sta	Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) o Visible on Aerial In ined Leaves (B9)	ne required	☐ Salt Crust (B ☐ Aquatic Inve ☐ Hydrogen Su ☐ Dry-Season ☐ Oxidized Rhi (where no ☐ Presence of ☐ Thin Muck S ) ☐ Other (Expla	11) rtebrates (B13) Ilfide Odor (C1) Water Table (C2) zospheres on Living <b>t tilled)</b> Reduced Iron (C4) urface (C7) in in Remarks)	ded Data (strea	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on A</li> <li>Geomorphic Position</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummoor</li> </ul>	36) concave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9) (D2) ) ks (D7) <b>(LRR F)</b>	

Remarks: No wetland hydrology indicators are present.
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Water Table present? Saturation Present?

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/16/2018	
Applicant/Owner: Sweetland Wind Farm, LLC	State: <u>SD</u> Sampling Point: <u>SP-606</u>	
Investigator(s):T. Beemer, W. Hirst	Section, Township, Range: S33, T111N, R66W	
Landform (hillslope, terrace, etc.) drainage	Local relief (concave, convex, none): Slope (%):2 %	
Subregion (LRR): Northern Great Plains Spring Wheat Region	n Lat: 44.382675 Long: -98.780460 Datum: NAD83	
Soil Map Unit Name: Betts-Java loams, steep	NWI Classification: NA	
Are climate/hydrologic conditions on the site typical for this time of	f year? 🛛 Yes 🗌 No (If no, explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present?  Ves  No (If needed, explain any answers in Remarks.) mpling point locations, transects, important features, etc.	
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Wetland sample plot located in PEM W-554.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4.	%			Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15</u> ')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: (A/B)
2.				Prevalence Index Worksheet:
3				Prevalence index worksheet:
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cove	r	FACW species % x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. Spartina pectinata	90 %	<u>     Y    </u>	FACW	FACU species $-\%$ x 4 = $-0$
2. Xanthium strumarium	5 %	<u>N</u>	FAC	UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 95 %	= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide
Marsha)/inc. Otrations (Distribute 001)	95 %	- Total Cove		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	ograph C-64	4.		•
	-			

Profile Desc	ription: (Describe	to the dep	th needed to doc	ument the	e indicator o	r confirm the	absence of indicators.)		
Depth	Matrix		F	Redox Fea	atures				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-2	10YR 2/1	100					silty clay loam		
2-8	10YR 2/2	90	10YR 5/4	10	С	М	clay		
8-20	10YR 5/1	60	10YR 2/2	30	С	M	clay		
			10YR 5/4	10	С	М			
	oncentration, D=Dep					I Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
Hydric Soil I	ndicators: (Applic	able to all	LRRs, unless oth	erwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)         Histosol (A1)       Sandy Gleyed Matrix (S4)         Histic Epipedon (A2)       Sandy Redox (S5)         Black Histic (A3)       Stripped Matrix (S6)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)         Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F6)         Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F7)         Mucky Peat or Peat (S3) (LRR F)       MLRA 72 & 73 of LRR H)					6) eral (F1) trix (F2) :3) ce (F6) face (F7) is (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G,</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>		
Restrictive L	ayer (if present):						Hydric Soil Present?		
Туре:		_ [	Depth (inches):				🛛 Yes 🔲 No		
IYDROLOG			e met.						
•	Irology Indicators:								
Primary Indic	ators (minimum of c	one require	<u>d; check all that ap</u>	ply)			Secondary Indicators (2	or more required)	
	$lator(\Lambda 1)$		Salt Cruct (	D11)			Surface Soil Cracks	(P6)	

Surface Water (A1)			Salt Crust (B11)	)	Surface Soil Cracks (B6)		
High Water Table (A2)				orates (B13)	Sparsely Vegetated Concave Surface (B8)		
Saturation (A3)			Hydrogen Sulfic	de Odor (C1)	⊠ Drainage Patterns (B10)		
Water Marks (B1)			Dry-Season Wa	ater Table (C2)	Oxidized Rhizospheres on Living Roots (C3)		
Sediment Deposits (B2)			Oxidized Rhizos	spheres on Living Roots (C3)	(where tilled)		
Drift Deposits (B3)			(where not ti	lled)	Crayfish Burrows (C8)		
Algal Mat or Crust (B4)			Presence of Re	duced Iron (C4)	Saturation Visible on Aerial Imagery (C9)		
Iron Deposits (B5)			Thin Muck Surfa	( )	Geomorphic Position (D2)		
Inundation Visible on Aerial In	nagery (	B7)	Other (Explain i	n Remarks)	🛛 FAC-Neutral Test (D5)		
☐ Water-Stained Leaves (B9)					Frost-Heave Hummocks (D7) (LRR F)		
Field Observations:	Yes	No	Depth (inches)		n gauge, monitoring well, aerial photos, previous		
	165		(inches)	inspections, etc.), if available:			
Surface Water present?		$\boxtimes$					
Water Table present?	$\boxtimes$		0				
Saturation Present?	$\boxtimes$		0				
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indi	icators A	A2, A3,	B10, D2, and D5 a	are met.			

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>10/16/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	Sampling Point: SP-607
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S33, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none Slope (%): 7 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	82969 Long:	-98.780482 Datum: NAD83
Soil Map Unit Name: Betts-Java loams, steep		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland	sample plot adjacent to	PEM W-554.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	-	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-):0(A)
4				Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. Bromus inermis	<u> </u>	Y	UPL	FACU species $-\%$ x 4 = $-0$
2. <u>Poa pratensis</u>	50 %	Y	FACU	UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6				
7				□ 1 Rapid Test for Hydrophytic Vegetation
8			. <u> </u>	☐ 2 Dominance Test is >50%
9	<b>e</b> /			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide
$M_{\rm exc} = 0.000$	100 %	- Total Cove		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-65.			

Profile Description: (Descr	ibe to the de			or confirm the	e absence of indicators.)	
Depth Mat	· · · ·	-	edox Features			
(inches) Color (moist	<u> </u>	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6 10YR 3/2	100				Silt Loam	
6-18 10YR 3/3	100				Silt Loam	
					·	
					· _	
Type: C=Concentration, D=	Depletion, RM	I=Reduced Matrix, C	S=Covered or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil Indicators: (Ap	plicable to al	I LRRs, unless oth	erwise noted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sandy G	eyed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR</b>	I, J)
Histic Epipedon (A2)		Sandy R	edox (S5)		Coast Prairie Redox (	A16) (LRR F, G, H)
Black Histic (A3)		Stripped	Matrix (S6)		Dark Surface (S7) (LF	RR G)
Hydrogen Sulfide (A4)		🗌 Loamy M	ucky Mineral (F1)		High Plains Depression	ons (F16)
Stratified Layers (A5) (LR	<b>R F</b> )		leyed Matrix (F2)		(LRR H outside of M	
] 1 cm Muck (A9) (LRR F, 0	G, H)	Depleted	Matrix (F3)		Reduced Vertic (F18)	
Depleted Below Dark Sur	face (A11)	🗌 Redox D	ark Surface (F6)		Red Parent Material (	
Thick Dark Surface (A12)		Depleted	Dark Surface (F7)		Very Shallow Dark Su	, ,
Sandy Mucky Mineral (S1	)	🗌 Redox D	epressions (F8)		Other (Explain in Rem	iarks)
2.5 cm Mucky Peat or Pea	at (S2) ( <b>LRR 0</b>		ns Depressions (F16)		<sup>3</sup> Indicators of hydrophytic	vegetation and
5 cm Mucky Peat or Peat	(S3) ( <b>LRR F</b> )	(MLRA 7	72 & 73 of LRR H)		wetland hydrology must t disturbed or problematic	present, unless
Restrictive Layer (if presen	t):				Hydric Soil Present?	
Гуре:		Depth (inches):			🗌 Yes 🖾 No	
		· · · · <u> </u>				
Remarks: No hydric soil indic	ator is presen	t.				
YDROLOGY						
Wetland Hydrology Indicate	ors:					
Primary Indicators (minimum		ed: check all that ap	olv)		Secondary Indicators (2	or more required)
		·				<u>_</u>
Surface Water (A1)		Salt Crust (E	,		Surface Soil Cracks (	,
☐ High Water Table (A2) ☐ Saturation (A3)			ertebrates (B13) ulfide Odor (C1)		Sparsely Vegetated 0 Drainage Patterns (B	. ,
		_ , 0	( )		- 0 (	,
Water Marks (B1)		•	Water Table (C2)	Deate (C2)	Oxidized Rhizosphere (where tilled)	es on Living Roots (C
Sediment Deposits (B2)		(where no	izospheres on Living	Roots (C3)	Crayfish Burrows (C8	3
Drift Deposits (B3)		_ •	Reduced Iron (C4)		Saturation Visible on	
Algal Mat or Crust (B4)			( )		Geomorphic Position	••••
Iron Deposits (B5)		_			FAC-Neutral Test (D	( )
Inundation Visible on Aeri					Frost-Heave Hummo	,
Water-Stained Leaves (B	9)					
Field Observations:	Yes	Depth No (inches)			am gauge, monitoring well, a	erial photos, previous
Surface Motor mass and	_		inspections, etc.)	, ii avallable:		
Surface Water present?		⊠				
Water Table present?		⊠				
Saturation Present?						
(includes capillary fringe)	_	_				
Wetland Hydrology Presen	t? 🗌	$\boxtimes$				

Remarks: No wetland hydrology indicators are present.

Project/Site: Sweetland Wind Project	City/County: <u>Hand County</u> Sampling Date: <u>10/16/2018</u>	
Applicant/Owner: Sweetland Wind Farm, LLC	State: <u>SD</u> Sampling Point: <u>SP-608</u>	
Investigator(s):T. Beemer, W. Hirst	Section, Township, Range: S32, T111N, R66W	
Landform (hillslope, terrace, etc.) drainage	Local relief (concave, convex, none): concave Slope (%): 3 %	
Subregion (LRR): Northern Great Plains Spring Wheat Regi	on Lat: <u>44.381944</u> Long: <u>-98.782854</u> Datum: <u>NAD83</u>	
Soil Map Unit Name:Betts-Java loams, steep	NWI Classification: NA	
Are climate/hydrologic conditions on the site typical for this time	of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present?  Ves  No (If needed, explain any answers in Remarks.) Ampling point locations, transects, important features, etc.	
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system         Hydric Soil Present?       Image: Comparison of the system         Wetland Hydrology Present?       Image: Comparison of the system         Is the Sampled Area within a Wetland?       Image: Comparison of the system	Remarks: Wetland sample plot located in PEM W-555.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
•	0/			are OBL, FACW, or FAC
	<u></u> %			(excluding FAC-): (A)
				Total Number of Dominant
4	<u>%</u> 0 %	= Total Cove		Species Across All Strata:(B)
Conting/Chrub Stratum (Distaires 15')	0 %	= Total Cove	ſ	Percent of Dominant Species that
Sapling/Shrub Stratum         (Plot size: <u>15'</u> )           1.	%			are OBL, FACW, or FAC:(A/B)
2.				
3.				Prevalence Index Worksheet:
4.	%			Total % Cover of:Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =0
	100 %	Y	FACW	FACU species% x 4 =0
-	<u>    100 %</u>		1700	UPL species% x 5 =
2				Column Totals: <u>0</u> % (A) <u>0</u> (B)
3				Prevalence Index = B/A =
4		·		
5				Hydrophytic Vegetation Indicators:
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			□ □ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	ograph C-66	δ.		•
	- •			

Depth	Matrix		F	Redox Fea	tures				
(inches)	Color (moist)	% C	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-2	10YR 2/1	100					silty clay loam		
2-8	10YR 2/1	90	10YR 5/4	10	С	M	clay		
8-20	10YR 5/1	60	10YR 2/2	30	C	M	clay		
			10YR 5/4	10	C				
Type: C=Co	ncentration, D=Dep	letion, RM=Red	duced Matrix, (	 CS=Cover	ed or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore I	Lining, M=Matrix	
lydric Soil I	ndicators: (Applica	able to all LRF	Rs, unless oth	erwise no	oted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :	
☐ 1 cm Mucl ☐ Depleted I ☐ Thick Darl ☐ Sandy Mu ☐ 2.5 cm Mu	bedon (A2) ic (A3)	) (A11) 2) ( <b>LRR G, H</b> )		edox (S5) Matrix (S6 Jucky Mine Gleyed Mat I Matrix (F ark Surfac I Dark Sur epression	6) eral (F1) trix (F2) 3) ce (F6) face (F7) s (F8) ssions (F16)		<ul> <li>1 cm Muck (A9) (LRR</li> <li>Coast Prairie Redox (/</li> <li>Dark Surface (S7) (LR</li> <li>High Plains Depression (LRR H outside of N)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (<sup>-</sup></li> <li>Very Shallow Dark Su</li> <li>Other (Explain in Rem</li> <li><sup>3</sup>Indicators of hydrophytic wetland hydrology must b disturbed or problematic</li> </ul>	A16) (LRR F, G, H) R G) Ins (F16) ILRA 72 & 73) IF2) Iface (TF 12) arks) vegetation and	
Restrictive Layer (if present):         Type:       Depth (inches):							Hydric Soil Present? ⊠ Yes □ No		
··	dric soil indicator F3	and F6 are me	et.						

Primary Indicators (minimum of one required; check all that apply)					Secondary Indicators (2 or more required)
Surface Water (A1)			Salt Crust (B11	)	Surface Soil Cracks (B6)
High Water Table (A2)			Aquatic Inverte	orates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturation (A3)			Hydrogen Sulfic	le Odor (C1)	🖾 Drainage Patterns (B10)
🗋 Water Marks (B1)			Dry-Season Wa	iter Table (C2)	Oxidized Rhizospheres on Living Roots (C3)
Sediment Deposits (B2)			Oxidized Rhizos	spheres on Living Roots (C3)	(where tilled)
Drift Deposits (B3)			(where not ti	lled)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)			Presence of Re	duced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)			Thin Muck Surfa	ace (C7)	Geomorphic Position (D2)
Inundation Visible on Aerial In	nagery (B	37)	Other (Explain i	n Remarks)	☑ FAC-Neutral Test (D5)
□ Water-Stained Leaves (B9)		,			Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)		n gauge, monitoring well, aerial photos, previous
			(	inspections, etc.), if available:	
Surface Water present?		$\boxtimes$			
Water Table present?		$\boxtimes$			
Saturation Present?	$\boxtimes$		10		
(includes capillary fringe)					
Wetland Hydrology Present?	$\boxtimes$				
Remarks: Wetland hydrology indi water table was not observed. Th				Saturation was observed at a dep	th of 10 inches, however, an accompanying

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/16/2018	
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-609	
Investigator(s):T. Beemer, W. Hirst	Section, Township, Range: S32, T111N, R66W	
Landform (hillslope, terrace, etc.) toeslope	Local relief (concave, convex, none): Slope (%): <u>10 %</u>	6
Subregion (LRR): Northern Great Plains Spring Wheat Regi	on Lat: <u>44.381918</u> Long: <u>-98.782909</u> Datum: <u>NAD83</u>	
Soil Map Unit Name:Betts-Java loams, steep	NWI Classification: NA	
Are climate/hydrologic conditions on the site typical for this time	of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)	
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	Are "Normal Circumstances" present?  Ves  D No (If needed, explain any answers in Remarks.) ampling point locations, transects, important features, etc.	
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the sent?         Hydric Soil Present?       Image: Comparison of the sent?         Wetland Hydrology Present?       Image: Comparison of the sent?         Is the Sampled Area within a Wetland?       Image: Comparison of the sent?	Remarks: Upland sample plot associated with PEM W-555.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	<u>%</u>			(excluding FAC-): 0 (A)
	%			Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15')	0 70	- 1000 0000		Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4	<u>%</u>			Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species % x 1 = 0
·	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
1. Bromus inermis	100 %	Y	UPL	FACU species% x 4 =0
2	<u>     100 %</u>	<u> </u>		UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			Hydrophytic vegetation indicators.
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cove	ſ	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograph	n C-67.			
· · · · · · · · · · · · · · · · · · ·				

Profile Description: (Describe	-				or confirm the	absence of indicators.)	1
Depth Matrix			Redox Fea				
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-8</u> 10YR 3/3	100			·		Clay Loam	
8-20 10YR 3/4	100			·		Clay Loam	
				·			
							·
<sup>1</sup> Type: C=Concentration, D=De	pletion RM=	Reduced Matrix (	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Po	e Lining, M=Matrix
Hydric Soil Indicators: (Appli						Indicators for Problem	
Histosol (A1)		 ☐ Sandy G				☐ 1 cm Muck (A9) ( <b>LF</b>	-
Histic Epipedon (A2)		☐ Sandy C	-			Coast Prairie Redo	
Black Histic (A3)		Stripped		,		Dark Surface (S7) (	,
Hydrogen Sulfide (A4)		Loamy M		· · /		High Plains Depres	
Stratified Layers (A5) (LRR I		Loamy C	-			(LRR H outside o	•
☐ 1 cm Muck (A9) ( <b>LRR F, G</b> ,	-	Depleted		,		Reduced Vertic (F1	,
Depleted Below Dark Surfac	e (A11)	🗌 Redox D	ark Surfa	ce (F6)		Red Parent Materia	. ,
Thick Dark Surface (A12)		Depleted		. ,		Very Shallow Dark	, ,
Sandy Mucky Mineral (S1)		🗌 Redox D	epressior	ns (F8)		Other (Explain in Re	emarks)
2.5 cm Mucky Peat or Peat (	(S2) (LRR G,	H) 🗌 High Pla	ins Depre	ssions (F16)		<sup>3</sup> Indicators of hydrophy	tic vegetation and
5 cm Mucky Peat or Peat (S	3) ( <b>LRR F</b> )	(MLRA	72 & 73 o	of LRR H)		wetland hydrology mus	
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					disturbed or problemat	ic
Restrictive Layer (if present):						Hydric Soil Present?	
-	-						
Type:Remarks: No hydric soil indicate		epth (inches):				Yes 🛛 No	
		,					
Remarks: No hydric soil indicate		,					
Remarks: No hydric soil indicato	or is present.	,					
Remarks: No hydric soil indicato	or is present.					Secondary Indicators	(2 or more required)
Remarks: No hydric soil indicato	or is present.		<u>ply)</u>				
Remarks: No hydric soil indicators HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1)	or is present.	l; check all that ap □ Salt Crust (I	<u>ply)</u> B11)			Secondary Indicators	s (B6)
Remarks: No hydric soil indicators HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)	or is present.	l <u>; check all that ap</u> □ Salt Crust (I □ Aquatic Inve	<u>ply)</u> B11) ertebrates	(B13)		Secondary Indicators	s (B6) d Concave Surface (B8)
Remarks: No hydric soil indicators HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)	or is present.	l <u>; check all that ap</u> □ Salt Crust (l □ Aquatic Inve □ Hydrogen S	<u>ply)</u> B11) ertebrates Sulfide Od	6 (B13) or (C1)		Secondary Indicators	s (B6) d Concave Surface (B8) (B10)
Remarks: No hydric soil indicator         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	or is present.	I; check all that ap	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta	; (B13) or (C1) able (C2)	Poots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph	s (B6) d Concave Surface (B8) (B10)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	or is present.	l; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta nizosphere	; (B13) or (C1) able (C2)	Roots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled)	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	or is present.	I; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta nizosphere <b>ot tilled)</b>	(B13) or (C1) able (C2) es on Living	Roots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows (	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	or is present.	I; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta nizosphere ot tilled) f Reduced	(B13) or (C1) able (C2) es on Living d Iron (C4)	Roots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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)	or is present.	I; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta nizosphere ot tilled) f Reduced Surface (0	s (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Position	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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	or is present.	I; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta nizosphere ot tilled) f Reduced Surface (0	s (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test (	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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)	or is present.	I; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S	<u>ply)</u> B11) ertebrates Sulfide Od n Water Ta nizosphere ot tilled) f Reduced Surface (0	s (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators Surface Soil Crack Sparsely Vegetated Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Position	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5)
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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	or is present.	I; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5)
Remarks: No hydric soil indicator         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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         Water-Stained Leaves (B9)	or is present.	I: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Explain No (inches)	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	led Data (strea	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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 I         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?	or is present.	I; check all that ap ☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where ne ☐ Presence of ☐ Thin Muck S ☐ Other (Explain No (inches)	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	led Data (strea	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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 I         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Water Table present?	br is present.	I: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S Other (Explain Depth (inches)	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	led Data (strea	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indicators         HYDROLOGY         Wetland Hydrology Indicators         Primary Indicators (minimum of         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         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Water Table present?         Saturation Present?	br is present.	I; check all that ap ☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where ne ☐ Presence of ☐ Thin Muck S ☐ Other (Explain No (inches)	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	led Data (strea	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indicators         Primary Indicators (minimum of         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 I         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Water Table present?         Water Table present?         (includes capillary fringe)	br is present.	I: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rf (where no Presence of Thin Muck S Other (Explain No (inches) S S S S S S S S S S S S S	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	led Data (strea	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Remarks: No hydric soil indicators Primary Indicators (minimum of 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 Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present? Saturation Present?	br is present.	I: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S Other (Explain Depth (inches)	ply) B11) ertebrates Sulfide Od n Water Ta nizosphero ot tilled) f Reduced Surface (C ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	led Data (strea	Secondary Indicators Surface Soil Crack Sparsely Vegetatee Drainage Patterns Oxidized Rhizosph (where tilled) Crayfish Burrows ( Saturation Visible of Geomorphic Positio FAC-Neutral Test ( Frost-Heave Humn	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	<u>Samp</u>	oling Point: SP-612
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S32, T111N, R66	ŚW
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave	Slope (%): <u>5</u> %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	34156 Long:	-98.792923	Datum: NAD83
Soil Map Unit Name:Glenham loam, undulating		N	WI Classification:	PEM1Ad
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	)
Vegetation       Soil       Hydrology         Significantly Disturbed?            Naturally Problematic?            SUMMARY OF FINDINGS – Attach site map showing same	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Second Sec	emarks: Upland	sample plot.		

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.	0/			(excluding FAC-): 0 (A)
4.				Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:0% (A/B)
2.				Durandan a la dan Maria basti
3.	%			Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.	0/			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =0
1. <u>Bromus inermis</u>	100 %	<u> </u>	UPL	FACU species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
2				UPL species $\%$ x 5 = $0$ Column Totals:0%(A)0
3	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    100 %</u>	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	<b>0</b> (			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2	<u>%</u> 0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	%	= Total Cove		
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photo	graph C-68.			

Depth	Matrix	Redox Features	
(inches)	Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
0-8	10YR 3/3 100		Clay Loam
8-20	10YR 3/4 100		Clay Loam
<sup>1</sup> Type: C=C	oncentration, D=Depletion, RM=F	Reduced Matrix, CS=Covered or Coated Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix
Hydric Soil	Indicators: (Applicable to all L	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<ul> <li>Stratified</li> <li>1 cm Mud</li> <li>Depleted</li> <li>Thick Da</li> <li>Sandy M</li> <li>2.5 cm M</li> </ul>	ipedon (A2)	<ul> <li>Sandy Gleyed Matrix (S4)</li> <li>Sandy Redox (S5)</li> <li>Stripped Matrix (S6)</li> <li>Loamy Mucky Mineral (F1)</li> <li>Loamy Gleyed Matrix (F2)</li> <li>Depleted Matrix (F3)</li> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> <li>Redox Depressions (F8)</li> <li>High Plains Depressions (F16) (MLRA 72 &amp; 73 of LRR H)</li> </ul>	<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G, H)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>
_	Layer (if present):		Hydric Soil Present? □ Yes ⊠ No
Type:	o hydric soil indicator is present.	pth (inches):	
IYDROLOG			
Wetland Hy	drology Indicators:		
Primary Indi	cators (minimum of one required;	<u>check all that apply)</u>	Secondary Indicators (2 or more required)
Surface \		☐ Salt Crust (B11)	Surface Soil Cracks (B6)
High Wat	ter Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturatio	n (A3)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Ma		Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C
	t Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	(where tilled)
Drift Dep		(where not tilled)	Crayfish Burrows (C8)
-	t or Crust (B4)	Presence of Reduced Iron (C4) Thin Muck Surface (C7)	Saturation Visible on Aerial Imagery (C9)
Iron Depo		Thin Muck Surface (C7)	Geomorphic Position (D2)
Inundatio	on Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	☐ FAC-Neutral Test (D5)

☐ Water-Stained Leaves (B9)	0,00			☐ Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present? (includes capillary fringe)		$\boxtimes$		
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology inc	licator D	2 is met		

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-615
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	ocal relief (concave, convex, none): none Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: Long: Datum: NAD83
Soil Map Unit Name: <u>Glenham-Propser loams, 1 to 6 percent slo</u>	NWI Classification: PEM1Ad
Are climate/hydrologic conditions on the site typical for this time of ye	ar? 🛛 Yes 🗌 No 🛛 (If no, explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.) Iing point locations, transects, important features, etc.
Yes       No       Ren         Hydrophytic Vegetation Present?       Image: Second Sec	narks: Upland sample plot.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				· · · · · · · · · · · · · · · · · · ·
4.	•			Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	<u>%</u>			
4	<u>%</u>			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cove	r	FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
1. <u>Poa pratensis</u>	90 %	<u> </u>	FACU	FACU species $-\%$ x 4 = $-0$
2	<u>%</u>			UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	0/			
7	%			□ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>    %</u>			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cove	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
Z	0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	ph C-69.			
, , , , , , , ,				

SOIL

Depth Matrix		_			absence of indicators.)	
			Redox Features			
(inches) Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-20 10YR 3/3	100				Clay Loam	
			·			
· · · · · · · · · · · · · · · · _						
				. <u> </u>	·	
<sup>1</sup> Type: C=Concentration, D=De	pletion, RM=F	Reduced Matrix, (	S=Covered or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore I	Lining, M=Matrix
Hydric Soil Indicators: (Appli	cable to all L	RRs, unless oth	erwise noted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :
🗌 Histosol (A1)		🗌 Sandy G	leyed Matrix (S4)		1 cm Muck (A9) ( <b>LRR</b>	I, J)
Histic Epipedon (A2)		🗌 Sandy R	edox (S5)		🗌 Coast Prairie Redox (A	A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)		Stripped	Matrix (S6)		🗌 Dark Surface (S7) (LR	RR G)
Hydrogen Sulfide (A4)		_ ,	lucky Mineral (F1)		High Plains Depressio	
Stratified Layers (A5) (LRR I		•	ileyed Matrix (F2)		(LRR H outside of M	ILRA 72 & 73)
1 cm Muck (A9) ( <b>LRR F, G</b> ,		Depleted	. ,		Reduced Vertic (F18)	
Depleted Below Dark Surfac	e (A11)		ark Surface (F6)		Red Parent Material (	,
Thick Dark Surface (A12)		•	Dark Surface (F7)		Very Shallow Dark Su	
Sandy Mucky Mineral (S1)			epressions (F8)		Other (Explain in Rem	
□ 2.5 cm Mucky Peat or Peat ( □ 5 cm Mucky Peat or Peat (S			ins Depressions (F16) 72 & 73 of LRR H)		<sup>3</sup> Indicators of hydrophytic wetland hydrology must b disturbed or problematic	
Restrictive Layer (if present):					Hydric Soil Present?	
Туре:	De	oth (inches) <sup>.</sup>			☐ Yes ⊠ No	
		,p ()				
Remarks: No hydric soil indicate	or is present.					
-						
-						
	-					
HYDROLOGY		check all that ap			Secondary Indicators (2)	or more required)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of						
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1)		Salt Crust (I	311)		Surface Soil Cracks (	B6)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of		Salt Crust (I				B6) Concave Surface (B8)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2)		Salt Crust (I Aquatic Inve	311) ertebrates (B13)		Surface Soil Cracks (I	B6) Concave Surface (B8) 10)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		Salt Crust (I Aquatic Inve Hydrogen S	311) ertebrates (B13) ulfide Odor (C1)	Roots (C3)	☐ Surface Soil Cracks () ☐ Sparsely Vegetated C ☐ Drainage Patterns (B	B6) Concave Surface (B8) 10)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3)		☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled)	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) )
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) F Reduced Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>-</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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)	:: one required;	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) hizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7)	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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	:: one required;	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) F Reduced Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B)</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on Comprise Position</li> <li>FAC-Neutral Test (D5)</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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)	:: one required;	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) hizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7)	Roots (C3)	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> <li>Geomorphic Position</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2)
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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	:: one required;	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S ☐ Other (Explain Depth	311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks)	ed Data (strea	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B)</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on Comprise Position</li> <li>FAC-Neutral Test (D5)</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 Water-Stained Leaves (B9)	:: one required; Imagery (B7)	☐ Salt Crust (I ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rt (where no ☐ Presence of ☐ Thin Muck S ☐ Other (Explain Depth o (inches)	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	ed Data (strea	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummod</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 Water-Stained Leaves (B9) Field Observations: Surface Water present?	inagery (B7)	□ Salt Crust (I □ Aquatic Inve □ Hydrogen S □ Dry-Season □ Oxidized Rt (where no □ Presence of □ Thin Muck S □ Other (Explain Depth o (inches)	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	ed Data (strea	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummod</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 Water-Stained Leaves (B9) Field Observations:	i: one required; Imagery (B7) Yes N Q Xes N	□ Salt Crust (I □ Aquatic Inve □ Hydrogen S □ Dry-Season □ Oxidized Rh (where no □ Presence of □ Thin Muck S □ Other (Explain 0 Other (Explain 0 Depth (inches) 1	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	ed Data (strea	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummod</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>
HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of 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 Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present?	inagery (B7)	□ Salt Crust (I □ Aquatic Inve □ Hydrogen S □ Dry-Season □ Oxidized Rh (where no □ Presence of □ Thin Muck S □ Other (Explain 0 Other (Explain 0 Depth (inches) 1	B11) ertebrates (B13) ulfide Odor (C1) Water Table (C2) nizospheres on Living I ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	ed Data (strea	<ul> <li>Surface Soil Cracks (I</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B<sup>2</sup></li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on Geomorphic Position</li> <li>FAC-Neutral Test (D5</li> <li>Frost-Heave Hummod</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C3) ) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicators are not met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SE	Sampling Point: SP-616
Investigator(s): T. Beemer, W. Hirst	Sectior	n, Township, Range:	S20, T111N, R66W
Landform (hillslope, terrace, etc.)swale	Local relief (conc	cave, convex, none):	concave Slope (%): _4 %
Subregion (LRR): Northern Great Plains Spring Wheat Regio	n Lat: 44.404	1606 Long:	-98.801614 Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling		N	NI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	f year? 🛛 🛛 Yes	□ No (If no, e	xplain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Comparison of the second secon	(If need	ormal Circumstances"   ed, explain any answe ations, transects, i	ers in Remarks.)
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Wetland s	sample plot located in	PEM W-558.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): (A)
3.	%			
4.	%			Total Number of Dominant
	0 %	= Total Cover	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	<u>%</u>			are OBL, FACW, or FAC: (A/B)
2				Prevalence Index Worksheet:
3				
4	%			Total % Cover of: Multiply by:
5	%			OBL species $-\%$ x 1 = $0$
	0 %	= Total Cover	r	FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5'</u> )				FACU species $\frac{7}{2}$ $\frac$
1. Spartina pectinata	<u>100 %</u>	<u>Y</u>	FACW	UPL species $\%$ x 5 = 0
2	%			Column Totals: $0\%$ (A) $0$ (B)
3				
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6 7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	<u>%</u>			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			
	<u>100 %</u>	= Total Cover	ſ	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
Z	0 %	= Total Cover	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-70	).		•
	- •			

	Matrix			ledox Fea	atures			
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u>0-6</u> 6-18	10YR 3/2 10YR 3/2	<u>100</u> 95	10YR 4/6	5	C		<u> </u>	
0-10	10TR 3/2	95	101 K 4/0	5	<u> </u>			
	·							
	·							
<sup>1</sup> Type: C=C	oncentration, D=Dep	letion, RM	=Reduced Matrix, C	S=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore L	ining, M=Matrix
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless oth	erwise n	oted.)		Indicators for Problemat	tic Hydric Soils <sup>3</sup> :
🗌 Histosol (	,		🗌 Sandy G	-			1 cm Muck (A9) ( <b>LRR</b>	I, J)
Histic Epi			Sandy R	, ,			Coast Prairie Redox (A	
Black His	· · ·		Stripped		,		Dark Surface (S7) (LR	,
	Sulfide (A4)	<b>`</b>	Loamy M	•	• •		High Plains Depression (LRR H outside of M	
	Layers (A5) ( <b>LRR F</b> k (A9) ( <b>LRR F, G, H</b>	,	☐ Loamy G ☐ Depleted	-			Reduced Vertic (F18)	
	Below Dark Surface	,	Redox D	-	-		Red Parent Material (1	F2)
- ·	k Surface (A12)		Depleted		. ,		Very Shallow Dark Sur	/
	ucky Mineral (S1)		Redox D		• •		Other (Explain in Rem	arks)
-	ucky Peat or Peat (S	32) ( <b>LRR G</b>	, H) 🗌 High Plai	ns Depre	ssions (F16)		<sup>3</sup> Indicators of hydrophytic	vegetation and
🗌 5 cm Mud	ky Peat or Peat (S3	) ( <b>LRR F</b> )	(MLRA 7	72 & 73 o	f LRR H)		wetland hydrology must b disturbed or problematic	
Restrictive I	Layer (if present):						Hydric Soil Present?	
Туре:		_ [	Depth (inches):				🛛 Yes 🗌 No	
	dric coil indicator Ef	S is mot						
Domarka U		) is met.						
Remarks: Hy								
Remarks: Hy								
Remarks: H <u>y</u>								
	ïY							
YDROLOG	:Y drology Indicators:							
YDROLOG Wetland Hyd			d; check all that ap	bly)			Secondary Indicators (2 of	or more required)
YDROLOG Wetland Hyd Primary India	drology Indicators: cators (minimum of c		<u>d; check all that ap</u> ☐ Salt Crust (E				Secondary Indicators (2 o	<u>_</u>
YDROLOG Wetland Hyd Primary India	drology Indicators: cators (minimum of c			311)	- (B13)			36)
YDROLOG Wetland Hy Primary Indic Surface V High Wat Saturation	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S	311) ertebrates ulfide Od	or (C1)		☐ Surface Soil Cracks (E ☐ Sparsely Vegetated C ⊠ Drainage Patterns (B1	36) oncave Surface (B8 10)
YDROLOG Wetland Hy Primary Indic Surface V High Wat Saturation Water Ma	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) ırks (B1)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season	311) ertebrates ulfide Ode Water Ta	or (C1) able (C2)		☐ Surface Soil Cracks (E ☐ Sparsely Vegetated C ☑ Drainage Patterns (B1 ☐ Oxidized Rhizosphere	36) oncave Surface (B8 10)
YDROLOG         Wetland Hyd         Primary India         Surface V         High Wat         Saturation         Water Mat         Sediment	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh	311) ertebrates ulfide Od Water Ta izosphere	or (C1) able (C2)	Roots (C3)	☐ Surface Soil Cracks (E ☐ Sparsely Vegetated C ☑ Drainage Patterns (B1 ☐ Oxidized Rhizosphere (where tilled)	36) oncave Surface (B8 10) is on Living Roots (C
YDROLOG Wetland Hyd Primary Indid Surface V High Wat Saturation Saturation Water Ma Sediment Drift Depo	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) posits (B3)		Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	311) ertebrates ulfide Od Water Ta izosphere ot tilled)	or (C1) able (C2) es on Living	Roots (C3)	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	36) oncave Surface (B8 10) is on Living Roots (C
YDROLOG Wetland Hyd Primary India Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4)		Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of	311) ertebrates ulfide Od Water Ta izosphere ot tilled) Reduced	or (C1) able (C2) es on Living I Iron (C4)	Roots (C3)	<ul> <li>☐ Surface Soil Cracks (E</li> <li>☐ Sparsely Vegetated C</li> <li>☑ Drainage Patterns (B1</li> <li>☐ Oxidized Rhizosphere (where tilled)</li> <li>☐ Crayfish Burrows (C8)</li> <li>☐ Saturation Visible on A</li> </ul>	36) oncave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9)
YDROLOG Wetland Hyd Primary India Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) posits (B3) or Crust (B4) posits (B5)	one require	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates ulfide Od Water Ta izosphere ot tilled) Reduced Gurface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	<ul> <li>Surface Soil Cracks (E</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B1</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	36) ooncave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9) (D2)
YDROLOG Wetland Hyd Primary India Surface V High Wat Saturation Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4)	one require	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates ulfide Od Water Ta izosphere ot tilled) Reduced Gurface (C	or (C1) able (C2) es on Living I Iron (C4) C7)	Roots (C3)	□ Surface Soil Cracks (f         □ Sparsely Vegetated C         □ Drainage Patterns (B1         □ Oxidized Rhizosphere         (where tilled)         □ Crayfish Burrows (C8)         □ Saturation Visible on A         ⊠ Geomorphic Position	36) oncave Surface (B8 10) is on Living Roots (C ) Aerial Imagery (C9) (D2) )
YDROLOG Wetland Hyd Primary India Surface V High Wat Saturation Saturation Sediment Sediment Drift Depo Algal Mat Iron Depo Inundatio	drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) rrks (B1) : Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial In ained Leaves (B9)	ne required	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	311) ertebrates ulfide Odi Water Ta izosphere ot tilled) Reduced Surface (C ain in Ren	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		□ Surface Soil Cracks (f         □ Sparsely Vegetated C         □ Drainage Patterns (B1         □ Oxidized Rhizosphere         (where tilled)         □ Crayfish Burrows (C8)         □ Saturation Visible on A         ⊠ Geomorphic Position         ⊠ FAC-Neutral Test (D5	36) oncave Surface (B8 10) is on Living Roots (( Aerial Imagery (C9) (D2) ) iks (D7) <b>(LRR F)</b>

Remarks: Wetland hyd	rology indicators B	10, D2 and D5 are met.
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 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Water Table present? Saturation Present?

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>10/16/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-617
Investigator(s):T. Beemer, W. Hirst	Sectio	on, Township, Range:	S20, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none Slope (%): <u>5 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.40	Long:	-98.801618 Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	/ear? 🛛 🛛 Yes	🗌 No 🛛 (If no, e	xplain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	ormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the sent of th	emarks: Upland s	sample plot adjacent to	PEM W-558.

Tree Stratum       (Plot size: $\underline{30}$ )       % Cover       Species?       Status       Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC); $0$ (A)         3. $\underline{96}$ $\underline{96}$ $\underline{96}$ $\underline{96}$ $\underline{160}$ <th>Tree Stratum (Plot size: 30')</th> <th>Absolute % Cover</th> <th>Dominant Species?</th> <th>Indicator Status</th> <th>Dominance Test Worksheet:</th>	Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
2.	()		Species?	Status	
3.	0				
4.					
0 %       = Total Cover         Sapling/Shrub Stratum       (Plot size: 15')         1.       9%         2.       9%         3.       9%         4.       9%         5.       9%         7.       9%         7.       9%         7.       9%         7.       9%         8.       9%         9.       9%         1.       9%         7.       9%         8.       9%         9.       9%         10.       9%         9.       9%         10.       9%         9.       9%         10.       9%         9.       9%         10.       9%         9.       9%         10.       9%         9.       9%         10.       9%         11.       9%         12.       9%         13.       96 %         14.       17tifolium repens         5.       9%         10.       9%         11.       96 %         12.	4	%			
Saping Sinud Statunt       (Piot size: 12)         1.       9%         2.       9%         3.       9%         4.       9%         5.       9%         0.%       = Total Cover         FAC species       9% x3 = 0         FAC species       9% x4 = 0         UPL species       9% x5 = 0         Column Totals:       0%         10.       9%         5.       9%         7.       9%         7.       9%         7.       9%         8.       9%         9.       9%         10.       9%         9%       11 Rapid Test for Hydrophytic Vegetation         10.       9%         9%       11 Rapid Test for Hydrophytic Vegetation         10.       9%         9.       95 %         10.       9%         10.       9%         10.       9%         10.       9%         10.       9%         10.       9%         10.       9%         10.       9%         11.       9%         12. </td <td></td> <td>0 %</td> <td>= Total Cover</td> <td>-</td> <td>· · /</td>		0 %	= Total Cover	-	· · /
1.	Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
3.	1	%			
4. $\frac{\%}{\%}$ $\frac{1}{\%}$ $\frac{1}{Total \% Cover of:}$ Multiply by:         5. $\frac{\%}{\%}$ $0\%$ = Total Cover $OEL$ species $\%$ $x 1 = 0$ Herb Stratum (Plot size: 5')       1.       Bromus inermis $65\%$ Y       UPL         2.       Poa pratensis $65\%$ Y       UPL $FACU$ species $\%$ $x 3 = 0$ 3.       Spartina pectinata $10\%$ N       FACU $FACU$ $FACU$ $FACU$ 5. $5\%$ N       FACU $FACU$ $FACU$ $FACU$ $Perevention totals:$ $0\%$ 6. $\%$ $5\%$ N       FACU $FACU$ $Prevalence Index = B/A =$					Prevalence Index Worksheet:
5.		0/			Total % Cover of: Multiply by:
Image: Description of the stratum(Plot size: 5')Image: Description of the stratumImage: Description of the strat					
Herb Stratum       (Plot size: <u>5'</u> )         1.       Bromus inermis         2.       Poa pratensis         3.       Spartina pectinata         10.       10 %         5.       %         6.       %         7.       %         8.       %         9.       %         9.       %         9.       %         10.       %         %       110 %         %       10 %         %       10 %         %       10 %         %       10 %         %       10 %         %       10 %         %       10 %         %       10 %         %       10 %         %       10 %         %       11 Rapid Test for Hydrophytic Vegetation         10.       %         95 %       = Total Cover         %       10 %         11 Reparts or on a separate sheet)         10 %       95 %         95 %       = Total Cover         %       10 %         11 Maicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic </td <td>·</td> <td></td> <td>= Total Cover</td> <td></td> <td>FACW species <math>\% x 2 = 0</math></td>	·		= Total Cover		FACW species $\% x 2 = 0$
1.       Bromus inermis	Herb Stratum (Plot size: 5')				FAC species% x 3 =
2. Poa pratensis       15 %       N       FACU       UPL species       % x 5 =       0         3. Spartina pectinata       10 %       N       FACU       Prevalence Index = B/A =       0       0       (B)         4. Trifolium repens       5 %       N       FACU       Prevalence Index = B/A =	()	65 %	Y	UPL	
3. Spartina pectinata       10 %       N       FACW       Column Totals:       0% (A)       0 (B)         4. Trifolium repens       5 %       N       FACU       Prevalence Index = B/A =					· · · · · · · · · · · · · · · · · · ·
4. Trifolium repens       5 %       N       FACU       Prevalence Index = B/A =         5.       %					Column Totals: <u>0</u> % (A) <u>0</u> (B)
5.					Prevalence Index = B/A =
6.       %	_				Hydrophytic Vegetation Indicators:
7.       %       □       1 Rapid Test for Hydrophytic Vegetation         8.       %       □       2 Dominance Test is >50%         9.       %       □       3 Prevalence Index is ≤3.01         10.       %       □       4 Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         10.       %       □       Problematic Hydrophytic Vegetation 1 (explain)         1.       %       □       Problematic Hydrophytic Vegetation 1 (explain)         2.       %       □       Problematic Hydrophytic Vegetation 1 (explain)         1       %       □       Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum       5 %       Hydrophytic Vegetation Present? □ Yes ⊠ No	-	0/			
9.	7	%			1 Rapid Test for Hydrophytic Vegetation
10.       %	8	%			☐ 2 Dominance Test is >50%
Woody Vine Stratum       (Plot size: <u>30'</u> )         1.	9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
Woody Vine Stratum       (Plot size: 30')         1.	10				☐ 4 Morphological Adaptations <sup>1</sup> (Provide
1.       %       □ Problematic Hydrophytic Vegetation <sup>1</sup> (explain)         2.       %       □         0.%       = Total Cover <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum <u>5</u> %       Hydrophytic Vegetation Present? □ Yes ⊠ No	···· · · · · · · · · · · · · · · · · ·	95 %	= Total Cover	•	supporting data in Remarks or on a separate sheet)
2.       %       1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum _5 %       Hydrophytic Vegetation Present? □ Yes ⊠ No		%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
0 %       = Total Cover       must be present, unless disturbed or problematic         Bare Ground in Herb Stratum       5 %       Hydrophytic Vegetation Present? □ Yes ⊠ No					<sup>1</sup> Indicators of hydric soil and wetland hydrology
Bare Ground in Herb Stratum <u>5</u> %			= Total Cover		
Remarks: Hydrophytic vegetation is not present. Photograph C-71.	Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
	Remarks: Hydrophytic vegetation is not present. Photogra	oh C-71.			

Depth	Matrix	R	edox Features			
(inches)	Color (moist) %	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>		emarks
0-8	10YR 3/2 10				Clay Loam	
8-20	10YR 3/3 10	0			Clay Loam	
Type: C=C	oncentration, D=Depletion				<sup>2</sup> Location: PL=Pore Lining, M	=Matrix
Hydric Soil	Indicators: (Applicable t	o all LRRs, unless othe	erwise noted.)		Indicators for Problematic Hydri	ic Soils <sup>3</sup> :
Stratified  Stratified  Completed  Thick Dan  Sandy Mi  2.5 cm M	ipedon (A2)	□ Sandy Re □ Stripped I □ Loamy Mi □ Loamy Gi □ Depleted □ Redox Da □ Depleted □ Redox Da □ Redox Da	Matrix (S6) ucky Mineral (F1) eyed Matrix (F2)	,	<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRI</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetatic wetland hydrology must be presen disturbed or problematic</li> </ul>	<b>&amp; 73)</b> 12) on and
<b>Restrictive</b>   Гуре:	Layer (if present):	Depth (inches):			Hydric Soil Present? □ Yes ⊠ No	
Remarks: No	o hydric soil indicator is pre	esent.				
	drology Indicators:					
	cators (minimum of one red	guired: check all that app	lv)		Secondary Indicators (2 or more r	equired)
Surface V	· · · · ·	Salt Crust (B			Surface Soil Cracks (B6)	<u>oquirou /</u>
_	ter Table (A2)	Aquatic Inve			Sparsely Vegetated Concave S	Surface (B8
] Saturatio		Hydrogen Su			Drainage Patterns (B10)	
 Water Ma	. ,		Water Table (C2)		Oxidized Rhizospheres on Livi	ing Roots (0
	t Deposits (B2)	Oxidized Rhi	zospheres on Living	Roots (C3)	(where tilled)	- ``
Drift Dep	osits (B3)	(where no			Crayfish Burrows (C8)	
Algal Mat	t or Crust (B4)		Reduced Iron (C4)		Saturation Visible on Aerial Ima	agery (C9)
Iron Depo	. ,	Thin Muck S			Geomorphic Position (D2)	
	n Visible on Aerial Imagery ained Leaves (B9)	y (B7)	in in Remarks)		☐ FAC-Neutral Test (D5) ☐ Frost-Heave Hummocks (D7) (	(LRR F)

Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology indi	icators a	are not p	resent.	

Project/Site: Sweetland Wind Project 0	City/County: Hand County Sampling Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-618
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range:S20, T111N, R66W
Landform (hillslope, terrace, etc.) _swale Lo	concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.402504 Long: _98.801104 Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of year	r? 🛛 Yes 🔲 No (If no, explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
Sommart OF Findings – Attach site map showing sampli	ing point locations, transects, important reatures, etc.
Yes       No       Remain of the sector of the sect	arks: Wetland sample plot located in PEM W-559.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	<u>%</u>			(excluding FAC-): (A)
4.	%			Total Number of Dominant
т	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				
3.				Prevalence Index Worksheet:
4.	%			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =
1. <u>Hordeum jubatum</u>	80 %	Y	FACW	FACU species% x 4 =
2. Xanthium strumarium	10 %	N	FAC	UPL species $\% x 5 = 0$
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	%			Hydrophytic vegetation indicators.
7				1 Rapid Test for Hydrophytic Vegetation
8				□ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			
	90 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	<u>%</u>			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	ograph C-72	2.		
	-			

Depth	Matrix		-	Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C		Clay Loam	
ype: C=Co	oncentration, D=Dep	letion, RM	I=Reduced Matrix, (	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
ydric Soil I	ndicators: (Applic	able to al	I LRRs, unless oth	erwise n	oted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
□       Histosol (A1)       □       Sandy Gleyed Matrix (S4)         □       Histic Epipedon (A2)       □       Sandy Redox (S5)         □       Black Histic (A3)       □       Stripped Matrix (S6)         □       Hydrogen Sulfide (A4)       □       Loamy Mucky Mineral (F1)         □       Stratified Layers (A5) (LRR F)       □       Loamy Gleyed Matrix (F2)         □       1 cm Muck (A9) (LRR F, G, H)       ⊠       Depleted Matrix (F3)         □       Depleted Below Dark Surface (A11)       □       Redox Dark Surface (F6)         □       Thick Dark Surface (A12)       □       Depleted Dark Surface (F7)         □       Sandy Mucky Mineral (S1)       □       Redox Depressions (F8)         □       2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       □       High Plains Depressions (F16)         □       5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)						)	Coast Prairie Redox Cast Prairie Redox Cast Prairie Redox Cast Prairie Redox Cast Prairie Reduced (S7) (L R H outside of Reduced Vertic (F18 Red Parent Material Very Shallow Dark S Other (Explain in Re <sup>3</sup> Indicators of hydrophyt wetland hydrology must disturbed or problematic	<b>LRR G</b> )         ions (F16) <b>MLRA 72 &amp; 73</b> )         3)         (TF2)         Surface (TF 12)         marks)         ic vegetation and         to present, unless
Restrictive L	ayer (if present):						Hydric Soil Present?	
уре:	ayer (if present):	-	Depth (inches):				Hydric Soil Present? ⊠ Yes □ No	
ype:	dric soil indicator F3	-	Depth (inches):				-	
ype: emarks: Hy <b>/DROLOG</b>	dric soil indicator F3	is met.	Depth (inches):				-	
ype: /emarks: Hy /DROLOG /etland Hyc	dric soil indicator F3 Y Irology Indicators:	is met.		nlv)			Yes No	2 or more required)
ype: remarks: Hy <b>/DROLOG</b> /etland Hyc rimary Indic	dric soil indicator F3 Y Irology Indicators: ators (minimum of o	is met.	ed; check all that ap	<del></del>			Yes No	
Type:	dric soil indicator F3 Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	ne require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Od n Water Ta nizospher ot tilled) f Reduced Surface (0	or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Yes □ No     Secondary Indicators (//     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (     Oxidized Rhizosphe     (where tilled)     Crayfish Burrows (0)	(B6) Concave Surface (B B10) eres on Living Roots ( C8) n Aerial Imagery (C9) n (D2) D5)
Fype:	dric soil indicator F3 Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) visits (B3) or Crust (B4) sits (B5) h Visible on Aerial In ined Leaves (B9)	ne require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Od n Water Ta nizosphere <b>ot tilled)</b> f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		Yes       No         Secondary Indicators (//         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows (C)         Saturation Visible o         Geomorphic Positio         FAC-Neutral Test (I	(B6) Concave Surface (B B10) eres on Living Roots ( 28) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
ype:	dric soil indicator F3 Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) usits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ined Leaves (B9) /ations:	ne require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S Other (Expl Depth	B11) ertebrates Sulfide Od n Water Ta nizosphere <b>ot tilled)</b> f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Yes       No         Secondary Indicators (/         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows (C)         Saturation Visible or         Geomorphic Positio         X FAC-Neutral Test (I)         Frost-Heave Humm	(B6) Concave Surface (B B10) eres on Living Roots ( 28) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>

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Saturation Present?

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-619
Investigator(s):T. Beemer, W. Hirst	Section, Township, Range: S20, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (concave, convex, none): none Slope (%): 7 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	ion Lat: <u>44.402410</u> Long: <u>-98.801110</u> Datum: NAD83
Soil Map Unit Name:Glenham-Java loams, rolling	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time	of year? 🛛 Yes 🔲 No (If no, explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Comparison of the state of the s	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.) ampling point locations, transects, important features, etc.
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Upland sample plot adjacent to PEM W-559.

-	Absolute 6 Cover		Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )         9           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-):0 (A)
3	%			
4	%			Total Number of Dominant         Species Across All Strata:         1         (B)
-	0 %	= Total Cover	-	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%	<u> </u>		
2	<u>%</u> %			Prevalence Index Worksheet:
3	<u>%</u>			Total % Cover of: Multiply by:
5.	%			OBL species         %         x 1 =         0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =
	100 %	Y	UPL	FACU species% x 4 =0
2.	%			UPL species $\% x 5 = 0$
3	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%	<u> </u>		1 Denid Test for Llydrenbytic Vegetation
7	<u>%</u>	<u> </u>		1 Rapid Test for Hydrophytic Vegetation
8	<u>%</u> %	<u> </u>		☐ 2 Dominance Test is >50%
9	<u>%</u>			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	100 %	= Total Cover		☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograph C	C-73.			

(inches)	Matrix		Redox Features			
	Color (moist)	% Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture Re	marks
0-8	10YR 3/2	100			Clay Loam	
8-20	10YR 3/3	100			Clay Loam	
				. <u> </u>		
<sup>1</sup> Type: C=Co	ncentration, D=Deplet	on, RM=Reduced Matrix,	CS=Covered or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=	Matrix
Hydric Soil lı	ndicators: (Applicab	le to all LRRs, unless ot	herwise noted.)		Indicators for Problematic Hydric	: Soils <sup>3</sup> :
🗌 Histosol (A	A1)	Sandy (	Gleyed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )	
— Histic Epip	,		Redox (S5)		Coast Prairie Redox (A16) (LRF	R F, G, H)
Black Histi	ic (A3)		d Matrix (S6)		Dark Surface (S7) (LRR G)	
Hydrogen		-	Mucky Mineral (F1)		High Plains Depressions (F16)	
	ayers (A5) (LRR F)		Gleyed Matrix (F2)		(LRR H outside of MLRA 72 &	k /3)
	(A9) (LRR F, G, H)	— .	d Matrix (F3)		Red Parent Material (TF2)	
	Below Dark Surface (A K Surface (A12)		Dark Surface (F6) d Dark Surface (F7)		□ Very Shallow Dark Surface (TF	12)
	cky Mineral (S1)		Depressions (F8)		Other (Explain in Remarks)	,
	icky Peat or Peat (S2)		ains Depressions (F16)		<sup>3</sup> Indicators of hydrophytic vegetatio	n and
	ky Peat or Peat (S3) (L	$\cdot \cdot \cdot = 0$	.72 & 73 of LRR H)		wetland hydrology must be present disturbed or problematic	
Restrictive L	ayer (if present):				Hydric Soil Present?	
Type:		Depth (inches):			🗌 Yes 🖾 No	
	hydric soil indicator is	present.				
Remarks: No						
Remarks: No						
Remarks: No						
Remarks: No						
	Y					
YDROLOG	-					
YDROLOG <sup>\</sup> Wetland Hyd	rology Indicators:	required: check all that a			Secondary Indicators (2 or more re	equired)
YDROLOG <sup>V</sup> Wetland Hyd Primary Indica	rology Indicators: ators (minimum of one	required; check all that a			Secondary Indicators (2 or more re	equired)
YDROLOG Wetland Hyd Primary Indica	rology Indicators: ators (minimum of one 'ater (A1)	Salt Crust	(B11)		Surface Soil Cracks (B6)	
YDROLOG Wetland Hyd Primary Indica Surface W High Wate	rology Indicators: ators (minimum of one /ater (A1) er Table (A2)	Salt Crust	(B11) vertebrates (B13)		☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave S	
YDROLOG Wetland Hyd Primary Indica Surface W High Wate Saturation	rology Indicators: ators (minimum of one dater (A1) er Table (A2) (A3)	☐ Salt Crust ☐ Aquatic Inv ☐ Hydrogen S	(B11) /ertebrates (B13) Sulfide Odor (C1)		Surface Soil Cracks (B6)	urface (B8)
YDROLOG <sup>N</sup> Wetland Hyd Primary Indica Surface W High Wate Saturation Water Mar	rology Indicators: ators (minimum of one dater (A1) er Table (A2) (A3)	Salt Crust	(B11) vertebrates (B13)	Roots (C3)	☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave S ☐ Drainage Patterns (B10)	urface (B8)
YDROLOG Wetland Hyd Primary Indica Surface W High Wate Saturation Water Mar Sediment	rology Indicators: ators (minimum of one dater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	☐ Salt Crust ☐ Aquatic Inv ☐ Hydrogen ☐ Dry-Seaso ☐ Oxidized R (where r	(B11) vertebrates (B13) Sulfide Odor (C1) n Water Table (C2) thizospheres on Living <b>not tilled)</b>	Roots (C3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave S</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Livir (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	urface (B8)
YDROLOG Wetland Hyd Primary Indica Surface W High Wate Saturation Water Mar Sediment Drift Depos Algal Mat of	rology Indicators: ators (minimum of one dater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	☐ Salt Crust ☐ Aquatic Inv ☐ Hydrogen ☐ Dry-Seaso ☐ Oxidized R (where r ☐ Presence o	(B11) vertebrates (B13) Sulfide Odor (C1) n Water Table (C2) thizospheres on Living <b>tilled)</b> of Reduced Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave S</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Livir (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Image</li> </ul>	urface (B8)
YDROLOG Wetland Hyd Primary Indica Surface W High Wate Saturation Water Mar Sediment Drift Depo: Algal Mat o Iron Depos	rology Indicators: ators (minimum of one dater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence o Thin Muck	(B11) vertebrates (B13) Sulfide Odor (C1) n Water Table (C2) thizospheres on Living <b>tilled)</b> of Reduced Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave S</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Livir (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	urface (B8) ng Roots (C3

Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology ind	licators a	are not p	present.	

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-620
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S29, T111N, R66W
Landform (hillslope, terrace, etc.)pothole	Local relief (co	ncave, convex, none):	concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	97647 Long:	-98.800335 Datum: NAD83
Soil Map Unit Name:		N	WI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	d sample plot located in	PEM W-560.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover	Species?	Status	Number of Dominant Species that
	<u>%</u> %			are OBL, FACW, or FAC
		<u> </u>		(excluding FAC-): <u>3 (</u> A)
3				Total Number of Dominant
4	<u>%</u>			Species Across All Strata: <u>3 (B)</u>
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: <u>100%</u> (A/B)
1	<u>%</u>	. <u></u>		
2				Prevalence Index Worksheet:
3	0/	<u> </u>		Total % Cover of: Multiply by:
4 5	<u>%</u>			OBL species         %         x 1 =         0
J	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
	50 %	Y	FACW	FACU species % x 4 = 0
1. <u>Hordeum jubatum</u> 2. <u>Xanthium strumarium</u>	<u> </u>	Y	FAC	UPL species % x 5 = 0
	<u> </u>		FACW	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. <u>Persicaria maculosa</u>	<u>    20  %</u>	<u> </u>	FACW	Prevalence Index = B/A =
4 5.	<u>%</u>			
5				Hydrophytic Vegetation Indicators:
7		·		1 Rapid Test for Hydrophytic Vegetation
8				⊠ 2 Dominance Test is >50%
9				 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%	<u> </u>		
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	%			☐ Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover	-	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-74.				•

		to the de	pth neede				or confirm the	e absence of indicators.)	
Depth	Matrix			R	ledox Fea	atures			
(inches)	Color (moist)	%	Color (	moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	100						Clay Loam	
8-20	10YR 5/2	95	10YF	R 4/6	5	C	M	Clay Loam	
		·							
		·							
<sup>1</sup> Type: C=Co	ncentration, D=Dep	oletion. RM	/I=Reduced	d Matrix. C	S=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Por	e Lining. M=Matrix
	ndicators: (Applic							Indicators for Problem	5,
Histosol (A	1)		П	Sandy G	eved Ma	trix (S4)		🗌 1 cm Muck (A9) (LR	RIJ)
Histic Epip	,			Sandy Re	-			Coast Prairie Redox	-
Black Hist				Stripped				Dark Surface (S7) (I	
				Loamy M		,		High Plains Depress	,
_ , 0	ayers (A5) ( <b>LRR F</b>	.)		Loamy G	•	• •		(LRR H outside of	
	< (A9) (LRR F, G, F			Depleted	•	. ,		Reduced Vertic (F18	
	Below Dark Surface			Redox Da		,		Red Parent Material	,
	(Surface (A12)	5 (711)				face (F7)		Uery Shallow Dark S	. ,
	cky Mineral (S1)			Redox De		· · ·		Other (Explain in Re	· · ·
•	icky Peat or Peat (\$	52) (L <b>RR (</b>			•	ssions (F16)		<sup>3</sup> Indicators of hydrophy	tic vocatation and
	ky Peat or Peat (S3		• • —	•	•	f LRR H)		wetland hydrology mus	
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		•				disturbed or problemati	
Restrictive L	ayer (if present):							Hydric Soil Present?	
Type:			Depth (inc	hes) <sup>.</sup>				🛛 Yes 🔲 No	
.,,,									
Remarks: Hy	dric soil indicator F	3 is met.							
HYDROLOG									
Wetland Hyd	rology Indicators	:							
Primary Indic	ators (minimum of o	one require	ed; check a	all that app	oly)			Secondary Indicators (	2 or more required)
🗌 Surface W	/ater (A1)		🗌 Sa	lt Crust (E	311)			Surface Soil Cracks	s (B6)
🗌 High Wate	er Table (A2)		🗆 Aq	juatic Inve	rtebrates	(B13)		Sparsely Vegetated	Concave Surface (B8)
Saturation				, drogen S				Drainage Patterns (	. ,
U Water Ma			-	y-Season				Oxidized Rhizosphe	eres on Living Roots (C3
Sediment	Deposits (B2)			•		es on Living	Roots (C3)	(where tilled)	C (
Drift Depo				where no		0	( )	Crayfish Burrows (0	C8)
Algal Mat	( )		🗌 Pr	esence of	Reduced	l Iron (C4)		Saturation Visible o	n Aerial Imagery (C9)
Iron Depo			🗌 Th	in Muck S	Surface (C	27)		Geomorphic Position	on (D2)
· ·	Visible on Aerial Ir	magery (B	7) 🗌 Ot	her (Expla	ain in Ren	narks)		☑ FAC-Neutral Test (I	D5)
	ined Leaves (B9)	5 7 (- 1	,					Frost-Heave Humm	ocks (D7) <b>(LRR F)</b>
	( )			Depth	Dee				
Field Observ	ations:	Yes		nches)			led Data (stre ), if available:	am gauge, monitoring well	, aerial photos, previous
		_			insp	ections, etc.	, il avallable:		
Surface Wate	•								
Water Table			$\boxtimes$						
Saturation Pr			$\boxtimes$						
(includes cap			_						
Wetland Hyd	rology Present?	$\boxtimes$							

Remarks: Wetland hydrology indicators D2 and D5 are met.

Project/Site: Sweetland Wind Project	City/County:Hand CountySampling Date:10/16/2018
Applicant/Owner:Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-621
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (concave, convex, none): none Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.397585 Long: -98.800258 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes	NWI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?            Naturally Problematic?            SUMMARY OF FINDINGS – Attach site map showing sar	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.) mpling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?       Image: Comparison of the sent?       Image: Comparison of the sent of the s	Remarks: Upland sample plot adjacent to PEM W-560.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
	0/			(excluding FAC-):0 (A)
				Total Number of Dominant
4		= Total Cove		Species Across All Strata: 1 (B)
	0 %	= Total Cove		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: 0% (A/B)
1				
2				Prevalence Index Worksheet:
				Total % Cover of:Multiply by:
4 5	0/			OBL species % x 1 = 0
o	0 %	= Total Cove		FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
	100 %	Y	UPL	FACU species % x 4 = 0
1. <u>Bromus inermis</u>		<u> </u>	UPL	UPL species % x 5 = 0
2				Column Totals: 0 % (A) 0 (B)
3				Prevalence Index = B/A =
4				
5				Hydrophytic Vegetation Indicators:
6 7				☐ 1 Rapid Test for Hydrophytic Vegetation
8.	0/			☐ 2 Dominance Test is >50%
9				□ □ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>100 %</u>	= Total Cove		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2	<u>%</u> 0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	ph C-75.			

							absence of indicators.)		
Depth (in all and)	Matrix			Redox Fea			_		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-8	10YR 3/2	100					Clay Loam		
8-20	10YR 3/3	100					Clay Loam		
				- <u> </u>					
	ncentration, D=Dep					d Sand Grains	<sup>2</sup> Location: PL=Pore	0	
lydric Soil I	ndicators: (Applic	able to all	LRRs, unless ot	herwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
] Histosol (A	,			Gleyed Mat			1 cm Muck (A9) (LRF	R I, J)	
Histic Epip	oedon (A2)		🗌 Sandy I	Redox (S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )	
Black Hist				d Matrix (Se	,		Dark Surface (S7) (L	,	
Hydrogen				Mucky Mine			High Plains Depressi		
	ayers (A5) ( <b>LRR F</b>			Gleyed Ma	. ,		(LRR H outside of )	,	
	k (A9) ( <b>LRR F, G, H</b>		•	ed Matrix (F	,		Reduced Vertic (F18) Red Parent Material	·	
•	Below Dark Surface	(A11)		Dark Surfac	. ,			· · ·	
	< Surface (A12) cky Mineral (S1)			ed Dark Sur Depression	. ,		Very Shallow Dark Surface (TF 12) Other (Explain in Remarks)		
-				•	. ,			,	
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)         5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)							<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic		
Restrictive L	ayer (if present):						Hydric Soil Present?		
	,								
	hydric soil indicator		Depth (inches): t.				🗌 Yes 🖾 No		
	hydric soil indicator						☐ Yes ⊠ No		
Remarks: No							☐ Yes ⊠ No		
Remarks: No		is presen					☐ Yes ⊠ No		
Remarks: No YDROLOG	Y	is presen					Yes X No	or more required)	
Remarks: No YDROLOG Wetland Hyd Primary Indica	Y Irology Indicators: ators (minimum of c	is presen		pply)					
Remarks: No YDROLOG You Primary Indica Surface W	Y Irology Indicators: ators (minimum of c /ater (A1)	is presen	t. rd; check all that a	<u>pply)</u> (B11)			Secondary Indicators (2	(B6)	
Remarks: No         YDROLOG         YUROLOG         Vetland Hyd         Primary Indication         Surface W         High Wate	Y Irology Indicators: ators (minimum of c /ater (A1) er Table (A2)	is presen	t. <u>d; check all that a</u> Salt Crust Aquatic Inv Hydrogen	pply) (B11) vertebrates Sulfide Odd	(B13) or (C1)		Secondary Indicators (2	(B6) Concave Surface (B8 310)	
Remarks: No         YDROLOG`         YDROLOG`         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar	Y Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1)	is presen	t. <u>Ind; check all that a</u> Salt Crust Aquatic Inv Hydrogen Dry-Seasc	pply) (B11) vertebrates Sulfide Odo n Water Ta	(B13) or (C1) ble (C2)		Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizosphere	(B6) Concave Surface (B8 310)	
Remarks: No         YDROLOG`         YDROLOG`         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment	Y Irology Indicators: ators (minimum of c l'ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	is presen	t. d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F	pply) (B11) vertebrates Sulfide Odo n Water Ta Rhizosphere	(B13) or (C1) ble (C2)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled)	(B6) Concave Surface (B8 310) res on Living Roots (C	
Remarks: No         YDROLOG'         YDROLOG'         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo	Y Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3)	is presen	t. d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where i	pply) (B11) vertebrates Sulfide Odo n Water Ta Rhizosphere <b>not tilled)</b>	(B13) or (C1) ble (C2) es on Living I	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (C	(B6) Concave Surface (B8 310) res on Living Roots (C 8)	
Remarks: No         YDROLOG         Wetland Hyd         Primary Indic:         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mat	Y Irology Indicators: ators (minimum of c vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	is presen	t. d; check all that a Salt Crust Aquatic Int Hydrogen Dry-Seasc Oxidized F (where i Presence	pply) (B11) vertebrates Sulfide Odd on Water Ta Rhizosphere <b>not tilled)</b> of Reduced	(B13) or (C1) ble (C2) es on Living I Iron (C4)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (C Saturation Visible or	(B6) Concave Surface (B8 310) res on Living Roots (C 8) a Aerial Imagery (C9)	
Remarks: No         YDROLOG`         Wetland Hyd         Primary Indic:         Surface W         High Wate         Saturation         Water Mai         Sediment         Drift Depo         Algal Mat         Iron Deposition	Y Irology Indicators: ators (minimum of c vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	ne require	t. <u>d; check all that a</u> Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where n Presence Thin Muck	pply) (B11) vertebrates Sulfide Odd n Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C	(B13) or (C1) ble (C2) es on Living I Iron (C4) 7)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizosphel (where tilled) Crayfish Burrows (C Saturation Visible or Geomorphic Positior	(B6) Concave Surface (B8 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2)	
Primary Indic.         Primary Indic.         Surface W         High Wate         Saturation         Water Mar         Drift Depo         Algal Mat         Iron Depos         Inundation	Y Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial In	ne require	t. <u>d; check all that a</u> Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where n Presence Thin Muck	pply) (B11) vertebrates Sulfide Odd n Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C	(B13) or (C1) ble (C2) es on Living I Iron (C4) 7)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (C Saturation Visible or Geomorphic Positior FAC-Neutral Test (D	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) (5)	
Remarks: No         YDROLOG         YDROLOG         Wetland Hyd         Primary Indica         Saturation         High Water         Saturation         Water Mar         Sediment         Drift Depo         Algal Mat         Iron Depos         Inundatior         Water-Sta	Y Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) o Visible on Aerial In ined Leaves (B9)	nagery (B7	t. d; check all that a Salt Crust Aquatic Im Hydrogen Dry-Seasc Oxidized F (where i Presence of Thin Muck r) Other (Exp Depth	pply) (B11) vertebrates Sulfide Odo n Water Ta Rhizosphere not tilled) of Reduced Surface (C olain in Rem	(B13) or (C1) ble (C2) es on Living I Iron (C4) 7) harks) cribe Record	ed Data (strea	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizosphel (where tilled) Crayfish Burrows (C Saturation Visible or Geomorphic Positior	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) (D2) (5) pocks (D7) <b>(LRR F)</b>	
Remarks: No         YDROLOG         YDROLOG         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mat         Iron Depo         Inundation         Water-Sta	Y Irology Indicators: ators (minimum of c vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ined Leaves (B9) vations:	nagery (B7	t. d; check all that a Salt Crust Aquatic Int Hydrogen Dry-Seasc Oxidized F (where in Presence of Thin Muck r) Other (Exp Depth No (inches)	pply) (B11) vertebrates Sulfide Odo n Water Ta Rhizosphere not tilled) of Reduced Surface (C olain in Rem	(B13) or (C1) ble (C2) es on Living I Iron (C4) 7) harks) cribe Record		Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (C Saturation Visible or Geomorphic Positior FAC-Neutral Test (D Frost-Heave Hummore)	(B6) Concave Surface (B8 310) res on Living Roots (( 8) A Aerial Imagery (C9) n (D2) (5) pocks (D7) <b>(LRR F)</b>	
YDROLOG Wetland Hyd Primary Indic: Surface W High Wate Saturation Saturation Sediment Drift Depo Algal Mat Iron Depos Inundation	Y Irology Indicators: ators (minimum of c vater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ined Leaves (B9) vations:	nagery (B7	t. d; check all that a Salt Crust Aquatic Im Hydrogen Dry-Seasc Oxidized F (where i Presence of Thin Muck r) Other (Exp Depth	pply) (B11) vertebrates Sulfide Odo n Water Ta Rhizosphere not tilled) of Reduced Surface (C olain in Rem	(B13) or (C1) ble (C2) es on Living I Iron (C4) 7) harks) cribe Record	ed Data (strea	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (C Saturation Visible or Geomorphic Positior FAC-Neutral Test (D Frost-Heave Hummore)	(B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) (5) pocks (D7) <b>(LRR F)</b>	

Saturation Present?

(includes capillary fringe)
Wetland Hydrology Present?

Remarks: Wetland hydrology indicators are not present.

 $\boxtimes$ 

 $\boxtimes$ 

Project/Site: Sweetland Wind Project	City/County: Hand County	Sampling Date: 10/16/2018								
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD	Sampling Point: <u>SP-622</u>								
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S	29, T111N, R66W								
Landform (hillslope, terrace, etc.)pothole	_ocal relief (concave, convex, none):	oncave Slope (%): <u>1 %</u>								
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.396015 Long: _c	98.799784 Datum: NAD83								
Soil Map Unit Name:Glenham-Propser loams, 1 to 6 percent slo	Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA									
Are climate/hydrologic conditions on the site typical for this time of year	ar? 🛛 Yes 🗌 No 🛛 (If no, expl	lain in Remarks.)								
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the state of the s	Are "Normal Circumstances" pre (If needed, explain any answers ling point locations, transects, im	in Remarks.)								
Yes       No       Ref         Hydrophytic Vegetation Present?       Image: Constraint of the sent of	narks: Wetland sample plot located in PE	EM W-561.								

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	<u>%</u>			(excluding FAC-): <u>3</u> (A)
4.	%			Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:3 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.	%			
3.				Prevalence Index Worksheet:
4	%			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Hordeum jubatum</u>	50 %	Y	FACW	FACU species $\% x 4 = 0$
2. Xanthium strumarium	30 %	<u> </u>	FAC	UPL species         % x 5 =         0           Column Totals:         0%         (A)         0         (B)
3. <u>Persicaria maculosa</u>	20 %	Y	FACW	
4	%	<u> </u>		Prevalence Index = B/A =
5	%	<u> </u>		Hydrophytic Vegetation Indicators:
6				
7				1 Rapid Test for Hydrophytic Vegetation
8				☑ 2 Dominance Test is >50%
9		<u> </u>	<u> </u>	☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cove		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
Weedy Vine Stratum (Dist size: 20')	100 70			supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-76.				

Profile Descrip Depth	tion: (Describe Matrix	to the de		u <b>ment th</b> Redox Fe		or confirm the	e absence of indicators.)	
(inches)		0/				1	Tautum	Demente
0-8	Color (moist) 10YR 3/2	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Clay Loam	Remarks
8-20	10YR 5/2	95	10YR 4/6	5			Clay Loam	
0-20	1011372	95	1011( 4/0					
<sup>1</sup> Type: C=Conc	entration, D=Dep	oletion, RM	I=Reduced Matrix,	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil Ind	icators: (Applic	cable to al	I LRRs, unless oth	nerwise n	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (A1	)		🗌 Sandy 0	Sleved Ma	atrix (S4)		☐ 1 cm Muck (A9) ( <b>LR</b>	RI.J)
Histic Epiped	,		Sandy F	-			Coast Prairie Redox	-
Black Histic			Stripped	-	-		Dark Surface (S7) (	
☐ Hydrogen Si	. ,				,		High Plains Depress	,
	yers (A5) ( <b>LRR F</b>	;)	Loamy (	•	. ,		(LRR H outside of	
	A9) ( <b>LRR F, G, F</b>	,	⊠ Deplete	-			Reduced Vertic (F18	
	low Dark Surface	-	Redox D	•	,		Red Parent Material	,
Thick Dark S		····/			. ,		Uery Shallow Dark S	. ,
Sandy Muck	. ,		Redox D		. ,		Other (Explain in Re	
•	y Peat or Peat (S	S2) ( <b>LRR (</b>		•	essions (F16)		<sup>3</sup> Indicators of hydrophyt	ic vegetation and
	Peat or Peat (S3	, ,		•	of LRR H)		wetland hydrology must disturbed or problematio	be present, unless
Restrictive Lay	/er (if present):						Hydric Soil Present?	
Туре:			Depth (inches):				Yes 🗌 No	
Remarks: Hydri	c soil indicator F3	3 is met.						
YDROLOGY								
Wetland Hydro	logy Indicators:	:						
Primary Indicate	ors (minimum of o	one require	ed; check all that ap	oply)			Secondary Indicators (	2 or more required)
Surface Wat	er (A1)		Salt Crust (	(B11)			Surface Soil Cracks	(B6)
High Water	( )		Aquatic Inv	· /	s (B13)		Sparsely Vegetated	· /
Saturation (A			Hydrogen S				Drainage Patterns (	. ,
Water Marks	-		Dry-Seaso		. ,		Oxidized Rhizosphe	,
Sediment De	· · /		Oxidized R		. ,	Roots (C3)	(where tilled)	
Drift Deposit	,		(where n		co on Living		Crayfish Burrows (C	(8)
Algal Mat or	( )		Presence of	of Reduce	d Iron (C4)		Saturation Visible o	n Aerial Imagery (C9)
Iron Deposit			Thin Muck	Surface (0	C7)		🛛 Geomorphic Positio	n (D2)
•	isible on Aerial Ir	magery (B7	7) Other (Exp	lain in Rei	marks)		🛛 FAC-Neutral Test (I	05)
 ☐ Water-Staine							Frost-Heave Humm	ocks (D7) <b>(LRR F)</b>
Field Observat	ions:	Yes	Depth No (inches)				am gauge, monitoring well,	aerial photos, previous
		_	_	insp	bections, etc.	), if available:		
Surface Water p				-				
Water Table pre			$\boxtimes$	-				
Saturation Pres			$\boxtimes$	-				
(includes capilla								
Wetland Hydro	logy Present?	$\boxtimes$						

Remarks: Wetland hydrology indicators D2 and D5 are met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date	e: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling	Point: SP-623
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S29, T111N, R66W	
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): <u>2 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	95976 Long:	-98.799820 Da	atum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent s	lopes	N	WI Classification: NA	۹
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.)	
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	□ No etc.
Yes       No       Red         Hydrophytic Vegetation Present?       Image: Comparison of the sent of	emarks: Upland	sample plot adjacent to	PEM W-561.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.	0/			(excluding FAC-): 0 (A)
4.				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.	<u> </u>			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species % x 4 = 0
2.				UPL species $-\%$ x 5 = $0$
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	%			
7	%			1 Rapid Test for Hydrophytic Vegetation
8				□ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				☐ ☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>100 %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1		·	<u> </u>	
2	%	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogr	raph C-77.			

Depth         Matrix           (inches)         Color (moist)           0-8         10YR 3/2				
			edox Features	
<u> </u>	%	Color (moist)	<u>%</u> Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
	100			Clay Loam
8-20 10YR 3/3	100			Clay Loam
· · · · · · · · · · · · · · · · · · · _ /				
			S=Covered or Coated Sand Grai	-
Hydric Soil Indicators: (Applic	able to all	LRRs, unless othe	erwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)		_ ,	eyed Matrix (S4)	☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )
Histic Epipedon (A2)		🗌 Sandy Re	edox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black Histic (A3)		Stripped		Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4)			ucky Mineral (F1)	High Plains Depressions (F16)
Stratified Layers (A5) (LRR F			leyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) (LRR F, G, H	,	Depleted		Reduced Vertic (F18)
Depleted Below Dark Surface	∍(A11)		ark Surface (F6)	Red Parent Material (TF2)
Thick Dark Surface (A12)		•	Dark Surface (F7)	Very Shallow Dark Surface (TF 12)
Sandy Mucky Mineral (S1)			epressions (F8)	Other (Explain in Remarks)
2.5 cm Mucky Peat or Peat (S			ns Depressions (F16)	<sup>3</sup> Indicators of hydrophytic vegetation and
☐ 5 cm Mucky Peat or Peat (S3	5) (LRR F)		72 & 73 of LRR H)	wetland hydrology must be present, unless disturbed or problematic
Restrictive Layer (if present):				Hydric Soil Present?
Туре:	_ C	Depth (inches):		🗌 Yes 🖾 No
Wetland Hydrology Indicators:				
Wetland Hydrology Indicators		1; check all that app	<u>əly)</u>	Secondary Indicators (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1)		Salt Crust (E	311)	Surface Soil Cracks (B6)
Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2)		☐ Salt Crust (E ☐ Aquatic Inve	311) rtebrates (B13)	☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8)
Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S	anter B11) Intebrates (B13) Ulfide Odor (C1)	☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8) ☐ Drainage Patterns (B10)
Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season	ulfide Odor (C1) Water Table (C2)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (California)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh	urtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (Conception (Conception))</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)		Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) <b>t tilled)</b>	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)		Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	Annoise (B13) Prtebrates (B13) Ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) <b>bt tilled)</b> Reduced Iron (C4)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of 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)	one required	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	Water Table (C2) izospheres on Living Roots (C3) <b>t tilled)</b> Reduced Iron (C4) Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir	one required	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	Water Table (C2) izospheres on Living Roots (C3) <b>t tilled)</b> Reduced Iron (C4) Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C. (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir	one required	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	Water Table (C2) izospheres on Living Roots (C3) <b>t tilled)</b> Reduced Iron (C4) Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of o 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) Mundation Visible on Aerial Ir Water-Stained Leaves (B9)	one required	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	All) Prtebrates (B13) Ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir Water-Stained Leaves (B9) Field Observations:	magery (B7	Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	All 1) Prtebrates (B13) Ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) ot tilled) Reduced Iron (C4) Burface (C7) ain in Remarks) Describe Recorded Data (str	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir Water-Stained Leaves (B9) Field Observations: Surface Water present?	magery (B7)	□ Salt Crust (E         □ Aquatic Inve         □ Hydrogen S         □ Dry-Season         □ Oxidized Rh         (where no         □ Presence of         □ Thin Muck S         )       Other (Expland)         No       (inches)         ⊠	All 1) Prtebrates (B13) Ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) ot tilled) Reduced Iron (C4) Burface (C7) ain in Remarks) Describe Recorded Data (str	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
<ul> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial Ir</li> <li>Water-Stained Leaves (B9)</li> </ul> Field Observations: Surface Water present? Water Table present?	magery (B7)	□ Salt Crust (E         □ Aquatic Inve         □ Hydrogen S         □ Dry-Season         □ Oxidized Rh         (where no         □ Presence of         □ Thin Muck S         )       Other (Expland)         No       (inches)         ⊠	All 1) Prtebrates (B13) Ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) ot tilled) Reduced Iron (C4) Burface (C7) ain in Remarks) Describe Recorded Data (str	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>
Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir Water-Stained Leaves (B9) Field Observations: Surface Water present?	magery (B7)	□ Salt Crust (E         □ Aquatic Inve         □ Hydrogen S         □ Dry-Season         □ Oxidized Rh         (where no         □ Presence of         □ Thin Muck S         )       Other (Expland)         No       (inches)         ⊠	All 1) Prtebrates (B13) Ulfide Odor (C1) Water Table (C2) izospheres on Living Roots (C3) ot tilled) Reduced Iron (C4) Burface (C7) ain in Remarks) Describe Recorded Data (str	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C: (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>

Remarks: Wetland hydrology indicators are not present.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>10/16/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-624
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S31, T111N, R66W
Landform (hillslope, terrace, etc.)pothole	Local relief (co	ncave, convex, none):	concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	78129 Long:	-98.802694 Datum: NAD83
Soil Map Unit Name:		N	WI Classification: <u>PEM1Cd</u>
Are climate/hydrologic conditions on the site typical for this time of	/ear? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	d sample plot located in	PEM W-562.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	<u>%</u>	<u> </u>		are OBL, FACW, or FAC
2 3	<u>%</u>	<u> </u>		(excluding FAC-): <u>3</u> (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cover	 •	Species Across All Strata: <u>3</u> (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: <u>100%</u> (A/B)
2.				
3.				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species% x 1 =
	0 %	= Total Cover	 -	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =
1. <u>Hordeum jubatum</u>	50 %	Y	FACW	FACU species% x 4 =0
2. Xanthium strumarium	30 %	Y	FAC	UPL species $\%$ x 5 = 0
3. Persicaria maculosa			FACW	Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			Tyurophytic vegetation indicators.
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			⊠ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	<u>100 %</u>	= Total Cover	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %	<u> </u>		
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 70			
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-78.				

(in al )	Matrix			Redox Fea			_	_
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		Remarks
<u>0-8</u> 8-20	<u> </u>	<u>100</u> 95	10YR 4/6	5	C		<u> </u>	
0-20	10 TR 5/2	95	101 R 4/6	5				
Type: C=C	oncentration, D=Dep	oletion, RM	=Reduced Matrix, C	S=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil	Indicators: (Applic	able to all	LRRs, unless oth	erwise n	oted.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :
Black His Hydroger Stratified 1 cm Mud Depleted Thick Dar Sandy Mi 2.5 cm M	ipedon (A2) stic (A3) n Sulfide (A4) Layers (A5) ( <b>LRR F</b> ck (A9) ( <b>LRR F, G, H</b> Below Dark Surface rk Surface (A12) ucky Mineral (S1) lucky Peat or Peat (S	6) 9 (A11) 62) ( <b>LRR G</b>		edox (S5 Matrix (S lucky Min leyed Ma Matrix (F ark Surfa Dark Su epressior ns Depre	) 6) eeral (F1) htrix (F2) F3) ce (F6) rface (F7) ns (F8)	)	<ul> <li>1 cm Muck (A9) (LRR</li> <li>Coast Prairie Redox (</li> <li>Dark Surface (S7) (LF</li> <li>High Plains Depression</li> <li>(LRR H outside of M</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (</li> <li>Very Shallow Dark Su</li> <li>Other (Explain in Remr</li> <li><sup>3</sup>Indicators of hydrophytic</li> </ul>	A16) ( <b>LRR F, G, H</b> ) <b>RR G</b> ) ons (F16) <b>MLRA 72 &amp; 73)</b> TF2) urface (TF 12) narks) c vegetation and
	cky Peat or Peat (S3 Layer (if present):	) (LRR F)		12 & 13 C			wetland hydrology must be disturbed or problematic Hydric Soil Present?	be present, unless
<b>Restrictive</b>   Type:		[	Depth (inches):				disturbed or problematic	
Restrictive	Layer (if present): ydric soil indicator F3	[					disturbed or problematic Hydric Soil Present?	
Restrictive	Layer (if present): ydric soil indicator F3 ydric soil indicator F3	[	Depth (inches):				disturbed or problematic Hydric Soil Present? ⊠ Yes □ No	
Restrictive   Type: Remarks: Hy YDROLOG Wetland Hy Primary India Surface V High Wate Saturation Water Mate Sediment Control Depo Algal Mate Iron Depo Inundatio	Layer (if present): ydric soil indicator F3 ydric soil indicator F3 GY drology Indicators: cators (minimum of c Water (A1) ter Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	[	Depth (inches): d; check all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	<u>oly)</u> 311) ertebrates ulfide Od Water Ta izospher ot tilled) F Reduced Surface (0	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	disturbed or problematic Hydric Soil Present?	or more required) [B6] Concave Surface (B8 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)

	\	ب بيا مع ا م مي ب				
Remarks.	vvelianu	nyarology	indicators	Dz and	D5 are met.	

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Water Table present? Saturation Present?

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	pling Point: SP-625
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S31, T111N, R66	3W
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.37	78079 Long:	-98.802709	Datum: NAD83
Soil Map Unit Name:Tetonka silt loam, 0 to 1 percent slopes		N	WI Classification:	PEM1Cd
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (If no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoReHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	marks: Upland	sample plot adjacent to	PEM W-562.	

	bsolute 6 Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )         %           1.	% Cover	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.	%			
4.	%			Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2	%			Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of:Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cove	ſ	FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species         % x 3 =         0           FACU species         % x 4 =         0
1. <u>Poa pratensis</u>	100 %	<u> </u>	FACU	FACU species         % x 4 =         0           UPL species         % x 5 =         0
2	%			OFL species         % X 3 -         0           Column Totals:         0 % (A)         0 (B)
3	%			、 , 、 ,
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	<u>%</u> %			☐ 1 Rapid Test for Hydrophytic Vegetation
7	%			$\square$ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			☐ 4 Morphological Adaptations <sup>1</sup> (Provide
-	100 %	= Total Cove	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?  Yes  No
Remarks: Hydrophytic vegetation is not present. Photograph C	C-79.			

Depth	Matrix	Redox Features	
(inches)	Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
0-8	10YR 3/2 100		Clay Loam
8-20	10YR 3/3 100		Clay Loam
		· ·	
Туре: С=С	oncentration, D=Depletion, RM	=Reduced Matrix, CS=Covered or Coated Sand Grain	s <sup>2</sup> Location: PL=Pore Lining, M=Matrix
lydric Soil	Indicators: (Applicable to al	LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
] Histosol (	(A1)	Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )
_ Histic Epi	ipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)
Black His	tic (A3)	Stripped Matrix (S6)	Dark Surface (S7) (LRR G)
Hydroger	n Sulfide (A4)	Loamy Mucky Mineral (F1)	High Plains Depressions (F16)
	Layers (A5) (LRR F)	Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)
	ck (A9) ( <b>LRR F, G, H</b> )	Depleted Matrix (F3)	Reduced Vertic (F18)
•	Below Dark Surface (A11)	<ul> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> </ul>	Red Parent Material (TF2)
	rk Surface (A12)	Very Shallow Dark Surface (TF 12)	
•	ucky Mineral (S1)	Other (Explain in Remarks)	
	lucky Peat or Peat (S2) ( <b>LRR (</b> cky Peat or Peat (S3) ( <b>LRR F</b> )	G, H) High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic
Restrictive	Layer (if present):		Hydric Soil Present?
Гуре:		Depth (inches):	🗌 Yes 🖾 No
Remarks: No	o hydric soil indicator is presen	t.	
YDROLOG	9Y		
Netland Hy	drology Indicators:		
Primary Indie	cators (minimum of one require	<u>d; check all that apply)</u>	Secondary Indicators (2 or more required)
Surface V	Vater (A1)	☐ Salt Crust (B11)	Surface Soil Cracks (B6)
☐ High Wat	er Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8
] Saturatio		Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Ma	arks (B1)	Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C
Sediment	t Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	(where tilled)
Drift Dep	osits (B3)	(where not tilled)	Crayfish Burrows (C8)
Algal Mat	t or Crust (B4)	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
Iron Depo		Thin Muck Surface (C7)	Geomorphic Position (D2)
_	n Visible on Aerial Imagery (B)	r)	FAC-Neutral Test (D5)

Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology ind	icators a	are not p	present.	

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>10/16/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	Sampling Point: SP-626
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S31, T111N, R66W
Landform (hillslope, terrace, etc.) roadside ditch	Local relief (co	ncave, convex, none):	concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	77976 Long:	-98.802486 Datum: NAD83
Soil Map Unit Name:		N	WI Classification: <u>PEM1Cd</u>
Are climate/hydrologic conditions on the site typical for this time of	/ear? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetlan	d sample plot located in	PEM W-563.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-):(A)
3.				
4.	%			Total Number of Dominant
	0 %	= Total Cover	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cover	r	FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. <u>Spartina pectinata</u>	90 %	<u>     Y    </u>	FACW	FACU species $-\%$ x 4 = $-0$
2. <u>Poa pratensis</u>	5 %		FACU	UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6				
7	%			☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	95 %	= Total Cover	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	<u>.</u>			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	<u>%</u> 0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cover	ſ	
Bare Ground in Herb Stratum <u>5</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-80	).		

Depth	Matrix		Redox Features						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-8	10YR 3/2	100					Clay Loam		
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam		
<sup>1</sup> Type: C=C	oncentration, D=Dep	oletion, RM=	Reduced Matrix, C	S=Cove	red or Coate	d Sand Grain	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
Hydric Soil	Indicators: (Applic	able to all L	RRs, unless oth	erwise n	oted.)		Indicators for Problema	tic Hydric Soils <sup>3</sup> :	
Histosol	(A1)		🗌 Sandy G	leyed Ma	atrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )		
	ipedon (A2)		☐ Sandy R	-			Coast Prairie Redox (A16) ( <b>LRR F, G, H</b> )		
Black His			Stripped	-			Dark Surface (S7) (LRR G)		
Hydroge	n Sulfide (A4)		☐ Loamy M ☐ Loamy G	-			High Plains Depressions (F16)		
	Layers (A5) (LRR F	(LRR H outside of MLRA 72 & 73)							
	ck (A9) ( <b>LRR F, G, H</b>		Depleted				☐ Reduced Vertic (F18) ☐ Red Parent Material (TF2)		
•	Below Dark Surface	e (A11)	Redox D		. ,		Very Shallow Dark Surface (TF 12)		
	rk Surface (A12) ucky Mineral (S1)		Depleted		. ,		Other (Explain in Remarks)		
	lucky Peat or Peat (S	32) (I RR G		•	essions (F16)			,	
	cky Peat or Peat (S3			•	of LRR H)		<sup>3</sup> Indicators of hydrophytic wetland hydrology must b		
	,	// /	•				disturbed or problematic	1 ,	
Restrictive	Layer (if present):						Hydric Soil Present?		
Туре:		De	epth (inches):				🖾 Yes 🔲 No		
Pomarka: H	ydric soil indicator F3	is mot							
	yunc son mulcator Fa	o is met.							
HYDROLOG	GY								
Wetland Hy	drology Indicators:								
Primary Indicators (minimum of one required; check all that apply)							Secondary Indicators (2	or more required)	
Surface V	· · /		☐ Salt Crust (E ☐ Aquatic Inve				Surface Soil Cracks (B6)		
🗌 High Wa	ter Table (A2)		Sparsely Vegetated Concave Surface (B8)						
Saturatio			⊠ Drainage Patterns (B10)						
	Water Marks (B1) Dry-Season Water Table (C2)							es on Living Roots (C3	
Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)							(where tilled) Crayfish Burrows (C8	8)	
			Saturation Visible on						
-	t or Crust (B4)		Presence of		Geomorphic Position				
□ Iron Deposits (B5)       □ Thin Muck Surface (C7)       ⊠ Geomorphic Position (D2)         □ Inundation Visible on Aerial Imagery (B7)       □ Other (Explain in Remarks)       ⊠ FAC-Neutral Test (D5)								( )	
Water-Stained Leaves (B9)									
	( )		Depth	Der	oribo Poorra	lod Data (atra			
Field Observations:         Depth         Describe Recorded Data (stream gauge, monitoring well, aerial photos inspections, etc.), if available:								aeriai priotos, previous	

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Surface Water present?

(includes capillary fringe)
Wetland Hydrology Present?

Water Table present? Saturation Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 10/16/2018						
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	pling Point: SP-627					
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S31, T111N, R66	3W					
Landform (hillslope, terrace, etc.) hillslope	Local relief (concave, convex, none): <u>convex</u> Slope (%):								
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	77982 Long:	-98.802443	Datum: NAD83					
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes		N	WI Classification:	PEM1Cd					
Are climate/hydrologic conditions on the site typical for this time of year? 🛛 Yes 🗌 No (If no, explain in Remarks.)									
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	_					
Yes       No       R         Hydrophytic Vegetation Present?       Image: Second Secon	emarks: Upland	sample plot adjacent to	9 PEM W-563.						

	Absolute	Dominant	Indicator	Dominance Test Worksheet:		
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that		
2.	<u>%</u>			are OBL, FACW, or FAC		
3.	%			(excluding FAC-): 0 (A)		
	<u>%</u>			Total Number of Dominant		
4	0 %	= Total Cove	 -	Species Across All Strata: 1 (B)		
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that		
	%			are OBL, FACW, or FAC: 0% (A/B)		
1 2						
3.				Prevalence Index Worksheet:		
	<u>%</u>			Total % Cover of: Multiply by:		
4 5.	<u>%</u>			OBL species         %         x 1 =		
J	0 %	= Total Cove		FACW species $\%$ x 2 = $0$		
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0		
	100 %	Y	UPL	FACU species % x 4 = 0		
1.         Bromus inermis           2.	<u>    100 %</u>	<u> </u>		UPL species% x 5 =		
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)		
4				Prevalence Index = B/A =		
5	%					
6	%			Hydrophytic Vegetation Indicators:		
7.				☐ 1 Rapid Test for Hydrophytic Vegetation		
8				☐ 2 Dominance Test is >50%		
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>		
10.	%					
Mandu Mine Official (Plat size: 201)	<u>   100 %</u>	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)		
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)		
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology		
	0 %	= Total Cove	r	must be present, unless disturbed or problematic		
Bare Ground in Herb Stratum <u>0</u> %	Hydrophytic Vegetation Present? 🗌 Yes 🛛 No					
Remarks: Hydrophytic vegetation is not present. Photograph C-81.						

SOIL

(inches) Color (moist)	% C	F olor (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10 10YR 3/3	100				Clay Loam	
					•	
Type: C=Concentration, D=Dep	letion, RM=Re	duced Matrix, C	S=Covered or Coate	d Sand Grains	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix
lydric Soil Indicators: (Applic	able to all LRF	Rs, unless oth	erwise noted.)		Indicators for Proble	matic Hydric Soils <sup>3</sup> :
] Histosol (A1)		🗌 Sandy G	eyed Matrix (S4)		🗌 1 cm Muck (A9) (Ll	RR I, J)
] Histic Epipedon (A2)		🗌 Sandy R			Coast Prairie Redo	
Black Histic (A3)		Stripped	. ,		Dark Surface (S7)	. ,
Hydrogen Sulfide (A4)			ucky Mineral (F1)		High Plains Depres	
Stratified Layers (A5) (LRR F	,		leyed Matrix (F2)		(LRR H outside o	
] 1 cm Muck (A9) ( <b>LRR F, G, H</b>		Depleted	( )		Reduced Vertic (F1     Reduced Vertic (F1	,
Depleted Below Dark Surface	e (A11)		ark Surface (F6)		Red Parent Materia Very Shallow Dark	( )
Thick Dark Surface (A12)		•	Dark Surface (F7)		Other (Explain in R	. ,
] Sandy Mucky Mineral (S1)			epressions (F8)		_ 、 .	,
] 2.5 cm Mucky Peat or Peat (S ] 5 cm Mucky Peat or Peat (S3	, ,	_ •	ns Depressions (F16) 7 <b>2 &amp; 73 of LRR H)</b>		<sup>3</sup> Indicators of hydrophy wetland hydrology mus	
5 CIT MUCKY Feat OF Feat (55					disturbed or problemat	
estrictive Layer (if present):					Hydric Soil Present?	
ype: <u>rock</u>		h (inches): turally problem		ice of rock.	☐ Yes ⊠ No	
ype: <u>rock</u>		. ,		ice of rock.	•	
ype: <u>rock</u> Remarks: No hydric soil indicator	r is present. Na	. ,		ice of rock.	•	
ype: <u>rock</u> Remarks: No hydric soil indicator (DROLOGY Vetland Hydrology Indicators:	r is present. Na	turally problem	atic soil due to preser	ice of rock.	☐ Yes ⊠ No	
ype: <u>rock</u> remarks: No hydric soil indicator <b>/DROLOGY</b> Vetland Hydrology Indicators:	r is present. Na	turally problem	atic soil due to preser	ice of rock.	•	(2 or more required)
ype: <u>rock</u> Remarks: No hydric soil indicator (DROLOGY Vetland Hydrology Indicators: Primary Indicators (minimum of co ] Surface Water (A1)	r is present. Na	turally problem	atic soil due to preser	ice of rock.	Yes ⊠ No     Secondary Indicators     Surface Soil Crack	as (B6)
ype: rock temarks: No hydric soil indicator <b>/DROLOGY</b> <b>/etland Hydrology Indicators:</b> trimary Indicators (minimum of c ] Surface Water (A1) ] High Water Table (A2)	r is present. Na	turally problem neck all that app Salt Crust (E Aquatic Inve	bly) Batic soil due to preser	ice of rock.	Yes ⊠ No     Secondary Indicators     Surface Soil Crack     Sparsely Vegetate	s (B6) d Concave Surface (B8)
ype: rock temarks: No hydric soil indicator <b>/DROLOGY</b> <b>Vetland Hydrology Indicators:</b> Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3)	r is present. Na	turally problem heck all that app Salt Crust (E Aquatic Inve Hydrogen S	oly) 311) ertebrates (B13) ulfide Odor (C1)	nce of rock.	Yes ⊠ No     Secondary Indicators     Surface Soil Crack     Sparsely Vegetate     Drainage Patterns	s (B6) d Concave Surface (B8) (B10)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of of Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	r is present. Na	turally problem heck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season	atic soil due to preser <u>Div)</u> 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2)		Yes ⊠ No     Secondary Indicators     Surface Soil Crack     Sparsely Vegetate     Drainage Patterns     Oxidized Rhizosph	s (B6) d Concave Surface (B8 (B10)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of coll         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	r is present. Na	turally problem heck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh	atic soil due to preser <u>oly)</u> 311) rtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living		Yes ⊠ No     Secondary Indicators     Surface Soil Crack     Sparsely Vegetate     Drainage Patterns     Oxidized Rhizosph     (where tilled)	is (B6) d Concave Surface (B8 (B10) heres on Living Roots (C
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of construction)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	n is present. Na	turally problem turally problem Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	atic soil due to preser <u>atic soil due to preser</u> <u>atic soil due to preser <u>atic soil due to preserve</u> <u>atic s</u></u>		Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (	is (B6) d Concave Surface (B8 (B10) eres on Living Roots (C C8)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of constrained)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	n is present. Na	turally problem turally problem Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living <b>bt tilled)</b> Reduced Iron (C4)		Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         primary Indicators (minimum of construction)         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)	n is present. Na	turally problem turally problem Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living bt tilled) Reduced Iron (C4) Surface (C7)		Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of contrast)         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 Irr	n is present. Na	turally problem turally problem Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living <b>bt tilled)</b> Reduced Iron (C4)		Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of of 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 Ir         Water-Stained Leaves (B9)	n is present. Na	turally problem turally problem beck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks)	Roots (C3)	Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test         Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) ieres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of of 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 Ir         Water-Stained Leaves (B9)	n is present. Na	turally problem turally problem Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks)	Roots (C3)	Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test         Frost-Heave Humr	cs (B6) d Concave Surface (B8) (B10) heres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5)
ype:       rock         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of construction (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 Ir         Water-Stained Leaves (B9)	nagery (B7) Yes No	turally problem turally problem beck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	Roots (C3)	Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test         Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
ype:       rock         Remarks: No hydric soil indicator <b>/DROLOGY Vetland Hydrology Indicators:</b> Primary Indicators (minimum of comparison)         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 Ir         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?	nagery (B7)	turally problem turally problem beck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	Roots (C3)	Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test         Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
ype:       rock         Remarks: No hydric soil indicator         Remarks: No hydric soil indicator         YDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of comparison)         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 Ir         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Vater Table present?	nagery (B7)	turally problem turally problem beck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	Roots (C3)	Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test         Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) heres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>
ype:       rock         Remarks: No hydric soil indicator <b>/DROLOGY Vetland Hydrology Indicators:</b> Primary Indicators (minimum of comparison)         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 Ir         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?	nagery (B7)	turally problem turally problem beck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla Depth	atic soil due to preser atic soil due to preser bly) 311) ertebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Living ot tilled) Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	Roots (C3)	Yes       No         Secondary Indicators         Surface Soil Crack         Sparsely Vegetate         Drainage Patterns         Oxidized Rhizosph (where tilled)         Crayfish Burrows (         Saturation Visible         Geomorphic Positi         FAC-Neutral Test         Frost-Heave Humr	is (B6) d Concave Surface (B8) (B10) eres on Living Roots (C C8) on Aerial Imagery (C9) on (D2) (D5) nocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Project		City/County:	Hand Coun	ty	Sampling Date: 10/16/2018	
Applicant/Owner: Sweetland Wind Farm, LLC				state: SD	Sampling Point: SP-630	
Investigator(s): T. Beemer, W. Hirst		Sectior	n, Township	, Range: S	31, T111N, R66W	
Landform (hillslope, terrace, etc.) roadside di	tch	Local relief (conc		、 	oncave Slope (%): 3 %	
Subregion (LRR): Northern Great Plains Spri	ng Wheat Region	Lat: 44.370	)374	Long: _g	08.807992 Datum: NAD83	
Soil Map Unit Name: Glenham loam, undulat					Classification: NA	
Are climate/hydrologic conditions on the site typic		rear? 🛛 Yes	🗌 No	(If no, expl	lain in Remarks.)	
Vegetation Soil Significantly Disturbed?	Hydrology	Are "No	ormal Circun	nstances" pre	esent? 🛛 Yes 🗌 No	
Naturally Problematic?		(If need	ed, explain	any answers	in Remarks.)	
SUMMARY OF FINDINGS – Attach site ma	n showing sam	nling point loc	atione tra	neocte im	nortant foaturos atc	
Sommart of Thomas - Attach site ma						
Hydrophytic Vegetation Present?		emarks: Wetland s	sample plot	located in PF	O W-564.	
Hydrophytic Vegetation Present?						
Wetland Hydrology Present?						
Is the Sampled Area within a Wetland?						
VEGETATION – Use scientific names of pl	ants					
	Absolu		Indicator	Dominanc	e Test Worksheet:	
Tree Stratum (Plot size: <u>30'</u> ) 1. <i>Fraxinus pennsylvania</i>	% Cov 40		Status FAC		Dominant Species that	
<u>Fraxinus pennsylvania</u> 2		<u>%</u>			ACW, or FAC	`
3.		%		(excluding		)
4.		%			cross All Strata: <u>2 (</u> B)	)
	40	<u>%</u> = Total Cove	er	-		,
Sapling/Shrub Stratum (Plot size: <u>15'</u> )					Dominant Species that ACW, or FAC: <u>100%</u> (A/I	/B)
1		<u>%</u>	<u> </u>			-,
2 3.		<u>%</u>	<u> </u>	Prevalence	e Index Worksheet:	
3 4		<u>%</u>		Total	% Cover of: Multiply by:	
5.		%		OBL speci		
	0		er	FACW spe		
Herb Stratum (Plot size: <u>5'</u> )				FAC speci		
1. Phalaris arundinacea	65		FACW	FACU spe UPL speci		
2		%		Column To		B)
3		<u>%</u>		Prevalence	e Index = B/A =	,
4		<u>%</u>				
5		%		Hydrophyt	tic Vegetation Indicators:	
7		%		🗌 1 Rapid	Test for Hydrophytic Vegetation	
8		%		🛛 2 Domir	nance Test is >50%	
9		%		🗌 3 Preva	lence Index is ≤3.0¹	
10	65	<u>%</u> <u>%</u> = Total Cove	er	4 Morph	nological Adaptations <sup>1</sup> (Provide data in Remarks or on a separate sheet)	
Woody Vine Stratum (Plot size: <u>30'</u> )		0/			natic Hydrophytic Vegetation <sup>1</sup> (explain)	
1		<u>%</u>				'
2	0		er	must be pre	of hydric soil and wetland hydrology esent, unless disturbed or problematic	;
Bare Ground in Herb Stratum <u>35</u> %				Hydrophytic	c Vegetation Present? ⊠ Yes □ No	ο
Remarks: Dominance test is met. Photograph C-	82.					

Depth (inchos)	Matrix	01	-	Redox Fe			<b>-</b> .	
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6 6-20	10YR 2/1 10YR 2/1	100	10YR 4/6		C		Clay Loam	
6-20	10YR 2/1	95	10YR 4/6	5	U	M	Clay Loam	
-				· . <u></u>				
	·			· . <u></u>	·			
	oncentration, D=Dep		-Reduced Matrix		red or Coste	d Sand Grain	s <sup>2</sup> Location: PL=Pore	Lining M-Matrix
	Indicators: (Applic						Indicators for Problema	0
-								•
☐ Histosol ( ☐ Histic Epi	,		☐ Sandy G ☐ Sandy R	-			☐ 1 cm Muck (A9) ( <b>LRR</b> ☐ Coast Prairie Redox ( <i>i</i>	
Black His			Stripped				Dark Surface (S7) (LF	
	n Sulfide (A4)		□ Stripped				High Plains Depression	,
	Layers (A5) ( <b>LRR F</b> )	)	Loamy C	-			(LRR H outside of N	
	24 (A9) (LRR F, G, H			-			Reduced Vertic (F18)	•
	Below Dark Surface		Redox D	```	,		Red Parent Material (	
	k Surface (A12)	(,)			. ,		Very Shallow Dark Su	rface (TF 12)
	ucky Mineral (S1)		Redox D		. ,		Other (Explain in Rem	narks)
•	ucky Peat or Peat (S	2) ( <b>LRR 0</b>		•	ssions (F16	)	<sup>3</sup> Indicators of hydrophytic	vegetation and
	ky Peat or Peat (S3)	, ,		•	of LRR H)	,	wetland hydrology must k disturbed or problematic	
Restrictive I	Layer (if present):						Hydric Soil Present?	
Туре:		-	Depth (inches):				Hydric Soil Present? ⊠ Yes □ No	
Туре:	Layer (if present):	-	Depth (inches):		<u></u>		•	
Гуре: Remarks: Ну	/dric soil indicator F6	-	Depth (inches):				•	
Type: Remarks: Hy YDROLOG	/dric soil indicator F6	is met.	Depth (inches):				•	
Type: Remarks: Hy YDROLOG Wetland Hy	rdric soil indicator F6	i is met.					•	or more required)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indio	rdric soil indicator F6 iY drology Indicators: cators (minimum of o	i is met.	ed; check all that ap				Yes No	· · ·
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indio	rdric soil indicator F6 iY drology Indicators: cators (minimum of o Vater (A1)	i is met.	ed; check all that ap □ Salt Crust (	<u>pply)</u> B11)			Secondary Indicators (2	B6)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary India ] Surface V ] High Wat	rdric soil indicator F6 FY drology Indicators: cators (minimum of o Vater (A1) er Table (A2)	i is met.	ed; check all that ap	ply) B11) ertebrates	; (B13)		Secondary Indicators (2	B6) Concave Surface (B8)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary India Surface V High Wat Saturation	rdric soil indicator F6 FY drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3)	i is met.	ed; check all that ap □ Salt Crust ( □ Aquatic Inv	<u>ply)</u> B11) ertebrates Sulfide Od	s (B13) or (C1)		Yes □ No     Secondary Indicators (2     Surface Soil Cracks (     Sparsely Vegetated 0	B6) Concave Surface (B8) 10)
Type:	rdric soil indicator F6 FY drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3)	i is met.	ed; check all that ap ☐ Salt Crust ( ☐ Aquatic Inv ☐ Hydrogen S	p <u>ply)</u> B11) ertebrates Sulfide Od n Water Ta	s (B13) or (C1) able (C2)	Roots (C3)	Secondary Indicators (2         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B         Oxidized Rhizosphere (where tilled)	B6) Concave Surface (B8) 10) es on Living Roots (C
Type: Remarks: Hy YDROLOG Wetland Hy Primary India Surface V High Wat Saturation Saturation Water Ma Sediment	vdric soil indicator F6 vdric soil indicator F6 vdrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) irks (B1) : Deposits (B2)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	p <u>ply)</u> B11) ertebrates Sulfide Od n Water Ta hizospher	s (B13) or (C1) able (C2)	Roots (C3)	✓ Yes       No         Secondary Indicators (2       Surface Soil Cracks (         Surface Soil Cracks (       Sparsely Vegetated C         ✓ Drainage Patterns (B       Oxidized Rhizosphere (where tilled)         □ Crayfish Burrows (C8)	B6) Concave Surface (B8) 10) es on Living Roots (C
Type: Remarks: Hy YDROLOG Wetland Hyu Primary Indio 3 Surface V High Wat 3 Saturation 3 Sa	vdric soil indicator F6 vdric soil indicator F6 vdrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) irks (B1) : Deposits (B2)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o	p <u>ply)</u> B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced	(B13) or (C1) able (C2) es on Living d Iron (C4)	Roots (C3)	Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated O         Drainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9)
Type: Remarks: Hy YDROLOG Wetland Hy Primary India Surface V High Wat Saturation Saturation Sediment Drift Depo Algal Mat	vdric soil indicator F6 <b>FY</b> drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	pply) B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced Surface ((	s (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Orainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on         ⊠ Geomorphic Position	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2)
Type: Remarks: Hy YDROLOG Wetland Hy Primary India Surface V High Wat Saturation Saturation Sediment Drift Depo Algal Mat Iron Depo	vdric soil indicator F6 <b>FY</b> drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4)	ne require	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck	pply) B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced Surface ((	s (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Orainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on         ⊠ Geomorphic Position         ⊠ FAC-Neutral Test (D5)	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)
Type: Remarks: Hy YDROLOG Wetland Hy Primary Indic Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	vdric soil indicator F6 iY drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5)	ne require	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck	pply) B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced Surface ((	s (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators (2)         Surface Soil Cracks (         Sparsely Vegetated C         Orainage Patterns (B)         Oxidized Rhizosphere (where tilled)         Crayfish Burrows (C8)         Saturation Visible on         ⊠ Geomorphic Position	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5)
Type: Remarks: Hy YDROLOG Wetland Hy Primary India Surface V High Wat Saturation Water Ma Sediment Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta	vdric soil indicator F6 vdric soil indicator F6 vdrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) irks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9)	ne require	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck	pply) B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced Surface (( ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		Secondary Indicators (2         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B         Oxidized Rhizosphere         (where tilled)         Crayfish Burrows (C8)         Saturation Visible on         Geomorphic Position         FAC-Neutral Test (D8)         Frost-Heave Hummo         am gauge, monitoring well, a	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hyu Primary Indio Surface V High Wat Saturation Sediment Sediment Sediment Drift Depo Algal Mat Iron Depo Inundatio Water-Sta Field Obser	vdric soil indicator F6 vdric soil indicator F6 vdrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations:	ne require	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S Other (Expl Depth No (inches)	pply) B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced Surface (( ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (stre	Secondary Indicators (2         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B         Oxidized Rhizosphere         (where tilled)         Crayfish Burrows (C8)         Saturation Visible on         Geomorphic Position         FAC-Neutral Test (D8)         Frost-Heave Hummo         am gauge, monitoring well, a	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hy Primary Indic Surface V High Wat Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundatio	vdric soil indicator F6 iY drology Indicators: cators (minimum of of Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present?	ne require	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S Other (Expl Depth	pply) B11) ertebrates Sulfide Od n Water Ta hizospher <b>ot tilled)</b> f Reduced Surface (( ain in Rer	6 (B13) or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (stre	Secondary Indicators (2         Surface Soil Cracks (         Sparsely Vegetated C         Drainage Patterns (B         Oxidized Rhizosphere         (where tilled)         Crayfish Burrows (C8)         Saturation Visible on         Geomorphic Position         FAC-Neutral Test (D8)         Frost-Heave Hummo         am gauge, monitoring well, a	B6) Concave Surface (B8) 10) es on Living Roots (C 3) Aerial Imagery (C9) (D2) 5) cks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicators B10, D2, and D5 are met.

 $\boxtimes$ 

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: _ Sweetland Wind Project		City/County: H	land Coun	ty	Sampling Date: <u>10/16/2018</u>
Applicant/Owner: _ Sweetland Wind Farm, LLC			S	tate: SD	Sampling Point: SP-631
Investigator(s): T. Beemer, W. Hirst		Section,	Township	, Range: S31, T	
Landform (hillslope, terrace, etc.) roadside ditch		Local relief (conca			01 (0()
Subregion (LRR): Northern Great Plains Spring Wheat	Region	Lat: 44.3703	93	Long: _98.808	BO85 Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating				NWI Class	
Are climate/hydrologic conditions on the site typical for this	time of y	ear? 🛛 Yes	🗌 No	(If no, explain in	Remarks.)
Vegetation Soil Hydro	ology T	Are "Nori	mal Circun	nstances" present?	P 🛛 Yes 🗌 No
Significantly Disturbed?	J	(If neede	d, explain a	any answers in Re	marks.)
,	_	aling point loop	tiono tra	no osto importe	ant factures ato
SUMMARY OF FINDINGS – Attach site map showin	ng sam	pling point loca	uons, tra	insects, importa	ant leatures, etc.
Yes N		marks: Upland sar	nple plot a	djacent to PFO W-	-564.
Hydrophytic Vegetation Present?   Image: Comparison of the sent of					
Hydric Soil Present?					
Is the Sampled Area within a Wetland?					
	3				
VEGETATION – Use scientific names of plants					
	Absolu		Indicator	Dominance Tes	t Worksheet:
Tree Stratum (Plot size: <u>30'</u> )	% Cov	•	Status	Number of Domi	nant Species that
1. <u>Fraxinus pennsylvanica</u> 2.	10	<u>% Y</u> %	FAC	are OBL, FACW	, or FAC
2		<u>%</u>		(excluding FAC-)	): <u> </u>
4.		%		Total Number of	
	10	% = Total Cover		Species Across	、
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Domin are OBL, FACW	nant Species that , or FAC: <u>50%</u> (A/B)
1		%			, of tAC. <u>30 %</u> (AB)
2		<u>%</u>		Prevalence Inde	ex Worksheet:
3		<u>%</u>		Total % Co	over of: Multiply by:
4 5.		<u>%</u>		OBL species	% x 1 = 0
· ·	0			FACW species	% x 2 = 0
Herb Stratum (Plot size: <u>5'</u> )				FAC species	<u>%</u> x 3 = <u>0</u>
1. Bromus inermis	100	<u>% Y</u>	UPL	FACU species UPL species	
2		%		Column Totals:	$\frac{0}{0}\% (A) \frac{0}{0} (B)$
3		<u>%</u>		Prevalence Inde	
4		<u>%</u>			
5 6		<u>%</u>		Hydrophytic Ve	getation Indicators:
7		%		🗌 1 Rapid Test	for Hydrophytic Vegetation
8		%		2 Dominance	Test is >50%
9		<u>%</u>		3 Prevalence	Index is ≤3.0 <sup>1</sup>
10		<u>%</u> % = Total Cover			cal Adaptations <sup>1</sup> (Provide
Woody Vine Stratum (Plot size: <u>30'</u> )	100				Remarks or on a separate sheet)
1		%		Problematic H	Hydrophytic Vegetation <sup>1</sup> (explain)
2.		%		<sup>1</sup> Indicators of hy	dric soil and wetland hydrology
	0	<u>%</u> = Total Cover		must be present	, unless disturbed or problematic
				Hydrophytic Vea	etation Present? 🗌 Yes 🛛 No
Bare Ground in Herb Stratum <u>0</u> %				, , ,	
Remarks: Hydrophytic vegetation is not present. Photograp	on C-83.				

SOIL

Profile Description: (Describe	to the de	pth ne	eded to docu	ument the	e indicator o	or confirm the	absence of indicators.)	
Depth Matrix				Redox Fea				
(inches) Color (moist)	<u>%</u>	Co	lor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-10 10YR 3/2	100						Clay Loam	
Type: C=Concentration, D=Dep	oletion, RN	/I=Red	uced Matrix, C	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
lydric Soil Indicators: (Applic	able to al	I LRR	s, unless oth	erwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
] Histosol (A1)			Sandy G	leyed Mat	rix (S4)		🗌 1 cm Muck (A9) (LR	R I, J)
] Histic Epipedon (A2)			Sandy Re	edox (S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)			Stripped	Matrix (Se	6)		🗌 Dark Surface (S7) (L	RR G)
] Hydrogen Sulfide (A4)			🗌 Loamy M				High Plains Depressi	
Stratified Layers (A5) (LRR F			🗌 Loamy G	•	. ,		(LRR H outside of	•
] 1 cm Muck (A9) ( <b>LRR F, G, H</b>			Depleted		,		Reduced Vertic (F18	,
Depleted Below Dark Surface	e (A11)		Redox Da		( )		Red Parent Material	· · ·
Thick Dark Surface (A12)			Depleted		· · ·		☐ Very Shallow Dark S ☐ Other (Explain in Rer	
Sandy Mucky Mineral (S1)		<b>~</b>		•	. ,			
2.5 cm Mucky Peat or Peat (S	, (	• •	High Plai	ins Depres 72 & 73 o	· · ·		<sup>3</sup> Indicators of hydrophyti	
∃ 5 cm Mucky Peat or Peat (S3	)( <b>LRR F</b> )			12 0 13 0			wetland hydrology must disturbed or problematic	
Restrictive Layer (if present):							Hydric Soil Present?	
Type: rock		Denth	(inches): 10	0			☐ Yes ⊠ No	
<u>-100k</u>	_	Dopui	(1101100).	•				
Remarks: No hydric soil indicato	r is preser	nt.						
YDROLOGY								
Vetland Hydrology Indicators: Primary Indicators (minimum of c		d ob	al all that an	ah ()			Cocondan ( Indicators ()	) or more required)
· · · ·	one require						Secondary Indicators (2	
Surface Water (A1)			] Salt Crust (E				Surface Soil Cracks	· · ·
High Water Table (A2)			Aquatic Inve				Sparsely Vegetated	
Saturation (A3)			] Hydrogen S				Drainage Patterns (E	,
] Water Marks (B1)			] Dry-Season		. ,	Deate (C2)	Oxidized Rhizosphe (where tilled)	res on Living Roots (C
Sediment Deposits (B2)		L	Oxidized Rh [ where nd)		es on Living	Roots (C3)	Crayfish Burrows (C	8)
☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4)		Г	Presence of		Iron (C4)		Saturation Visible or	-
Iron Deposits (B5)			Thin Muck S		· · ·		Geomorphic Position	••••
Inundation Visible on Aerial Ir	nagery (B	_	_ ] Other (Expla	-	-		FAC-Neutral Test (D	
Water-Stained Leaves (B9)	nagery (B	., –			,		Frost-Heave Hummo	
			Depth	Dar	aribo Boost	lad Data (atra-		
Field Observations:	Yes	No	(inches)			led Data (strea ), if available:	m gauge, monitoring well,	aeriai pnotos, previous
Surface Water present?	_		()	inspe		, ii avalladie.		
·		$\boxtimes$						
Vater Table present?		$\boxtimes$						
Saturation Present?		$\boxtimes$						
includes capillary fringe)								
Wetland Hydrology Present?		$\boxtimes$						

Remarks: Wetland hydrology indicator D2 is met.

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-634
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range:S33, T111N, R66W
Landform (hillslope, terrace, etc.) pothole	ocal relief (concave, convex, none): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.373034 Long: -98.779054 Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of year	ar? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the state of the s	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampl	ling point locations, transects, important features, etc.
Yes       No       Rem         Hydrophytic Vegetation Present?       Image: Comparison of the second	narks: Wetland sample plot located in PEM W-566.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
•	<u></u> %	<u> </u>		are OBL, FACW, or FAC
	<u></u> %	<u> </u>		(excluding FAC-): (A)
3.				Total Number of Dominant
4	<u>%</u> 0 %	= Total Cover		Species Across All Strata:(B)
Cooling/Charle Ctrature (Distaires 45')	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC:(A/B)
1				
2		<u> </u>		Prevalence Index Worksheet:
3		<u> </u>		Total % Cover of: Multiply by:
4 5	<u></u> %	<u> </u>		OBL species $\%$ x 1 = 0
J	0 %	= Total Cover		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
()	35 %	Y	OBL	FACU species % x 4 = 0
1. <u>Eleocharis obtusa</u>		<u> </u>	FACW	UPL species % x 5 = 0
2. <u>Spartina pectinata</u>	<u>25 %</u>			Column Totals: 0 % (A) 0 (B)
3. <u>Alisma gramineum</u>		<u>     N     </u>	OBL	Prevalence Index = B/A =
4	<u>%</u>	<u> </u>		
5	<u>%</u>	<u> </u>		Hydrophytic Vegetation Indicators:
6 7.		·		☑ 1 Rapid Test for Hydrophytic Vegetation
7				$\square$ 2 Dominance Test is >50%
9	0/			
10.	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	65 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %	<u> </u>	·	
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>35</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	tograph C-84	4.		
	- •			

Depth	Matrix	F	Redox Fea	atures		
(inches)	Color (moist) %	6 Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-1	10YR 2/1 10	00				clay
1-6	10YR 2/1 9	0 10YR 6/4	10	С	М	clay
6-20	10YR 6/1 7	0 10YR 2/1	20	С	M	clay
		10YR 6/4	10	<u> </u>	M	
Type: C=C	oncentration, D=Depletion	, RM=Reduced Matrix, (	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix
lydric Soil	Indicators: (Applicable	to all LRRs, unless oth	erwise n	oted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
Black His Hydroger Stratified 1 cm Muc Depleted Thick Dar Sandy Mi 2.5 cm M	ipedon (A2)	. □ Depleted □ Redox D RR G, H) □ High Pla	edox (S5 Matrix (S Jucky Min Gleyed Ma Matrix (F ark Surfa Dark Su epressior ins Depre	) 6) heral (F1) htrix (F2) F3) ce (F6) rface (F7)		<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G, H)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>
Restrictive	Layer (if present):					Hydric Soil Present?
Гуре:		Depth (inches):				🖾 Yes 🔲 No
YDROLOG	ydric soil indicators F3 and					
Netland Hy	drology Indicators:					
Primary India	cators (minimum of one re	quired; check all that ap	<u>ply)</u>			Secondary Indicators (2 or more required)
Surface V	Vater (A1)	Salt Crust (	B11)			Surface Soil Cracks (B6)
	er Table (A2)	Aquatic Inv	,	s (B13)		☐ Sparsely Vegetated Concave Surface (B8)
Saturatio		 ☐ Hydrogen S				Drainage Patterns (B10)
 Water Ma		Dry-Seasor				Oxidized Rhizospheres on Living Roots (C
] Sediment	t Deposits (B2)	Oxidized R		. ,	Roots (C3)	(where tilled)
_ Drift Dep	,	(where n		0	. ,	Crayfish Burrows (C8)
	t or Crust (B4)	Presence o	f Reduced	d Iron (C4)		Saturation Visible on Aerial Imagery (C9)
 Iron Depo	. ,	Thin Muck	Surface (O	C7)		Geomorphic Position (D2)
•	n Visible on Aerial Imager	v (B7) Other (Expl	ain in Rer	narks)		🛛 FAC-Neutral Test (D5)

Water-Stained Leaves (B9)	nagery (			Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?	$\boxtimes$		1	
Water Table present?	$\boxtimes$		0	
Saturation Present?	$\boxtimes$		0	
(includes capillary fringe)				
Wetland Hydrology Present?	$\boxtimes$			
Remarks: Wetland hydrology ind	licators A	A1, A2, A	A3, D2, and D5 a	ire met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/16/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samı	pling Point: <u>SP-635</u>
Investigator(s):T. Beemer, W. Hirst	Sectio	on, Township, Range:	S33, T111N, R66	SW
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	icave, convex, none):	none	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	on Lat: 44.37	2942 Long:	-98.778920	Datum: NAD83
Soil Map Unit Name:Glenham-Java loams, rolling		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time	of year? 🛛 🛛 Yes	🗌 No 🛛 (If no, e	explain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	ormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Upland s	sample plot adjacent to	PEM W-566.	

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-):0 (A)
4.				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:0% (A/B)
2.				Burnels and the data Mandra has to
3.	%			Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5	%			OBL species $\%$ x 1 = 0
	0 %	= Total Cover	-	FACW species $_{\%}$ x 2 – $_{0}$
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
1. <u>Poa pratensis</u>	90 %	Y	FACU	FACU species% x 4 =
2				UPL species $\%$ x 5 = 0
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	%			
7	0/			1 Rapid Test for Hydrophytic Vegetation
8	%	. <u> </u>		☐ 2 Dominance Test is >50%
9		<u> </u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cover	•	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				
2				<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover	-	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photog	graph C-85.			

(inches)       Color (moist)       %       Type1       Loc2       Texture       Remarks         0-8       10YR 3/2       100       Clay Loam       Cl	Depth	 Matrix	he depth needed to doc F	Redox Features		,	
0-8         10YR 3/2         100         Clay Loam           8-20         10YR 3/3         100         Clay Loam           9-20         10YR 3/3         100         Stration 2000           9-20         10YR 3/3         100         100         N=4000           9-20         10         Matrix (54)         1         1         Coast Prainte Redox (A16) (LRR F, G, H)           9-20         10         10         Stratified Layers (F6)         100 Matrix (F2)         100 Matrix (F2)         100 Matrix (F2)     <	•				Loc <sup>2</sup>	Texture	Remarks
8-20       10YR 3/3       100       Clay Leam         Clay Leam       Clay Leam       Clay Leam         Pype:       Depleted Matrix (S4)       Clay Leam         Pype:       Depleted Datrix (F3)       Pype: Pype: Pype:         Pype:       Depleted Datrix (F5	0-8						
Type:       C-Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains       *Location: PL=Pore Lining, M=Matrix         ydric Soil Indicators:       (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:           Histosol (A1)         Sandy Gleyed Matrix (S4)         1 cm Muck (A9) (LRR I, J)           Histosol (A2)         Sandy Redox (S5)         Deast Prairie Redox (A16) (LRR F, G, H)           Hydrogen Suffide (A4)         Loamy Mucky Mineral (F1)         High Plains Depressions (F16)           Hydrogen Suffide (A4)         Loamy Gleyed Matrix (F2)         Reduced Vertic (F18)           Depleted Below Dark Surface (A11)         Depleted Dark Surface (F7)         Vertify Peat or Peat (S2) (LRR G, H)           Sandy Mucky Mineral (S1)         Depleted Dark Surface (F7)         Vertify Soil Moreart (F12)           Sandy Mucky Peat or Peat (S3) (LRR F)         MLRA 72 & 73 of LRR H)         High Plains Depressions (F16)           Sc m Mucky Peat or Peat (S3) (LRR F, M)         High Plains Depressions (F16)         Reduced Vertic (F18)           Sartace (A16)         MLRA 72 & 73 of LRR H)         High Plains Depressions (F16)           Part Surface (A11)         Depleted Matrix (F2)         Vertify Soil Present?           yers         Deplet (inches):         High Viars Depressions (F16)         Surface Soil Cracks (86)           2.5 cm Mucky P	8-20	10YR 3/3	100				
Image: Solution of the second seco							
Image: Secondary Indicators:       Progenetic: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils':         Histosol (A1)       Sandy Redvx (S4)       I cm Muck (A9) (LRR I, J)         Histosol (A1)       Sandy Redvx (S5)       Coast Praine Redvx (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Suffield (A4)       Loamy Gleyed Matrix (F2)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Edw Matrix (F2)       Reduxed Vertic (F18)         Depleted Bedro Dark Surface (F6)       Reduxed Vertic (F18)       Reduxed Vertic (F17)         Standy Mucky Mineral (S1)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (F1)       Other (Explain in Remarks)         2: 5. cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F18)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         estrictive Layer (If present):       pepth (inches):       Hydric Soil Present?         ype:       Depth (inches):       Secondary Indicators (2 or more required)         Startation (A3)       Hydrogen Suffide Cdor (C1)       Surface S(1)         3 Surface Water (A1)       Saturation (A3)       Secondary Indicators (2 or more required)         3 Suratation (A3)       Hydrogen Suffi					. <u> </u>		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains       *Location: PL=Pore Lining, M=Matrix         ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR I, J)         Histo Epipedon (A2)       Sandy Redox (S5)       Coast Prairie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Suffide (A4)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       (LRR H outside of MLRA 72 & 73)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F7)       Other (Explain in Remarks)         2: 5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)       *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         gestrictive Layer (if present):       pepth (inches):       Hydric Soil Present?       Y es ⊠ No         'emarks: No hydric soil indicator is present.       Salt Crust (B11)       Surface Soil Crack (B6)       Surface Soil Crack (B6)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Crack (B6)       Sarrage Patterns (B10)       Sarrage Patterns (B10)         Setiment Deposits (B3)       Oxd					<u> </u>		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains       *Location: PL=Pore Lining, M=Matrix         ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Soils*:         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR I, J)         Histo Epipedon (A2)       Sandy Redox (S5)       Coast Prairie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Suffide (A4)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       (LRR H outside of MLRA 72 & 73)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F7)       Other (Explain in Remarks)         2: 5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)       *Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         gestrictive Layer (if present):       pepth (inches):       Hydric Soil Present?       Y es ⊠ No         'emarks: No hydric soil indicator is present.       Salt Crust (B11)       Surface Soil Crack (B6)       Surface Soil Crack (B6)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Crack (B6)       Sarrage Patterns (B10)       Sarrage Patterns (B10)         Setiment Deposits (B3)       Oxd				· ·	·		
Varic Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)       Indicators for Problematic Hydric Solls':         Histosol (A1)       Sandy Gleyed Matrix (S4)       1 cm Muck (A9) (LRR I, J)         Histic Epipedon (A2)       Sandy Redox (S5)       Coast Prairie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Suffide (A4)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Red Parent Material (TF2)         Thick Dark Surface (A11)       Redox Dark Surface (F7)       Very Shallow Dark Surface (TF 12)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F6)       Very Shallow Dark Surface (TF 12)         So m Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)       Minicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         2.5 cm Mucky Peat or Peat (S3) (LRR F)       Depth (inches):       Ury estable (A2)       Sand Crust (B11)         5 cm Mucky Peat or Peat (S3)       Depth (inches):       Sand Crust (B11)       Surface Soil Cracks (B6)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)       Sand Crust (B13)       Sand Sand Crust (B13)       Sand Sand Crust (B13)       Sand Crust (B13)       Sand Sand Crust (B13)       Sand Cru							
Histosol (A1)       □ Sandy Gleyed Matrix (S4)       □ 1 cm Muck (A9) (LRR I, J)         Histic Epipedon (A2)       □ Sandy Redox (S5)       □ Coast Prairie Redox (A16) (LRR F, G, H)         Black Histic (A3)       □ Stripped Matrix (S6)       □ Dark Surface (S7) (LRR G)         Higt participation       □ Loamy Gleyed Matrix (F2)       □ Reduced Vertic (F18)         1 cm Muck (A9) (LRR F, G, H)       □ Depleted Dark Surface (F3)       □ Reduced Vertic (F18)         Depleted Bow Dark Surface (A11)       □ Redox Depressions (F8)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR F, I)       □ High Plains Depressions (F8)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR F)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         9 cm Mucky Peat or Peat (S2) (LRR F)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         1 cm Muck Y Peat or Peat (S2) (LRR F)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         1 cm Mucky Peat or Peat (S2) (LRR G, H)       □ High Plains Depressions (F8)       □ Vers Shallow Dark Surface (TF 12)         ype:       □ Depleted Dark Surface (S7)       □ Mucky Peat or Peat (S3) (LRR F)       □ Secondary Indicators (2 or more required)         1	<sup>1</sup> Type: C=C	oncentration, D=Depletic	on, RM=Reduced Matrix, (	CS=Covered or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lir	ning, M=Matrix
Histosol (A1)       □ Sandy Gleyed Matrix (S4)       □ 1 cm Muck (A9) (LRR I, J)         Histic Epipedon (A2)       □ Sandy Redox (S5)       □ Coast Prairie Redox (A16) (LRR F, G, H)         Black Histic (A3)       □ Stripped Matrix (S6)       □ Dark Surface (S7) (LRR G)         Higt participation       □ Loamy Gleyed Matrix (F2)       □ Reduced Vertic (F18)         1 cm Muck (A9) (LRR F, G, H)       □ Depleted Dark Surface (F3)       □ Reduced Vertic (F18)         Depleted Bow Dark Surface (A11)       □ Redox Depressions (F8)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR F, I)       □ High Plains Depressions (F8)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR F)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         9 cm Mucky Peat or Peat (S2) (LRR F)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         1 cm Muck Y Peat or Peat (S2) (LRR F)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         1 cm Mucky Peat or Peat (S2) (LRR G, H)       □ High Plains Depressions (F8)       □ Vers Shallow Dark Surface (TF 12)         ype:       □ Depleted Dark Surface (S7)       □ Mucky Peat or Peat (S3) (LRR F)       □ Secondary Indicators (2 or more required)         1	Hydric Soil	Indicators: (Applicable	e to all LRRs, unless oth	erwise noted.)		Indicators for Problemation	c Hydric Soils <sup>3</sup> :
Histic Epipedon (A2)       Sandy Redox (S5)       Coast Prairie Redox (A16) (LRR F, G, H)         Black Histic (A3)       Stripped Matrix (S6)       Dark Surface (S7) (LRR G)         Hydrogen Sulfide (A4)       Loamy Mucky Mineral (F1)       High Plains Depressions (F16)         Stratified Layers (A5) (LRR F, G, H)       Depleted Matrix (F2)       Red Parent Material (TF2)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)       Red Parent Material (TF2)         1 mick Dark Surface (A12)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (TF 12)         Sandy Mucky Mineral (S1)       Redox Depressions (F16)       "Indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic         6 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)       "Indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic         ype:	-					1 cm Muck (A9) (I RR I	.1)
Black Histic (A3)       □ Stripped Matrix (S6)       □ Dark Surface (S7) (LRR G)         Hydrogen Suffide (A4)       □ Loamy Mucky Mineral (F1)       □ High Plains Depressions (F16)         Stratified Layers (A5) (LRR F)       □ Loamy Gleyed Matrix (F2)       □ Reduced Vertic (F18)         1 orn Muck (A9) (LRR F, G, H)       □ Depleted Matrix (F3)       □ Reduced Vertic (F18)         □ Depleted Below Dark Surface (A11)       □ Redox Dark Surface (F7)       □ Very Shallow Dark Surface (TF 2)         □ Sandy Mucky Mineral (S1)       □ Redox Depressions (F8)       □ Other (Explain in Remarks)         □ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       □ High Plains Depressions (F16)       □ and indicators of hydrophytic vegetation and wetand hydrology must be present, unless disturbed or problematic         generative Layer (if present):       □ Depth (inches):       □       Hydric Soil Present?         ype:       □ Depth (inches):       □       Yes ⊠ No         Procoory       Secondary Indicators (2 or more required)         □ Surface Water (A1)       □ Salt Crust (B11)       □ Surface Soil Cracks (B6)         □ Hydric Soil Indicators is present.       ■       Secondary Indicators (2 or more required)         □ Surface Water (A1)       □ Salt Crust (B11)       □ Surface Soil Cracks (B6)       □ prinage Patterns (B10)         □ Water Marks (81)       □ Dry-Season Water Table (C2)       Ox		· ,					-
Hydrogen Sulfide (A4)       □ Loamy Mucky Mineral (F1)       □ High Plains Depressions (F16)         Stratified Layers (A5) (LRR F)       □ Loamy Gleyed Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9) (LRR F, G, H)       □ Depleted Matrix (F3)       □ Reduced Vertic (F18)         0 Depleted Below Dark Surface (A11)       □ Redox Dark Surface (F6)       □ Red veced Vertic (F18)         1 cm Kuck (A9) (LRR F, G, H)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       □ High Plains Depressions (F16)       ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         TOROLOGY         Vertaint Hydrology Indicator is present.         Secondary Indicator is present.         Vertaint Hydrology Indicators:         imary Indicators (minimum of one required: check all that apply)         Surface Water (A1)       □ Salt Crust (B11)       □ Surface Soil Cracks (B6)         Shaturation (A3)       □ Hydrogen Sulfide Odor (C1)       □ Drainage Patterns (B10)       □ Drainage Patterns (B10)         Water Marks (B1)       □ Dry-Season Water Table (C2)       □ Oxidized Rhizospheres on Living Roots (Where not tilled)       □ Crafish Burrows (C8)         0 Algal Mat or Crust (B4)       □ Presence of Reduced Iron (C4)       □ Saturation Vis							
Stratified Layers (A5) (LRR F)       Loamy Gleyed Matrix (F2)       (LRR H outside of MLRA 72 & 73)         1 cm Muck (A9) (LRR F, G, H)       Depleted Matrix (F3)       Reduced Vertic (F18)         Depleted Below Dark Surface (A11)       Redox Dark Surface (F7)       Very Shallow Dark Surface (TF 12)         Sandy Mucky Mineral (S1)       Depleted Dark Surface (F7)       Very Shallow Dark Surface (TF 12)         Sandy Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F8)       Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR F)       MIRA 72 & 73 of LRR H)       Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         estrictive Layer (if present):		. ,		. ,			,
□ benjeted Below Dark Surface (A11)       □ Redox Dark Surface (F6)       □ Red Parent Material (TF2)         □ benjeted Below Dark Surface (A12)       □ Depleted Dark Surface (F7)       □ Other (Explain in Remarks)         □ Sandy Mucky Mineral (S1)       □ Redox Depressions (F8)       □ Other (Explain in Remarks)         □ Sandy Mucky Peat or Peat (S2) (LRR G, H)       □ High Plains Depressions (F16)       □ Other (Explain in Remarks)         □ S orn Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       □ Mucky Peat or Poat (S3) (LRR F)         estrictive Layer (If present):       (MLRA 72 & 73 of LRR H)       □ Hydric Soil Present?         ype:       Depth (inches):       □       □ Yes ⊠ No         temarks: No hydric soil indicator is present.       □ Surface Kall that apply)       Secondary Indicators (2 or more required)         □ Surface Water (A1)       □ Salt Crust (B11)       □ Surface Soil Cracks (B6)       □ prainage Patterns (B10)         □ Water Marks (B1)       □ Dry-Season Water Table (C2)       □ Oxidized Rhizospheres on Living Roots (C3)       □ Where on tilled)       □ Crayfish Burrows (C8)         □ Drift Deposits (B3)       □ Presence of Reduced Iron (C4)       □ Saturation Visible on Aerial Imagery (C9)       □ Saturation Visible on Aerial Imagery (C9)         □ Algal Mat or Crust (B4)       □ Presence of Reduced Iron (C4)       □ Saturation Visible on Aerial Imagery (C9)	Stratified	Layers (A5) (LRR F)	🗌 Loamy G	Gleyed Matrix (F2)		(LRR H outside of ML	RA 72 & 73)
Image: Second barry barry bary ba	🗌 1 cm Muo	ck (A9) ( <b>LRR F, G, H</b> )	Depleted	d Matrix (F3)			
Sandy Mucky Mineral (S1)       □ Redox Depressions (F8)       □ Other (Explain in Remarks)         2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       □ High Plains Depressions (F16)       ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         isestrictive Layer (if present):       pepth (inches):       □       Hydric Soil Present?         ype:        Depth (inches):       □       Yes ⊠ No         remarks: No hydric soil indicator is present.       Persent (inches):       □       Yes ⊠ No         // PROLOGY       // Yes ⊠ No       Secondary Indicators (2 or more required)         Surface Water (A1)       □ Salt Crust (B11)       □ Surface Soil Cracks (B6)         Image Patterns (B1)       □ Surface Soil Cracks (B6)       □ prainage Patterns (B10)         Saturation (A3)       □ Pry-Season Water Table (C2)       □ Adjuatic Invertebrates on Living Roots (C3)         Water Marks (B1)       □ Dry-Season Water Table (C2)       □ Adjuater Rhizospheres on Living Roots (C3)         Oxidized Rhizospheres on Living Roots (C3)       □ Adjuat Mack Guide Arizospheres on Living Roots (C3)         Infin Deposits (B3)       □ Presence of Reduced Iron (C4)       □ Saturation Visible on Aerial Imagery (C9)         Infor Deposits (B5)       □ Thin Muck Surface (C7)       □ Geomorphic Position (D2)	Depleted	Below Dark Surface (A1	1) 🗌 Redox D	ark Surface (F6)		—	'
2.5 cm Mucky Peat or Peat (S2) (LRR G, H)       High Plains Depressions (F16)       ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic         estrictive Layer (if present):       Depth (inches):       Hydric Soil Present?         ype:       Depth (inches):       Yes ⊠ No         remarks: No hydric soil indicator is present.       Hydric Soil Present?         // Yes ⊠ No       Yes ⊠ No         PCROLOGY       // Yes ⊠ No         // Vetland Hydrology Indicators:       secondary Indicators (2 or more required)         immary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)		. ,					· ,
5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)       wetland hydrology must be present, unless disturbed or problematic         testrictive Layer (if present):						Other (Explain in Reman	rks)
disturbed or problematic         disturbed or problematic         disturbed or problematic         disturbed or problematic         thydric Soil Present?         ype:       Depth (inches):            temarks: No hydric soil indicator is present.         //DROLOGY         //ettand Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Staturation (A3)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Orifit Deposits (B3)       Presence of Reduced Iron (C4)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)			• , = •		)		
ype:	☐ 5 cm Muo	cky Peat or Peat (S3) ( <b>Ll</b>	RR F) (MLRA	72 & 73 of LRR H)			present, unless
/DROLOGY         /etand Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         Surface Water (A1)       Aquatic Invertebrates (B13)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B3)       (where not tilled)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)	Restrictive	Layer (if present):				Hydric Soil Present?	
Image: Secondary Indicator is present.         Image: Secondary Indicators:         Image: Secondary Indicators:         Image: Secondary Indicators:         Surface Water (A1)         Surface Water (A1)         Surface Water (A1)         High Water Table (A2)         Aquatic Invertebrates (B13)         Saturation (A3)         Hydrogen Sulfide Odor (C1)         Water Marks (B1)         Dry-Season Water Table (C2)         Oxidized Rhizospheres on Living Roots (C3)         (where not tilled)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)	Туре:		Depth (inches):			🗌 Yes 🖾 No	
YDROLOGY         Vetland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Where not tilled)       Crayfish Burrows (C8)       Crayfish Burrows (C8)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)							
Vetland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)	Remarks: No	o hydric soil indicator is p	present.				
Vetland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)							
Vetland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)							
Vetland Hydrology Indicators:         rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)							
rimary Indicators (minimum of one required; check all that apply)       Secondary Indicators (2 or more required)         Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)	YDROLOG	<u>GY</u>					
Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)	Wetland Hy	drology Indicators:					
Surface Water (A1)       Salt Crust (B11)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)	Primary Indi	cators (minimum of one i	required: check all that ap	(vla		Secondary Indicators (2 or	more required)
High Water Table (A2)       Aquatic Invertebrates (B13)       Sparsely Vegetated Concave Surface (B         Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)		•				· · · · · · · · · · · · · · · · · · ·	· · · ·
Saturation (A3)       Hydrogen Sulfide Odor (C1)       Drainage Patterns (B10)         Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where not tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Thin Muck Surface (C7)       Geomorphic Position (D2)	_	( )				—	/
Water Marks (B1)       Dry-Season Water Table (C2)       Oxidized Rhizospheres on Living Roots (C3)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       (where not tilled)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)							
Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3) (where not tilled)       (where tilled)         Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)		. ,				_ 0 (	,
Drift Deposits (B3)       (where not tilled)       Crayfish Burrows (C8)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)			•	· · ,	Roots (C3)	—	(OC
Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9         Iron Deposits (B5)       Thin Muck Surface (C7)       Geomorphic Position (D2)		,	—		()	Crayfish Burrows (C8)	
Iron Deposits (B5)          Thin Muck Surface (C7)           Geomorphic Position (D2)	= '	( )	Presence o	f Reduced Iron (C4)		Saturation Visible on A	erial Imagery (C9)
I Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) FAC-Neutral Test (D5)	-						02)
	Inundatio	on Visible on Aerial Image	ery (B7) Dother (Expl	ain in Remarks)		—	

☐ Water-Stained Leaves (B9)	5 7 (	,		Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology ind	licators a	are not r	net.	

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018			
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	<u>Sam</u>	pling Point: SP-636			
Investigator(s): T. Beemer, W. Hirst	Sectio	on, Township, Range:	S6, T111N, R66\	N			
Landform (hillslope, terrace, etc.) swale	Local relief (con	cave, convex, none):	concave	Slope (%): 1 %			
Subregion (LRR): Northern Great Plains Spring Wheat R	Region Lat: 44.36	8141 Long:	-98.812193	Datum: NAD83			
Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: PEM1Cd							
Are climate/hydrologic conditions on the site typical for this ti	ime of year? 🛛 🛛 Yes	🗌 No 🛛 (lf no, e	explain in Remarks	.)			
Vegetation Soil Hydrolo Significantly Disturbed?	(If need	ormal Circumstances" ded, explain any answe	ers in Remarks.)	_			
SUMMARY OF FINDINGS – Attach site map showing	g sampling point loo	cations, transects,	Important featu	res, etc.			
Yes       No         Hydrophytic Vegetation Present?       □         Hydric Soil Present?       □         Wetland Hydrology Present?       □         In the Semicled Area within a Watland?       □	Remarks: Wetland	sample plot located in	PEM W-567.				
Is the Sampled Area within a Wetland?							

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
				(excluding FAC-): (A)
				Total Number of Dominant
4	%	= Total Cove		Species Across All Strata:(B)
	%	= Total Cove	ſ	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0/			are OBL, FACW, or FAC: (A/B)
1				
2				Prevalence Index Worksheet:
				Total % Cover of: Multiply by:
4 5				OBL species % x 1 = 0
J	0 %	= Total Cove		FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: 5')		- 10101 0010	1	FAC species% x 3 =
	00.9/	V		FACU species % x 4 = 0
1. <u>Spartina pectinata</u>		<u>     Y     </u>	FACW	UPL species % x 5 = 0
2				Column Totals: 0 % (A) 0 (B)
3				Prevalence Index = B/A =
4				
5				Hydrophytic Vegetation Indicators:
6 7				☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	0/			
	90 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				, , , , , , , , , , , , , , , , ,
2	<u>%</u> %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. P	hotograph C_8	6		

Depth	Matrix		F	Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	100				<u> </u>	Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	
Type: C=C	oncentration, D=Dep	letion RM:	=Reduced Matrix (	 CS=Cover	red or Coate	d Sand Grains	s <sup>2</sup> Location: PL=Pore	Lining M=Matrix
	Indicators: (Applic						Indicators for Problema	0
Black His Hydroger Stratified 1 cm Muc Depleted Thick Dar Sandy Mu	pedon (A2)	) - (A11)	. , _ 0	edox (S5) Matrix (S lucky Min ileyed Ma Matrix (F ark Surfa Dark Surfa epressior ins Depre	) 6) eral (F1) ttrix (F2) 53) ce (F6) tface (F7) hs (F8) ssions (F16)	)	<ul> <li>1 cm Muck (A9) (LRR</li> <li>Coast Prairie Redox (</li> <li>Dark Surface (S7) (LF</li> <li>High Plains Depression</li> <li>(LRR H outside of M</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (</li> <li>Very Shallow Dark Su</li> <li>Other (Explain in Rem</li> <li><sup>3</sup>Indicators of hydrophytic</li> </ul>	A16) (LRR F, G, H) RR G) ons (F16) <i>I</i> ILRA 72 & 73) TF2) urface (TF 12) narks) c vegetation and
	cky Peat or Peat (S3	) (LRR F)	(MLRA )	72 & 73 o	of LRR H)		wetland hydrology must l disturbed or problematic	present, unless
☐ 5 cm Mud Restrictive I Type:	cky Peat or Peat (S3 Layer (if present): ydric soil indicator F3	_ [	(MLRA )					pe present, unless
3 cm Muc	Layer (if present): /dric soil indicator F3	_ [					disturbed or problematic Hydric Soil Present?	pe present, unless
5 cm Muc      Restrictive      Type:      Remarks: Hy  YDROLOG	Layer (if present): /dric soil indicator F3	[					disturbed or problematic Hydric Soil Present?	pe present, unless
□       5 cm Mud         Restrictive I         Type:	Layer (if present): ydric soil indicator F3 ydric soil indicator F3 GY drology Indicators: cators (minimum of c Vater (A1) rer Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) t or Crust (B4)	E	Depth (inches): d; check all that app Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	oly) 311) ertebrates ulfide Od Water Ta izosphere ot tilled) F Reduced Surface (C	: (B13) or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	disturbed or problematic Hydric Soil Present?	or more required) B6) Concave Surface (B8 10) es on Living Roots (1 3) Aerial Imagery (C9) (D2) 5)

Wetland Hydrology Present?	$\boxtimes$			
Remarks: Wetland hydrology ind	icators	A1, A2, A3	, D2, and D5 ar	e met.

 $\boxtimes$ 

 $\boxtimes$ 

0

0

Water Table present?

(includes capillary fringe) Wetland Hydrology Present?

Saturation Present?

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/17/2018						
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-637	7					
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range:S6, T110N, R66W						
Landform (hillslope, terrace, etc.) toeslope	ocal relief (concave, convex, none): none Slope (%): 2 %	5					
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: <u>44.368079</u> Long: <u>-98.812289</u> Datum: NAD83						
Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: PEM1Cd							
Are climate/hydrologic conditions on the site typical for this time of year	ar? 🛛 Yes 🗌 No (If no, explain in Remarks.)						
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)						
Sommart OF Findings – Allach site map showing samp	ing point locations, transects, important leatures, etc.						
Yes       No       Rem         Hydrophytic Vegetation Present?       Image: Second Sec	narks: Upland sample plot adjacent to PEM W-567.						

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.		·		are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				
4				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. <u>Bromus inermis</u>	100 %	<u> </u>	UPL	FACU species $-\%$ x 4 = $-0$
2	%			UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6		·		
7		. <u> </u>	<u> </u>	☐ 1 Rapid Test for Hydrophytic Vegetation
8		·		☐ 2 Dominance Test is >50%
9		·		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cover		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
Woody Vine Stratum (Plot size: <u>30'</u> )	100 //			supporting data in Remarks or on a separate sheet)
1	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-87.			

		he dep	th needed to o			tor or confirm	the absence of indicators.)
Depth	Matrix				x Features	1	
(inches) Color (n	· · · · · · · · · · · · · · · · · · ·	<u>%</u>	Color (moist	:) 0	% Туре	e <sup>1</sup> Loc <sup>2</sup>	TextureRemarks
0-8 10YR		100					Clay Loam
<u>8-20</u> 10YR	3/3	100					Clay Loam
······································							
Type: C=Concentration						oated Sand Gr	-
lydric Soil Indicators:	(Applicable	e to all					Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)					d Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )
Histic Epipedon (A2)				dy Redox			Coast Prairie Redox (A16) ( <b>LRR F, G, H</b>
Black Histic (A3)			•	ped Matr	. ,		Dark Surface (S7) (LRR G)
Hydrogen Sulfide (A4	,				/ Mineral (F1	,	High Plains Depressions (F16)
Stratified Layers (A5)					d Matrix (F2)		(LRR H outside of MLRA 72 & 73)
1 cm Muck (A9) ( <b>LRR</b>			•	eted Mat	. ,		Reduced Vertic (F18)
Depleted Below Dark	•	1)			Surface (F6)		Red Parent Material (TF2) Vary Shallow Dark Surface (TE 12)
Thick Dark Surface (A	,		•		k Surface (F7	7)	Very Shallow Dark Surface (TF 12) Other (Explain in Remarks)
Sandy Mucky Mineral				•	ssions (F8)	= 1 0	
2.5 cm Mucky Peat o					epressions (		<sup>3</sup> Indicators of hydrophytic vegetation and
] 5 cm Mucky Peat or F	Peat (S3) (LF	RR F)	(ML	RA /2 &	73 of LRR H	1)	wetland hydrology must be present, unless disturbed or problematic
Restrictive Layer (if pre	esent):						Hydric Soil Present?
Гуре:		D	epth (inches):			_	🗋 Yes 🖾 No
YDROLOGY							
Vetland Hydrology Ind	icators:						
rimary Indicators (minin	num of one r	required	l; check all tha	<u>t apply)</u>			Secondary Indicators (2 or more required)
Surface Water (A1)			🗌 Salt Cru	ust (B11)			Surface Soil Cracks (B6)
] High Water Table (A2	2)		🗌 Aquatic	Inverteb	rates (B13)		Sparsely Vegetated Concave Surface (
Saturation (A3)					e Odor (C1)		Drainage Patterns (B10)
Water Marks (B1)			🗌 Dry-Sea	ason Wat	ter Table (C2	)	Oxidized Rhizospheres on Living Roots
Sediment Deposits (B	32)			d Rhizos	pheres on Liv	ving Roots (C3	
Drift Deposits (B3)			(whei	re not till	led)		Crayfish Burrows (C8)
☐ Algal Mat or Crust (B₄	4)				luced Iron (C	4)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)			🗌 Thin Mu	ick Surfa	ce (C7)		Geomorphic Position (D2)
Inundation Visible on	Aerial Image	ery (B7)	) 🗌 Other (E	Explain in	n Remarks)		FAC-Neutral Test (D5)
Water-Stained Leave	s (B9)						Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Ye	es l	Depth No (inches				stream gauge, monitoring well, aerial photos, previ
Surface Water proport?	_	_		- /	inspections,	etc.), if availat	л <del>с</del> .
Surface Water present?			×				
Water Table present?			⊠				
Saturation Present?	, C		X				
includes capillary fringe)			-				
Wetland Hydrology Pre	esent?		$\boxtimes$				

Remarks: Wetland hydrology indicators are not met.

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/17/2018						
Applicant/Owner:Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-638						
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S6, T110N, R66W						
Landform (hillslope, terrace, etc.)swale	Local relief (concave, convex, none): concave Slope (%): 2 %						
Subregion (LRR): Northern Great Plains Spring Wheat Regio	n Lat: 44.363958 Long: -98.812295 Datum: NAD83						
Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA							
Are climate/hydrologic conditions on the site typical for this time of year? Xes INO (If no, explain in Remarks.)							
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)						
SUMMART OF FINDINGS – Allach sile map showing sa	mpling point locations, transects, important features, etc.						
YesNoHydrophytic Vegetation Present?IHydric Soil Present?IWetland Hydrology Present?IIs the Sampled Area within a Wetland?I	Remarks: Wetland sample plot located in PEM W-568.						

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
				(excluding FAC-):1 (A)
3	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: 15')	0 70			Percent of Dominant Species that
Sapling/Shrub Stratum         (Plot size: <u>15'</u> )           1.	%			are OBL, FACW, or FAC: 100% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species % x 1 = 0
·	0 %	= Total Cover		FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
(, , , , , , , , , , , , , , , , , , ,	85 %	Y	FAC	FACU species % x 4 = 0
-				UPL species % x 5 = 0
2		·		Column Totals: <u>0</u> % (A) <u>0</u> (B)
3				Prevalence Index = B/A =
4 5				
6				Hydrophytic Vegetation Indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8	%			⊠ 2 Dominance Test is >50%
9	%			 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			
	85 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>	<u> </u>		
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0%	= Total Cover	•	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>15</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-88.				•

Profile Desci	ription: (Describe	to the de	epth ne	eded to docu	iment th	e indicator o	or confirm the	e absence of indicators.)	
Depth	Matrix			R	edox Fe	atures			
(inches)	Color (moist)	%	Co	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	100				<u> </u>		Clay Loam	
8-20	10YR 5/2	95	1	10YR 4/6	5	C	M	Clay Loam	
17 0.0						<u> </u>		2	
	ncentration, D=Dep			,			Sand Grains		0.
Hydric Soil I	ndicators: (Applic	able to a	II LRR	s, unless oth	erwise n	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A	A1)			🗌 Sandy G	leyed Ma	ıtrix (S4)		🗌 1 cm Muck (A9) ( <b>LRI</b>	R I, J)
Histic Epip	oedon (A2)			Sandy Re	edox (S5	)		Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
🔲 Black Histi	ic (A3)			Stripped	Matrix (S	6)		🗌 Dark Surface (S7) (L	RR G)
Hydrogen	. ,			🗌 Loamy M	lucky Mir	neral (F1)		High Plains Depression	ons (F16)
Stratified L	ayers (A5) (LRR F	<sup>(</sup> )		🗌 Loamy G	leyed Ma	atrix (F2)		(LRR H outside of	
🗌 1 cm Mucł	< (A9) ( <b>LRR F, G, H</b>	<b>i</b> )		Depleted	Matrix (F	=3)		Reduced Vertic (F18	,
Depleted E	Below Dark Surface	e (A11)		🗌 Redox Da	ark Surfa	ice (F6)		Red Parent Material	
Thick Dark	c Surface (A12)			Depleted	Dark Su	rface (F7)		Very Shallow Dark S	. ,
Sandy Mu	cky Mineral (S1)			Redox De	epressio	ns (F8)		Other (Explain in Rer	marks)
🗌 2.5 cm Mu	icky Peat or Peat (S	S2) ( <b>LRR</b>	<b>G</b> , <b>H</b> )	🗌 High Plai	ns Depre	essions (F16)		<sup>3</sup> Indicators of hydrophyti	c vegetation and
🗌 5 cm Mucł	ky Peat or Peat (S3	6) (LRR F)	)	(MLRA 7	72 & 73 c	of LRR H)		wetland hydrology must disturbed or problematic	
Restrictive L	ayer (if present):							Hydric Soil Present?	
Type:			Depth	(inches):				Yes 🗌 No	
		_		(					
Remarks: Hyd	dric soil indicator F3	3 is met.							
HYDROLOG	Y								
Wetland Hyd	rology Indicators:	:							
Primary Indica	<u>ators (minimum of c</u>	one requir	ed; che	eck all that app	oly)			Secondary Indicators (2	or more required)
🗌 Surface W	/ater (A1)			] Salt Crust (E	311)			Surface Soil Cracks	(B6)
☐ High Wate	· · ·		_	_ Aquatic Inve	,	s (B13)		Sparsely Vegetated	· · /
Saturation				 ] Hydrogen S		. ,		Drainage Patterns (I	. ,
 □ Water Mar	( )		Ē	] Dry-Season	Water T	able (C2)		_ 0 (	res on Living Roots (C3)
 ☐ Sediment	Deposits (B2)			Oxidized Rh		. ,	Roots (C3)	(where tilled)	0 ( )
Drift Depo			_	(where no		0	( )	Crayfish Burrows (C	8)
Algal Mat	. ,		C	Presence of	Reduce	d Iron (C4)		Saturation Visible or	n Aerial Imagery (C9)
Iron Depos				Thin Muck S	Surface (0	C7)		🛛 Geomorphic Positio	ו (D2)
· ·	Visible on Aerial Ir	magery (B	37) C	] Other (Expla	ain in Rei	marks)		FAC-Neutral Test (D)	95)
	ined Leaves (B9)	5 7 (	,					Frost-Heave Humme	ocks (D7) <b>(LRR F)</b>
	( <i>'</i>			Denth	Dee				
Field Observ	ations:	Yes	No	Depth (inches)				am gauge, monitoring well,	aerial photos, previous
Oumf		_	_	(	insp	pections, etc.)	, ii avallable:		
Surface Wate	r present?		$\bowtie$						
Water Table p			$\boxtimes$	-					
Saturation Pre			$\boxtimes$						
(includes cap	illary fringe)								
Wetland Hyd	rology Present?	$\boxtimes$							

Remarks: Wetland hydrology indicators B10 and D2 are met.

Project/Site: Sweetland Wind Project C	ity/County: <u>Hand County</u> Sampling Date: <u>10/17/2018</u>						
Applicant/Owner: Sweetland Wind Farm, LLC	State: <u>SD</u> Sampling Point: <u>SP-639</u>						
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: <u>S6, T110N, R66W</u>						
Landform (hillslope, terrace, etc.) toeslope	cal relief (concave, convex, none): none Slope (%): 5 %						
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.363883 Long: -98.812218 Datum: NAD83						
Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA							
Are climate/hydrologic conditions on the site typical for this time of year	? 🛛 Yes 🗌 No (If no, explain in Remarks.)						
Vegetation     Soil     Hydrology       Significantly Disturbed?     Image: Constraint of the manual state of the manual	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)						
SUMMARY OF FINDINGS – Attach site map showing samplin	ng point locations, transects, important features, etc.						
Yes       No       Remain of the sector of the sect	rks: Upland sample plot adjacent to PEM W-568.						

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-): 0 (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15')		- 10101 00701		Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species% x 4 =0
2	<u> </u>	<u> </u>		UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				Hydrophytic vegetation indicators.
7				1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	<u>   100 %</u>	= Total Cove		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%	. <u> </u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	ph C-89.			

		to the deptr				or confirm the	absence of indicators.)				
Depth	Matrix			edox Fea	tures						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-8	10YR 3/2	100					Clay Loam				
8-20	10YR 3/3	100					Clay Loam				
		·									
		·									
		·									
		·									
<sup>1</sup> Type: C=Co	oncentration, D=Dep	oletion, RM=F	Reduced Matrix, C	S=Cover	ed or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix			
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless othe	rwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :			
Histosol (/	A1)		🗌 Sandy Gle	eved Mat	rix (S4)		1 cm Muck (A9) ( <b>LR</b>	R I, J)			
Histic Epi	,		☐ Sandy Re	-			Coast Prairie Redox				
Black Hist			Stripped N				Dark Surface (S7) (L				
☐ Hydrogen	· · ·		Loamy Mu	•	,		High Plains Depress	,			
	Layers (A5) ( <b>LRR F</b>	.)	Loamy Gl	•	. ,		(LRR H outside of				
	k (A9) ( <b>LRR F, G, F</b>		Depleted				Reduced Vertic (F18	•			
	Below Dark Surface	-	Redox Da		,		Red Parent Material				
	k Surface (A12)	· (****)	Depleted		• •		Very Shallow Dark S	. ,			
	icky Mineral (S1)		Redox De		. ,		Other (Explain in Re	. ,			
-	ucky Peat or Peat (			•	. ,		_ 、 .	,			
	-		(MLRA 7	•	• • •		<sup>3</sup> Indicators of hydrophyt				
	ky Peat or Peat (S3	)( <b>LKK F</b> )		20130			wetland hydrology must disturbed or problemation				
							-	,			
Restrictive L	.ayer (if present):						Hydric Soil Present?				
Туре:		De	pth (inches):				🗌 Yes 🛛 No				
HYDROLOG	Y										
Wetland Hyd	Irology Indicators	:									
Primary Indic	ators (minimum of o	one required;	check all that app	l <u>y)</u>			Secondary Indicators (2	2 or more required)			
Surface W	/ater (A1)		Salt Crust (B	11)			Surface Soil Cracks	(B6)			
	( )		—	,	(B13)		Sparsely Vegetated	( )			
Saturation	. ,				☐ High Water Table (A2)       ☐ Aquatic Invertebrates (B13)         ☐ Saturation (A3)       ☐ Hydrogen Sulfide Odor (C1)						
U Water Ma	( )						Drainage Patterns (	B10)			
			Drv-Season	Water Ta	( )		_ 0 (	,			
			Dry-Season		ble (C2)	Roots (C3)	_ 0 (	B10) res on Living Roots (C3)			
Sediment	Deposits (B2)		Oxidized Rhi	zosphere	ble (C2)	Roots (C3)	Oxidized Rhizosphe	res on Living Roots (C3)			
Sediment Drift Depc	Deposits (B2) osits (B3)		•	zosphere t tilled)	ble (C2) es on Living	Roots (C3)	Oxidized Rhizosphe (where tilled)	res on Living Roots (C3) 8)			
☐ Sediment ☐ Drift Depc ☐ Algal Mat	Deposits (B2) osits (B3) or Crust (B4)		Oxidized Rhi (where not Presence of	zosphere <b>t tilled)</b> Reduced	ble (C2) s on Living Iron (C4)	Roots (C3)	Oxidized Rhizosphe (where tilled) Crayfish Burrows (C Saturation Visible or	res on Living Roots (C3) 8) n Aerial Imagery (C9)			
☐ Sediment ☐ Drift Depo ☐ Algal Mat ☐ Iron Depo	Deposits (B2) osits (B3) or Crust (B4) sits (B5)	magery (B7)	Oxidized Rhi	zosphere <b>t tilled)</b> Reduced urface (C	ble (C2) s on Living Iron (C4) 7)	Roots (C3)	Oxidized Rhizosphe (where tilled)	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2)			
Sediment  Drift Depc  Algal Mat  Iron Depo Inundation	Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Ir	magery (B7)	Oxidized Rhi (where no Presence of Thin Muck Su	zosphere <b>t tilled)</b> Reduced urface (C	ble (C2) s on Living Iron (C4) 7)	Roots (C3)	Oxidized Rhizosphe (where tilled)     Crayfish Burrows (C     Saturation Visible of     Geomorphic Positio     FAC-Neutral Test (E	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 95)			
Sediment  Drift Depc Algal Mat Iron Depo Inundation Water-Sta	Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In nined Leaves (B9)	magery (B7)	Oxidized Rhi. (where no Presence of Thin Muck Su Other (Explai	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks)		<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment  Drift Depc  Algal Mat  Iron Depo Inundation	Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In nined Leaves (B9)	magery (B7) Yes N	Oxidized Rhi. (where no Presence of Thin Muck St Other (Explai	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record		Oxidized Rhizosphe (where tilled)     Crayfish Burrows (C     Saturation Visible of     Geomorphic Positio     FAC-Neutral Test (E	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment  Drift Depc Algal Mat Iron Depo Inundation Water-Sta	Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial In nined Leaves (B9) <b>/ations:</b>		Oxidized Rhi. (where noi Presence of Thin Muck Si Other (Explai Depth o (inches)	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record	ed Data (strear	<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment  Drift Depc Algal Mat Iron Depo Inundation Water-Sta  Field Observ Surface Wate	Deposits (B2) osits (B3) or Crust (B4) sits (B5) or Visible on Aerial In ined Leaves (B9) vations: er present?	Yes N	Oxidized Rhi (where no Presence of Thin Muck Su Other (Explain Depth (inches)	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record	ed Data (strear	<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment  Drift Depc Algal Mat Iron Depc Inundation Water-Sta  Field Observ Surface Wate Water Table	Deposits (B2) psits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ined Leaves (B9) vations: er present?	Yes N	Oxidized Rhi (where no Presence of Thin Muck St Other (Explai	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record	ed Data (strear	<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment  Drift Depc Algal Mat Iron Depc Inundation Water-Sta Field Observ Surface Wate Vater Table Saturation Pr	Deposits (B2) or Crust (B4) sits (B5) or Visible on Aerial In ined Leaves (B9) vations: er present? present? esent?	Yes N	Oxidized Rhi (where no Presence of Thin Muck St Other (Explai	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record	ed Data (strear	<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment  Drift Depc  Algal Mat  Iron Depc  Inundation Water-Sta  Field Obsern Surface Wate Water Table Saturation Pr (includes cap	Deposits (B2) osits (B3) or Crust (B4) sits (B5) or Visible on Aerial In ained Leaves (B9) vations: er present? present? resent? iillary fringe)	Yes N	Oxidized Rhi. (where no Presence of Thin Muck Su Other (Explain Depth (inches)	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record	ed Data (strear	<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			
Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Wate Water Table Saturation Pr (includes cap Wetland Hyd	Deposits (B2) or Crust (B4) sits (B5) or Visible on Aerial In ined Leaves (B9) vations: er present? present? esent?	Yes N	Oxidized Rhi (where no Presence of Thin Muck Su Other (Explain Depth (inches)	zosphere t tilled) Reduced urface (C in in Rem	ble (C2) es on Living Iron (C4) 7) narks) cribe Record	ed Data (strear	<ul> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible of Geomorphic Positio</li> <li>FAC-Neutral Test (C</li> <li>Frost-Heave Humm</li> </ul>	res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>			

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SE	) Sam	oling Point: SP-640
Investigator(s): T. Beemer, W. Hirst	Section	, Township, Range:	S6, T110N, R66V	V
Landform (hillslope, terrace, etc.) swale	Local relief (conc	ave, convex, none):	concave	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	n Lat: 44.362	386 Long:	-98.812630	Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	f year? 🛛 🛛 Yes	□ No (If no, e	xplain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If neede	rmal Circumstances"   ed, explain any answe ations, transects, i	ers in Remarks.)	_
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Wetland s	ample plot located in	PEM W-569.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): (A)
3.				(excluding FAC-): (A)
4.	%			Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				
3				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
1. <u>Spartina pectinata</u>	80 %	<u> </u>	FACW	FACU species $\%$ x 4 = 0
2	%			UPL species $\%$ x 5 = $0$ Column Totals: 0% (A) 0 (B)
3				
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	<u>%</u>	<u> </u>		
7	%	<u> </u>		☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	80 %	= Total Cove	ſ	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	24			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			, , , , , , , , , , , , , , , , , , ,
2	<u>%</u> 0 %	= Total Cove		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>20</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-90	).		
	5 1 1			

		to the dep				or confirm th	e absence of indicators.)	
Depth (inches)	Matrix	0/	-	Redox Fe		1 2	Tautuma	Demento
	Color (moist) 10YR 3/2	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Clay Loam	Remarks
<u>0-8</u> 8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	
0-20	10111 3/2		1011( 4/0					
						<u> </u>		
<sup>1</sup> Type: C=Con	centration, D=Dep	pletion, RM	=Reduced Matrix, (	CS=Cove	red or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil In	dicators: (Applic	able to all	LRRs, unless oth	erwise n	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (A	1)		🗌 Sandy G	ileved Ma	trix (S4)		☐ 1 cm Muck (A9) ( <b>LRI</b>	<b>ξΙ. J</b> )
Histic Epipe	,		☐ Sandy R	-			Coast Prairie Redox	
 □ Black Histic			Stripped	•	,		Dark Surface (S7) (L	
 Hydrogen S	. ,		Loamy N	•	,		High Plains Depressi	,
	ayers (A5) ( <b>LRR F</b>	)	Loamy G	•	• •		(ĽRR H outside of	
	(A9) (LRR F, G, H		Depleted	-			Reduced Vertic (F18	)
	elow Dark Surface		☐ Redox D		,		Red Parent Material	(TF2)
	Surface (A12)	. /	Depleted		. ,		Very Shallow Dark S	urface (TF 12)
Sandy Muc	ky Mineral (S1)		Redox D		• • •		Other (Explain in Rer	marks)
-	ky Peat or Peat (S	62) ( <b>LRR G</b>	i <b>, H</b> ) 🗌 High Pla	ins Depre	essions (F16)	)	<sup>3</sup> Indicators of hydrophyti	c vegetation and
☐ 5 cm Mucky	y Peat or Peat (S3	) (LRR F)	(MLRA	72 & 73 c	of LRR H)		wetland hydrology must disturbed or problematic	be present, unless
Restrictive La	yer (if present):						Hydric Soil Present?	
Гуре:			Depth (inches):				🖾 Yes 🔲 No	
Remarks: Hydi	ric soil indicator F3	3 is met.						
YDROLOGY								
	ology Indicators:							
Primary Indica	<u>tors (minimum of c</u>	one require	d; check all that ap	<u>ply)</u>			Secondary Indicators (2	or more required)
Surface Wa	ater (A1)		🗌 Salt Crust (	B11)			Surface Soil Cracks	(B6)
High Water	Table (A2)		Aquatic Inv	ertebrates	s (B13)		Sparsely Vegetated	Concave Surface (B8)
Saturation (	(A3)		Hydrogen S	Sulfide Od	lor (C1)		Drainage Patterns (B	
Water Mark	(B1)		Dry-Seasor	Water Ta	able (C2)		Oxidized Rhizosphe	res on Living Roots (C3
Sediment D	Deposits (B2)		Oxidized R		es on Living	Roots (C3)	(where tilled)	
Drift Depos	its (B3)		(where n				Crayfish Burrows (C	
☐ Algal Mat o	r Crust (B4)		Presence o		· · ·		Saturation Visible or	0,0,0
Iron Deposi			Thin Muck				Geomorphic Position	
	Visible on Aerial Ir	nagery (B7	) Dother (Expl	ain in Rer	marks)		FAC-Neutral Test (D	,
Water-Stair	ned Leaves (B9)						Frost-Heave Hummo	ocks (D7) <b>(LRR F)</b>
Field Observa	ations:	Yes	Depth No (inches)			ded Data (stre ), if available:	am gauge, monitoring well,	aerial photos, previous
Surface Water	present?		$\boxtimes$					
Water Table p	•		⊠	-				
Saturation Pre			⊠	-				
(includes capill			<u> </u>	-				
	ology Present?	$\boxtimes$						
		لالع						

Remarks: Wetland hydrology indicators D2 and D5 are met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: <u>10/17/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SD	Sampling Point: SP-641
Investigator(s): T. Beemer, W. Hirst	Section	on, Township, Range:	S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none Slope (%): _4 %
Subregion (LRR): Northern Great Plains Spring Wheat F	Region Lat: 44.36	2503 Long:	-98.812687 Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling		N	NI Classification: NA
Are climate/hydrologic conditions on the site typical for this ti	ime of year? 🛛 🛛 Yes	No (If no, ex	xplain in Remarks.)
Vegetation Soil Hydrolo Significantly Disturbed?	(If nee	lormal Circumstances" f ded, explain any answe cations, transects, i	rs in Remarks.)
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Upland	sample plot adjacent to	PEM W-569.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	<u>%</u>			(excluding FAC-): 0 (A)
	%			Total Number of Dominant
4	0 %	= Total Cove	 r	Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15')		- 10101 0010	I	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4	%			Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species % x 1 = 0
·	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species% x 4 =0
2	<u>     100 %</u>	<u> </u>		UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			Hydrophytic vegetation indicators.
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			
	100 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograph	n C-91.			

Profile Desci	ription: (Describe	to the dept	h needed to doo	ument the	e indicator o	or confirm the	absence of indicators.)		
Depth (inches)	Matrix			Redox Fea			<b>-</b> .		
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-8 8-20	10YR 3/2 10YR 3/3	<u>    100                               </u>					Clay Loam Clay Loam		
0-20									
				<u></u>					
<sup>1</sup> Type: C=Co	ncentration, D=Dep	oletion, RM=	Reduced Matrix,	CS=Cover	ed or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
Hydric Soil I	ndicators: (Applic	able to all L	RRs, unless otl	nerwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
Histosol (A	<b>\</b> 1)		🗌 Sandy (	Sleyed Mat	trix (S4)		🗌 1 cm Muck (A9) ( <b>LRI</b>	R I, J)	
Histic Epip	oedon (A2)		🗌 Sandy F	Redox (S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )	
Black Hist	ic (A3)		Stripped	d Matrix (S	6)		🗌 Dark Surface (S7) (L	RR G)	
Hydrogen	· /		🗌 Loamy I	•	. ,		High Plains Depressi		
	_ayers (A5) ( <b>LRR F</b>	,	Loamy 🗌	-			(LRR H outside of	•	
	k (A9) ( <b>LRR F, G, F</b>	-	Deplete		,		Reduced Vertic (F18	,	
•	Below Dark Surface	e (A11)	Redox [		· · /		Red Parent Material	. ,	
	surface (A12)		Deplete		. ,		☐ Very Shallow Dark S ☐ Other (Explain in Rer		
•	cky Mineral (S1)			•	. ,			,	
	icky Peat or Peat (S ky Peat or Peat (S3			ains Depre 72 & 73 o	ssions (F16) <b>f LRR H)</b>		<sup>3</sup> Indicators of hydrophyti wetland hydrology must disturbed or problematic	be present, unless	
Restrictive L	ayer (if present):						Hydric Soil Present?		
Туре:		D	epth (inches):				🗆 Yes 🖾 No		
Remarks: No	hydric soil indicato	r is present.							
IYDROLOG	Y								
Wetland Hyd	rology Indicators:	:							
Primary Indic	ators (minimum of o	one required	; check all that ap	oply)			Secondary Indicators (2	or more required)	
Surface W	( )		Salt Crust	· /			Surface Soil Cracks	· · /	
-	er Table (A2)		🗌 Aquatic Inv		. ,		Sparsely Vegetated		
Saturation	( )		Hydrogen S		· · /		Drainage Patterns (	,	
U Water Mar	( )		Dry-Seaso		. ,		Oxidized Rhizosphe	res on Living Roots (C3	
	Deposits (B2)				es on Living I	Roots (C3)	(where tilled)	0)	
Drift Depo	( )		(wnere r	ot tilled)	Uron (CA)		Crayfish Burrows (C		
☐ Algal Mat			Thin Muck		· · ·		Saturation Visible or Geomorphic Position	••••	
Iron Depos	· · /		Other (Exp				FAC-Neutral Test (D	· · /	
	n Visible on Aerial Ir ined Leaves (B9)	nagery (B7)					Frost-Heave Humme	,	
_	( )								
Field Observ	ations:	Yes N	Depth lo (inches)			ed Data (strea , if available:	m gauge, monitoring well,	aerial photos, previous	
Surface Wate	er present?		3						

Water Table present?

(includes capillary fringe)
Wetland Hydrology Present?

Saturation Present?

Remarks: Wetland hydrology indicators are not met.

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Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-642
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range:S6, T110N, R66W
Landform (hillslope, terrace, etc.)pothole	Local relief (concave, convex, none): Slope (%):%
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat:44.358548 Long:98.812210 Datum:NAD83
Soil Map Unit Name:Tetonka silt loam, 0 to 1 percent slopes	NWI Classification: PAB/EM1F
Are climate/hydrologic conditions on the site typical for this time of ye	ear? 🛛 Yes 🗌 No 🛛 (If no, explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present?  Ves  D No (If needed, explain any answers in Remarks.) Dling point locations, transects, important features, etc.
Yes       No       Re         Hydrophytic Vegetation Present?       Image: Constraint of the sent of t	marks: Wetland sample plot located in PEM W-570.

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	<u>%</u>			are OBL, FACW, or FAC
				(excluding FAC-): (A)
3				Total Number of Dominant
4	<u>%</u>	Tabal O		Species Across All Strata: (B)
	0 %	= Total Cove	r	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC:(A/B)
1 2.				
2 3				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of: Multiply by:
5.	<u>%</u>			OBL species % x 1 = 0
· · · · · · · · · · · · · · · · · · ·	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Typha latifolia</u>	60 %	Y	OBL	FACU species % x 4 = 0
	40 %	<u> </u>	FACW	UPL species% x 5 =
	<u>40 %</u>		1701	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3	<u>%</u>			Prevalence Index = B/A =
4 5				
6				Hydrophytic Vegetation Indicators:
7	0/			☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	<u>   100 %</u>	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cove		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-92	2.		
······································	J J 0			

(inches)	Matrix		F	ledox Fea	tures				
(incres)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-2	10YR 2/1	100					Clay Loam		
2-20	10YR 6/1	80	10YR 4/1	10		<u> </u>	Clay Loam		
		·	10YR 4/6	10	C	M			
		·							
		·				· ·	· · · · · · · · · · · · · · · · · · ·		
		·							
Tvpe: C=C	oncentration, D=Dep	oletion. RM=I	Reduced Matrix. C	 S=Cover	ed or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore	Lining. M=Matrix	
	Indicators: (Applic					-	Indicators for Problema	0	
Histosol			Sandy G				1 cm Muck (A9) ( <b>LRR</b>	-	
	ipedon (A2)		Sandy C	,	· · /		Coast Prairie Redox (A)		
Black His			Stripped				Dark Surface (S7) (LF		
	n Sulfide (A4)		Loamy M	•	,		High Plains Depression	<i>'</i>	
	Layers (A5) ( <b>LRR F</b>	;)	Loamy G	-			(LRR H outside of N		
	ck (A9) (LRR F, G, H	,	Depleted	-			Reduced Vertic (F18)		
Depleted Below Dark Surface (A11)								,	
Thick Dark Surface (A12)     Depleted Dark Surface (F7)     Very Shallow Dark Surface (TF 12)								( )	
□ Sandy Mucky Mineral (S1) □ Redox Depressions (F8) □ Other (Explain in Remarks)								iarks)	
	lucky Peat or Peat (	, ,	, _ •	•	· · ·		<sup>3</sup> Indicators of hydrophytic		
🗌 5 cm Mu	cky Peat or Peat (S3	8) ( <b>LRR F</b> )	(MLRA 7	72 & 73 o	f LRR H)		wetland hydrology must b disturbed or problematic	pe present, unless	
Restrictive	Layer (if present):						Hydric Soil Present?		
Туре:		De	epth (inches):				🛛 Yes 🔲 No		
Domostra, U	ydric soil indicator F	3 is met.							
Remarks: H	5								
Remarks: H									
Remarks: H									
remarks: H									
YDROLOG	-								
YDROLOC Wetland Hy	drology Indicators								
YDROLOC Wetland Hy Primary Indi	drology Indicators						Secondary Indicators (2	· · ·	
YDROLOC Wetland Hy Primary Indi ⊠ Surface \	<b>drology Indicators</b> cators (minimum of o Water (A1)		Salt Crust (E	311)			Surface Soil Cracks (	B6)	
WDROLOC Wetland Hy Primary Indi ⊠ Surface \ ⊠ High Wat	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2)		Salt Crust (E	311) ertebrates			Surface Soil Cracks (	B6) Concave Surface (B8)	
YDROLOG Wetland Hy Primary Indi ⊠ Surface \ ⊠ High Wat ⊠ Saturatio	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) m (A3)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S	311) ertebrates ulfide Odo	or (C1)		☐ Surface Soil Cracks ( ☐ Sparsely Vegetated C ☐ Drainage Patterns (B	B6) Concave Surface (B8) 10)	
YDROLOG Wetland Hy Primary Indi ⊠ Surface \ ⊠ High Wat ⊠ Saturatio □ Water Ma	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season	311) ertebrates ulfide Odo Water Ta	or (C1) ble (C2)		☐ Surface Soil Cracks ( ☐ Sparsely Vegetated C ☐ Drainage Patterns (B ☐ Oxidized Rhizosphere	B6) Concave Surface (B8) 10)	
YDROLOG Wetland Hy Primary Indi ⊠ Surface \ ⊠ High Wat ⊠ Saturatio □ Water Ma □ Sedimen	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh	311) ertebrates ulfide Odo Water Ta izosphere	or (C1) ble (C2)	Roots (C3)	☐ Surface Soil Cracks ( ☐ Sparsely Vegetated C ☐ Drainage Patterns (B ☐ Oxidized Rhizosphere (where tilled)	B6) Concave Surface (B8) 10) es on Living Roots (C	
YDROLOG Wetland Hy Primary Indi ⊠ Surface \ ⊠ High Wat ⊠ Saturatio □ Water Mat □ Sedimen □ Drift Dep	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no	311) ertebrates ulfide Odo Water Ta izosphere ot tilled)	or (C1) ble (C2) es on Living	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>	B6) Concave Surface (B8 10) es on Living Roots (C	
YDROLOC Wetland Hy Primary Indii ⊠ Surface \ ⊠ Surface \ ⊠ Saturatio □ Water Ma □ Sedimen □ Drift Dep □ Algal Ma	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)		☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced	br (C1) ble (C2) es on Living Iron (C4)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> </ul>	B6) Concave Surface (B8) 10) es on Living Roots (C ) Aerial Imagery (C9)	
YDROLOC Wetland Hy Primary Indii ⊠ Surface \ ⊠ Surface \ ⊠ Saturatio □ Water Ma □ Sedimen □ Drift Dep □ Algal Ma □ Iron Dep	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5)	one required;	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of ☐ Thin Muck S	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Gurface (C	br (C1) ble (C2) es on Living Iron (C4) 7)	Roots (C3)	□ Surface Soil Cracks (         □ Sparsely Vegetated C         □ Drainage Patterns (B         □ Oxidized Rhizosphere         (where tilled)         □ Crayfish Burrows (C8         □ Saturation Visible on         ⊠ Geomorphic Position	B6) Concave Surface (B8 10) es on Living Roots (C ) Aerial Imagery (C9) (D2)	
YDROLOG Wetland Hy Primary Indi Surface N Surface N Saturatio Saturatio Saturatio Saturatio Drift Dep Algal Ma Iron Dep Inundatio	rdrology Indicators cators (minimum of o Water (A1) ter Table (A2) on (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4)	one required;	☐ Salt Crust (E ☐ Aquatic Inve ☐ Hydrogen S ☐ Dry-Season ☐ Oxidized Rh (where no ☐ Presence of	B11) ertebrates ulfide Odd Water Ta izosphere ot tilled) Reduced Gurface (C	br (C1) ble (C2) es on Living Iron (C4) 7)	Roots (C3)	<ul> <li>Surface Soil Cracks (</li> <li>Sparsely Vegetated C</li> <li>Drainage Patterns (B</li> <li>Oxidized Rhizosphere (where tilled)</li> <li>Crayfish Burrows (C8</li> <li>Saturation Visible on</li> </ul>	B6) Concave Surface (B8 10) es on Living Roots (C ) Aerial Imagery (C9) (D2) 5)	

inspections, etc.), if available:

Surface Water present?

(includes capillary fringe)

Wetland Hydrology Present?

Water Table present?

Saturation Present?

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

 $\boxtimes$ 

Remarks: Wetland hydrology indicators A1, A2, A3, D2, and D5 are met.

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Project/Site: Sweetland Wind Project	City/County:	Hand County	Samplin	g Date: <u>10/17/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC		State: SD	San	npling Point: <u>SP-643</u>
Investigator(s): T. Beemer, W. Hirst	Sectio	on, Township, Range:	S6, T110N, R66	W
Landform (hillslope, terrace, etc.) toeslope	Local relief (cor	ncave, convex, none):	none	Slope (%): 4 %
Subregion (LRR): Northern Great Plains Spring Wheat Reg	gion Lat: 44.3	8708 Long:	-98.812227	Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating		NV	VI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time	e of year? 🛛 🛛 Yes	□ No (If no, e>	plain in Remarks	s.)
Vegetation         Soil         Hydrolog           Significantly Disturbed?         Image: Constraint of the second	(If nee	ormal Circumstances" r ded, explain any answer cations, transects, i	rs in Remarks.)	_
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Upland	sample plot adjacent to	PEM W-570.	

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.	0/			are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				
4	%			Total Number of DominantSpecies Across All Strata:1 (B)
	0 %	= Total Cove	r	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			
2			. <u> </u>	Prevalence Index Worksheet:
3.	0/		. <u> </u>	Total % Cover of:Multiply by:
4 5.				OBL species         %         x1 =         0
5	%	= Total Cove		FACW species $ \%$ $x 2 = 0$
Herb Stratum (Plot size: 5')	0 78			FAC species $\% \times 3 = 0$
· • · ·	100 %	Y	UPL	FACU species % x 4 = 0
				UPL species % x 5 = 0
				Column Totals: <u>0</u> % (A) <u>0</u> (B)
3				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	0/			
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10			. <u> </u>	4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	r	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?  Yes  No
Remarks: Hydrophytic vegetation is not present. Photogr	aph C-93.			

	• • •	n needed to document the indicator or conf	irm the absence of indicators.)
Depth (inches)	Matrix	Redox Features           Color (moist)         %         Type <sup>1</sup> Loc	2 Toxturo Domonico
0-8	<u>Color (moist)</u> % 10YR 3/2 100		
8-20	10YR 3/3 100		Clav Loom
0-20			
1			
	·	Reduced Matrix, CS=Covered or Coated Sand	
Hydric Soil	Indicators: (Applicable to all L	RRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :
<ul> <li>Stratified</li> <li>1 cm Mud</li> <li>Depleted</li> <li>Thick Dat</li> <li>Sandy Mud</li> <li>2.5 cm Mud</li> </ul>	ipedon (A2)	<ul> <li>Sandy Gleyed Matrix (S4)</li> <li>Sandy Redox (S5)</li> <li>Stripped Matrix (S6)</li> <li>Loamy Mucky Mineral (F1)</li> <li>Loamy Gleyed Matrix (F2)</li> <li>Depleted Matrix (F3)</li> <li>Redox Dark Surface (F6)</li> <li>Depleted Dark Surface (F7)</li> <li>Redox Depressions (F8)</li> <li>H)</li> <li>High Plains Depressions (F16) (MLRA 72 &amp; 73 of LRR H)</li> </ul>	<ul> <li>1 cm Muck (A9) (LRR I, J)</li> <li>Coast Prairie Redox (A16) (LRR F, G, H)</li> <li>Dark Surface (S7) (LRR G)</li> <li>High Plains Depressions (F16) (LRR H outside of MLRA 72 &amp; 73)</li> <li>Reduced Vertic (F18)</li> <li>Red Parent Material (TF2)</li> <li>Very Shallow Dark Surface (TF 12)</li> <li>Other (Explain in Remarks)</li> <li><sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</li> </ul>
Restrictive	Layer (if present):		Hydric Soil Present?
Туре:	De	epth (inches):	Yes 🛛 No
IYDROLOG			
	drology Indicators:		
Primary India	cators (minimum of one required	check all that apply)	Secondary Indicators (2 or more required)
Surface V		☐ Salt Crust (B11)	Surface Soil Cracks (B6)
-	ter Table (A2)	Aquatic Invertebrates (B13)	Sparsely Vegetated Concave Surface (B8)
Saturatio		Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Water Ma		Dry-Season Water Table (C2)	Oxidized Rhizospheres on Living Roots (C
	t Deposits (B2)	Oxidized Rhizospheres on Living Roots (where not tilled)	(C3) (where tilled) Crayfish Burrows (C8)
Drift Dep	( )	Presence of Reduced Iron (C4)	Saturation Visible on Aerial Imagery (C9)
	t or Crust (B4)	Thin Muck Surface (C7)	Geomorphic Position (D2)
Iron Depo	on Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	FAC-Neutral Test (D5)
	in visible on Aerial Imagery (B7)		

Water-Stained Leaves (B9)	nagery (	57) -		Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology ind	licators a	are not r	net.	

US Army Corps of Engineers

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	oling Point: SP-646
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S7, T110N, R66V	V
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave	Slope (%): <u>1 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	19727 Long:	-98.803170	Datum: NAD83
Soil Map Unit Name: Glenham-Cavo loams, undulating		N	WI Classification:	PEM1A
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoReHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	I sample plot located in	PEM W-573.	

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
	0/			are OBL, FACW, or FAC
2 3				(excluding FAC-): (A)
				Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')	0 70		I	Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				Brevelance Index Workshoet
3				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Spartina pectinata</u>	90 %	Y	FACW	FACU species% x 4 =
2	<u> </u>	<u> </u>		UPL species% x 5 =
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7	%			☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2.	0 %	= Total Cove	r	must be present, unless disturbed or problematic
				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
Bare Ground in Herb Stratum <u>10</u> %				
Remarks: Rapid test for hydrophytic vegetation is met. Pho	otograph C-94	4.		

Profile Descr	iption: (Describe	to the dep	oth needed to doc	ument the	e indicator o	or confirm the	e absence of indicators.)	
Depth	Matrix		F	Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	С	Μ	Clay Loam	
					·			
					·			
		lation DM	Reduced Matrix, (	28-00/00	ad ar Caata		<sup>2</sup> Location: PL=Pore	Lining M-Matrix
	-					u Sanu Grains		5,
Hydric Soil Ir	idicators: (Applic	able to all	I LRRs, unless oth				Indicators for Problem	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A	,		🗌 Sandy G	leyed Ma	trix (S4)		🗌 1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epip	edon (A2)		🗌 Sandy R	edox (S5)	)		Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
🗌 Black Histi	. ,		Stripped		,		Dark Surface (S7) (L	,
Hydrogen			🗌 Loamy N	-			High Plains Depress	( - )
	ayers (A5) ( <b>LRR F</b>	,	🗌 Loamy G	-			(LRR H outside of	
	(A9) ( <b>LRR F, G, F</b>		Depleted		,		Reduced Vertic (F18	,
	Below Dark Surface	e (A11)	Redox D		· · /		Red Parent Material	· /
	Surface (A12)		Depleted		( )		Very Shallow Dark S	( )
	cky Mineral (S1)		🗌 Redox D	•	. ,		Other (Explain in Rei	narks)
	cky Peat or Peat (S	, ,				1	<sup>3</sup> Indicators of hydrophyti	
5 cm Muck	xy Peat or Peat (S3	5) (LRR F)	(MLRA	/2 & /3 0	of LRR H)		wetland hydrology must disturbed or problematic	
Restrictive L	ayer (if present):						Hydric Soil Present?	
Type:			Depth (inches):				🛛 Yes 🔲 No	
		_						
Remarks: Hyd	dric soil indicator F	3 is met.						
HYDROLOG	(							
	rology Indicators:							
-			d; check all that ap	nhu)			Secondary Indicators (2	ar more required)
	•	one require	· · ·					, <u> </u>
Surface W	· · ·		Salt Crust (I				Surface Soil Cracks	· · /
High Wate			Aquatic Inve		. ,		Sparsely Vegetated	
Saturation			Hydrogen S				Drainage Patterns (I	,
U Water Mar	. ,		Dry-Season		. ,			res on Living Roots (C3)
Sediment I			Oxidized Rh (where no		es on Living	Roots (C3)	(where tilled) ☐ Crayfish Burrows (C	8)
			_ `		$d \operatorname{Iron}(C4)$		Saturation Visible or	
Algal Mat o			☐ Presence of ☐ Thin Muck \$				Geomorphic Position	••••
Iron Depos	. ,			-			Second phile Fostion	
	Visible on Aerial Ir	nagery (B/			nansj		Frost-Heave Humme	
	ined Leaves (B9)							
Field Observ	ations:	Yes	Depth No (inches)			led Data (strea ), if available:	am gauge, monitoring well,	aerial photos, previous
Surface Wate	r present?		$\boxtimes$ , ,	lingh		,		
Water Table p		$\boxtimes$		-				
Saturation Pre		$\boxtimes$		-				
(includes capi			ш <u> </u>	-				
	rology Present?	$\boxtimes$						
unu nyu								

Remarks: Wetland hydrology indicators A2, A3, D2, and D5 are met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	) Sam	oling Point: SP-647
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S7, T110N, R66V	V
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	49755 Long:	-98.803094	Datum: NAD83
Soil Map Unit Name: Glenham-Cavo loams, undulating		N	WI Classification:	PEM1A
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (If no, e	xplain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       R         Hydrophytic Vegetation Present?       Image: Second Secon	emarks: Upland	sample plot adjacent to	PEM W-573.	

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.	0/			(excluding FAC-): 0 (A)
4.				Total Number of Dominant
T	0 %	= Total Cover		Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: 15')	0 /0			Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.	<b>e</b> (			OBL species % x 1 = 0
· · ·	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species% x 4 =
2				UPL species% x 5 =
3.				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	0/			
7	<u>    %</u>			1 Rapid Test for Hydrophytic Vegetation
8	%	. <u> </u>		□ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %	<u> </u>		
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?   Yes  No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-95.			
, , , , , , , , , , , , , , , , , , , ,				

Depth	cription: (Describe to the one of		-		
(inches)	Color (moist) %	Color (moist)	Redox Features % Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-8	10YR 3/2 100				Clay Loam
8-20	10YR 3/3 100				Clay Loam
		<u> </u>		·	
<sup>1</sup> Type: C=C	oncentration, D=Depletion, I	RM=Reduced Matrix, C	CS=Covered or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix
Hydric Soil	Indicators: (Applicable to	all LRRs, unless oth	erwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup>
Histosol	(A1)	🗌 Sandy G	leyed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )
	ipedon (A2)	 ☐ Sandy R			Coast Prairie Redox (A16) (LRR F, G, H
Black His	stic (A3)	Stripped	. ,		Dark Surface (S7) (LRR G)
	n Sulfide (A4)		lucky Mineral (F1) ileyed Matrix (F2)		High Plains Depressions (F16)
	Layers (A5) ( <b>LRR F</b> )	(LRR H outside of MLRA 72 & 73)			
	ck (A9) ( <b>LRR F, G, H</b> )	Reduced Vertic (F18) Red Parent Material (TF2)			
	Below Dark Surface (A11)	Very Shallow Dark Surface (TF 12)			
	rk Surface (A12) lucky Mineral (S1)	Other (Explain in Remarks)			
-	lucky Peat or Peat (S2) ( <b>LRI</b>	<sup>3</sup> Indicators of hydrophytic vegetation and			
	cky Peat or Peat (S3) ( <b>LRR</b>	• • • •	ins Depressions (F16 72 & 73 of LRR H)		wetland hydrology must be present, unless disturbed or problematic
Restrictive	Layer (if present):				Hydric Soil Present?
Type:		Depth (inches):			🗌 Yes 🖾 No
Remarks: N	o hydric soil indicator is pres	ent.			
IYDROLOG	<u>G</u> Y				
Wetland Hy	drology Indicators:				
Primary Indi	<u>cators (minimum of one requ</u>	iired; check all that ap	<u>oly)</u>		Secondary Indicators (2 or more required)
Surface \		🗌 Salt Crust (B			Surface Soil Cracks (B6)
High Wat	ter Table (A2)		ertebrates (B13)		Sparsely Vegetated Concave Surface (
Saturatio	. ,		ulfide Odor (C1)		Drainage Patterns (B10)
Water Ma	· ,	•	Water Table (C2)	-	Oxidized Rhizospheres on Living Roots
	t Deposits (B2)	Oxidized Rh 🗌	izospheres on Living	Roots (C3)	(where tilled) □ Crayfish Burrows (C8)
	( )	•	Reduced Iron (C4)		Saturation Visible on Aerial Imagery (C
	t or Crust (B4) osits (B5)		( )		Geomorphic Position (D2)
•	on Visible on Aerial Imagery		ain in Remarks)		☐ FAC-Neutral Test (D5)

☐ Water-Stained Leaves (B9)	0,10	,		Frost-Heave Hummocks (D7) (LRR F)
Field Observations:	Yes	No	Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?		$\boxtimes$		
Water Table present?		$\boxtimes$		
Saturation Present?		$\boxtimes$		
(includes capillary fringe)				
Wetland Hydrology Present?		$\boxtimes$		
Remarks: Wetland hydrology ind	licators a	are not r	net.	

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-658
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: _ S10, T110N, R66W
Landform (hillslope, terrace, etc.) drainage	.ocal relief (concave, convex, none): Slope (%):3 %
Subregion (LRR):Northern Great Plains Spring Wheat Region	Lat: _44.353970 Long: _98.746007 Datum: NAD83
Soil Map Unit Name: Betts-Java loams, steep	NWI Classification: PEM1A
Are climate/hydrologic conditions on the site typical for this time of year	ar? 🛛 Yes 🔲 No (If no, explain in Remarks.)
Vegetation     Soil     Hydrology       Significantly Disturbed?     Image: Comparison of the second sec	Are "Normal Circumstances" present?  ☑ Yes   □ No (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sampl	ling point locations, transects, important features, etc.
Yes       No       Rem         Hydrophytic Vegetation Present?       Image: Comparison of the system	narks: Wetland sample plot located in PEM W-579.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
	0/			are OBL, FACW, or FAC
2 3	<u>%</u>			(excluding FAC-): (A)
	<u>          %</u>			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0			Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				
3.		·		Prevalence Index Worksheet:
4.	0/			Total % Cover of:Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
1. <u>Hordeum jubatum</u>	50 %	<u> </u>	FACW	FACU species % x 4 = 0
2. Spartina pectinata	45 %	Y	FACW	UPL species $\%$ x 5 = 0
3. Typha angustifolia	5 %	N	OBL	Column Totals: <u>0</u> % (A) <u>0</u> (B)
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			
7		<u> </u>		☑ 1 Rapid Test for Hydrophytic Vegetation
8	%	<u> </u>		☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>			4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u> %			
2	0 %	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	tograph C-9	7.		
	J .			

SOIL

Profile Description: (Describe Depth Matrix	to the depth		nent the in dox Featur		or confirm the	absence of indicators.	)
Color (moist)           0-20         10YR 2/1	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>		Texture mucky clay	Remarks
<sup>1</sup> Type: C=Concentration, D=Dep	bletion, RM=R	educed Matrix, CS	S=Covered		<u> </u>	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix
Hydric Soil Indicators: (Applie	able to all Li	RRs, unless othe	rwise note	d.)		Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A1)     Histic Epipedon (A2)     Black Histic (A3)     Hydrogen Sulfide (A4)     Stratified Layers (A5) (LRR F     1 cm Muck (A9) (LRR F, G, F     Depleted Below Dark Surface     Thick Dark Surface (A12)     Sandy Mucky Mineral (S1)     2.5 cm Mucky Peat or Peat (S3     Restrictive Layer (if present):     Type:  Remarks: Hydric soil indicator F	I) ⇒ (A11) S2) (LRR G, H →) (LRR F) De		dox (S5) Matrix (S6) Jucky Mineral eyed Matrix Matrix (F3) rk Surface ( Dark Surfac pressions (f s Depressions 2 & 73 of LI	l (F1) (F2) F6) e (F7) F8) ons (F16) <b>RR H)</b>	·	1 cm Muck (A9) (LI     Coast Prairie Redo     Dark Surface (S7) (     High Plains Depress     (LRR H outside o     Reduced Vertic (F1     Red Parent Materia     Very Shallow Dark     Other (Explain in R <sup>3</sup> Indicators of hydrophy wetland hydrology mus disturbed or problemat Hydric Soil Present?     Yes □ No	x (A16) (LRR F, G, H) (LRR G) sisions (F16) f MLRA 72 & 73) 8) al (TF2) Surface (TF 12) emarks) ytic vegetation and st be present, unless tic
YDROLOGY Wetland Hydrology Indicators							
Primary Indicators (minimum of		check all that appl	V)			Secondary Indicators	(2 or more required)
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial In</li> <li>Water-Stained Leaves (B9)</li> </ul>		□ Salt Crust (B □ Aquatic Inver □ Hydrogen Su □ Dry-Season V □ Oxidized Rhiz (where not □ Presence of F □ Thin Muck Su □ Other (Explai	tebrates (B <sup>:</sup> Ifide Odor (I Vater Table zospheres c : <b>tilled)</b> Reduced Irc urface (C7)	C1) (C2) on Living on (C4)	Roots (C3)	<ul> <li>Surface Soil Crack</li> <li>Sparsely Vegetate</li> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows (</li> </ul>	cs (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) (D5)
Field Observations:	Yes No	Depth (inches)			led Data (streaı ), if available:	m gauge, monitoring wel	l, aerial photos, previous
Surface Water present? Water Table present? Saturation Present? (includes capillary fringe) Wetland Hydrology Present?		1 0 0					
Remarks: Wetland hydrology inc	licators A1, A	2, A3, D2, and D5	are met.				

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-659
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: _ S10, T110N, R66W
Landform (hillslope, terrace, etc.) hillslope	ocal relief (concave, convex, none): convex Slope (%): 10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat:Long:98.745979 Datum: NAD83
Soil Map Unit Name: Betts-Java loams, steep	NWI Classification: PEM1A
Are climate/hydrologic conditions on the site typical for this time of ye	ar? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
SOMMART OF FINDINGS – Attach site map showing samp	my point locations, transects, important leatures, etc.
Yes       No       Rer         Hydrophytic Vegetation Present?       Image: Second Sec	narks: Upland sample plot adjacent to PEM W-579.

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.		<u> </u>		are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.				· · · · · · · · · · · · · · · · · · ·
4				Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%	<u></u> _		are OBL, FACW, or FAC: 0% (A/B)
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. <u>Poa pratensis</u>	100 %	<u>     Y    </u>	FACU	FACU species $-\%$ x 4 = $-0$
2	%			UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4	%			Prevalence Index = B/A =
5		<u> </u>		Hydrophytic Vegetation Indicators:
6		<u> </u>		1 Denid Test for Lludrenbutic Vegetation
7				□ 1 Rapid Test for Hydrophytic Vegetation
8		<u> </u>		☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide
Woody Vine Stratum (Plot size: <u>30'</u> )				supporting data in Remarks or on a separate sheet)
1	%			□ Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?  Yes  No
Remarks: Hydrophytic vegetation is not present. Photogra	aph C-98.			

	absence of indicators.)		
Depth Matrix Redox Features			
(inches) Color (moist) % Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks		
0-8 10YR 2/2 100	Clay Loam		
<u>8-20</u> 10YR 3/3 100	Clay Loam		
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains	<sup>2</sup> Location: PL=Pore Lining, M=Matrix		
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils <sup>3</sup> :		
☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)	☐ 1 cm Muck (A9) ( <b>LRR I, J</b> )		
☐ Histost (AT) ☐ Sandy Redox (S5)	Coast Prairie Redox (A16) (LRR F, G, H)		
□ Black Histic (A3) □ Stripped Matrix (S6)	$\Box$ Dark Surface (S7) (LRR G)		
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)	Dark Surface (S7) (LKK G)     High Plains Depressions (F16)		
□ Stratified Layers (A5) (LRR F) □ Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 & 73)		
$\Box \ 1 \ \text{cm} \ \text{Muck} \ (A9) \ (LRR \ F, \ G, \ H) \qquad \Box \ Depleted \ Matrix \ (F3)$	Reduced Vertic (F18)		
Depleted Below Dark Surface (A11)	Red Parent Material (TF2)		
Thick Dark Surface (A12)	Very Shallow Dark Surface (TF 12)		
Sandy Mucky Mineral (S1)	Other (Explain in Remarks)		
2.5 cm Mucky Peat or Peat (S2) ( <b>LRR G</b> , <b>H</b> ) High Plains Depressions (F16)	<sup>3</sup> Indicators of hydrophytic vegetation and		
5 cm Mucky Peat or Peat (S3) (LRR F)       (MLRA 72 & 73 of LRR H)	wetland hydrology must be present, unless disturbed or problematic		
Restrictive Layer (if present):	Hydric Soil Present?		
Type:         Depth (inches):			
Remarks: No hydric soil indicator is present.			
HYDROLOGY			
HYDROLOGY Wetland Hydrology Indicators:			
HYDROLOGY	Secondary Indicators (2 or more required)		
HYDROLOGY           Wetland Hydrology Indicators:           Primary Indicators (minimum of one required; check all that apply)           Surface Water (A1)   Salt Crust (B11)	Surface Soil Cracks (B6)		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)         Salt Crust (B11)         High Water Table (A2)	☐ Surface Soil Cracks (B6) ☐ Sparsely Vegetated Concave Surface (B8)		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)         High Water Table (A2)         Aquatic Invertebrates (B13)         Saturation (A3)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)         High Water Table (A2)         Aquatic Invertebrates (B13)         Saturation (A3)         Hydrogen Sulfide Odor (C1)         Water Marks (B1)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)         High Water Table (A2)         Aquatic Invertebrates (B13)         Saturation (A3)         Urder Marks (B1)         Dry-Season Water Table (C2)         Sediment Deposits (B2)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)         High Water Table (A2)         Aquatic Invertebrates (B13)         Saturation (A3)         Dry-Season Water Table (C2)         Sediment Deposits (B2)         Oxidized Rhizospheres on Living Roots (C3)         (where not tilled)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Unudation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Thin Muck Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Thin Muck Surface (C7)	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Tepth (inches)         Field Observations:	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth (inches)         Field Observations:       Depth (inches)         Surface Water present?       M         Water Table present?       M         Water Table present?       M	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth (inches)         Field Observations:       Yes       Depth (inches)         Surface Water present?       Z       Z         Water Table present?       Z       Z	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>		
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Iron Deposits (B5)       Thin Muck Surface (C7)         Inundation Visible on Aerial Imagery (B7)       Other (Explain in Remarks)         Water-Stained Leaves (B9)       Depth (inches)         Field Observations:       Ves       No         Yes       No       Explanation (inches)         Surface Water present?       Mater Table present?       Mater Table present?         Water Table present?       Mater Table present?       Mater Table present?	<ul> <li>Surface Soil Cracks (B6)</li> <li>Sparsely Vegetated Concave Surface (B8)</li> <li>Drainage Patterns (B10)</li> <li>Oxidized Rhizospheres on Living Roots (C3) (where tilled)</li> <li>Crayfish Burrows (C8)</li> <li>Saturation Visible on Aerial Imagery (C9)</li> <li>Geomorphic Position (D2)</li> <li>FAC-Neutral Test (D5)</li> <li>Frost-Heave Hummocks (D7) (LRR F)</li> </ul>		

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-660
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S5, T110N, R66W
Landform (hillslope, terrace, etc.) drainage	Local relief (co	ncave, convex, none):	concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	64107 Long:	-98.793791 Datum: NAD83
Soil Map Unit Name: <u>Glenham-Java loams, rolling</u>		N	WI Classification: PEM1Cd
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Comparison of the second secon	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)
Hydrophytic Vegetation Present?       Yes       No       F         Hydric Soil Present?       Image: Comparison of the sent of th	Remarks: Wetland	I sample plot located in	PEM W-580.

The a Church under (Dist sizes 202)	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover <u>%</u>	Species?	Status	Number of Dominant Species that
	%			are OBL, FACW, or FAC
				(excluding FAC-): (A)
				Total Number of Dominant
4	<u>%</u>	= Total Cove		Species Across All Strata:(B)
Conting/Chrub Stratum (Dist size: 15')	0 %	= Total Cove	r	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	%			are OBL, FACW, or FAC: (A/B)
1 2.				
2				Prevalence Index Worksheet:
4.	<u>%</u>			Total % Cover of: Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
	100 %	Y	FACW	FACU species % x 4 = 0
			TAON	UPL species % x 5 = 0
2	<u>%</u>			Column Totals: 0 % (A) 0 (B)
3	<u>%</u> %			Prevalence Index = B/A =
4	<u>%</u>			
5		·		Hydrophytic Vegetation Indicators:
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	<u>   100 %</u>	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	0 %	= Total Cove	 r	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Phot	ograph C-99	9.		
	5 5 64	-		

SOIL

Depth <u>Matrix</u>			edox Features		e absence of indicators.	1
(inches) Color (moist) 0-20 10YR 2/1	<u>%</u> 100	Color (moist)	<u>%</u> Тур		Texture mucky clay	Remarks
	· · · · · · · · · · · · · · · · ·					
<sup>1</sup> Type: C=Concentration, D=Dep	pletion, RM	Reduced Matrix, C	S=Covered or C	oated Sand Grain	s <sup>2</sup> Location: PL=Po	re Lining, M=Matrix
Hydric Soil Indicators: (Applic	cable to all	LRRs, unless othe	erwise noted.)		Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F 1 cm Muck (A9) (LRR F, G, F Depleted Below Dark Surface Thick Dark Surface (A12) Sandy Mucky Mineral (S1) 2.5 cm Mucky Peat or Peat (S 5 cm Mucky Peat or Peat (S3 Restrictive Layer (if present): Type:	H) e (A11) S2) (LRR G 3) (LRR F)	☐ Sandy Re ☐ Stripped ⊠ Loamy M ☐ Loamy G ☐ Depleted ☐ Redox Da ☐ Depleted ☐ Redox Da ☐ Redox Da	Matrix (S6) ucky Mineral (F1 leyed Matrix (F2 Matrix (F3) ark Surface (F6) Dark Surface (F6) pressions (F8) ns Depressions ( <b>72 &amp; 73 of LRR I</b>	) ) 7) (F16)	1 cm Muck (A9) (LI     Coast Prairie Redo     Dark Surface (S7) (     High Plains Depres     (LRR H outside o     Reduced Vertic (F1     Red Parent Materia     Very Shallow Dark     Other (Explain in R <sup>3</sup> Indicators of hydrophy wetland hydrology mus disturbed or problemat     Hydric Soil Present?     Xes □ No	x (A16) (LRR F, G, H) (LRR G) sions (F16) f MLRA 72 & 73) 8) al (TF2) Surface (TF 12) emarks) /tic vegetation and st be present, unless
· · · · · · · · · · · · · · · · · · ·						
Remarks: Hydric soil indicator F						
Remarks: Hydric soil indicator F						
Remarks: Hydric soil indicator F HYDROLOGY Wetland Hydrology Indicators:	1 is met.					(0 · · · )
Remarks: Hydric soil indicator F	1 is met.	d; check all that app Salt Crust (E Aquatic Inve Hydrogen St Dry-Season Oxidized Rh (where no Presence of Thin Muck S	Dly) S11) ulfide Odor (C1) Water Table (C2 izospheres on Li ot tilled) Reduced Iron (C Surface (C7)	ving Roots (C3)	<ul> <li>Drainage Patterns</li> <li>Oxidized Rhizosph (where tilled)</li> <li>Crayfish Burrows (</li> </ul>	s (B6) d Concave Surface (B8) (B10) leres on Living Roots (C3) C8) on Aerial Imagery (C9) on (D2) (D5)

Project/Site: Sweetland Wind Project	City/County: <u>Hand County</u> Sampling Date: <u>10/17/2018</u>
Applicant/Owner: Sweetland Wind Farm, LLC	State: SD Sampling Point: SP-661
Investigator(s):T. Beemer, W. Hirst	Section, Township, Range:S5, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (concave, convex, none): Slope (%): _5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: <u>44.364096</u> Long: <u>-98.793736</u> Datum: NAD83
Soil Map Unit Name: Glenham-Java loams, rolling	NWI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	/ear? 🛛 Yes 🔲 No (If no, explain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.)
SOMMART OF FINDINGS - Allach site map showing sam	pining point locations, transects, important leatures, etc.
Yes       No       R         Hydrophytic Vegetation Present?       Image: Comparison of the system o	emarks: Upland sample plot adjacent to PEM W-580.

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): 0 (A)
3.	%			(excluding FAC-):(A)
4.	%			Total Number of Dominant
	0 %	= Total Cover		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:0% (A/B)
2.	%			Duranda u sa lu dan Masha ka sé
3	%			Prevalence Index Worksheet:
4.	%			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species% x 4 =
2	%			UPL species% x 5 =0
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			
6	%			Hydrophytic Vegetation Indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8	<b>A</b> /			☐ 2 Dominance Test is >50%
9	<u>%</u>			 ☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-100.			

Profile Desci				Deday Colo	turaa		,	
Depth (inches)	Matrix	0/		Redox Fea		1	Tautuma	Demente
0-8	Color (moist) 10YR 2/2	<u>%</u> 100	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Clay Loam	Remarks
8-20	10YR 3/3	100					Clay Loam	
0 20								
				- <u> </u>				
	ncentration, D=Dep					d Sand Grains	<sup>2</sup> Location: PL=Pore	0
Hydric Soil II	ndicators: (Applic	able to all					Indicators for Problema	atic Hydric Soils <sup>3</sup> :
Histosol (A	,		Sandy (	-			1 cm Muck (A9) ( <b>LRF</b>	
Histic Epip			Sandy I				Coast Prairie Redox	
Black Histi	. ,		Stripped	•	,		Dark Surface (S7) (L	,
Hydrogen			Loamy				High Plains Depressi (LRR H outside of I	
	₋ayers (A5) ( <b>LRR F</b> ) k (A9) ( <b>LRR F, G, H</b>		☐ Loamy ☐ Deplete	-			Reduced Vertic (F18)	,
			· ·	•	,		Red Parent Material (	
Depleted Below Dark Surface (A11)     Redox Dark Surface (F6)     Thick Dark Surface (A12)     Depleted Dark Surface (F7)						Very Shallow Dark Surface (TF 12)		
	Thick Dark Surface (A12)       Depleted Dark Surface (F7)         Sandy Mucky Mineral (S1)       Redox Depressions (F8)					☐ Other (Explain in Remarks)		
-	icky Peat or Peat (S	2) ( <b>LRR G</b>		•	ssions (F16)		<sup>3</sup> Indicators of hydrophytic	
	ky Peat or Peat (S3)	, ,		72 & 73 0	• • •		wetland hydrology must disturbed or problematic	be present, unless
Restrictive L	ayer (if present):						Hydric Soil Present?	
							-	
Type:	hydric soil indicator		Depth (inches):				🗌 Yes 🖾 No	
	hydric soil indicator		· · · · · · · · · · · · · · · · · · ·				☐ Yes ⊠ No	
Remarks: No	-		· · · · · · · · · · · · · · · · · · ·				Yes 🛛 No	
Remarks: No	-		· · · · · · · · · · · · · · · · · · ·				☐ Yes ⊠ No	
Remarks: No YDROLOG <sup>*</sup> Wetland Hyd	Y	is present					Yes No	or more required)
Remarks: No YDROLOG <sup>*</sup> Wetland Hyd Primary Indica	Y Irology Indicators: ators (minimum of o	is present		oply)				
Remarks: No YDROLOG <sup>*</sup> Wetland Hyd Primary Indica Surface W	Y Irology Indicators: ators (minimum of o /ater (A1)	is present	d; check all that a	<u>oply)</u> (B11)			Secondary Indicators (2	(B6)
Remarks: No         YDROLOG <sup>*</sup> Wetland Hyd         Primary Indica         Surface W         High Wate	Y Irology Indicators: ators (minimum of o Vater (A1) er Table (A2)	is present	d <u>; check all that a</u> □ Salt Crust	oply) (B11) /ertebrates	(B13)		Secondary Indicators (2	(B6) Concave Surface (B8
Remarks: No YDROLOG <sup>*</sup> Wetland Hyd Primary Indica Surface W High Wate Saturation	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3)	is present	d; check all that a ☐ Salt Crust ☐ Aquatic Inv	oply) (B11) /ertebrates Sulfide Odd	(B13) or (C1)		Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher	(B6) Concave Surface (B8 310)
Remarks: No YDROLOG YDROLOG Ydetland Hyd Primary Indica Surface W High Wate Saturation Water Mar Sediment	Y Irology Indicators: ators (minimum of o l'ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2)	is present	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso	oply) (B11) vertebrates Sulfide Odo n Water Ta	(B13) or (C1) lble (C2)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled)	(B6) Concave Surface (B8 310) res on Living Roots (C
Remarks: No         YDROLOG`         YDROLOG`         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3)	is present	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r	oply) (B11) vertebrates Sulfide Odo n Water Ta hizosphere <b>not tilled)</b>	(B13) or (C1) ible (C2) es on Living I	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ca	(B6) Concave Surface (B8 310) res on Living Roots (C 8)
Remarks: No         YDROLOG`         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mat	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	is present	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r	oply) (B11) vertebrates Sulfide Odd n Water Ta chizosphere ot tilled) of Reduced	(B13) or (C1) ible (C2) es on Living I	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ca Saturation Visible on	(B6) Concave Surface (B8) 310) res on Living Roots (C 8) Aerial Imagery (C9)
Remarks: No  Primary Indica  Surface W High Wate Saturation Water Mar Sediment Drift Depo Algal Mat Iron Depos	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5)	ne required	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence o Thin Muck	oply) (B11) vertebrates Sulfide Odd n Water Ta thizosphere <b>not tilled)</b> of Reduced Surface (C	(B13) or (C1) ible (C2) es on Living I I Iron (C4) :7)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ca Saturation Visible on Geomorphic Positior	(B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2)
Remarks: No         YDROLOG'         Wetland Hyd         Primary Indica         Saturation         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mate         Iron Depos         Inundation	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial Im	ne required	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence o Thin Muck	oply) (B11) vertebrates Sulfide Odd n Water Ta thizosphere <b>not tilled)</b> of Reduced Surface (C	(B13) or (C1) ible (C2) es on Living I I Iron (C4) :7)	Roots (C3)	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ci Saturation Visible on Geomorphic Positior FAC-Neutral Test (D	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5)
Remarks: No         YDROLOG <sup>*</sup> Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mat         Iron Depos         Inundation         Water-Sta	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) o Visible on Aerial Im ined Leaves (B9)	ne required	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence o Thin Muck ) Other (Exp	oply) (B11) vertebrates Sulfide Odo n Water Ta thizosphere <b>not tilled)</b> of Reduced Surface (C lain in Ren	(B13) or (C1) ible (C2) es on Living I I Iron (C4) :7) narks)		Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ca Saturation Visible on Geomorphic Positior FAC-Neutral Test (D Frost-Heave Hummo	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) a (D2) 5) pocks (D7) <b>(LRR F)</b>
Remarks: No         YDROLOG <sup>*</sup> Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mat         Iron Depos         Inundation         Water-Sta	Y Irology Indicators: ators (minimum of o /ater (A1) er Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) o Visible on Aerial Im ined Leaves (B9)	ne required	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized R (where r Presence o Thin Muck	oply) (B11) vertebrates Sulfide Odo n Water Ta thizosphere <b>not tilled)</b> of Reduced Surface (C lain in Ren	(B13) or (C1) able (C2) es on Living I I Iron (C4) 77) narks) cribe Record		Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ci Saturation Visible on Geomorphic Positior FAC-Neutral Test (D	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) a (D2) 5) pocks (D7) <b>(LRR F)</b>
Remarks: No         Remarks: No         Wetland Hyd         Primary Indica         Surface W         High Wate         Saturation         Water Mar         Sediment         Drift Depo         Algal Mate         Iron Depos         Inundation	Y Irology Indicators: ators (minimum of o Vater (A1) Pr Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial Im ined Leaves (B9) vations:	ne required	d; check all that a Salt Crust Aquatic Inv Hydrogen Dry-Seaso Oxidized F (where r Presence o Thin Muck ) Other (Exp Depth	oply) (B11) vertebrates Sulfide Odo n Water Ta thizosphere <b>not tilled)</b> of Reduced Surface (C lain in Ren	(B13) or (C1) able (C2) es on Living I I Iron (C4) 77) narks) cribe Record	ed Data (strea	Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (E Oxidized Rhizospher (where tilled) Crayfish Burrows (Ca Saturation Visible on Geomorphic Positior FAC-Neutral Test (D Frost-Heave Hummo	(B6) Concave Surface (B8 310) res on Living Roots (C 8) A Aerial Imagery (C9) a (D2) 5) pocks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicators are not met.

 $\boxtimes$ 

 $\boxtimes$ 

Saturation Present?

(includes capillary fringe)
Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County: Hand County Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: <u>SD</u> Sampling Point: <u>SP-662</u>
Investigator(s): T. Beemer, W. Hirst	Section, Township, Range: S4, T110N, R66W
Landform (hillslope, terrace, etc.) swale L	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>2 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: <u>44.362234</u> Long: <u>-98.780918</u> Datum: <u>NAD83</u>
Soil Map Unit Name:	NWI Classification: PEM1C
Are climate/hydrologic conditions on the site typical for this time of year	ear? 🛛 Yes 🗌 No (If no, explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	Are "Normal Circumstances" present? ⊠ Yes ☐ No (If needed, explain any answers in Remarks.) Pling point locations, transects, important features, etc.
Yes       No       Rem         Hydrophytic Vegetation Present?       Image: Comparison of the system	narks: Wetland sample plot located in PEM W-581.

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	0/			are OBL, FACW, or FAC
2 3				(excluding FAC-): <u>2</u> (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cove		Species Across All Strata:2 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )	0 /0			Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: <u>100%</u> (A/B)
2.				
3.				Prevalence Index Worksheet:
4.	0/			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species% x 3 =0
1. <u>Spartina pectinata</u>	80 %	Y	FACW	FACU species% x 4 =0
2. Solidago gigantea	30 %	Y	FAC	UPL species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
3				Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				Tyurophytic vegetation mulcators.
7				1 Rapid Test for Hydrophytic Vegetation
8	%			⊠ 2 Dominance Test is >50%
9	%	<u> </u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			4 Morphological Adaptations <sup>1</sup> (Provide
	<u>110 %</u>	= Total Cove		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	<u>%</u>	<u> </u>		Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	•	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-101.				·

Profile Descr	iption: (Describe	to the de	epth nee	ded to doc	ument th	e indicator	or confirm the	e absence of indicators.)	
Depth	Matrix				Redox Fe			······································	
(inches)	Color (moist)	%	Colo	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/2	100						Clay Loam	
6-20	10YR 3/2	90	10	YR 4/6	10	С	М	Clay Loam	
1Turney 0-0a				a al Mastria				21 a satismy DI - Dama	Lining M-Matuic
,,	ncentration, D=Dep								0
Hydric Soll II	ndicators: (Applic	able to a						Indicators for Problem	-
Histosol (A	,			Sandy G				1 cm Muck (A9) ( <b>LR</b>	
Histic Epip				Sandy F				Coast Prairie Redox	
Black Histi	( )			Stripped				Dark Surface (S7) (L	,
Hydrogen				🗌 Loamy N				High Plains Depressi	
	ayers (A5) (LRR F	,		Loamy (	•	. ,		(LRR H outside of Reduced Vertic (F18	
	(A9) ( <b>LRR F, G, H</b>	,			-	-		Red Parent Material	
— .	Below Dark Surface	e (A11)		Redox D		· · ·		Very Shallow Dark S	· · ·
	Surface (A12)					. ,		Other (Explain in Rer	( /
	cky Mineral (S1) cky Peat or Peat (S				•	ns (F8) essions (F16	<b>`</b>	_ 、 .	,
	y Peat or Peat (S3			_ 0	•	of LRR H)	)	<sup>3</sup> Indicators of hydrophyti wetland hydrology must disturbed or problematic	be present, unless
Restrictive L	ayer (if present):							Hydric Soil Present?	
Type:			Denth (i	nches):				⊠ Yes □ No	
		_	Bopin (i	<u> </u>					
Remarks: Hyd	dric soil indicator F6	3 is met.							
HYDROLOG	-								
•	rology Indicators:							O a considerant la dia atawa (C	
	ators (minimum of o	one requir						Secondary Indicators (2	
Surface W	( )			Salt Crust (				Surface Soil Cracks	· · ·
High Wate				Aquatic Inv				Sparsely Vegetated	
Saturation				Hydrogen S				Drainage Patterns (E	
U Water Mar	. ,			Dry-Seasor		· · ·	-	Oxidized Rhizosphe	res on Living Roots (C3
Sediment				Oxidized R (where n		es on Living	Roots (C3)	(where tilled)  Crayfish Burrows (C	0)
Drift Depo				•	,	d Iron (C1)		•	,
Algal Mat				Presence o		( )		☐ Saturation Visible or	••••
	. ,	(5	_	Other (Expl	-	-		FAC-Neutral Test (D	
_	Visible on Aerial Ir	nagery (B	37) L	Other (Exp		naiks)		Frost-Heave Hummo	
U water-Stai	ined Leaves (B9)			_	1				
Field Observ	ations:	Yes	No	Depth (inches)				am gauge, monitoring well,	aerial photos, previous
Cumfere - MAL: 1		_		(110103)	insp	ections, etc.	), if available:		
Surface Wate	•				-				
Water Table p			$\boxtimes$		-				
Saturation Pre			$\boxtimes$ _		-				
(includes capi		_	_						
Wetland Hyd	rology Present?	$\boxtimes$							

Remarks: Wetland hydrology indicators D2 and D5 are met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	pling Point: <u>SP-663</u>
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S4, T110N, R66V	V
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): 4 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	62340 Long:	-98.781045	Datum: NAD83
Soil Map Unit Name:		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
Yes       No       R         Hydrophytic Vegetation Present?       Image: Second Secon	emarks: Upland	sample plot adjacent to	9 PEM W-581.	

Tree Stratum       (Plot size: 30')       % Cover       Species?       Status         1.		Absolute	Dominant	Indicator	Dominance Test Worksheet:
2.			Species?	Status	
3.					
4.					(excluding FAC-):(A)
0 %       = Total Cover       Percent of Dominant Species that are OBL, FACW, or FAC:      (A/B)         1.       %        Prevalence Index Worksheet:      (A/B)         3.       %             4.       %             5.       %             1.       Bromus inermis       100 %       Y       UPL       UPL species       % x 1 =         1.       Bromus inermis       100 %       Y       UPL       UPL species       % x 5 =					
Sapling/Shrub Stratum       (Plot size: 15')         1.       96         2.       96         3.       96         3.       96         3.       96         4.       96         5.       96         1.       96         6.       96         7.       96         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       96         1.       100 %         9.       10.         9.       10.         9.       10.         9.       10.         9.       10.         9.       100 %         9.       100			= Total Cove	 r	Species Across All Strata:1 (B)
1.	Sapling/Shrub Stratum (Plot size: 15')		- 1000 0000		
2.		%			are OBL, FACW, or FAC: 0% (A/B)
3.					
4.					Prevalence Index Worksheet:
5.	1	0/			Total % Cover of: Multiply by:
0%= Total CoverFACW species% x2 =0Herb Stratum(Plot size: 5')100%YUPLFACU species% x3 =02.%%9%100%YUPLUPL species% x4 =03.%%%%00(B)4.%%%%0(B)5.%%%%%%0(B)6.%%%%%%%%7.%%%%%%%%8.%%%%%%%%9.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%10.%%%%%%%2.%%%%%%%3.%%%%%%% <td< td=""><td></td><td></td><td></td><td></td><td>OBL species % x 1 = 0</td></td<>					OBL species % x 1 = 0
Herb Stratum       (Plot size: <u>5'</u> )         1.       Bromus inermis         2.			= Total Cove	r	FACW species % x 2 = 0
1.       Bromus inermis       100 %       Y       UPL       FACU species       % x4 =       0         2.       % <td>Herb Stratum (Plot size: 5')</td> <td></td> <td></td> <td></td> <td>FAC species% x 3 =0</td>	Herb Stratum (Plot size: 5')				FAC species% x 3 =0
2. $\frac{9}{4}$ $\frac{9}{6}$ $\frac{11 \text{ Rapid Test for Hydrophytic Vegetation Indicators:}}{102 \text{ Dominance Test is >50%}$ $\frac{12 \text{ Dominance Test is >50\%}{102 \text{ Dominance Test is >50\%}$ $\frac{9}{6}$ $\frac{100\%}{9}$ $\frac{100\%}{9}$ $\frac{100\%}{9}$ $\frac{100\%}{9}$ $\frac{100\%}{9}$ $\frac{100\%}{9}$ $\frac{100\%}{9}$ $\frac{9}{6}$ $\frac{100\%}{9}$ $\frac{9}{6}$ $\frac{100\%}{9}$ $\frac{9}{6}$ $\frac{100\%}{9}$ $\frac{9}{6}$ $\frac{9}{1}$ $\frac{9}{6}$ $$	( <u></u> /	100 %	Y	UPL	
3.       9/6       0% (A)O (B)         4.       9/6       Prevalence Index = B/A =         5.       9/6       Hydrophytic Vegetation Indicators:         6.       9/6       1 Rapid Test for Hydrophytic Vegetation         8.       9/6       2 Dominance Test is >50%         9.       9/6       3 Prevalence Index is ≤3.01         10.       9/6       3 Prevalence Index is ≤3.01         10.       9/6       Problematic Hydrophytic Vegetation1 (Provide supporting data in Remarks or on a separate sheet)         10.       9/6       Problematic Hydrophytic Vegetation1 (explain)         1.       9/6       Problematic Hydrophytic Vegetation1 (explain)         1       9/6       Problematic Hydrophytic Vegetation1 (explain)         1       9/6       Problematic Hydrophytic Vegetation1 (explain)         1       1       Problematic Hydrophytic Vegetation1 (explain)         1       1       Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Hydrophytic Vegetation Present?       Yes ⊠ No					· · · · · · · · · · · · · · · · · · ·
4.					Column Totals: <u>0</u> % (A) <u>0</u> (B)
5.      %        Hydrophytic Vegetation Indicators:         6.      %        1 Rapid Test for Hydrophytic Vegetation         7.      %        2 Dominance Test is >50%         9.      %        3 Prevalence Index is ≤3.01         10.      %        4 Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)         10.      %        Problematic Hydrophytic Vegetation1 (explain)         1.      %        Problematic Hydrophytic Vegetation1 (explain)         2.      %        Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum      %        Hydrophytic Vegetation Present?       Yes ⊠ No					Prevalence Index = B/A =
6.       %					Hydrophytic Vogetation Indicators:
7.					Hydrophytic vegetation indicators.
9.					1 Rapid Test for Hydrophytic Vegetation
10.       %	8	%			☐ 2 Dominance Test is >50%
10.       %	9	%			$\Box$ 3 Prevalence Index is <3 0 <sup>1</sup>
Woody Vine Stratum       (Plot size: 30')         1.	10	<u>%</u>			
1.       %       □ Problematic Hydrophytic Vegetation1 (explain)         2.       %       □         0.%       = Total Cover       1 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic         Bare Ground in Herb Stratum0 %		<u>   100 %</u>	= Total Cove	r	
2.       %		%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
0 %       = Total Cover       must be present, unless disturbed or problematic         Bare Ground in Herb Stratum       0 %       Hydrophytic Vegetation Present? □ Yes ⊠ No					<sup>1</sup> Indicators of hydric soil and wetland hydrology
Bare Ground in Herb Stratum _0%		0 %	= Total Cove	r	
Remarks: Hydrophytic vegetation is not present. Photograph C-102.	Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present?  Yes  No
	Remarks: Hydrophytic vegetation is not present. Photogra	ph C-102.			

Profile Desc	ription: (Describe	to the dep	th needed to docu	ument th	e indicator o	or confirm the	absence of indicators.)	
Depth	Matrix		F	Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	
·					·			
					·	·		
<sup>1</sup> Type: C=Co	oncentration, D=De	pletion, RM=	Reduced Matrix, 0	CS=Cove	red or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil I	ndicators: (Applie	cable to all	LRRs, unless oth	erwise n	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (			Sandy G				☐ 1 cm Muck (A9) ( <b>LR</b>	RIJ)
Histic Epi	,		Sandy R	-			Coast Prairie Redox	
Black Hist			Stripped				Dark Surface (S7) (L	
Hydrogen			Loamy N				High Plains Depress	,
	Layers (A5) (LRR F	)	Loamy G	-			(LRR H outside of	
	k (A9) ( <b>LRR F, G, F</b>	,		-			Reduced Vertic (F18	3)
	Below Dark Surface	-	Redox D	-			Red Parent Material	(TF2)
	k Surface (A12)	· /			. ,		Very Shallow Dark S	
	cky Mineral (S1)		Redox D		( )		Other (Explain in Re	marks)
	ucky Peat or Peat (	S2) (LRR G	, H) 🗌 High Plai	ins Depre	ssions (F16)		<sup>3</sup> Indicators of hydrophyt	ic vegetation and
	ky Peat or Peat (S3			72 & 73 c	of LRR H)		wetland hydrology must disturbed or problematio	be present, unless
Beetrietive I	over (if present).						Hydric Soil Present?	,
	ayer (if present):	_						
Туре:		Ľ	epth (inches):					
	~							
HYDROLOG								
•	Irology Indicators							
Primary Indic	ators (minimum of	one required	l; check all that ap	<u>ply)</u>			Secondary Indicators (2	2 or more required)
Surface V	· · ·		🗌 Salt Crust (I	,			Surface Soil Cracks	
High Wate			Aquatic Inve				Sparsely Vegetated	
Saturation	( )		Hydrogen S				Drainage Patterns (	,
U Water Ma	( )		Dry-Season		. ,		·	eres on Living Roots (C3)
	Deposits (B2)		Oxidized Rh		es on Living	Roots (C3)	(where tilled) Crayfish Burrows (C	•01
Drift Depo			(where no		d Iron (C1)		Saturation Visible of	,
Algal Mat			Presence of		· · ·			0,0,0
Iron Depo		(07)	Thin Muck S	-	-		Geomorphic Positio	
	Visible on Aerial I	magery (B7)			naiks)		Frost-Heave Humm	,
U Water-Sta	ined Leaves (B9)							
Field Observ	vations:	Yes I	Depth No (inches)			ed Data (streai , if available:	m gauge, monitoring well,	aerial photos, previous
Surface Wate	er present?				,			
Water Table	present?		$\boxtimes$					
Saturation Pr			×	•				
(includes cap			<u>ــــــــــــــــــــــــــــــــــــ</u>	•				
	Wetland Hydrology Present?							
-	etland hydrology inc							
i tomarta. We	alana nyarology inc		not mot.					

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner:Sweetland Wind Farm, LLC		State: S	D Sam	pling Point: SP-664
Investigator(s): T. Beemer, W. Hirst	Secti	on, Township, Range:	S4, T110N, R66W	N
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Regio	n Lat: 44.3	63204 Long:	-98.778882	Datum: NAD83
Soil Map Unit Name: Oahe-Delmont loams, 2 to 6 percent slo	opes	N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	of year? 🛛 🛛 Yea	s 🗌 No (lf no, e	explain in Remarks	.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Constraint of the second secon	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoHydrophytic Vegetation Present?IHydric Soil Present?IWetland Hydrology Present?IIs the Sampled Area within a Wetland?I	Remarks: Upland	sample plot.		

	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2	<u>%</u>			are OBL, FACW, or FAC
3.				(excluding FAC-): 1 (A)
4.	<u>%</u>			Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: <u>100%</u> (A/B)
2.				
3.				Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	%			OBL species % x 1 = 0
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: <u>5'</u> )				FAC species% x 3 =0
1. <u>Echinochloa crus-galli</u>	100 %	Y	FAC	FACU species% x 4 =0
2	%			UPL species $\% x 5 = 0$
3	·			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				
7				1 Rapid Test for Hydrophytic Vegetation
8	%			⊠ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>	<u> </u>		
	100 %	= Total Cove	-	☐ 4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				
1	<u>%</u>	<u> </u>		Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cove	-	must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Dominance test is met. Photograph C-103.				

Profile Desc	iption: (Describe	to the de	pth n	eeded to docum	ent the	e indicator o	or confirm the	absence of indicators.	)
Depth	Matrix			Red	dox Fea	atures			
(inches)	Color (moist)	%	С	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 2/2	100						Clay	
12-20	10YR 3/2	100						Clay	
									<u> </u>
			·						
							·		<u> </u>
			·						<u> </u>
<sup>1</sup> Type: C=Co	ncentration, D=Dep	pletion, RI	/=Red	duced Matrix, CS	=Cover	ed or Coated	d Sand Grains	<sup>2</sup> Location: PL=Po	re Lining, M=Matrix
Hydric Soil I	ndicators: (Applic	able to a	II LRF	Rs, unless other	wise no	oted.)		Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A	(1)			Sandy Gley	/ed Mat	rix (S4)		☐ 1 cm Muck (A9) (Ll	RR I. J)
Histic Epip	,			Sandy Red				Coast Prairie Redo	
Black Hist				Stripped Ma				Dark Surface (S7)	
U Hydrogen	. ,			Loamy Muc		,		High Plains Depres	sions (F16)
	ayers (A5) (LRR F	)		Loamy Gle	-			(ĽRR H outside o	f MLRA 72 & 73)
	(A9) ( <b>LRR F, G, H</b>			Depleted N				Reduced Vertic (F1	
Depleted B	Below Dark Surface	e (A11)		🗌 Redox Darl	< Surface	ce (F6)		Red Parent Materia	<b>\</b> /
	Surface (A12)			Depleted D		. ,		Very Shallow Dark	
	cky Mineral (S1)			🗌 Redox Dep		. ,		Other (Explain in R	emarks)
	cky Peat or Peat (S		-	High Plains				<sup>3</sup> Indicators of hydrophy	
5 cm Mucl	xy Peat or Peat (S3	) ( <b>LRR F</b> )		(MLRA 72	& 73 0	f LRR H)		wetland hydrology mu	
								disturbed or problemation	lic
Restrictive L	ayer (if present):							Hydric Soil Present?	
Туре:		_	Dept	n (inches):				🗌 Yes 🛛 No	
Bomorko: No	hudria agil indigata	r ia propo	at						
Remarks. NO	hydric soil indicato	r is preser	п.						
HYDROLOG	r								
Wetland Hyd	rology Indicators:								
Primary Indica	ators (minimum of o	one requir	ed; ch	eck all that apply	<u>')</u>			Secondary Indicators	(2 or more required)
Surface W	ater (A1)		ſ	Salt Crust (B1	1)			Surface Soil Crack	s (B6)
☐ High Wate	( )		-	Aquatic Inverte	'	(B13)			d Concave Surface (B8)
Saturation				] Hydrogen Sulf				Drainage Patterns	
🗌 Water Mar	ks (B1)		[	Dry-Season W	/ater Ta	able (C2)		Oxidized Rhizosph	neres on Living Roots (C3)
Sediment	Deposits (B2)		[	Oxidized Rhiz	osphere	es on Living	Roots (C3)	(where tilled)	
🗌 Drift Depo	sits (B3)		_	(where not				Crayfish Burrows (	
Algal Mat	• •			Presence of R		. ,			on Aerial Imagery (C9)
Iron Depos	sits (B5)			Thin Muck Su				Geomorphic Positi	
	Visible on Aerial Ir	magery (B	7) l	Other (Explain	in Ren	narks)		FAC-Neutral Test	
☐ Water-Sta	ined Leaves (B9)							Frost-Heave Humr	mocks (D7) <b>(LRR F)</b>
Field Observ	ations:	Yes	No	Depth (inches)				n gauge, monitoring wel	l, aerial photos, previous
Sumfore Martin	r procept0	_		(110100)	insp	ections, etc.)	, if available:		
Surface Wate	•								
Water Table									
Saturation Pro			$\boxtimes$						
(includes cap	• • •	_	2						
	rology Present?		$\boxtimes$						
Remarks: We	tland hydrology ind	licator D2	is me	t.					

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	D Samp	pling Point: <u>SP-665</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T110N, R66V	V
Landform (hillslope, terrace, etc.) swale	Local relief (co	ncave, convex, none):	concave	Slope (%): <u>3 %</u>
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	67786 Long:	-98.802841	Datum: NAD83
Soil Map Unit Name:		N	WI Classification:	PEM1C
Are climate/hydrologic conditions on the site typical for this time of y	/ear? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoReHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Wetland	I sample plot located in	PEM W-583.	

Tree Stratum (Plot size: 30')	Absolute % Cover		Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.				are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4				Total Number of Dominant
	0 %	= Total Cove		Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.				Prevelance Index Workshoet
3	%			Prevalence Index Worksheet:
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cove		FACW species% x 2 =0
Herb Stratum (Plot size: 5')				FAC species % x 3 = 0
1. <u>Spartina pectinata</u>	100 %	Y	FACW	FACU species $\%$ x 4 = 0
2	%			UPL species         % x 5 =         0           Column Totals:         0 % (A)         0 (B)
3	%			
4				Prevalence Index = B/A =
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6				
7				☑ 1 Rapid Test for Hydrophytic Vegetation
8		·	. <u> </u>	□ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cove		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
Marchelling Oberture (Distributed 201)	100 %	- Total Cove		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
Z	0 %	= Total Cove		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum 0 %				Hydrophytic Vegetation Present? 🛛 Yes 🔲 No
Remarks: Rapid test for hydrophytic vegetation is met. Pho	otograph C-1	74		1
		J.		

Profile Desc	Matrice							
Depth (inches)	Matrix Color (moist)	%	Color (moist)	Redox Fea %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/2	100		/0	Туре		Clay Loam	Terriarks
6-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	
	·			·				
	·							
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM	Reduced Matrix,	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil I	Indicators: (Applic	able to all	l LRRs, unless oth	nerwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (	A1)		🗌 Sandy G	Sleyed Mat	rix (S4)		🗌 1 cm Muck (A9) ( <b>LRF</b>	R I, J)
🗌 Histic Epi	pedon (A2)		🗌 Sandy F	Redox (S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
Black His			Stripped	I Matrix (Se	6)		🗌 Dark Surface (S7) (L	
	n Sulfide (A4)		🗌 Loamy N				High Plains Depressi	ons (F16)
	Layers (A5) ( <b>LRR F</b> )		Loamy (				(LRR H outside of )	•
	k (A9) ( <b>LRR F, G, H</b>	,		•	,		Reduced Vertic (F18)	
•	Below Dark Surface	(A11)	Redox D		· · ·		☐ Red Parent Material ☐ Very Shallow Dark Set	. ,
	k Surface (A12)		Depleted		. ,		Other (Explain in Rer	· · ·
	ucky Mineral (S1) ucky Peat or Peat (S	2) <b>(I PP C</b>	☐ Redox D S, H) ☐ High Pla	•	. ,			
	ky Peat or Peat (S3)			72 & 73 o	· · ·		<sup>3</sup> Indicators of hydrophyti wetland hydrology must	be present, unless
							disturbed or problematic	
Restrictive I	Layer (if present):						disturbed or problematic Hydric Soil Present?	
	Layer (if present):		Depth (inches):					
Туре:		_	Depth (inches):				Hydric Soil Present?	
Туре:	Layer (if present):	_	Depth (inches):				Hydric Soil Present?	
Туре:		_	Depth (inches):				Hydric Soil Present?	
Туре:		_	Depth (inches):				Hydric Soil Present?	
Туре:		_	Depth (inches):				Hydric Soil Present?	
Type: Remarks: Hy	/dric soil indicator F6	_	Depth (inches):				Hydric Soil Present?	
Type: Remarks: Hy <b>YDROLOG</b>	/dric soil indicator F6	is met.	Depth (inches):				Hydric Soil Present?	
Type: Remarks: Hy YDROLOG Wetland Hyd	rdric soil indicator F6	i is met.					Hydric Soil Present?	
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic	rdric soil indicator F6 iY drology Indicators: cators (minimum of o	i is met.					Hydric Soil Present? ⊠ Yes □ No	or more required)
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic	rdric soil indicator F6 iY drology Indicators: cators (minimum of o	i is met.	ed; check all that ap	<u>oply)</u> (B11)			Hydric Soil Present?	or more required)
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic Surface V U High Wate	rdric soil indicator F6 FY drology Indicators: cators (minimum of o Vater (A1) er Table (A2)	i is met.	ed; check all that ap ☐ Salt Crust ( ☐ Aquatic Inv ☐ Hydrogen S	o <u>ply)</u> (B11) ertebrates Sulfide Odd	(B13) or (C1)		Hydric Soil Present? ☑ Yes □ No Secondary Indicators (2 □ Surface Soil Cracks	<u>or more required)</u> (B6) Concave Surface (B8)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indic D Surface V High Wate Saturatior	rdric soil indicator F6 FY drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	pply) (B11) eertebrates Sulfide Odd n Water Ta	(B13) pr (C1) ble (C2)		Hydric Soil Present? ☑ Yes □ No Secondary Indicators (2 □ Surface Soil Cracks □ Sparsely Vegetated □ Drainage Patterns (E □ Oxidized Rhizosphere	<u>or more required)</u> (B6) Concave Surface (B8) 310)
Type: Remarks: Hy YDROLOG Wetland Hyc Primary Indic Surface V High Wate Saturation Saturation Water Ma Sediment	vdric soil indicator F6 vdric soil indicator F6 vdrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) irks (B1) : Deposits (B2)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	oply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere	(B13) pr (C1) ble (C2)	Roots (C3)	Hydric Soil Present? ☑ Yes □ No Secondary Indicators (2 □ Surface Soil Cracks □ Sparsely Vegetated □ Drainage Patterns (E □ Oxidized Rhizosphere (where tilled)	<u>cor more required)</u> (B6) Concave Surface (B8) 310) res on Living Roots (C
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic Surface V High Wate Saturatior Saturatior Saturatior Saturatior Saturatior Saturation Dift Depo	Advic soil indicator F6 Advic soil indicator F6 Advice the solution of or Advice the solution of or Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) posits (B3)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n	pply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere <b>ot tilled)</b>	(B13) or (C1) ble (C2) ss on Living	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizosphere (where tilled)         □ Crayfish Burrows (C	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indic Surface V High Wate Saturation Saturation Sediment Sediment Drift Depo Algal Mat	vdric soil indicator F6 <b>FY</b> drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o	pply) (B11) ertebrates Sulfide Odd n Water Ta hizosphere ot tilled) of Reduced	(B13) or (C1) ble (C2) es on Living Iron (C4)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizospheretilled)         □ Crayfish Burrows (C       Saturation Visible or	<u>cor more required)</u> (B6) Concave Surface (B8) 310) res on Living Roots (C 8)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indic Surface V High Wate Saturation Saturation Sediment Sediment Drift Depo Algal Mat Iron Depo	vdric soil indicator F6 iY drology Indicators: cators (minimum of of Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri (where n Presence o Thin Muck	pply) (B11) ertebrates Sulfide Odd n Water Ta hizosphere iot tilled) of Reduced Surface (C	(B13) or (C1) ble (C2) es on Living Iron (C4) 7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizospheretilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Position       Image Position	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) a (D2)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indic Surface V High Wate Saturation Water Ma Sediment Sediment Drift Depo Algal Mat Iron Depo Inundation	rdric soil indicator F6 iY drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) urks (B1) c Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri (where n Presence o Thin Muck	pply) (B11) ertebrates Sulfide Odd n Water Ta hizosphere iot tilled) of Reduced Surface (C	(B13) or (C1) ble (C2) es on Living Iron (C4) 7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizospheretilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Positior       ☑ FAC-Neutral Test (D	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5)
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indic Surface V High Wate Saturation Water Ma Sediment Sediment Drift Depo Algal Mat Iron Depo Inundation	vdric soil indicator F6 iY drology Indicators: cators (minimum of of Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5)	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck Other (Expl	pply) (B11) ertebrates Sulfide Odd n Water Ta hizosphere iot tilled) of Reduced Surface (C	(B13) or (C1) ble (C2) es on Living Iron (C4) 7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizospheretilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Position       Image Position	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5)
Type: Remarks: Hy YDROLOG Wetland Hyc Primary Indic Saturation Saturation Saturation Saturation Saturation Drift Depo Algal Mat Iron Depo Inundation Water-Sta	Adric soil indicator F6 Adric soil indicator F6 Adrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rrks (B1) : Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial In ained Leaves (B9)	nagery (B7	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck Other (Expl Depth	pply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) of Reduced Surface (C lain in Rem	(B13) or (C1) ble (C2) es on Living Iron (C4) 7) narks) cribe Record	led Data (strea	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizospheretilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Positior       ☑ FAC-Neutral Test (D	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5) pocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hyp Primary Indic Surface V High Wate Saturation Saturation Sediment Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Obser	vdric soil indicator F6 vdric soil indicator F6 vdrology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) arks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations:	i is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck Other (Expl Depth No (inches)	pply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) of Reduced Surface (C lain in Rem	(B13) or (C1) ble (C2) es on Living Iron (C4) 7) narks) cribe Record		Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         ☑ Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizosphere (where tilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Positior       ☑ FAC-Neutral Test (D         □ Frost-Heave Hummore       ☑ Staturation Content or Staturation Conten or Staturation Content or Staturation Conten	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5) pocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Wate	vdric soil indicator F6 iY drology Indicators: cators (minimum of of Vater (A1) er Table (A2) n (A3) urks (B1) : Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present?	is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri (where n Presence o Thin Muck Other (Expl Depth No (inches)	pply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) of Reduced Surface (C lain in Rem	(B13) or (C1) ble (C2) es on Living Iron (C4) 7) narks) cribe Record	led Data (strea	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         ☑ Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizosphere (where tilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Positior       ☑ FAC-Neutral Test (D         □ Frost-Heave Hummore       ☑ Staturation Content or Staturation Conten or Staturation Content or Staturation Conten	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5) pocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic Surface V High Water Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Water Water Table	vdric soil indicator F6 iY drology Indicators: cators (minimum of of Vater (A1) er Table (A2) n (A3) urks (B1) c Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present? present?	anagery (B7	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized R (where n Presence o Thin Muck Thin Muck Other (Expl No (inches) C	pply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) of Reduced Surface (C lain in Rem	(B13) or (C1) ble (C2) es on Living Iron (C4) 7) narks) cribe Record	led Data (strea	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         ☑ Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizosphere (where tilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Positior       ☑ FAC-Neutral Test (D         □ Frost-Heave Hummore       ☑ Staturation Content or Staturation Conten or Staturation Content or Staturation Conten	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5) pocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hyc Primary Indic Saturation Saturation Saturation Saturation Saturation Drift Depo Algal Mat Iron Depo Inundation Water-Sta	rdric soil indicator F6 iY drology Indicators: cators (minimum of o Vater (A1) er Table (A2) n (A3) rrks (B1) : Deposits (B2) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present? present? resent?	is met.	ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri (where n Presence o Thin Muck Other (Expl Depth No (inches)	pply) (B11) ertebrates Sulfide Odo n Water Ta hizosphere ot tilled) of Reduced Surface (C lain in Rem	(B13) or (C1) ble (C2) es on Living Iron (C4) 7) narks) cribe Record	led Data (strea	Hydric Soil Present?         ☑ Yes       No         ☑ Yes       No         ☑ Surface Soil Cracks       Sparsely Vegetated         □ Drainage Patterns (E       Oxidized Rhizosphere (where tilled)         □ Crayfish Burrows (C       Saturation Visible or         ☑ Geomorphic Positior       ☑ FAC-Neutral Test (D         □ Frost-Heave Hummore       ☑ Staturation Content or Staturation Conten or Staturation Content or Staturation Conten	Cor more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) A Aerial Imagery (C9) n (D2) 5) pocks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicators D2 and D5 are met.

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	) Sam	oling Point: SP-666
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T110N, R66V	V
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): <u>5</u> %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	67701 Long:	-98.802809	Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes		N	WI Classification:	NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (If no, e	explain in Remarks.	)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Upland	sample plot adjacent to	PEM W-583.	

The a Church una (Dist size: 201)	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1	% Cover %	Species?	Status	Number of Dominant Species that
2.	<u>%</u>			are OBL, FACW, or FAC
3.	%			(excluding FAC-): 0 (A)
	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: 1 (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
Saping/Shirub Stratum         (Flot size.         1.           1.	%			are OBL, FACW, or FAC: 0% (A/B)
2.	<u>%</u>			
3.				Prevalence Index Worksheet:
	<u>%</u>			Total % Cover of: Multiply by:
4 5.	<u>%</u>			OBL species % x 1 = 0
·	0 %	= Total Cover		FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )				FAC species % x 3 = 0
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species% x 4 =
2	<u> </u>	<u> </u>		UPL species% x 5 =
3.	0/			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			
6	%			Hydrophytic Vegetation Indicators:
7	0/			1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	<u>%</u>			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-105.			

		the de	epth n				or confirm the	absence of indicators.)	
Depth	Matrix				Redox Fe			_	
(inches) Color (n		%	C	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8 10YR		100						Clay Loam	
8-20 10YR	3/3	100			· <u> </u>			Clay Loam	
·									
Type: C=Concentration							d Sand Grains		0,
Hydric Soil Indicators:	(Applicat	Die to a						Indicators for Problema	•
Histosol (A1)				Sandy G	-			1 cm Muck (A9) ( <b>LRR</b>	
Histic Epipedon (A2)				Sandy R	-			Coast Prairie Redox (A	
Black Histic (A3)				Stripped	•	,		Dark Surface (S7) (LF	,
Hydrogen Sulfide (A4	,			Loamy N	•	• •		High Plains Depressio	
Stratified Layers (A5)					•	. ,		(LRR H outside of N Reduced Vertic (F18)	ILNA 12 0 (3)
1 cm Muck (A9) (LRF						,		Reduced Vertic (F18)	TE2)
Depleted Below Dark		411)				. ,		Very Shallow Dark Su	,
Thick Dark Surface (A	,			Depleted		. ,		Other (Explain in Rem	
Sandy Mucky Mineral			с цу		•	· · ·	<b>`</b>		,
☐ 2.5 cm Mucky Peat of ] 5 cm Mucky Peat or F			-			essions (F16) of LRR H)	)	<sup>3</sup> Indicators of hydrophytic wetland hydrology must b	
	-eat (33) (		)		12 0 10			disturbed or problematic	e present, uniess
Restrictive Layer (if pre	esent):							Hydric Soil Present?	
Гуре:			Depth	n (inches):				🗌 Yes 🖾 No	
Remarks: No hydric soil	indicator is	s prese	nt.						
YDROLOGY									
Netland Hydrology Ind	icators:								
Primary Indicators (minin		e requir	red <sup>.</sup> ch	eck all that ap	vla			Secondary Indicators (2	or more required)
Surface Water (A1)				] Salt Crust (				Surface Soil Cracks (	
☐ High Water Table (A2	2)		-	Aquatic Inv		e (B13)		Sparsely Vegetated C	,
Saturation (A3)	-)			Hydrogen S				Drainage Patterns (B	
Water Marks (B1)			_	Dry-Seasor		( )		Oxidized Rhizosphere	,
Sediment Deposits (E	32)			Oxidized R		. ,	Roots (C3)	(where tilled)	
Drift Deposits (B3)				(where n			10010 (00)	Crayfish Burrows (C8	)
Algal Mat or Crust (B4	4)		[	Presence o	f Reduce	ed Iron (C4)		Saturation Visible on	Aerial Imagery (C9)
☐ Iron Deposits (B5)	,		[	Thin Muck	Surface (	(C7)		Geomorphic Position	(D2)
Inundation Visible on	Aerial Ima	igery (E	37) [	Other (Expl	ain in Re	emarks)		FAC-Neutral Test (D5	5)
 Water-Stained Leave								Frost-Heave Hummo	cks (D7) <b>(LRR F)</b>
Field Observations:		Yes	No	Depth (inches)				am gauge, monitoring well, a	erial photos, previou
		_		(110103)	ins	pections, etc.	), it available:		
Surface Water present?					-				
Nater Table present?			$\boxtimes$		-				
Saturation Present?			$\boxtimes$		-				
(includes capillary fringe)	-	_	_						
Wetland Hydrology Pre	esent?		$\boxtimes$						

Remarks: Wetland hydrology indicators are not met.

Project/Site: Sweetland Wind Project	City/County: Ha	and County	Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SE	Sampling Point: SP-667
Investigator(s): T. Beemer, W. Hirst	Section, T	Township, Range:	S6, T110N, R66W
Landform (hillslope, terrace, etc.)pothole	Local relief (concave	e, convex, none):	concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Regio	Lat: 44.36549	99 Long:	-98.805284 Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating		N	NI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	No (If no, e	xplain in Remarks.)
Vegetation       Soil       Hydrology         Significantly Disturbed?       Image: Comparison of the second secon	(If needed,	al Circumstances" ; , explain any answe i <b>ons, transects, i</b>	rs in Remarks.)
Yes       No         Hydrophytic Vegetation Present?       Image: Comparison of the system of t	Remarks: Wetland san	nple plot located in	PEM W-584.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum         (Plot size: <u>30'</u> )           1.	% Cover %	Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC
3.	%			(excluding FAC-): (A)
4.	%			Total Number of Dominant
	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15')				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC:(A/B)
2.	%			Brevelance Index Workshoet
3	%			Prevalence Index Worksheet:
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cove	r	FACW species% x 2 =
Herb Stratum (Plot size: 5')				FAC species% x 3 =
1. <u>Phalaris arundinacea</u>	100 %	Y	FACW	FACU species % x 4 = 0
2.	%			UPL species $\%$ x 5 = 0
3	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
4				Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%			
7	%			☑ 1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30'</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			
2	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cove	r	must be present, unless disturbed of problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: Rapid test for hydrophytic vegetation is met. Photo	ograph C-10	06.		
	-			

Depth	Matrix		F	Redox Fea	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/2	100					Clay Loam	
6-20	10YR 3/2	90	10YR 4/6	10	С	М	Clay Loam	
		. <u> </u>						
Type: C=Co	oncentration, D=Dep	letion, RN	I=Reduced Matrix, (	CS=Cover	ed or Coate	d Sand Grains	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix
lydric Soil I	Indicators: (Applic	able to al	I LRRs, unless oth	erwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (	A1)		🗌 Sandy G	leyed Mat	trix (S4)		🗌 1 cm Muck (A9) (LR	R I, J)
] Histic Epi	pedon (A2)		☐ Sandy R	edox (S5)			Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
Black His	tic (A3)		Stripped	Matrix (S	6)		Dark Surface (S7) (L	RR G)
] Hydrogen	Sulfide (A4)		🗌 Loamy N				High Plains Depressi	
	Layers (A5) ( <b>LRR F</b> )		🗌 Loamy G	•	. ,		(LRR H outside of	
	k (A9) ( <b>LRR F, G, H</b>	-	Depleted		,		Reduced Vertic (F18	,
•	Below Dark Surface	(A11)	🛛 Redox D		· · /		Red Parent Material	· · · ·
	k Surface (A12)		Depleted		· · ·		Very Shallow Dark S	· · ·
	ucky Mineral (S1)		Redox D	•	. ,		Other (Explain in Rer	marks)
	ucky Peat or Peat (S			•	· · ·		<sup>3</sup> Indicators of hydrophyti	
_ 5 cm Muc	ky Peat or Peat (S3	) ( <b>LRR F</b> )	(MLRA	72 & 73 o	t LRR H)		wetland hydrology must disturbed or problematic	
Restrictive I	_ayer (if present):						Hydric Soil Present?	
Туре:	ayer (if present):	_	Depth (inches):					
Гуре:		_	Depth (inches):				Hydric Soil Present?	
Type: Remarks: Hy YDROLOG	rdric soil indicator F6	) is met.	Depth (inches):				Hydric Soil Present?	
Fype: Remarks: Hy YDROLOG Wetland Hyd	rdric soil indicator F6	) is met.					Hydric Soil Present? ⊠ Yes □ No	
Type: Remarks: Hy YDROLOG Wetland Hyo Primary Indic	rdric soil indicator F6 Y drology Indicators:	) is met.	ed; check all that ap	<u></u>			Hydric Soil Present?	2 or more required)
Type: Remarks: Hy YDROLOG Vetland Hyo Primary Indic ] Surface V	rdric soil indicator F6 iY drology Indicators: cators (minimum of c Vater (A1)	) is met.	ed; check all that ap □ Salt Crust (	<u>ply)</u> B11)			Hydric Soil Present?	<u>e or more required)</u> (B6)
Type: Remarks: Hy YDROLOG Vetland Hyo Primary Indic ] Surface V ] High Wate	rdric soil indicator F6 Y drology Indicators: cators (minimum of c Vater (A1) er Table (A2)	) is met.	ed; check all that ap ☐ Salt Crust ( ☐ Aquatic Invo	<u>ply)</u> B11) ertebrates	(B13)		Hydric Soil Present?  Yes No  Secondary Indicators (2  Surface Soil Cracks  Sparsely Vegetated	<u>? or more required)</u> (B6) Concave Surface (B8)
Type:	rdric soil indicator F6 FY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S	<u>ply)</u> B11) ertebrates Sulfide Ode	(B13) or (C1)		Hydric Soil Present?         ☑ Yes       No         Secondary Indicators (2         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (femtors)	<u>2 or more required)</u> (B6) Concave Surface (B8) 310)
Type:	rdric soil indicator F6 FY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) rrks (B1)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor	<u>ply)</u> B11) ertebrates sulfide Ode i Water Ta	(B13) or (C1) able (C2)	Roots (C3)	Hydric Soil Present?  Yes No  Secondary Indicators (2  Surface Soil Cracks  Sparsely Vegetated	<u>2 or more required)</u> (B6) Concave Surface (B8) 310)
ype: Remarks: Hy /DROLOG /UROLOG Primary Indic Surface V High Water Saturation Water Ma Sediment	rdric soil indicator F6 <b>FY</b> <b>drology Indicators:</b> <u>cators (minimum of c</u> Vater (A1) er Table (A2) n (A3) Irks (B1) Deposits (B2)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S	<u>ply)</u> B11) ertebrates Sulfide Ode N Water Ta nizosphere	(B13) or (C1) able (C2)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         Secondary Indicators (2         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (8         □ Oxidized Rhizosphe	<u>2 or more required)</u> (B6) Concave Surface (B8) 310) res on Living Roots (C
Type:	rdric soil indicator F6 <b>Y</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) psits (B3)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor	<u>ply)</u> B11) ertebrates sulfide Ode n Water Ta nizosphere ot tilled)	(B13) or (C1) able (C2) es on Living	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         Secondary Indicators (2         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (8         □ Oxidized Rhizosphe (where tilled)	<u>2 or more required)</u> (B6) Concave Surface (B8) 310) res on Living Roots (C 8)
Type:	rdric soil indicator F6 <b>Y</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) osits (B3) or Crust (B4)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Ri (where n	<u>ply)</u> B11) ertebrates sulfide Odd n Water Ta nizosphere ot tilled) f Reduced	(B13) or (C1) able (C2) es on Living	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         Secondary Indicators (2)         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (F)         □ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C)	<u>2 or more required)</u> (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9)
Type: Remarks: Hy  TypROLOG  Primary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo	rdric soil indicator F6 <b>Y</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) osits (B3) or Crust (B4)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	<u>ply)</u> B11) ertebrates Sulfide Odd o Water Ta nizosphere ot tilled) f Reduced Surface (C	(B13) or (C1) able (C2) es on Living H Iron (C4) C7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators (2         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (E         □ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C         □ Saturation Visible or         ☑ Geomorphic Positior         ☑ FAC-Neutral Test (D	2 or more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) 25)
	rdric soil indicator F6 <b>Y</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	<u>ply)</u> B11) ertebrates Sulfide Odd o Water Ta nizosphere ot tilled) f Reduced Surface (C	(B13) or (C1) able (C2) es on Living H Iron (C4) C7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators (2         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (E         □ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C         □ Saturation Visible or         ☑ Geomorphic Position	2 or more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) 25)
Fype:	rdric soil indicator F6 <b>TY</b> <b>drology Indicators:</b> <u>cators (minimum of c</u> Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial In ained Leaves (B9)	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	ply) B11) ertebrates Sulfide Odd twater Ta nizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (stre	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators (2         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (E         □ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C         □ Saturation Visible or         ☑ Geomorphic Positior         ☑ FAC-Neutral Test (D	2 or more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) 05) pocks (D7) <b>(LRR F)</b>
Fype: Remarks: Hy  YDROLOG  Yetland Hy  Primary Indic Saturation High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta  Field Observ	rdric soil indicator F6 rdric soil indicator F6 rdrology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) urks (B1) Deposits (B2) posits (B3) or Crust (B4) posits (B5) n Visible on Aerial In ained Leaves (B9) vations:	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S 7) Other (Expl No (inches)	ply) B11) ertebrates Sulfide Odd twater Ta nizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record		Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators (2)         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (E)         ○ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible or         ⊠ Geomorphic Position         ☑ FAC-Neutral Test (D)         □ Frost-Heave Hummon	2 or more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) 05) pocks (D7) <b>(LRR F)</b>
Type:	rdric soil indicator F6 rdric soil indicator F6 rdrology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present?	nagery (B7	ed; check all that ap Salt Crust ( Aquatic Invi Hydrogen S Dry-Seasor Oxidized Ri (where n Presence o Thin Muck S Other (Expl Depth No (inches)	ply) B11) ertebrates Sulfide Odd twater Ta nizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (stre	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators (2)         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (E)         ○ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible or         ⊠ Geomorphic Position         ☑ FAC-Neutral Test (D)         □ Frost-Heave Hummon	2 or more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) 05) pocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy YDROLOG Wetland Hyd Primary Indic Surface V High Wate Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation	rdric soil indicator F6 rdric soil indicator F6 rdrology Indicators: cators (minimum of co Vater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present? present?	) is met.	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S 7) Other (Expl No (inches)	ply) B11) ertebrates Sulfide Odd twater Ta nizosphere ot tilled) f Reduced Surface (C ain in Ren	(B13) or (C1) able (C2) es on Living I Iron (C4) C7) narks) cribe Record	led Data (stre	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators (2)         □ Surface Soil Cracks         □ Sparsely Vegetated         □ Drainage Patterns (E)         ○ Oxidized Rhizosphe (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible or         ⊠ Geomorphic Position         ☑ FAC-Neutral Test (D)         □ Frost-Heave Hummon	2 or more required) (B6) Concave Surface (B8) 310) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) 05) pocks (D7) <b>(LRR F)</b>

Remarks: Wetland hydrology indicators D2 and D5 are met.

 $\boxtimes$ 

Wetland Hydrology Present?

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: S	D Sampling Point: SP-668
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none Slope (%): 4 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	65510 Long:	-98.805115 Datum: NAD83
Soil Map Unit Name: <u>Glenham loam, undulating</u>		N	WI Classification: NA
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Ye	s 🗌 No (lf no, e	explain in Remarks.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	Normal Circumstances" eded, explain any answe cations, transects,	ers in Remarks.)
Yes       No       F         Hydrophytic Vegetation Present?       Image: Comparison of the symbol       Image: Comparis	emarks: Upland	sample plot adjacent to	9 PEM W-584.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator	Dominance Test Worksheet:	
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that	
2.	0/			are OBL, FACW, or FAC (excluding FAC-): 0 (A)	
3.				( ,	
4.				Total Number of Dominant	
	0 %	= Total Cove	er	Species Across All Strata:(B)	
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that	
1	%			are OBL, FACW, or FAC: 0% (A/B	()
2				Prevalence Index Worksheet:	
3					
4				Total % Cover of: Multiply by:	
5				OBL species $\%$ x 1 = 0	
	0 %	= Total Cove	er	FACW species         % x 2 =         0           FAC species         % x 3 =         0	
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\frac{1}{2}$ $$	
1. <u>Bromus inermis</u>	20 %	<u>Y</u>	UPL	$\begin{array}{c c} 1 & 1 & 1 \\ \hline \\ 1 & 1 \\ \hline 1 & 1 \\ \hline 1 & 1 \\ \hline \\ 1 & 1 \\ \hline 1$	
2. <u>Setaria pumila</u>		Y	FACU	Column Totals: $0\%$ (A) $0$ (B)	)
3					
4				Prevalence Index = B/A =	
5				Hydrophytic Vegetation Indicators:	
6 7	0/	<u> </u>		☐ 1 Rapid Test for Hydrophytic Vegetation	
8.				☐ 2 Dominance Test is >50%	
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>	
10				4 Morphological Adaptations <sup>1</sup> (Provide	
	40 %	= Total Cove	er	supporting data in Remarks or on a separate sheet)	
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)	
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology	
	0 %	= Total Cove	er	must be present, unless disturbed or problematic	
Bare Ground in Herb Stratum <u>60</u> %				Hydrophytic Vegetation Present?  Yes No	
Remarks: Hydrophytic vegetation is not present. Photogr	$c_{-107}$				
	apri 0-107.				

Profile Desc	ription: (Describe	to the de	pth ne	eded to docu	ment the	e indicator o	or confirm the	absence of indicators.)	
Depth	Matrix			Re	edox Fea	itures			
(inches)	Color (moist)	%	Co	olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 3/2	100						Clay Loam	
8-20	10YR 3/3	100						Clay Loam	
<sup>1</sup> Type: C=Co	oncentration, D=Dep	oletion. RM	/=Red	uced Matrix. C	S=Cover	ed or Coated	Sand Grains	<sup>2</sup> Location: PL=Por	e Lining, M=Matrix
	ndicators: (Applic							Indicators for Problem	6,
_									•
Histosol (	,			Sandy Gle	-			1 cm Muck (A9) (LR	
Histic Epi				Sandy Re				Coast Prairie Redox	
Black Hist	. ,			Stripped N		,		Dark Surface (S7) (	
Hydrogen				Loamy Mu	-			High Plains Depress	Sions (F16)
	Layers (A5) ( <b>LRR F</b>			Loamy GI	•	. ,		(LRR H outside of	•
	k (A9) ( <b>LRR F, G, F</b>	-		Depleted	-	-		Reduced Vertic (F1	
	Below Dark Surface	e (A11)		Redox Da		. ,		Red Parent Materia	
	k Surface (A12)			Depleted		( )		Very Shallow Dark S	( )
	icky Mineral (S1)			🗌 Redox De	•	. ,		Other (Explain in Re	emarks)
🗌 2.5 cm Mi	ucky Peat or Peat (ទ	52) ( <b>LRR (</b>	<b>G, H</b> )	🗌 High Plair	•	· · ·		<sup>3</sup> Indicators of hydrophy	tic vegetation and
🗌 5 cm Muc	ky Peat or Peat (S3	6) (LRR F)		(MLRA 7	2&730	f LRR H)		wetland hydrology mus	
								disturbed or problemati	С
Restrictive L	ayer (if present):							Hydric Soil Present?	
Type:			Depth	(inches):				🗌 Yes 🖾 No	
HYDROLOG	Y								
Wetland Hyd	drology Indicators	:							
Primary Indic	ators (minimum of o	one require	ed; che	eck all that app	ly)			Secondary Indicators (	2 or more required)
Surface W	Vater (A1)		Ľ	] Salt Crust (B	11)			Surface Soil Cracks	s (B6)
High Wate	er Table (A2)		Г	Aquatic Inve	tebrates	(B13)		Sparselv Vegetated	Concave Surface (B8)
Saturation				_ ] Hydrogen Su				Drainage Patterns	
U Water Ma	· · /			Dry-Season				Oxidized Rhizosphe	eres on Living Roots (C3)
—	Deposits (B2)			Oxidized Rhi		. ,	Roots (C3)	(where tilled)	5 ()
Drift Depo			-	(where no		j-	(	Crayfish Burrows (0	C8)
	or Crust (B4)		C	Presence of	Reduced	Iron (C4)		Saturation Visible o	on Aerial Imagery (C9)
			C	] Thin Muck S	urface (C	;7)		Geomorphic Positio	on (D2)
	n Visible on Aerial Ir	magery (B	7) [	Other (Explai	in in Ren	narks)		FAC-Neutral Test (	D5)
	ained Leaves (B9)		, –					Frost-Heave Humm	nocks (D7) <b>(LRR F)</b>
	( )			Donth					
	ations:	Yes	No	Depth (inches)			ed Data (strea , if available:	m gauge, monitoring well	, aerial photos, previous
Field Observ				· /	map	550013, 60.)	, available.		
	er present?		$\square$						
Surface Wate	•		$\boxtimes$						
Surface Wate Water Table	present?		$\boxtimes$						
Surface Wate Water Table Saturation Pr	present? esent?	_							
Surface Wate Water Table Saturation Pr (includes cap	present? esent? villary fringe)		$\boxtimes$						
Surface Wate Water Table Saturation Pr (includes cap	present? esent?		$\boxtimes$						

Project/Site: Sweetland Wind Project	City/County:	Hand County	Sampling	Date: 10/17/2018
Applicant/Owner: Sweetland Wind Farm, LLC		State: SI	<u>Sam</u>	pling Point: <u>SP-669</u>
Investigator(s):T. Beemer, W. Hirst	Secti	on, Township, Range:	S5, T110N, R66V	N
Landform (hillslope, terrace, etc.) toeslope	Local relief (co	ncave, convex, none):	none	Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region	Lat: 44.3	5936 Long:	-98.799860	Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes		N	WI Classification:	PEM1C
Are climate/hydrologic conditions on the site typical for this time of	year? 🛛 🛛 Yes	s 🗌 No (lf no, e	explain in Remarks.	.)
Vegetation Soil Hydrology Significantly Disturbed?	(If nee	lormal Circumstances" ded, explain any answe cations, transects,	ers in Remarks.)	_
YesNoRHydrophytic Vegetation Present?IIHydric Soil Present?IIWetland Hydrology Present?IIIs the Sampled Area within a Wetland?II	emarks: Upland	sample plot.		

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant	Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30'</u> ) 1		Species?	Status	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC
3.	%			(excluding FAC-): 0 (A)
4	%			Total Number of Dominant
	0 %	= Total Cover	-	Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				Percent of Dominant Species that
1	%			are OBL, FACW, or FAC: 0% (A/B)
2	%			Prevalence Index Worksheet:
3				Prevalence index worksheet:
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =
Herb Stratum (Plot size: <u>5'</u> )				FAC species $\%$ x 3 = 0
1. <u>Bromus inermis</u>	100 %	Y	UPL	FACU species $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
2	%			UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
3	%			
4	%			Prevalence Index = B/A =
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6				
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8		<u> </u>		☐ 2 Dominance Test is >50%
9	<u>%</u>			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u> 100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide
Weedu Vine Chetum (Distaires 201)	100 %			supporting data in Remarks or on a separate sheet)
Woody Vine Stratum         (Plot size: <u>30'</u> )           1.	%			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation is not present. Photograp	h C-108.			

		to the de	pth needed to d			or confirm th	e absence of indicators.)	
Depth (inches)	Matrix	%	Color (moist)	Redox F %		Loc <sup>2</sup>	Touturo	Domorko
0-6	Color (moist) 10YR 2/2	100	Color (moist)	70	Type <sup>1</sup>		Texture Clay Loam	Remarks
6-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	
						<u> </u>		
						·		
						<u> </u>		
<sup>1</sup> Type: C=Co	ncentration, D=Dep	oletion, RM	I=Reduced Matri	x, CS=Cov	vered or Coate	d Sand Grains	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil Iı	ndicators: (Applic	able to al	I LRRs, unless	otherwise	noted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A	<b>N</b> 1)		Sand	y Gleyed M	/latrix (S4)		🗌 1 cm Muck (A9) ( <b>LRF</b>	R I, J)
Histic Epip	edon (A2)		Sand	y Redox (S	\$5)		Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
Black Histi	ic (A3)		🗌 Stripp	ed Matrix	(S6)		Dark Surface (S7) (L	
Hydrogen					lineral (F1)		High Plains Depressi	ons (F16)
	ayers (A5) ( <b>LRR F</b>	,			Matrix (F2)		(LRR H outside of	
	k (A9) ( <b>LRR F, G, H</b>		•	ted Matrix	. ,		Reduced Vertic (F18)	
•	Below Dark Surface	e (A11)		x Dark Sur	( )		Red Parent Material	. ,
	Surface (A12)		•		Surface (F7)		Very Shallow Dark S	. ,
	cky Mineral (S1)			x Depressi	. ,		Other (Explain in Rer	
	cky Peat or Peat (S vy Peat or Peat (S3			•	pressions (F16) <b>3 of LRR H)</b>	)	<sup>3</sup> Indicators of hydrophyti wetland hydrology must disturbed or problematic	be present, unless
Restrictive I	ayer (if present):						Hydric Soil Present?	
	ayer (in present).		Depth (inches):				$\boxtimes$ Yes $\square$ No	
Туре:		_	Depth (inches).					
Remarks: Hyd	dric soil indicator F6	6 is met.						
YDROLOG	Y							
	rology Indicators:							
	ators (minimum of o		ed; check all that	apply)			Secondary Indicators (2	or more required)
Surface W			Salt Crus				Surface Soil Cracks	
High Wate	· · /		Aquatic I	· · ·	es (B13)		Sparsely Vegetated	· · ·
Saturation			Hydroge				Drainage Patterns (E	. ,
_ Water Mar			Dry-Sea		. ,		Oxidized Rhizospher	
	Deposits (B2)				eres on Living	Roots (C3)	(where tilled)	5 (*
 Drift Depo				e not tilled		( )	Crayfish Burrows (C	8)
 Algal Mat			Presence	e of Reduc	ced Iron (C4)		Saturation Visible or	Aerial Imagery (C9)
Iron Depos			🗌 Thin Mu				Geomorphic Position	ו (D2)
Inundation	Visible on Aerial Ir	magery (B	7) 🗌 Other (E	xplain in R	temarks)		FAC-Neutral Test (D	
UWater-Sta	ined Leaves (B9)						Frost-Heave Hummo	ocks (D7) <b>(LRR F)</b>
Field Observ	ations:	Yes	Depth No (inches	、			am gauge, monitoring well,	aerial photos, previous
Surface Met-	r propopt?	_			spections, etc.	), ii available:		
Surface Wate	•		×	—				
Water Table p			⊠					
Saturation Pro			⊠					
(includes cap		_	-					
	rology Present?		$\boxtimes$					

Remarks: Wetland hydrology indicators are not met.

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm	, LLC		State: <u>SD</u> Sampling Point: <u>SP-701</u>
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S6, T111N, R66W</u>
Landform (hillslope, terrace, etc.) depres	ssion		_ Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>1 %</u>
Subregion (LRR): Northern Great Plain	s Spring	Wheat	Lat:
Soil Map Unit Name: Glenham-Propsel	r loams, 1	to 6 percer	nt slopes NWI Classification: PEM1A
Are climate/hydrologic conditions on the sit	te typical	for this time	of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🛛 No
Significantly Disturbed?	$\boxtimes$		
Naturally Problematic?			(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	site map	showing	sampling point locations, transects, important features, etc.
	Yes	No	Remarks: SP-701 is located within W-701, a PEM wetland. Normal conditions are
Hydrophytic Vegetation Present?	$\boxtimes$		not present due to recent rainfall and distubance caused by cattle.
Hydric Soil Present?	$\boxtimes$		
Wetland Hydrology Present?	$\boxtimes$		
Is the Sampled Area within a Wetland?	$\boxtimes$		

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover		Indicator Status	Dominance Test Worksheet:
(, , , , , , , , , , , , , , , , , , ,	% Cover %	Species?	Status	Number of Dominant Species that
1	<u>%</u>			are OBL, FACW, or FAC
2				(excluding FAC-): <u>3</u> (A)
3		<u> </u>		Total Number of Dominant
4	<u>%</u>			Species Across All Strata: <u>3 (B)</u>
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: <u>100%</u> (A/B)
1				
2				Prevalence Index Worksheet:
3			<u> </u>	Total % Cover of:Multiply by:
4			<u> </u>	OBL species         %         x 1 =
5	<u>%</u>			FACW species $$
	0 %	= Total Cover		FAC species $\begin{tabular}{c} & & & & & \\ &$
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species $\% x 4 = 0$
1. <u>Eleocharis obtusa</u>	45 %	<u>Y</u>	OBL	UPL species % x 5 = 0
2. Hordeum jubatum	25 %	<u>Y</u>	FACW	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. <u>Rumex crispus</u>	25 %	<u>Y</u>	FAC	
4. Echinochloa crus-galli	5 %	N	FAC	Prevalence Index = B/A =
5. Xanthium strumarium	5 %	<u>N</u>	FAC	Hydrophytic Vegetation Indicators:
6. <u>Helianthus maximiliani</u>	2 %	N	FACU	
7				1 Rapid Test for Hydrophytic Vegetation
8	<u>%</u>			☑ 2 Dominance Test is >50%
9		·		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%	·		4 Morphological Adaptations <sup>1</sup> (Provide
	<u>   107 %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Dominance Test is met. Photograph C-113.				

Profile Descr	iption: (Describe	to the dept	h needed to do	cument th	e indicator o	or confirm th	e absence of indicators.)	
Depth	Matrix			Redox Fe	atures			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2	10YR 2/1	97	10YR 4/3	3	C	М	silty clay	
2-8	10YR 2/1	100					clay with fine gravel	
<sup>1</sup> Type: C=Co	ncentration, D=Dep	oletion, RM=	Reduced Matrix,	CS=Cove	red or Coate	d Sand Grain	s <sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil Ir	dicators: (Applic	able to all L	.RRs, unless ot	herwise r	oted.)		Indicators for Problema	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A	.1)		☐ Sandy	Gleved Ma	atrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR</b>	(I, J)
 Histic Epip	,		☐ Sandy	-			Coast Prairie Redox (	
 □ Black Histi			☐ Strippe	-	-		Dark Surface (S7) (LF	
Hydrogen :	Sulfide (A4)		Loamy	Mucky Mi	neral (F1)		High Plains Depression	ons (F16)
Stratified L	ayers (A5) (LRR F	)	Loamy	Gleyed M	atrix (F2)		(LRR H outside of M	ILRA 72 & 73)
	(A9) ( <b>LRR F, G, H</b>		Deplete	ed Matrix (	F3)		Reduced Vertic (F18)	
	Below Dark Surface	-	☐ Redox	Dark Surfa	ace (F6)		Red Parent Material (	,
Thick Dark	Surface (A12)		Deplete	ed Dark Su	ırface (F7)		☐ Very Shallow Dark Su	. ,
Sandy Mud	cky Mineral (S1)		🗌 Redox	Depressio	ns (F8)		🛛 Other (Explain in Rem	narks)
_	cky Peat or Peat (S	, ,	, _ 0	•	essions (F16)		<sup>3</sup> Indicators of hydrophytic	vegetation and
5 cm Muck	y Peat or Peat (S3	) ( <b>LRR F</b> )	(MLRA	72 & 73	of LRR H)		wetland hydrology must l	pe present, unless
							disturbed or problematic	
	ayer (if present):						Hydric Soil Present?	
Type: <u>co</u>	mpacted soil	De	epth (inches):	8			🛛 Yes 🔲 No	
	l, it is likely that soi		(10, 10, 01 Dout)					
HYDROLOG	SY							
•	rology Indicators:							
Primary Indica	ators (minimum of o	one required	check all that a	pply)			Secondary Indicators (2	or more required)
🛛 Surface W	ater (A1)		Salt Crust	(B11)			Surface Soil Cracks (	, ,
🛛 High Wate	r Table (A2)		🗌 Aquatic In				Sparsely Vegetated (	Concave Surface (B8)
Saturation	( )		Hydrogen		( )		Drainage Patterns (B	
U Water Mar	( )		Dry-Seaso		( )		Oxidized Rhizospher	es on Living Roots (C3
Sediment I					es on Living	Roots (C3)	(where tilled)	
Drift Depos				not tilled)	d Inc. (C.1)		Crayfish Burrows (C8	
Algal Mat o							Saturation Visible on	0,(,,
Iron Depos	. ,	(5-)	Thin Muck		-		Geomorphic Position	
	Visible on Aerial Ir	magery (B7)	☐ Other (Exp		illaiks)		Frost-Heave Hummo	,
U water-Stai	ned Leaves (B9)							
Field Observ	ations:	Yes N	Depth lo (inches)			led Data (stre ), if available:	am gauge, monitoring well, a	aerial photos, previous
Surface Wate	r present?		2.5		,			
Water Table p				-				
Saturation Pre				-				
(includes capi		ы L		-				
	rology Present?		Г					
		لا لا						
	tland hydrology ind	lantan Ad			+			

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm,	LLC		State: SD Sampling Point: SP-702
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S6, T111N, R66W</u>
Landform (hillslope, terrace, etc.) terrace	9		Local relief (concave, convex, none): Slope (%): 0 %
Subregion (LRR): Northern Great Plains	s Spring V	Wheat Regio	gion Lat: <u>44.443172</u> Long: <u>-98.815723</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Glenham-Propser	loams, 1	to 6 percer	ent slopes NWI Classification: PEM1A
Are climate/hydrologic conditions on the site	e typical i	for this time	e of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?			(If needed, explain any answers in Remarks)
Naturally Problematic?			
SUMMARY OF FINDINGS – Attach s	ite map	showing	g sampling point locations, transects, important features, etc.
	Yes	No	Remarks: SP-702 is located adjacent to W-701, a PEM wetland. Normal hydrologic
Hydrophytic Vegetation Present?		$\boxtimes$	conditions are not present due to recent rainfall.
Hydric Soil Present?	$\boxtimes$		
Wetland Hydrology Present?		$\boxtimes$	
Is the Sampled Area within a Wetland?	$\boxtimes$		

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> )	% Cover	Species?	Status	Number of Dominant Species that
1	<u>%</u>			are OBL, FACW, or FAC
2	<u>%</u>			(excluding FAC-): 0 (A)
3	%			Total Number of Dominant
4	<u>%</u>			Species Across All Strata: 1 (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: 0% (A/B)
1				、
2				Prevalence Index Worksheet:
3				Total % Cover of:Multiply by:
4	<u>%</u>			OBL species         % x1 =         0
5	<u>%</u>			FACW species % x 2 = 0
	0 %	= Total Cover		FAC species $\% \times 3 = 0$
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species % x 4 = 0
1. <u>Bromus inermis</u>	95 %	<u>Y</u>	UPL	UPL species % x 5 = 0
2. <u>Helianthus maximiliani</u>	3 %		FACU	Column Totals: 0 % (A) 0 (B)
3. Symphyotrichum pilosum	2 %	<u>N</u>	FACU	Prevalence Index = B/A =
4	<u>%</u>			
5	<u>%</u>			Hydrophytic Vegetation Indicators:
6	0/			1 Rapid Test for Hydrophytic Vegetation
7 8				$\square$ 2 Dominance Test is >50%
9.	<u>%</u>			$\square$ 3 Prevalence Index is $\leq 3.0^1$
10.	%			
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>			must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🔲 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met. Ph	otograph C-	·114.		

Profile Desc	ription: (Describe	to the de	pth ne	eded to docur	nent the	e indicator o	or confirm the	absence of indicators.)			
Depth	Matrix			Re	dox Fea	atures					
(inches)	Color (moist)	%	Co	lor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-8	10YR 3/1	93	1	0YR 3/4	7	С	М	silty clay loam			
8-16	10YR 3/1	100						clay			
16-22	10YR 2/1	97	1	0YR 4/1	3	D	M	clay			
				· _							
				·			· ·				
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM	/I=Redu	uced Matrix, CS	6=Cover	ed or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix		
Hydric Soil	ndicators: (Applic	able to a	ll LRRs	s, unless othe	rwise no	oted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :		
Histosol (	A1)			Sandy Gle	ved Mat	trix (S4)		☐ 1 cm Muck (A9) ( <b>LR</b>	R I. J)		
Histic Epi	,			Sandy Red	-			Coast Prairie Redox			
Black His				Stripped N				Dark Surface (S7) ( <b>I</b>			
Hydrogen	Sulfide (A4)			🗌 Loamy Mu	cky Min	eral (F1)		High Plains Depress			
Stratified	Layers (A5) ( <b>LRR F</b>	)		🗌 Loamy Gle	eyed Ma	trix (F2)		(LRR H outside of			
1 cm Muc	k (A9) ( <b>LRR F, G, H</b>	l)		Depleted I	Matrix (F	3)		Reduced Vertic (F18	,		
	Below Dark Surface	e (A11)		🛛 Redox Da		. ,		Red Parent Material	· · · ·		
	k Surface (A12)			Depleted [		. ,		Very Shallow Dark S	. ,		
-	icky Mineral (S1)			Redox De		. ,		Other (Explain in Re	,		
	ucky Peat or Peat (S	, ,		High Plain	•	· · ·		<sup>3</sup> Indicators of hydrophyt			
5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H) wetland hydroled disturbed or prediction of the set of the s							wetland hydrology must disturbed or problemation	t be present, unless C			
Restrictive I	ayer (if present):							Hydric Soil Present?			
Type:			Depth	(inches):				Yes 🗌 No			
		_		· · · _							
Remarks: Hy	dric soil indicator F6	3 is met.									
HYDROLO	GY										
Wetland Hyd	rology Indicators:										
Primary Indic	ators (minimum of o	one requir	ed; che	ck all that appl	<u>y)</u>			Secondary Indicators (	2 or more required)		
Surface V	Vater (A1)		Г	] Salt Crust (B <sup>2</sup>	11)			☐ Surface Soil Cracks (B6)			
High Wate	( )			Aquatic Inver	,	(B13)		Sparsely Vegetated Concave Surface (B8)			
Saturation	. ,			] Hydrogen Su				Drainage Patterns (			
U Water Ma	rks (B1)			] Dry-Season V				Oxidized Rhizosphe	eres on Living Roots (C3)		
Sediment	Deposits (B2)			Oxidized Rhiz	zosphere	es on Living	Roots (C3)	(where tilled)			
Drift Depo	osits (B3)			(where not	,			Crayfish Burrows (C			
Algal Mat	or Crust (B4)			Presence of F		( )		Saturation Visible o	••••		
Iron Depo	. ,		_	Thin Muck Su	-	-		Geomorphic Positio	· · /		
	n Visible on Aerial Ir	nagery (B	7) L	] Other (Explai	n in Ren	narks)		FAC-Neutral Test (I	,		
U Water-Sta	ained Leaves (B9)							Frost-Heave Humm	ocks (D7) (LRR F)		
Field Observ	vations:	Vee	No	Depth				am gauge, monitoring well,	aerial photos, previous		
		Yes	No	(inches)	insp	ections, etc.)	, if available:				
Surface Wate	er present?		$\square$								
Water Table	•		$\boxtimes$								
Saturation P			$\boxtimes$								
(includes cap		_	_								
Wetland Hyd	drology Present?		$\boxtimes$								
Remarks: We	etland hydrology ind	icators ar	e not m	et.							

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm	, LLC		State: SD Sampling Point: SP-703
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range:S6, T111N, R66W
Landform (hillslope, terrace, etc.) depres	ssion		Local relief (concave, convex, none):ConcaveSlope (%):0 %
Subregion (LRR): Northern Great Plain	s Spring	Wheat Regi	gion Lat: <u>44.442897</u> Long: <u>-98.822982</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Glenham-propser	· loams, 1	to 6 percer	ent slopes NWI Classification: PEM1C
Are climate/hydrologic conditions on the sit	e typical	for this time	e of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🛛 No
Significantly Disturbed?	$\boxtimes$		(If peeded, explain any angulars in Remarks)
Naturally Problematic?			(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	ite map	showing	sampling point locations, transects, important features, etc.
	Yes	No	Remarks: SP-703 is located within W-702, a PEM wetland. Normal hydrologic
Hydrophytic Vegetation Present?	$\boxtimes$		conditions are not present due to recent rainfall. Soil has been disturbed by cattle.
Hydric Soil Present?	$\boxtimes$		
Wetland Hydrology Present?	$\boxtimes$		
Is the Sampled Area within a Wetland?	$\boxtimes$		

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
(, , , , , , , , , , , , , , , , , , ,		Species	Status	Number of Dominant Species that
1 2				are OBL, FACW, or FAC
3.				(excluding FAC-): <u>2</u> (A)
				Total Number of Dominant
4	0 %	= Total Cove	r	Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: 15 ft.)	0 70	= 10tal Cove	1	Percent of Dominant Species that
	%			are OBL, FACW, or FAC:(A/B)
1.				
3.				Prevalence Index Worksheet:
4				Total % Cover of: Multiply by:
5.				OBL species% x 1 =
	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5 ft.)				FAC species% x 3 =
	40 %	Y	OBL	FACU species % x 4 = 0
1. <u>Eleocharis obtusa</u> 2. <u>Echinochloa crus-galli</u>		<u> </u>	FAC	UPL species $\%$ x 5 = 0
		 N	FACW	Column Totals: <u>0</u> % (A) <u>0</u> (B)
	0.00	<u> </u>		Prevalence Index = B/A =
4. <u>Rumex crispus</u>			FAC	
5. <u>Xanthium strumarium</u> 6.		<u>N</u>	FAC	Hydrophytic Vegetation Indicators:
7	0/	·		☐ 1 Rapid Test for Hydrophytic Vegetation
8	0/			⊠ 2 Dominance Test is >50%
9.	0/			□ □ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10.				
	82 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cove	r	
Bare Ground in Herb Stratum %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No

Depth <u>Matrix</u> (inches) Color (moist)	%	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16 10YR 2/1	90	10YR 3/4	<u>10 C</u>	 	silty clay	Reliaiks
		1011( 0/4			Sitty Clay	
				·		
<sup>1</sup> Type: C=Concentration, D=Dep	letion, RM=	Reduced Matrix, (	CS=Covered or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil Indicators: (Applic	able to all I	LRRs, unless oth	erwise noted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sandy G	leyed Matrix (S4)		1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epipedon (A2)		🗌 Sandy R	edox (S5)		Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
Black Histic (A3)		Stripped	( )		Dark Surface (S7) (L	,
☐ Hydrogen Sulfide (A4)			lucky Mineral (F1)		High Plains Depress	
Stratified Layers (A5) (LRR F		•	Bleyed Matrix (F2)		(LRR H outside of	,
1 cm Muck (A9) ( <b>LRR F, G, H</b>	-	•	Matrix (F3)		Reduced Vertic (F18 Red Parent Material	/
Depleted Below Dark Surface	e (A11)		ark Surface (F6)		Very Shallow Dark S	( )
Thick Dark Surface (A12)		•	Dark Surface (F7)		Other (Explain in Re	. ,
☐ Sandy Mucky Mineral (S1) ☐ 2.5 cm Mucky Peat or Peat (S)			epressions (F8) ins Depressions (F16)	,		
5 cm Mucky Peat or Peat (S	, ,		72 & 73 of LRR H)	)	<sup>3</sup> Indicators of hydrophyt wetland hydrology must	
		(				
					disturbed or problemation	0
Restrictive Layer (if present):					disturbed or problemation Hydric Soil Present?	2
Restrictive Layer (if present): Type: 	_	epth (inches):				2
Туре:	_	epth (inches):			Hydric Soil Present?	2
Type: Remarks: Hydric soil indicator F6 HYDROLOGY	) is met.	epth (inches):			Hydric Soil Present?	2
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators:	 ∂ is met.				Hydric Soil Present? ⊠ Yes □ No	
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of c	 ∂ is met.	; check all that ap			Hydric Soil Present? ☑ Yes □ No Secondary Indicators (2)	2 or more required)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of c ⊠ Surface Water (A1)	 ∂ is met.	; check all that ap	B11)		Hydric Soil Present? ☑ Yes □ No <u>Secondary Indicators (</u> ☐ Surface Soil Cracks	2 or more required) ; (B6)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of o ⊠ Surface Water (A1) ⊠ High Water Table (A2)	 ∂ is met.	; check all that ap	B11) ertebrates (B13)		Hydric Soil Present? ∑ Yes ☐ No <u>Secondary Indicators (</u> ☐ Surface Soil Cracks ☐ Sparsely Vegetated	<u>2 or more required)</u> : (B6) Concave Surface (B8)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) Surface Water Table (A2) Saturation (A3)	 ∂ is met.	: check all that ap Salt Crust (I Aquatic Inve Hydrogen S	B11) ertebrates (B13) sulfide Odor (C1)		Hydric Soil Present? ∑ Yes ☐ No <u>Secondary Indicators (</u> ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns (	<u>2 or more required)</u> : (B6) Concave Surface (B8) B10)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 ∂ is met.	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2)	Roots (C3)	Hydric Soil Present? ∑ Yes ☐ No <u>Secondary Indicators (</u> ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns (	<u>2 or more required)</u> : (B6) Concave Surface (B8)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 ∂ is met.	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) nizospheres on Living	Roots (C3)	Hydric Soil Present? ∑ Yes ☐ No Secondary Indicators (; ☐ Surface Soil Cracks ☐ Sparsely Vegetated ☐ Drainage Patterns ( ☐ Oxidized Rhizosphe	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3
Туре:	 ∂ is met.	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence o	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) nizospheres on Living ot tilled) f Reduced Iron (C4)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         Secondary Indicators ()         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphere         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible or	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 C8) n Aerial Imagery (C9)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 ∂ is met.	: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rt (where no Presence of Thin Muck S	B11) ertebrates (B13) sulfide Odor (C1) o Water Table (C2) nizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators ()         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphere tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio	2 or more required) (B6) Concave Surface (B8) B10) pres on Living Roots (C3 C8) n Aerial Imagery (C9) n (D2)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir	) is met.	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) nizospheres on Living ot tilled) f Reduced Iron (C4)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         Secondary Indicators ()         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphere         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio         ☑ FAC-Neutral Test (I	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 C8) n Aerial Imagery (C9) n (D2) D5)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of 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)	) is met.	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (B13) sulfide Odor (C1) o Water Table (C2) nizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7)	Roots (C3)	Hydric Soil Present?         ☑ Yes       No         ☑ Secondary Indicators ()         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphere tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 C8) n Aerial Imagery (C9) n (D2) D5)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir	bis met.	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	led Data (strear	Hydric Soil Present?         ☑ Yes       No         Secondary Indicators ()         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphere         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio         ☑ FAC-Neutral Test (I	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 (C3) n Aerial Imagery (C9) n (D2) (D5) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir Water-Stained Leaves (B9) Field Observations:	nagery (B7)	; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Explain Depth Io (inches)	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7) ain in Remarks)	led Data (strear	Hydric Soil Present?         ☑ Yes       No         ☑ Surface Soil Cracks         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphe         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio         ☑ FAC-Neutral Test (I)         □ Frost-Heave Humm	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 (C3) n Aerial Imagery (C9) n (D2) (D5) ocks (D7) <b>(LRR F)</b>
Type:	nagery (B7)	: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rt (where no Presence of Thin Muck S Other (Explain Depth Io (inches) 2	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	led Data (strear	Hydric Soil Present?         ☑ Yes       No         ☑ Surface Soil Cracks         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphe         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio         ☑ FAC-Neutral Test (I)         □ Frost-Heave Humm	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 (C3) n Aerial Imagery (C9) n (D2) (D5) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 Ir Water-Stained Leaves (B9)	nagery (B7) Yes N	: check all that ap Salt Crust (I) Aquatic Inve Hydrogen S Dry-Season Oxidized Rł (where ne Presence of Thin Muck S Other (Expland) Depth (inches) 2 0	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	led Data (strear	Hydric Soil Present?         ☑ Yes       No         ☑ Surface Soil Cracks         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphe         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio         ☑ FAC-Neutral Test (I)         □ Frost-Heave Humm	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 (C3) n Aerial Imagery (C9) n (D2) (D5) ocks (D7) <b>(LRR F)</b>
Type:	nagery (B7)	: check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence of Thin Muck S Other (Explain No (inches) 2 0	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2) hizospheres on Living ot tilled) f Reduced Iron (C4) Surface (C7) ain in Remarks) Describe Record	led Data (strear	Hydric Soil Present?         ☑ Yes       No         ☑ Surface Soil Cracks         □ Surface Soil Cracks         □ Drainage Patterns (         □ Oxidized Rhizosphe         (where tilled)         □ Crayfish Burrows (C)         □ Saturation Visible o         ☑ Geomorphic Positio         ☑ FAC-Neutral Test (I)         □ Frost-Heave Humm	2 or more required) (B6) Concave Surface (B8) B10) eres on Living Roots (C3 (C3) n Aerial Imagery (C9) n (D2) (D5) ocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Farm		City/County: Hand C	ounty	Sampling Date: 10/9/2018	
Applicant/Owner: Sweetland Wind Farm, LLC			State: SD	Sampling Point: <u>SP-704</u>	
Investigator(s): <u>K. Russo, J. Kensinger</u>		Section, Towns	hip, Range: <u>S6, <sup>-</sup></u>	Г111N, R66W	
Landform (hillslope, terrace, etc.) terrace	Lo	cal relief (concave, con	vex, none): <u>none</u>	Slope (%): <u>0 %</u>	
Subregion (LRR): Northern Great Plains Sprin	ig Wheat Region	Lat: <u>44.442875</u>	Long: <u>-98.</u>	822851 Datum: <u>NAD83</u>	
Soil Map Unit Name: Glenham-Propser loams	s, 1 to 6 percent slop	bes	NWI Clas	sification: <u>N/A</u>	
Are climate/hydrologic conditions on the site typic	al for this time of ye	ar? 🗌 Yes 🛛 I	lo (If no, explair	n in Remarks)	
Vegetation Soil Significantly Disturbed?	Hydrology	Are "Normal Cir	cumstances" preser	nt? 🛛 Yes 🗌 No	
Naturally Problematic?		(lf r	eeded, explain any	answers in Remarks)	
SUMMARY OF FINDINGS – Attach site ma	ap showing sam	pling point locatior	s, transects, im	portant features, etc.	
Yes       Hydrophytic Vegetation Present?       Hydric Soil Present?       Wetland Hydrology Present?	k kydr	arks: SP-704 is an upla ologic conditions are no		ated adjacent to W-702. Normal cent rainfall.	
Is the Sampled Area within a Wetland?	$\square$				

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
· · · · · · · · · · · · · · · · · · ·		Species	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
2				(excluding FAC-): 0 (A)
4.				Total Number of Dominant
т	0 %	= Total Cove		Species Across All Strata: <u>1</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			
2	%			Prevalence Index Worksheet:
3	0/			Total % Cover of:Multiply by:
5.				OBL species % x 1 = 0
	0 %	= Total Cove		FACW species % x 2 = 0
Herb Stratum (Plot size: 5 ft.)				FAC species% x 3 =0
1. Bromus inermis	95 %	Y	UPL	FACU species% x 4 =
0 Cotorio numilo			FACU	UPL species $\%$ x 5 = $0$ Column Totals: $0\%$ (A) $0$ (B)
2.         Setaria purnita           3.			17100	
4.	0/			Prevalence Index = B/A =
5.	%			Hydrophytic Vegetation Indicators:
6		. <u> </u>		☐ 1 Rapid Test for Hydrophytic Vegetation
7				$\square$ 2 Dominance Test is >50%
		·		
9 10	0/			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	100 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2				must be present, unless disturbed or problematic
	0 %	= Total Cover	-	
Bare Ground in Herb Stratum0 %				Hydrophytic Vegetation Present? 🔲 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met.	Photograph C	-116.		
· · -				

Profile Description: (Describe	to the d	epth n				or confirm the	absence of indicators.)	
Depth Matrix				edox Fe				
(inches) Color (moist)	%	C	color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16 10YR 2/1	97		10YR 4/6	3	C	M	silty clay loam	
						·		
	·							
	·							
<sup>1</sup> Type: C=Concentration, D=Dep	oletion, R	M=Re	duced Matrix, C	S=Cove	red or Coated	Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
Hydric Soil Indicators: (Applic	able to a	all LR	Rs. unless oth	erwise n	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (A1)			Sandy G		,		1 cm Muck (A9) (LRI	•
Histic Epipedon (A2)			Sandy G	-			Coast Prairie Redox	
Black Histic (A3)			Stripped	•	,		Dark Surface (S7) (L	
Hydrogen Sulfide (A4)			Loamy M		,		☐ High Plains Depress	,
Stratified Layers (A5) (LRR F	;)		Loamy G	•	. ,		(ĽRR H outside of	
1 cm Muck (A9) (LRR F, G, H			Depleted	-			Reduced Vertic (F18	)
Depleted Below Dark Surface	e (A11)		Redox Da	ark Surfa	ace (F6)		Red Parent Material	( )
Thick Dark Surface (A12)			Depleted	Dark Su	ırface (F7)		Very Shallow Dark S	. ,
Sandy Mucky Mineral (S1)			Redox D	•	· · ·		Other (Explain in Rei	marks)
2.5 cm Mucky Peat or Peat (	, ,				essions (F16)		<sup>3</sup> Indicators of hydrophyti	
☐ 5 cm Mucky Peat or Peat (S3	8) (LRR F	)	(MLRA /	2 & 73	of LRR H)		wetland hydrology must disturbed or problematic	
Restrictive Layer (if present):							Hydric Soil Present?	
Туре:		Dept	h (inches):				🛛 Yes 🔲 No	
HYDROLOGY								
Wetland Hydrology Indicators								
Primary Indicators (minimum of o	one requi	red; cł	neck all that app	<u>oly)</u>			Secondary Indicators (2	2 or more required)
☐ Surface Water (A1)			☐ Salt Crust (E	,			Surface Soil Cracks	
High Water Table (A2)			Aquatic Inve				Sparsely Vegetated	
Saturation (A3)			Hydrogen S				Drainage Patterns (I	-
☐ Water Marks (B1) ☐ Sediment Deposits (B2)			☐ Dry-Season ☐ Oxidized Rh		( )	Deate (C2)	(where tilled)	res on Living Roots (C3)
Drift Deposits (B3)			(where no			R0015 (C3)	Crayfish Burrows (C	8)
Algal Mat or Crust (B4)			Presence of	,			Saturation Visible or	
☐ Iron Deposits (B5)			 Thin Muck S		( )		Geomorphic Position	
Inundation Visible on Aerial II	magery (I	37)	🗌 Other (Expla	ain in Re	marks)		FAC-Neutral Test (E)	05)
☐ Water-Stained Leaves (B9)	0 , (	,					Frost-Heave Hummer	ocks (D7) <b>(LRR F)</b>
Field Observations:	Yes	No	Depth (inches)		scribe Record		m gauge, monitoring well,	aerial photos, previous
Surface Water present?		$\boxtimes$			,,			
Water Table present?								
Saturation Present?								
(includes capillary fringe)		¥ے						
Wetland Hydrology Present?		$\boxtimes$						
Remarks: Wetland hydrology inc	licators a		met.	L				

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm,	LLC		State: SD Sampling Point: SP-705
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S1, T111N, R67W</u>
Landform (hillslope, terrace, etc.)	sion		Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plains	s Spring \	Nheat Regi	gion Lat: <u>44.446896</u> Long: <u>-98.825337</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Glenham-Propser	loams, 1	to 6 percer	ent slopes NWI Classification: PEM1A
Are climate/hydrologic conditions on the site	e typical t	for this time	e of year? 🗌 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?			(If a coded, everlein environmenter in Demonto)
Naturally Problematic?			(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	ite map	showing	g sampling point locations, transects, important features, etc.
	Yes	No	Remarks: SP-705 is an upland sample plot. Normal hydrologic conditions are not
Hydrophytic Vegetation Present?		$\boxtimes$	present due to recent rainfall.
Hydric Soil Present?		$\boxtimes$	
Wetland Hydrology Present?		$\boxtimes$	
Is the Sampled Area within a Wetland?		$\boxtimes$	

Tree Charter (District 20 ft)	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	0/			are OBL, FACW, or FAC
-				(excluding FAC-): 0 (A)
3 4.				Total Number of Dominant
т	0 %	= Total Cove		Species Across All Strata:1 (B)
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )			I	Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			
2	%			Prevalence Index Worksheet:
3	0/			Total % Cover of: Multiply by:
4 5.				OBL species         %         x 1 =         0
0.	0 %	= Total Cove	r	FACW species% x 2 =0
Herb Stratum (Plot size: 5 ft.)			•	FAC species% x 3 =
· · · · · · · · · · · · · · · · · · ·	50 %	Y	UPL	FACU species% x 4 =
1. <u>Bromus inermis</u> 2. <u>Ambrosia artemisiifolia</u>		<u> </u>	FACU	UPL species $\%$ x 5 = 0
			FACO	Column Totals: <u>0</u> % (A) <u>0</u> (B)
		N		Prevalence Index = B/A =
4. <u>Poa pratensis</u> 5.		<u> </u>	FACU	
5 6		·		Hydrophytic Vegetation Indicators:
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8.	%			☐ 2 Dominance Test is >50%
9	%	. <u></u>		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	85 %	= Total Cover	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	%	Tatal O		must be present, unless disturbed or problematic
	0 %	= Total Cover	r	
Bare Ground in Herb Stratum <u>15</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met.	Photograph C	-117.		

(inches) Color (moist)	%	Co	lor (moist)	% Туре	<sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0-16 10YR 2/1	100					silty clay loam	
	·						
	·						<u> </u>
	·						
			,				
<sup>1</sup> Type: C=Concentration, D=Dep	oletion, R	M=Redu	uced Matrix, C	S=Covered or Co	ated Sand Grains	<sup>2</sup> Location: PL=Por	e Lining, M=Matrix
Hydric Soil Indicators: (Applic	able to a	all LRRs	s, unless oth	erwise noted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (A1)			-	eyed Matrix (S4)		🗌 1 cm Muck (A9) (LF	RR I, J)
Histic Epipedon (A2)			Sandy Re	. ,		Coast Prairie Redox	
Black Histic (A3)			Stripped	. ,		🗌 Dark Surface (S7) (	,
🗌 Hydrogen Sulfide (A4)			•	ucky Mineral (F1)		High Plains Depres	
Stratified Layers (A5) (LRR F			•	leyed Matrix (F2)		(LRR H outside of	
1 cm Muck (A9) ( <b>LRR F, G, H</b>	-		Depleted	( )		Reduced Vertic (F1)	,
Depleted Below Dark Surface	e (A11)			ark Surface (F6)		Red Parent Materia Very Shallow Dark \$	( )
Thick Dark Surface (A12)			•	Dark Surface (F7	)	Other (Explain in Re	( )
Sandy Mucky Mineral (S1)		<b>•</b> •••		epressions (F8)			,
☐ 2.5 cm Mucky Peat or Peat (\$ ☐ 5 cm Mucky Peat or Peat (S3	, ,		_ 0	ns Depressions (F 72 & 73 of LRR H	,	<sup>3</sup> Indicators of hydrophy wetland hydrology mus disturbed or problemati	t be present, unless
Restrictive Layer (if present):						Hydric Soil Present?	
Restrictive Layer (if present): Type: Remarks: Hydric soil indicators a	are not m		(inches):		_	1	
Type: Remarks: Hydric soil indicators a	are not m		(inches):			Hydric Soil Present?	
Type: Remarks: Hydric soil indicators a HYDROLOGY			(inches):		-	Hydric Soil Present?	
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators		et.	<u> </u>			Hydric Soil Present? ☐ Yes ⊠ No	
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of e		et. red; che	ck all that app		-	Hydric Soil Present?	(2 or more required)
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of a Surface Water (A1)		red; che	ck all that app	311)	-	Hydric Soil Present?	(2 or more required) s (B6)
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2)		red; che	<u>eck all that app</u> ] Salt Crust (E ] Aquatic Inve	B11) ertebrates (B13)		Hydric Soil Present?  Yes No  Secondary Indicators  Surface Soil Cracks  Sparsely Vegetated	( <u>2 or more required)</u> s (B6) d Concave Surface (B8)
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3)		red; che	<u>eck all that app</u> ] Salt Crust (E ] Aquatic Inve ] Hydrogen S	B11) ertebrates (B13) ulfide Odor (C1)		Hydric Soil Present?  Yes No  Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns	( <u>2 or more required)</u> s (B6) d Concave Surface (B8) (B10)
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)		red; che	eck all that app ] Salt Crust (E ] Aquatic Inve ] Hydrogen S ] Dry-Season	B11) ertebrates (B13)		Hydric Soil Present?  Yes No  Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns	( <u>2 or more required)</u> s (B6) d Concave Surface (B8)
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)		red; che	eck all that app ] Salt Crust (E ] Aquatic Inve ] Hydrogen S ] Dry-Season	artebrates (B13) Intebrates (B13) Ilfide Odor (C1) Water Table (C2) izospheres on Liv		Hydric Soil Present?         ☐ Yes       No         Secondary Indicators (         ☐ Surface Soil Cracks         ☐ Sparsely Vegetated         ☐ Drainage Patterns         ☐ Oxidized Rhizospho	( <u>2 or more required)</u> s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3
Type: Remarks: Hydric soil indicators a HYDROLOGY		red; che	eck all that app ] Salt Crust (E ] Aquatic Inve ] Hydrogen S ] Dry-Season ] Oxidized Rh (where no	artebrates (B13) Intebrates (B13) Ilfide Odor (C1) Water Table (C2) izospheres on Liv	ing Roots (C3)	Hydric Soil Present? ☐ Yes ⊠ No Secondary Indicators ( ☐ Surface Soil Cracke ☐ Sparsely Vegetated ☐ Drainage Patterns ☐ Oxidized Rhizosph (where tilled)	(2 or more required) s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8)
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Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of a 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)	: one requi	red; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	virtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Liv ot tilled) Reduced Iron (C-	ing Roots (C3)	Hydric Soil Present?         Yes         Yes         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (	(2 or more required) s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5)
Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of of 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 In	: one requi	red; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S	wrtebrates (B13) ulfide Odor (C1) Water Table (C2) izospheres on Liv t <b>tilled)</b> Reduced Iron (Co Surface (C7)	ing Roots (C3)	Hydric Soil Present?         Yes         Yes         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Ø Geomorphic Positio	(2 or more required) s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5)
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Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	: <u>one requi</u> magery (E	red; che	eck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	Altion Altion	ing Roots (C3) 4) corded Data (strea	Hydric Soil Present?         Yes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	(2 or more required) s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
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Type: Remarks: Hydric soil indicators a HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of a 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 In Water-Stained Leaves (B9) Field Observations:	magery (E	et. red; che C C C C C C C C C C C C C	eck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	Altion Altion	ing Roots (C3) 4) corded Data (strea	Hydric Soil Present?         Yes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	(2 or more required) s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicators a HYDROLOGY Metland Hydrology Indicators: Primary Indicators (minimum of of 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 In Water-Stained Leaves (B9) Field Observations: Surface Water present? Water Table present?	magery (E	et.	eck all that app Salt Crust (E Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Expla	Altion Altion	ing Roots (C3) 4) corded Data (strea	Hydric Soil Present?         Yes       No         Secondary Indicators (         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows ((         Saturation Visible c         Geomorphic Positio         FAC-Neutral Test (         Frost-Heave Humm	(2 or more required) s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) on Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Farm	City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm, LLC	State: <u>SD</u> Sampling Point: <u>SP-706</u>
Investigator(s): K. Russo, J. Kensinger	Section, Township, Range: <u>S2, T111N, R67W</u>
Landform (hillslope, terrace, etc.) depression	Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>1 %</u>
Subregion (LRR): Northern Great Plains Spring Whea	eat Region Lat: _44.45108 Long:98.849898 Datum: _NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6	6 percent slopes NWI Classification: N/A
Are climate/hydrologic conditions on the site typical for th	his time of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation Soil Hyd	drology Are "Normal Circumstances" present? ⊠ Yes □ No
Naturally Problematic?   Image: Constraint of the second	(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach site map sho	owing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?     I       Hydric Soil Present?     I	No       Remarks: SP-706 is an upland sample plot. Normal hydrologic conditions are not present due to recent rainfall.         ⊠       □
Is the Sampled Area within a Wetland?	$\boxtimes$

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> )	% Cover	Species?	Status	Number of Dominant Species that
1				are OBL, FACW, or FAC
2			<u> </u>	(excluding FAC-): 0 (A)
3		·	<u> </u>	Total Number of Dominant
4				Species Across All Strata: 1 (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )	0/			are OBL, FACW, or FAC: 0% (A/B)
1		·	<u> </u>	
2.		·		Prevalence Index Worksheet:
3	0/			Total % Cover of: Multiply by:
4 5.		······································		OBL species % x 1 = 0
J	0 %	= Total Cover		FACW species% x 2 =
Herb Stratum (Plot size: 5 ft.)				FAC species% x 3 =0
/	95 %	Y		FACU species% x 4 =0
1. <u>Poa pratensis</u> 2. Echinochloa crus-galli	<u>95 %</u> 3 %		FACU FAC	UPL species% x 5 =0
				Column Totals: <u>0</u> % (A) <u>0</u> (B)
		<u> </u>	FAC	Prevalence Index = B/A =
4 5		······································		Hudrophytic Veretation Indicators
6				Hydrophytic Vegetation Indicators:
7				1 Rapid Test for Hydrophytic Vegetation
8	0/			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>100 %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2				must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum0 %				Hydrophytic Vegetation Present? 🔲 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met.	Photograph C	-118.		

(inches)	Matrix Color (moist)	%	Color (moist)	Redox Fea %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-6	10YR 2/1	100		70	Туре		silty clay loam	Remarks
6-8	10YR 3/1	95	10YR 4/4	5	C		silty clay	
8-16	10YR 2/1	100	1011( 4/4				clay	
	oncentration, D=Dep					d Sand Grains	<sup>2</sup> Location: PL=Por	5,
Hyaric Soli	Indicators: (Applic	able to all					Indicators for Problem	•
Histosol (	,		☐ Sandy G	•	. ,		1 cm Muck (A9) (LR	
Histic Ep			Sandy R				Coast Prairie Redox	
Black His	( )		Stripped		,		Dark Surface (S7) (	,
	Sulfide (A4)		Loamy M				High Plains Depress	
	Layers (A5) (LRR F	,	Loamy G	-			(LRR H outside of Reduced Vertic (F1	
	ck (A9) ( <b>LRR F, G, H</b>	-			,		Red Parent Material	/
— ·	Below Dark Surface	e (A11)	Redox D		( )		Very Shallow Dark S	( )
	rk Surface (A12) ucky Mineral (S1)		Depletec     Redox D		. ,		Other (Explain in Re	, ,
	ucky Peat or Peat (S	2) (I <b>RR (</b>		•	ssions (F16)	)		
	cky Peat or Peat (S3			•	of LRR H)	1	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic	
Restrictive	Layer (if present):						Hydric Soil Present?	
Type: 	vdric soil indicators a	_	Depth (inches):				🗌 Yes 🖾 No	
	/dric soil indicators a	_					Yes 🛛 No	
· _		_					☐ Yes ⊠ No	
Remarks: Hy		– ire not met					Yes 🛛 No	
Remarks: Hy HYDROLO Wetland Hy	GY	– ire not met		<u></u>			Yes No Secondary Indicators (	2 or more required)
Remarks: Hy HYDROLO Wetland Hy Primary India	GY drology Indicators: cators (minimum of c	– ire not met						· · · · · ·
Remarks: Hy HYDROLO Wetland Hy Primary India	GY drology Indicators: cators (minimum of c	– ire not met	d; check all that ap	B11)			Secondary Indicators (	· · · · · ·
Remarks: Hy HYDROLO Wetland Hy Primary India	<b>GY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2)	– ire not met	d; check all that ap □ Salt Crust (I	B11) ertebrates			Secondary Indicators (	s (B6) I Concave Surface (B8)
Remarks: Hy HYDROLO Wetland Hy Primary India Surface V High Wat	<b>GY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3)	– ire not met	ed; check all that ap □ Salt Crust (I □ Aquatic Inve	B11) ertebrates sulfide Od	or (C1)		Secondary Indicators (	s (B6) I Concave Surface (B8) (B10)
Remarks: Hy HYDROLO Wetland Hy Primary India Surface V Saturatio Saturatio Water Ma Sedimenti	<b>GY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2)	– ire not met	ed; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season	B11) ertebrates fulfide Od Water Ta hizospher	or (C1) able (C2)	Roots (C3)	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizospho (where tilled)	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3
Remarks: Hy HYDROLO Wetland Hy Primary India Surface V G High Wat G Saturatio Water Ma G Sediment Drift Depo	<b>GY</b> drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3)	– ire not met	ad; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne	B11) ertebrates sulfide Od Water Ta hizospher ot tilled)	or (C1) able (C2) es on Living	Roots (C3)	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns Oxidized Rhizosphe (where tilled) Crayfish Burrows (	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3 C8)
Remarks: Hy Remarks: Hy HYDROLO Wetland Hy Primary India Surface V Surface V Saturatio Saturatio Water Ma Sediment Drift Dep Algal Mat	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4)	– ire not met	d; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where ne Presence o	B11) ertebrates culfide Od Water Ta nizospher ot tilled) f Reduced	or (C1) able (C2) es on Living d Iron (C4)	Roots (C3)	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3 C8) In Aerial Imagery (C9)
Remarks: Hy  Remarks: Hy  HYDROLO  Wetland Hy  Primary India  Surface V  High Wat  Saturatio Water Ma  Sediment C Sediment Algal Mat Iron Depo	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5)	 ire not met	d; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence o Thin Muck S	B11) ertebrates ulfide Od Water Ta nizospher ot tilled) f Reduced Surface (0	or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Secomorphic Positic	(B6) Concave Surface (B8) (B10) eres on Living Roots (C3 C8) n Aerial Imagery (C9) on (D2)
Remarks: Hy HYDROLO Wetland Hy Primary India Surface V High Wat Saturatio Water Ma Sediment Control Drift Dep Algal Mat Iron Depo Inundatio	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial In	 ire not met	d; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence o Thin Muck S	B11) ertebrates ulfide Od Water Ta nizospher ot tilled) f Reduced Surface (0	or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Geomorphic Positic FAC-Neutral Test (	(B6) Concave Surface (B8) (B10) eres on Living Roots (C3 C8) n Aerial Imagery (C9) on (D2) D5)
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Remarks: Hy HYDROLO Wetland Hy Primary India Surface V High Wat Saturatio Water Ma Sediment Gorift Dependent Iron Dependent Iron Dependent Field Obser	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations:	nagery (B7	Ad; check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rt (where no Presence or Thin Muck S Other (Explain No (inches)	B11) ertebrates sulfide Od water Ta nizospher ot tilled) f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Geomorphic Positic FAC-Neutral Test (	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3 C8) In Aerial Imagery (C9) on (D2) D5) locks (D7) <b>(LRR F)</b>
Remarks: Hy  HYDROLO  Wetland Hy  Primary India  Surface V  High Wate Sediment Control Report Control Report Control Contro Control Contro Control Control Con	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present?	nagery (B7	ad; check all that ap         Salt Crust (I         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rt         (where no         Thin Muck S         Other (Expland)         Depth         No         (inches)	B11) ertebrates sulfide Od water Ta nizospher ot tilled) f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Geomorphic Positic FAC-Neutral Test ( Frost-Heave Humm	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3 C8) In Aerial Imagery (C9) on (D2) D5) locks (D7) <b>(LRR F)</b>
Remarks: Hy  HYDROLO  Wetland Hy  Primary India  Surface V  High Wate Saturatio Uster Ma Sediment Control Reprint Deprint Deprint Control Reprint Deprint Deprint Control Reprint Deprint Control Reprint Deprint Control Reprint Deprint Control Reprint Control Reprint Control Reprint Repr	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present? present?	nagery (B7	ad; check all that ap         Salt Crust (I         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rł         (where ne         Presence o'         Thin Muck S         Other (Expland)         Depth         No         (inches)         6	B11) ertebrates sulfide Od water Ta nizospher ot tilled) f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Geomorphic Positic FAC-Neutral Test ( Frost-Heave Humm	s (B6) d Concave Surface (B8) (B10) eres on Living Roots (C3 C8) in Aerial Imagery (C9) on (D2) D5) nocks (D7) <b>(LRR F)</b>
Remarks: Hy  HYDROLO  Wetland Hy  Primary India  Surface V  Aligh Wate Saturatio Unift Depe Algal Mate Iron Depe Inundatio Unift Obser Surface Wate Saturation P	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) t or Crust (B4) osits (B5) n Visible on Aerial Ir ained Leaves (B9) vations: er present? present? resent?	nagery (B7	ad; check all that ap         Salt Crust (I         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rt         (where no         Thin Muck S         Other (Expland)         Depth         No         (inches)	B11) ertebrates sulfide Od water Ta nizospher ot tilled) f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Geomorphic Positic FAC-Neutral Test ( Frost-Heave Humm	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3 C8) In Aerial Imagery (C9) on (D2) D5) locks (D7) <b>(LRR F)</b>
Remarks: Hy  HYDROLO  Wetland Hy  Primary India  Surface V  High Wate  Saturatio High Water Ma  Control Contro Control Control Control Control Control Contro Control	GY drology Indicators: cators (minimum of c Vater (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) osits (B3) c or Crust (B4) osits (B5) n Visible on Aerial In ained Leaves (B9) vations: er present? present?	nagery (B7	ad; check all that ap         Salt Crust (I         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rł         (where ne         Presence o'         Thin Muck S         Other (Expland)         Depth         No         (inches)         6	B11) ertebrates sulfide Od water Ta nizospher ot tilled) f Reduced Surface (C ain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (( Saturation Visible c Geomorphic Positic FAC-Neutral Test ( Frost-Heave Humm	s (B6) I Concave Surface (B8) (B10) eres on Living Roots (C3 C8) In Aerial Imagery (C9) on (D2) D5) locks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm	, LLC		State: <u>SD</u> Sampling Point: <u>SP-707</u>
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range:S7, T111N, R66W
Landform (hillslope, terrace, etc.) depres	ssion		_ Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plain	s Spring \	Nheat Regi	on Lat:44.428725 Long:98.818685 Datum:NAD83
Soil Map Unit Name: Glenham-Propset	r loams, 1	to 6 percer	nt slopes NWI Classification: PEM1A
Are climate/hydrologic conditions on the sit	te typical t	for this time	of year? 🗌 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?	$\boxtimes$		(If needed, combing any answers in Dementic)
Naturally Problematic?			(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	ite map	showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊠ ⊠	N∘ □ □	Remarks: SP-707 is a wetland sample plot located in W-703, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil has been disturbed by agricultural practices.
Is the Sampled Area within a Wetland?	$\boxtimes$		

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
( <u></u> /	% Cover	Species?	Status	Number of Dominant Species that
1	<u></u> %			are OBL, FACW, or FAC
2				(excluding FAC-): 1 (A)
3	<u>%</u>			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: 1 (B)
Capling/Chruh Stratum (Distaire, 15 ft)	0 70			Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )	0/			are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.        2.	<u>%</u> %			
3.	<u>%</u>			Prevalence Index Worksheet:
4.				Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
•	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5 ft.)				FAC species% x 3 =
	40 %	Y	FAC	FACU species% x 4 =
	<u>40 %</u> %	<u> </u>	FAC	UPL species% x 5 =
	<u>%</u>			Column Totals: <u>0</u> % (A) <u>0</u> (B)
				Prevalence Index = B/A =
4				
	<u>%</u> %			Hydrophytic Vegetation Indicators:
7	<u>~~~</u> %			1 Rapid Test for Hydrophytic Vegetation
8	<u>%</u>			⊠ 2 Dominance Test is >50%
9.	%			 ☐ 3 Prevalence Index is ≤3.0¹
10	%			
	40 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>			must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum60 %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Dominance Test is met. Photograph C-119.				

		to the de	pth needed to o			ator o	or confirm the	absence of indicators.)	
Depth (inchoo)	Matrix				x Features			_	
(inches)	Color (moist)	%	Color (moist	<u> </u>	<u>% Ty</u>		Loc <sup>2</sup>	Texture	Remarks
0-8	10YR 2/1	97	10YR 4/4		<u>3 (</u>		<u> </u>	silty clay loam	
8-16	10YR 4/1	90	10YR 3/3	1	<u>10 C</u>	<u> </u>	M	silty clay	
							·		
							·		
<sup>1</sup> Type: C=Co	ncentration, D=Dep	oletion, RN	/I=Reduced Matr	ix, CS=0	Covered or (	Coatec	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil I	ndicators: (Applic	able to a	ll LRRs, unless	otherwi	se noted.)			Indicators for Problem	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A	<b>A</b> 1)		Sanc	ly Gleye	d Matrix (S4	1)		1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epip	edon (A2)		Sanc		-	,		Coast Prairie Redox	
Black Hist			🗌 Strip	ped Matr	rix (S6)			Dark Surface (S7) (L	
🗌 Hydrogen	Sulfide (A4)		🗌 Loan	ny Mucky	y Mineral (F	1)		High Plains Depress	
Stratified I	ayers (A5) (LRR F	;)	🗌 Loan	ny Gleye	d Matrix (F2	2)		(LRR H outside of	MLRA 72 & 73)
🗌 1 cm Muc	(A9) ( <b>LRR F, G, F</b>	1)	🛛 Depl	eted Mat	trix (F3)			Reduced Vertic (F18	
Depleted I	Below Dark Surface	e (A11)	🛛 Redo	ox Dark S	Surface (F6)	)		Red Parent Material	
Thick Darl	(Surface (A12)		🗌 Depl	eted Dar	k Surface (I	F7)		Very Shallow Dark S	. ,
	cky Mineral (S1)			•	ssions (F8)			Other (Explain in Re	marks)
	cky Peat or Peat (	, ,			epressions)			<sup>3</sup> Indicators of hydrophyt	
🗌 5 cm Muc	ky Peat or Peat (S3	6) ( <b>LRR F</b> )	(ML	RA 72 &	73 of LRR	H)		wetland hydrology must disturbed or problemation	
Restrictive L	ayer (if present):							Hydric Soil Present?	
Туре:		_	Depth (inches):					🖾 Yes 🔲 No	
HYDROLO									
Wetland Hyd	rology Indicators	:							
Primary Indic	ators (minimum of o	one requir	ed; check all tha	<u>t apply)</u>				Secondary Indicators (2	2 or more required)
🛛 Surface W	ater (A1)		🗌 Salt Cru	st (B11)				Surface Soil Cracks	(B6)
🛛 High Wate	r Table (A2)		🗌 Aquatic	Inverteb	rates (B13)			Sparsely Vegetated	Concave Surface (B8)
Saturation	( )				e Odor (C1)			Drainage Patterns (I	
U Water Ma	. ,				ter Table (C	,			res on Living Roots (C3)
	Deposits (B2)				pheres on L	_iving F	Roots (C3)	(where tilled)	•0)
Drift Depo			_ •	e not till		<b>C</b> (1)		Crayfish Burrows (C	
Algal Mat			Thin Mu		duced Iron (	C4)		☐ Saturation Visible or ☐ Geomorphic Position	
Iron Depo	. ,				n Remarks)			FAC-Neutral Test (E	
	l Visible on Aerial II ined Leaves (B9)	nagery (B			r Kernarkoj			Frost-Heave Humm	
Field Observ	( )	Yes	Depth No (inches				ed Data (strea , if available:	m gauge, monitoring well,	aerial photos, previous
Surface Wate	r present?	$\boxtimes$				,,	,		
Water Table	•								
Saturation Pr									
(includes cap		$\boxtimes$							
· ·	rology Present?	$\boxtimes$							
Remarks: We	tland hydrology ind	icator A1,	AZ, AS, and DZ	are met.					

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/9/2018
Applicant/Owner: Sweetland Wind Farm,	, LLC		State: <u>SD</u> Sampling Point: <u>SP-708</u>
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range:S7, T111N, R66W
Landform (hillslope, terrace, etc.) depres	ssion		Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plains	s Spring V	Vheat Regio	ion Lat: <u>44.428708</u> Long: <u>-98.818716</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Glenham-Propser	· loams, 1	to 6 percen	nt slopes NWI Classification: N/A
Are climate/hydrologic conditions on the sit	e typical fo	or this time	e of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🛛 No
Significantly Disturbed?Image: Second se	$\square$		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	ite map	showing	sampling point locations, transects, important features, etc.
Yes No H Hydrophytic Vegetation Present?			Remarks: SP-708 is an upland sample plot located adjacent to W-703, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural practices.
Is the Sampled Area within a Wetland?		$\boxtimes$	

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
(·····		Species	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
2				(excluding FAC-): 0 (A)
3		<u> </u>		Total Number of Dominant
4				Species Across All Strata: 1 (B)
	0 %	= Total Cover	-	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: 0% (A/B)
1				
2		·		Prevalence Index Worksheet:
3				Total % Cover of: Multiply by:
	0/	·		OBL species         %         x 1 =         0
5	0 %	= Total Cove		FACW species $\%$ x 2 = $0$
	0 70			FAC species % x 3 = 0
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species % x 4 = 0
1. <u>Glycine max</u>		<u>Y</u>	UPL	UPL species % x 5 = 0
2				Column Totals: 0 % (A) 0 (B)
3	%			Prevalence Index = B/A =
4	%			
5				Hydrophytic Vegetation Indicators:
6				☐ 1 Rapid Test for Hydrophytic Vegetation
7				
8				☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    75  %</u>	= Total Cover	•	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2				must be present, unless disturbed or problematic
	0 %	= Total Cover	-	
Bare Ground in Herb Stratum 25 %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not me		tation obconics		I Nultural covecan Rhotograph C 120
Remarks. Hydrophytic vegetation indicators are not me	. The only vege	auon observed	i was agric	ultural soybean. Photograph C-120.

Profile Description: (Describe	to the de	epth ne				r confirm the	absence of indicators.)	
DepthMatrix(inches)Color (moist)0-1610YR 2/1	% 100	Сс	Dior (moist)	edox Fea %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture silty clay loam	Remarks
<sup>1</sup> Type: C=Concentration, D=Dep <b>Hydric Soil Indicators: (Applid</b> Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) (LRR F	cable to a		uced Matrix, C <b>s, unless othe</b> Sandy Gle Sandy Re Stripped M Loamy Mu Loamy Gle	S=Cover rwise no eyed Ma dox (S5) /latrix (S ucky Min eyed Ma	red or Coated oted.) trix (S4) 6) eral (F1) trix (F2)		<sup>2</sup> Location: PL=Pore Indicators for Problem 1 cm Muck (A9) (LR Coast Prairie Redox Dark Surface (S7) (I High Plains Depress (LRR H outside of	e Lining, M=Matrix hatic Hydric Soils <sup>3</sup> : (A16) (LRR F, G, H) LRR G) sions (F16) MLRA 72 & 73)
I contained Layers (rb) (LRR F, G, H)       I control below Dark Surface (A11)       I control below Dark Surface (A11)       I control below Dark Surface (A12)       I control below Dark Surface (F7)       I control below Dark Surface (A12)       I control below Dark Surface (F7)       I control below Dark Surface (A12)       I control below Dark Surface (F7)       I control below Dark Surface (F7)							(TF2) Surface (TF 12) emarks) tic vegetation and t be present, unless	
Restrictive Layer (if present): Type:	_	Depth	(inches):				Hydric Soil Present?	
Remarks: Hydric soil indicators are not met.  HYDROLOGY								
Wetland Hydrology Indicators								
Primary Indicators (minimum of one required; check all that apply)         Surface Water (A1)       Salt Crust (B11)         High Water Table (A2)       Aquatic Invertebrates (B13)         Saturation (A3)       Hydrogen Sulfide Odor (C1)         Water Marks (B1)       Dry-Season Water Table (C2)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)         Drift Deposits (B3)       (where not tilled)         Algal Mat or Crust (B4)       Presence of Reduced Iron (C4)         Iron Deposits (B5)       Thin Muck Surface (C7)         Water-Stained Leaves (B9)       Other (Explain in Remarks)						Drainage Patterns (	(B6) Concave Surface (B8) (B10) eres on Living Roots (C3) (C8) n Aerial Imagery (C9) on (D2) (C5)	
Field Observations:	Yes	No	Depth (inches)		cribe Record ections, etc.)		m gauge, monitoring well,	, aerial photos, previous
Surface Water present? Water Table present? Saturation Present? (includes capillary fringe)								
Wetland Hydrology Present? Remarks: Wetland hydrology inc	licators ar	e not n	net					
internante. Wedand Hydrology int								

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/10/2018				
Applicant/Owner: Sweetland Wind Farm	, LLC		State: SD Sampling Point: SP-709				
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: _ S18, T111N, R66W				
Landform (hillslope, terrace, etc.) depres	ssion		Local relief (concave, convex, none): Slope (%): 0 %				
Subregion (LRR): Northern Great Plain	s Spring	Wheat Regio	ion Lat: 44.428725 Long: -98.818685 Datum: NAD83				
Soil Map Unit Name: <u>Hoven silt loam, (</u>	) to 1 per	cent slopes	NWI Classification: PEM1A				
Are climate/hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks)							
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No				
Significantly Disturbed?			(If we added, some bis and some some in Demonder)				
Naturally Problematic?			(If needed, explain any answers in Remarks)				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.							
	Yes	No	Remarks: SP-709 is a wetland sample plot located in W-707, an emergent wetland.				
Hydrophytic Vegetation Present?	$\boxtimes$		Normal hydrologic conditions are not present due to recent rainfall.				
Hydric Soil Present?	$\boxtimes$						
Wetland Hydrology Present?	$\boxtimes$						
Is the Sampled Area within a Wetland?	$\boxtimes$						

Tree Charter (Dist size: 20 ft.)	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> )	% Cover	Species?	Status	Number of Dominant Species that
1	0/			are OBL, FACW, or FAC
2.	<b>e</b> (			(excluding FAC-): (A)
3				Total Number of Dominant
4		<u> </u>		Species Across All Strata: (B)
	0 %	= Total Cove	r	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: (A/B)
1	%			
2				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cove	r	FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: 5 ft.)				FAC species         % x 3 =         0           FACU species         % x 4 =         0
1. <u>Spartina pectinata</u>	100 %	Y	FACW	FACU species         %         x 4 =         0           UPL species         %         x 5 =         0
2				Column Totals: 0% (A) 0 (B)
3.	0/			
4.				Prevalence Index = B/A =
5.	0/			Hydrophytic Vegetation Indicators:
6.				Tydrophytic vegetation indicators.
7	0/			1 Rapid Test for Hydrophytic Vegetation
8.	0/			☐ 2 Dominance Test is >50%
9.	0/			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	<u>100 %</u>	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cove	r	
Bare Ground in Herb Stratum0 %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Rapid Test is met. Photograph C-122.				•

Depth (inches)	Matrix Color (moist)	%	Color (moist)	Redox Fea %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-12	10YR 2/1	95	10YR 4/4	5	C	 PL	silty clay loam	
							, ,	
·						·	,	
	<u> </u>					· ·	,	
	,					·		
Type: C=Cor	ncentration, D=Dep	letion, RM=Re	educed Matrix,	CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
lydric Soil In	dicators: (Applic	able to all LR	Rs, unless of	herwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
] Histosol (A	.1)		Sandy	Gleyed Mat	rix (S4)		☐ 1 cm Muck (A9) ( <b>LRI</b>	
] Histic Epip			-	Redox (S5)			Coast Prairie Redox	
Black Histi	. ,			d Matrix (S			Dark Surface (S7) (L	,
Hydrogen S				Mucky Min			High Plains Depressi (LRR H outside of	
	ayers (A5) (LRR F)		-	Gleyed Ma			Reduced Vertic (F18	,
	(A9) ( <b>LRR F, G, H</b> Below Dark Surface			ed Matrix (F Dark Surfa	,		Red Parent Material	/
•	Surface (A12)	(ATT)		ed Dark Surface	. ,		Very Shallow Dark S	( )
	cky Mineral (S1)		•	Depression	. ,		Other (Explain in Rer	, ,
	cky Peat or Peat (S	2) ( <b>LRR G, H</b>		•	ssions (F16)	)	<sup>3</sup> Indicators of hydrophyti	c vegetation and
] 5 cm Muck	y Peat or Peat (S3)	) (LRR F)	(MLRA	72 & 73 o	f LRR H)		wetland hydrology must disturbed or problematic	be present, unless
Restrictive La	wor (if procent):						Ubudaia Qali Basa sa 40	
	ayer (ii present).						Hydric Soil Present?	
Гуре:	Iric soil indicators F		th (inches):				Yes No	
Гуре:			th (inches): _				•	
⊺ype:  Remarks: Hyd	Iric soil indicators F		th (inches): _				•	
Type: Remarks: Hyd HYDROLOG Vetland Hydr	Iric soil indicators F SY rology Indicators:	 6 is met.					•	
Type: Remarks: Hyd IYDROLOG Vetland Hydr	Iric soil indicators F	 6 is met.		<u></u>			•	2 or more required)
Type: Remarks: Hyd HYDROLOG Vetland Hydi Primary Indica	Iric soil indicators F SY rology Indicators:	 6 is met.	heck all that a	(B11)			Yes No  Secondary Indicators (2  Surface Soil Cracks	(B6)
Ype: Remarks: Hyd IYDROLOG Vetland Hydr Primary Indica ③ Surface Wa ③ High Water	Iric soil indicators F SY rology Indicators: ators (minimum of o ater (A1) r Table (A2)	 6 is met.	heck all that a	(B11) vertebrates			Yes No  Secondary Indicators (2  Surface Soil Cracks  Sparsely Vegetated	(B6) Concave Surface (B8
Type: Remarks: Hyd HYDROLOG Vetland Hydi Primary Indica ⊠ Surface Wa ⊠ Surface Wa Surface Wa	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3)	 6 is met.	heck all that a Salt Crust Aquatic In Hydrogen	(B11) vertebrates Sulfide Ode	or (C1)		Yes No  Secondary Indicators (2  Surface Soil Cracks  Sparsely Vegetated  Drainage Patterns (f	(B6) Concave Surface (B8 310)
Type: Remarks: Hyd HYDROLOG Vetland Hydr Primary Indica ⊠ Surface Wa I High Water Saturation ] Water Marl	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1)	 6 is met.	heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc	(B11) vertebrates Sulfide Odo on Water Ta	or (C1) Ible (C2)		Yes No  Secondary Indicators (2  Surface Soil Cracks  Sparsely Vegetated  Drainage Patterns (t  Oxidized Rhizosphe	(B6) Concave Surface (B8 310)
Type: Cemarks: Hyd HYDROLOG Vetland Hydr Primary Indica Surface Wa G Surface Wa G Saturation Water Marl Water Marl Sediment [	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2)	 6 is met.	theck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc X Oxidized F	(B11) vertebrates Sulfide Odo on Water Ta Rhizosphere	or (C1) Ible (C2)	Roots (C3)	Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (f     Oxidized Rhizosphe     (where tilled)	(B6) Concave Surface (B8 310) res on Living Roots (C
Type: Remarks: Hyd TYDROLOG Vetland Hydu Primary Indica Surface Wa Saturation Saturation Water Marl Sediment [ Drift Depos	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3)	 6 is met.	theck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc X Oxidized F	(B11) vertebrates Sulfide Odo on Water Ta Rhizosphere <b>not tilled)</b>	or (C1) Ible (C2) es on Living	Roots (C3)	Yes No  Secondary Indicators (2  Surface Soil Cracks  Sparsely Vegetated  Drainage Patterns (t  Oxidized Rhizosphe	(B6) Concave Surface (B8 310) res on Living Roots (C 8)
Type: Remarks: Hyd TYDROLOG Vetland Hydr Martingh Water Saturation Water Mart Sediment I Drift Depos Algal Mat c	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	 6 is met.	heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F	(B11) vertebrates Sulfide Odo on Water Ta Rhizosphere <b>not tilled)</b> of Reduced	or (C1) Ible (C2) es on Living Iron (C4)	Roots (C3)	Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (B     Oxidized Rhizosphe     (where tilled)     Crayfish Burrows (C	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9)
Type: Remarks: Hyd TYDROLOG Vetland Hydr Primary Indica Surface Wa Saturation Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4)	6 is met.	heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc X Oxidized F (where f Presence	(B11) vertebrates Sulfide Odd on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C	or (C1) Ible (C2) es on Living Iron (C4) 7)	Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         ⊠ Geomorphic Position         ∑ FAC-Neutral Test (D	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5)
Type: Remarks: Hyd TYDROLOG Vetland Hydr Primary Indica Surface Wa Saturation Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos Inundation	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) iits (B5)	6 is met.	heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc Xoxidized F (where Presence Thin Muck	(B11) vertebrates Sulfide Odd on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C	or (C1) Ible (C2) es on Living Iron (C4) 7)	Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         ⊠ Geomorphic Position	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5)
Type: Ty	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial In ned Leaves (B9)	6 is met.	heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc Xoxidized F (where Presence Thin Muck	(B11) vertebrates Sulfide Ode on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C plain in Ren	or (C1) ble (C2) es on Living Iron (C4) 7) narks) pribe Record		Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         ⊠ Geomorphic Position         ∑ FAC-Neutral Test (D	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hyd TYDROLOG Vetland Hydr Primary Indica Surface Wa High Water Saturation Water Marl Sediment [ Drift Depos Algal Mat co Iron Depos Inundation Water-Stain Field Observa	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial In ned Leaves (B9) ations:		heck all that a Salt Crust Aquatic In Dry-Seasc Oxidized F (where i Presence Thin Muck Other (Exp Depth	(B11) vertebrates Sulfide Ode on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C plain in Ren	or (C1) ble (C2) es on Living Iron (C4) 7) narks) pribe Record	led Data (strear	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Secomorphic Position         FAC-Neutral Test (C         Frost-Heave Hummon	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hyd TYDROLOG Vetland Hydr Primary Indica Surface Wa Saturation Water Marl Sediment I Drift Depos Algal Mat c Iron Depos Inundation	Iric soil indicators F SY rology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aerial In ned Leaves (B9) ations: r present?		heck all that a Salt Crust Aquatic In Dry-Seasc Oxidized F (where Presence Thin Muck Other (Exp Depth (inches)	(B11) vertebrates Sulfide Ode on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C plain in Ren	or (C1) ble (C2) es on Living Iron (C4) 7) narks) pribe Record	led Data (strear	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Secomorphic Position         FAC-Neutral Test (C         Frost-Heave Hummon	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hyd TYDROLOG Vetland Hydr Primary Indica Surface Water Surface Water Drift Depos Algal Mat c Drift Depos Algal Mat c Iron Depos Inundation Water-Stain Water-Stain Surface Water Vater Table p	Iric soil indicators F SY rology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) its (B5) Visible on Aerial In ned Leaves (B9) ations: r present?		heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc Oxidized F (where f Presence Thin Muck Other (Exp Depth (inches) 0.25	(B11) vertebrates Sulfide Ode on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C plain in Ren	or (C1) ble (C2) es on Living Iron (C4) 7) narks) pribe Record	led Data (strear	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Secomorphic Position         FAC-Neutral Test (C         Frost-Heave Hummon	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hyd TYDROLOG Vetland Hydr Primary Indica Surface Wa Saturation Water Marl Sediment I Sediment I Drift Depos Algal Mat o Drift Depos Algal Mat o Drift Depos Inundation Water-Stair Field Observa Surface Water Vater Table p Saturation Pre includes capil	Fric soil indicators F Frology Indicators: ators (minimum of o ater (A1) r Table (A2) (A3) ks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) Visible on Aerial In ned Leaves (B9) ations: r present? resent?		heck all that a Salt Crust Aquatic In Hydrogen Dry-Seasc Voxidized F (where i Presence Thin Muck Other (Exp Depth (inches) 0.25 0	(B11) vertebrates Sulfide Ode on Water Ta Rhizosphere <b>not tilled)</b> of Reduced Surface (C plain in Ren	or (C1) ble (C2) es on Living Iron (C4) 7) narks) pribe Record	led Data (strear	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Secomorphic Position         FAC-Neutral Test (C         Frost-Heave Hummon	(B6) Concave Surface (B8 B10) res on Living Roots (C 8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/10/2018				
Applicant/Owner: Sweetland Wind Farm,	LLC		State: <u>SD</u> Sampling Point: <u>SP-710</u>				
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S18, T111N, R66W</u>				
Landform (hillslope, terrace, etc.) terrace	9		_ Local relief (concave, convex, none): Slope (%): %				
Subregion (LRR): Northern Great Plains	s Spring \	Nheat Regio	ion Lat: <u>44.428708</u> Long: <u>-98.818716</u> Datum: <u>NAD83</u>				
Soil Map Unit Name: Glenham-Propser	loams, 1	to 6 percent	nt slopes NWI Classification: N/A				
Are climate/hydrologic conditions on the site	e typical t	for this time o	e of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)				
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No				
Significantly Disturbed?   Image: Constraint of the second seco			(If needed, explain any answers in Remarks)				
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.							
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes		Remarks: SP-710 is an upland sample plot located adjace to W-707, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.				
Is the Sampled Area within a Wetland?		$\bowtie$					

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> )	% Cover	Species?	Status	Number of Dominant Species that
1	<u>%</u>			are OBL, FACW, or FAC
2	<u>%</u>			(excluding FAC-): 0 (A)
3	%			Total Number of Dominant
4	%			Species Across All Strata: 2 (B)
	0 %	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			
2				Prevalence Index Worksheet:
3	%			r revalence index worksheet.
4	0/			Total % Cover of: Multiply by:
5.	%			OBL species% x 1 =0
	0 %	= Total Cover		FACW species% x 2 =0
Herb Stratum (Plot size: 5 ft.)				FAC species% x 3 =0
1. <u>Poa pratensis</u>	50 %	Y	FACU	FACU species% x 4 =
	45 %	Y	UPL	UPL species $\%$ x 5 = 0
	<u> </u>		FACU	Column Totals:0 % (A)(B)
	<u> </u>		1 400	Prevalence Index = B/A =
-		·		
		·		Hydrophytic Vegetation Indicators:
6 7				1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			
	<u>   100 %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>			<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>			must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum0 %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met. Pr	otograph C	-123.		

Profile Description: (Describe to the	e depth ne	eded to docur	nent the	indicator o	or confirm the	absence of indicators.)	
Depth Matrix		Re	edox Feat	ures			
(inches) Color (moist) %		olor (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
<u> </u>	0	· _				silty clay loam	
·							
·					·		
<sup>1</sup> Type: C=Concentration, D=Depletion	, RM=Red	uced Matrix, CS	S=Covere	d or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	E Lining, M=Matrix
Hydric Soil Indicators: (Applicable	to all LRR	s, unless othe	rwise no	ted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
☐ Histosol (A1)		🗌 Sandy Gle	eyed Matr	ix (S4)		🗌 1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epipedon (A2)		Sandy Red	dox (S5)			Coast Prairie Redox	(A16) (LRR F, G, H)
Black Histic (A3)		Stripped M		,		🗌 Dark Surface (S7) ( <b>L</b>	,
Hydrogen Sulfide (A4)		🗌 Loamy Mu	•	. ,		High Plains Depress	
Stratified Layers (A5) (LRR F)		Loamy Gle	-			(LRR H outside of Reduced Vertic (F18	•
☐ 1 cm Muck (A9) ( <b>LRR F, G, H</b> ) ☐ Depleted Below Dark Surface (A11	<b>`</b>	Depleted I Redox Date		,		Red Parent Material	
Thick Dark Surface (A12)	)	Depleted [		. ,		Very Shallow Dark S	
Sandy Mucky Mineral (S1)		Redox De		. ,		Other (Explain in Re	· · · ·
□ 2.5 cm Mucky Peat or Peat (S2) (L	RR G, H)	High Plain		. ,		<sup>3</sup> Indicators of hydrophyt	ic vegetation and
□ 5 cm Mucky Peat or Peat (S3) (LRR F) (MLRA 72 & 73 of LRR H)						wetland hydrology must disturbed or problematio	be present, unless
Restrictive Layer (if present):						Hydric Soil Present?	
Туре:	Depth	(inches):				🗌 Yes 🖾 No	
Remarks: Hydric soil indicators are no	t met.						
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary Indicators (minimum of one re	quired; ch	eck all that appl	<u>y)</u>			Secondary Indicators (2	2 or more required)
Surface Water (A1)		] Salt Crust (B	11)			Surface Soil Cracks	(B6)
☐ High Water Table (A2)	C	Aquatic Inver	tebrates	(B13)		Sparsely Vegetated	Concave Surface (B8)
Saturation (A3)		] Hydrogen Su				Drainage Patterns (	,
Water Marks (B1)		Dry-Season V		. ,			res on Living Roots (C3)
Sediment Deposits (B2)	L	Oxidized Rhiz [ (where not		s on Living	Roots (C3)	(where tilled) Crayfish Burrows (C	.8)
Drift Deposits (B3)	Г	Presence of F		Iron (C4)		Saturation Visible of	
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)		] Thin Muck St		. ,		Geomorphic Positio	••••
Inundation Visible on Aerial Imager	_	_ ] Other (Explai				☐ FAC-Neutral Test ([	. ,
□ Water-Stained Leaves (B9)						Frost-Heave Humm	ocks (D7) <b>(LRR F)</b>
Field Observations:		Depth	Desc	ribe Record	ed Data (strea	m gauge, monitoring well,	aerial photos, previous
Yes	No	(inches)			, if available:	gaage, monitoring well,	acrial priotoo, provious
Surface Water present?	$\boxtimes$			,			
Water Table present?	$\boxtimes$						
Saturation Present?	$\boxtimes$						
(includes capillary fringe)							
Wetland Hydrology Present?	$\boxtimes$						
Remarks: Wetland hydrology indicator	s are not n	net.					

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/11/2018			
Applicant/Owner: Sweetland Wind Farm	i, LLC		State: <u>SD</u> Sampling Point: <u>SP-711</u>			
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S22, T111N, R67W</u>			
Landform (hillslope, terrace, etc.)	ession		_ Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>0 %</u>			
Subregion (LRR): Northern Great Plair	ns Spring	Wheat Regi	on Lat: <u>44.399814</u> Long: <u>-98.865263</u> Datum: <u>NAD83</u>			
Soil Map Unit Name: Glenham-Cavo loam, nearly level NWI Classification: PEM1A						
Are climate/hydrologic conditions on the site typical for this time of year?						
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🛛 No			
Significantly Disturbed?	$\boxtimes$					
Naturally Problematic?			(If needed, explain any answers in Remarks)			
SUMMARY OF FINDINGS – Attach	site map	showing	sampling point locations, transects, important features, etc.			
	Yes	No	Remarks: SP-711 is a wetland sample plot located in W-708, a farmed wetland.			
Hydrophytic Vegetation Present?	$\boxtimes$		Normal hydrologic conditions are not present due to recent rainfall. Soil and			
Hydric Soil Present?	$\boxtimes$		vegetation have been disturbed by agricultural activities.			
Wetland Hydrology Present?	$\boxtimes$					
Is the Sampled Area within a Wetland?	$\boxtimes$					

## VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
( <u></u> )		Species	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
2				(excluding FAC-): 1 (A)
	0/			Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: <u>2</u> (B)
	0 %			Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: 50% (A/B)
1				
2				Prevalence Index Worksheet:
3				Total % Cover of:Multiply by:
4.		<u> </u>		$\frac{1}{\text{OBL species}} = 0\% \text{ x 1} = 0$
5				FACW species $0\%$ $x^2 = 0$
	0 %	= Total Cover	•	FAC species $25\% \times 3 = 75$
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species $15\% \times 4 = 60$
1. <u>Echinochloa crus-galli</u>	25 %	<u>Y</u>	FAC	UPL species $0\% x5 = 0$
2. <u>Setaria pumila</u>	15 %	Y	FACU	Column Totals: <u>40</u> % (A) <u>135</u> (B)
3	%			
4				Prevalence Index = B/A = <u>3.38</u>
5	%			Hydrophytic Vegetation Indicators:
6				
7	%			1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%			4 Morphological Adaptations <sup>1</sup> (Provide
	40 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1,	%			
2.				<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
				Hydrophytic Vegetation Present? X Yes INo
Bare Ground in Herb Stratum 60 %				
Remarks: Vegetation has been disturbed by agricultural a	ctivitios. It is k	olioved hydron	hytic yeae	tation would be present if agricultural activities

Remarks: Vegetation has been disturbed by agricultural activities. It is believed hydrophytic vegetation would be present if agricultural activities ceased. Wetland hydrology and hydric soil is present, therefore, Problematic Hydrophytic Vegetation indicator is met. Photograph C-124.

Depth Matrix			dox Features		<b>-</b> /	<b>.</b> .
(inches) Color (moist)		olor (moist)	<u>%</u> Type <sup>1</sup>	Loc <sup>2</sup>		Remarks
0-10 10YR 2/1	<u>95</u> 1	0YR 4/3	<u>5</u> <u>C</u>	M	silty clay loam	
Type: C=Concentration, D=Deple	etion, RM=Red	uced Matrix, CS	=Covered or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore L	ining, M=Matrix
Hydric Soil Indicators: (Applica	ble to all LRR	s, unless other	wise noted.)		Indicators for Problemat	ic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Gley	/ed Matrix (S4)		☐ 1 cm Muck (A9) ( <b>LRR I</b>	
Histic Epipedon (A2)		Sandy Red			🗌 Coast Prairie Redox (A	
Black Histic (A3)		Stripped Ma			Dark Surface (S7) (LR	
Hydrogen Sulfide (A4)		-	ky Mineral (F1)		High Plains Depressior (LRR H outside of MI	
Stratified Layers (A5) (LRR F)			yed Matrix (F2)		Reduced Vertic (F18)	LRA 12 & 13)
☐ 1 cm Muck (A9) ( <b>LRR F, G, H</b> ) ☐ Depleted Below Dark Surface (		Depleted M	. ,		Red Parent Material (T	F2)
Thick Dark Surface (A12)	(ATT)		ark Surface (F7)		Very Shallow Dark Sur	/
Sandy Mucky Mineral (S1)		Redox Dep	. ,		Other (Explain in Rema	
☐ 2.5 cm Mucky Peat or Peat (S2	2) ( <b>LRR G, H</b> )		Depressions (F16)		<sup>3</sup> Indicators of hydrophytic	vegetation and
5 cm Mucky Peat or Peat (S3)		(MLRA 72	& 73 of LRR H)		wetland hydrology must be disturbed or problematic	
Restrictive Layer (if present):					Hydric Soil Present?	
Type: Remarks: Hydric soil indicator F6	- -	(inches):			Yes No	
Туре:	- -	(inches):			Yes 🗌 No	
Type: Remarks: Hydric soil indicator F6	- -	(inches):			Yes 🗌 No	
Гуре:	- -	(inches):			Yes 🗌 No	
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators:	is met.	<u> </u>	<u></u>		Yes No	or more required)
Type: Remarks: Hydric soil indicator F6	is met.	<u> </u>	<del>.</del>			· · ·
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of or ⊠ Surface Water (A1) ⊠ High Water Table (A2)	is met. he required; che	eck all that apply ] Salt Crust (B1 ] Aquatic Inverte	- 1) ebrates (B13)		Secondary Indicators (2 o	36) oncave Surface (B8)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of or ⊠ Surface Water (A1) ⊠ High Water Table (A2) ⊠ Saturation (A3)	is met. <u>ne required; che</u>	eck all that apply ] Salt Crust (B1 ] Aquatic Inverte ] Hydrogen Sulf	- 1) ebrates (B13) ïde Odor (C1)		Secondary Indicators (2 o	36) oncave Surface (B8) 0)
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of or Surface Water (A1) Surface Water Table (A2) Saturation (A3) ☐ Water Marks (B1)	is met. <u>ne required; che</u> C	eck all that apply ] Salt Crust (B1 ] Aquatic Inverte ] Hydrogen Sulf ] Dry-Season W	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2)	Boots (C2)	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres	36) oncave Surface (B8) 0)
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)	is met. <u>ne required; che</u> C	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living I	Roots (C3)	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled)	36) oncave Surface (B8) 0) s on Living Roots (C
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)	ne required; che	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living I <b>tilled)</b>	Roots (C3)	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8)	36) oncave Surface (B8) 0) s on Living Roots (C
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)	is met.	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living I <b>tilled)</b> educed Iron (C4)	Roots (C3)	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled)	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9)
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         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)	ne required; che	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living I <b>tilled)</b> educed Iron (C4) face (C7)	Roots (C3)	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position ( FAC-Neutral Test (D5)	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2)
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         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 Image	ne required; che	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R Thin Muck Sur	- 1) ebrates (B13) ïde Odor (C1) /ater Table (C2) ospheres on Living I <b>tilled)</b> educed Iron (C4) face (C7)	Roots (C3)	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position (	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2)
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         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 Image         Water-Stained Leaves (B9)	ne required; che	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R Thin Muck Sur	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living I tilled) educed Iron (C4) face (C7) in Remarks)	ed Data (strea	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position ( FAC-Neutral Test (D5)	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2) ) ks (D7) <b>(LRR F)</b>
Type: Remarks: Hydric soil indicator F6 HYDROLOGY Wetland Hydrology Indicators: Primary Indicators (minimum of or ⊠ Surface Water (A1) ⊠ High Water Table (A2)	ne required; che	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R Thin Muck Sur Other (Explain Depth	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living I tilled) educed Iron (C4) face (C7) in Remarks) Describe Record	ed Data (strea	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position ( FAC-Neutral Test (D5) Frost-Heave Hummoc	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2) ) ks (D7) <b>(LRR F)</b>
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         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 Image         Water-Stained Leaves (B9)	is met.	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R Thin Muck Sur Other (Explain Depth (inches)	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living I tilled) educed Iron (C4) face (C7) in Remarks) Describe Record	ed Data (strea	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position ( FAC-Neutral Test (D5) Frost-Heave Hummoc	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2) ) ks (D7) <b>(LRR F)</b>
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of or         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 Image         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?	is met.	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R Thin Muck Sur Other (Explain Depth (inches) 4	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living I tilled) educed Iron (C4) face (C7) in Remarks) Describe Record	ed Data (strea	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position ( FAC-Neutral Test (D5) Frost-Heave Hummoc	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2) ) ks (D7) <b>(LRR F)</b>
Type:         Remarks: Hydric soil indicator F6         HYDROLOGY         Vetland Hydrology Indicators:         Primary Indicators (minimum of or         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 Image         Water-Stained Leaves (B9)         Field Observations:         Surface Water present?         Vater Table present?	is met.	eck all that apply Salt Crust (B1 Aquatic Inverte Hydrogen Sulf Dry-Season W Oxidized Rhize (where not Presence of R Thin Muck Sur Other (Explain Depth (inches) 4 0	- 1) ebrates (B13) ide Odor (C1) /ater Table (C2) ospheres on Living I tilled) educed Iron (C4) face (C7) in Remarks) Describe Record	ed Data (strea	Secondary Indicators (2 o Surface Soil Cracks (B Sparsely Vegetated Co Drainage Patterns (B1 Oxidized Rhizospheres (where tilled) Crayfish Burrows (C8) Saturation Visible on A Geomorphic Position ( FAC-Neutral Test (D5) Frost-Heave Hummoc	36) oncave Surface (B8) 0) s on Living Roots (C Aerial Imagery (C9) D2) ) ks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/11/2018			
Applicant/Owner: Sweetland Wind Farm	, LLC		State: <u>SD</u> Sampling Point: <u>SP-712</u>			
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S22, T111N, R67W</u>			
Landform (hillslope, terrace, etc.)terrace	е		Local relief (concave, convex, none): <u>none</u> Slope (%): <u>0 %</u>			
Subregion (LRR): Northern Great Plain	s Spring \	Nheat Regi	on Lat: <u>44.399786</u> Long: <u>-98.865246</u> Datum: <u>NAD83</u>			
Soil Map Unit Name:Glenham-Cavo loam, nearly level NWI Classification: N/A						
Are climate/hydrologic conditions on the site typical for this time of year? 🗌 Yes 🛛 No (If no, explain in Remarks)						
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🗌 Yes 🛛 No			
Significantly Disturbed?Image: Constraint of the second secon	$\square$		(If needed, explain any answers in Remarks)			
SUMMARY OF FINDINGS – Attach s	ite map	showing	sampling point locations, transects, important features, etc.			
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes	No ⊠ ⊠	Remarks: SP-712 is an upland sample plot located adjacent to W-708, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.			
Is the Sampled Area within a Wetland?		$\boxtimes$				

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
(·····		Species	Status	Number of Dominant Species that
				are OBL, FACW, or FAC
2				(excluding FAC-):(A)
3.				Total Number of Dominant
4				Species Across All Strata: 1 (B)
	0 %	= Total Cover	•	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: 0% (A/B)
1	%			
2	%			Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species         % x 1 =         0
	0 %	= Total Cover		FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: 5 ft.)				FAC species $\%$ x 3 = 0
1. <u>Glycine max</u>	90 %	Y	UPL	FACU species $\%$ x 4 = 0
2				UPL species         % x 5 =         0           Column Totals:         0%         (A)         0         (B)
	0(			
3 4				Prevalence Index = B/A =
_				Iludrank, die Verstetien Indianteres
5 6				Hydrophytic Vegetation Indicators:
7.	0/			1 Rapid Test for Hydrophytic Vegetation
8.	0/			☐ 2 Dominance Test is >50%
9.				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10.				
	90 %	= Total Cover	-	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cover	-	
Bare Ground in Herb Stratum 10 %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
	t The enly vers	tation products	una agrico	l Itural aavhaan, Dhatagranh C 125
Remarks: Hydrophytic vegetation indicators are not me	a. The only vege	tation present v	was ayrıcu	ilurai soybean. Pholograph C-125.

Profile Description: (Describe	to the depth			or confirm the	absence of indicators.)	
Depth Matrix			edox Features			
(inches) Color (moist)	<u>%</u>	Color (moist)	% Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16 10YR 2/1	100				silty clay loam	
	<u> </u>			<u> </u>		
		· _				
	<u> </u>					
	<u> </u>	· ·				
					21 (1 D D	
<sup>1</sup> Type: C=Concentration, D=Dep Hydric Soil Indicators: (Applic				d Sand Grains	<sup>2</sup> Location: PL=Pore Indicators for Problem	0.
						•
☐ Histosol (A1) ☐ Histic Epipedon (A2)		Sandy Gie	eyed Matrix (S4)		1 cm Muck (A9) (LR	
Black Histic (A3)		Sandy Re			□ Coast Prairie Redox □ Dark Surface (S7) (L	
Hydrogen Sulfide (A4)			icky Mineral (F1)		High Plains Depress	,
Stratified Layers (A5) (LRR F	)	•	eyed Matrix (F2)		(LRR H outside of	
1 cm Muck (A9) (LRR F, G, H	,	Depleted I	•		Reduced Vertic (F18	
Depleted Below Dark Surface		•	rk Surface (F6)		Red Parent Material	(TF2)
Thick Dark Surface (A12)	(,)		Dark Surface (F7)		Very Shallow Dark S	Surface (TF 12)
☐ Sandy Mucky Mineral (S1)		•	pressions (F8)		Other (Explain in Re	marks)
2.5 cm Mucky Peat or Peat (S	62) ( <b>LRR G, I</b>	l) 🗌 High Plain	s Depressions (F16)	)	<sup>3</sup> Indicators of hydrophyt	ic vegetation and
5 cm Mucky Peat or Peat (S3	) (LRR F)	(MLRA 72	2 & 73 of LRR H)		wetland hydrology must disturbed or problemation	be present, unless
Restrictive Layer (if present):					Hydric Soil Present?	
Туре:	De	pth (inches):			🗌 Yes 🖾 No	
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of c	one required;	check all that appl	<u>y)</u>		Secondary Indicators (2	2 or more required)
Surface Water (A1)		Salt Crust (B	/		Surface Soil Cracks	<b>、</b>
High Water Table (A2)		Aquatic Inver			Sparsely Vegetated	
Saturation (A3)		Hydrogen Su			Drainage Patterns (	/
Water Marks (B1)		- •	Water Table (C2)	<b>D</b> ( (22)	Oxidized Rhizosphe (where tilled)	eres on Living Roots (C3)
Sediment Deposits (B2)		UXIdized Rhiz	zospheres on Living	Roots (C3)	Crayfish Burrows (C	:8)
Drift Deposits (B3)		_ •	Reduced Iron (C4)		Saturation Visible of	,
☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)		Thin Muck Su	( )		Geomorphic Positio	••••
Inundation Visible on Aerial Ir	magery (B7)	Other (Explai			FAC-Neutral Test (	
Water-Stained Leaves (B9)		_ 、、	,		Frost-Heave Humm	ocks (D7) <b>(LRR F)</b>
		Depth	Describe Description	had Data (strained		
Field Observations:	Yes No		inspections, etc.		m gauge, monitoring well,	aeriai photos, previous
Surface Water present?		- *		,,		
Water Table present?						
Saturation Present?						
(includes capillary fringe)		·				
Wetland Hydrology Present?		1				
			1			
Remarks: Wetland hydrology ind						

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/11/2018			
Applicant/Owner: Sweetland Wind Farm,	, LLC		State: <u>SD</u> Sampling Point: <u>SP-713</u>			
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range:S23, T111N, R67W			
Landform (hillslope, terrace, etc.)swale			Local relief (concave, convex, none): Slope (%): 1 %			
Subregion (LRR): Northern Great Plains	s Spring	Wheat Regio	ion Lat: <u>44.407817</u> Long: <u>-98.845507</u> Datum: <u>NAD83</u>			
Soil Map Unit Name: Glenham-Propser	· loams, 1	to 6 percer	nt NWI Classification: PEM1C			
Are climate/hydrologic conditions on the site typical for this time of year?  Yes  No (If no, explain in Remarks)						
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No			
Significantly Disturbed?			(If we added, any later and an angle in Demonstry)			
Naturally Problematic?			(If needed, explain any answers in Remarks)			
SUMMARY OF FINDINGS – Attach s	ite map	showing	sampling point locations, transects, important features, etc.			
	Yes	No	Remarks: SP-713 is a wetland sample plot located in W-710, an emergent wetland.			
Hydrophytic Vegetation Present?	$\boxtimes$		Normal hydrologic conditions are not present due to recent rainfall.			
Hydric Soil Present?	$\boxtimes$					
Wetland Hydrology Present?	$\boxtimes$					
Is the Sampled Area within a Wetland?	$\boxtimes$					

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
(*************************************		Species	Status	Number of Dominant Species that
0				are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4.				Total Number of Dominant
т	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15 ft.)				Percent of Dominant Species that
1,	%			are OBL, FACW, or FAC:(A/B)
2.				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species         % x 1 =         0
	0 %	= Total Cove	r	FACW species $\%$ x 2 = $0$
Herb Stratum (Plot size: <u>5 ft.</u> )				FAC species         % x 3 =         0           FACU species         % x 4 =         0
1. Spartina pectinata	95 %	Y	FACW	UPL species $\%$ x 5 = 0
2. <u>Helianthus maximiliani</u>	5 %	N	FACU	Column Totals: $0\%$ (A) $0$ (B)
3				
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	0/			☐ 1 Rapid Test for Hydrophytic Vegetation
7	0/			$\square$ 2 Dominance Test is >50%
8 9	0/			
10.				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	100 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cove	r	
Bare Ground in Herb Stratum0 %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Rapid Test is met. Photograph C-127.				

DepthMatrix(inches)Color (moist)	%	Color (moist)	Redox Features % Type	<sup>1</sup> Loc <sup>2</sup>	Texture	Remarks	
0-16 10YR 2/1	94	10YR 4/4	6 C	<u></u>	silty clay loam	Ttemanto	
			·				
	·						
·							
ype: C=Concentration, D=Dep	pletion, RM=R	educed Matrix, 0	CS=Covered or Co	ated Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix	
dric Soil Indicators: (Applie	cable to all LF	RRs, unless oth	erwise noted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :	
Histosol (A1)			ileyed Matrix (S4)		🗌 1 cm Muck (A9) ( <b>LRI</b>		
Histic Epipedon (A2)		Sandy R	( )		Coast Prairie Redox		
Black Histic (A3)		Stripped	. ,		Dark Surface (S7) (L	,	
Hydrogen Sulfide (A4)		•	Nucky Mineral (F1)		High Plains Depressi (LRR H outside of		
Stratified Layers (A5) (LRR F	,	-	Bleyed Matrix (F2)		Reduced Vertic (F18	•	
1 cm Muck (A9) (LRR F, G, H	,	•	Matrix (F3)		Red Parent Material	,	
Depleted Below Dark Surface Thick Dark Surface (A12)	e (ATT)		ark Surface (F6)	\	_	· · ·	
Sandy Mucky Mineral (S1)		•	I Dark Surface (F7 epressions (F8)	)	☐ Very Shallow Dark Surface (TF 12) ☐ Other (Explain in Remarks)		
2.5 cm Mucky Peat or Peat (S			ins Depressions (Fo)	16)		,	
5 cm Mucky Peat or Peat (S3	, ,		72 & 73 of LRR H		<sup>3</sup> Indicators of hydrophyti wetland hydrology must disturbed or problematic	be present, unless	
strictive Layer (if present):					Hydric Soil Present?		
estrictive Layer (if present): pe: emarks: Hydric soil indicator F		oth (inches):			Hydric Soil Present?		
pe:		oth (inches):		-	•		
pe: marks: Hydric soil indicator F(		oth (inches):			•		
pe: marks: Hydric soil indicator Fe /DROLOGY etland Hydrology Indicators	 6 is met. :			-	Yes No		
marks: Hydric soil indicator Fo /DROLOGY etland Hydrology Indicators mary Indicators (minimum of e	 6 is met. :		<u></u>	-	•	or more required)	
pe: marks: Hydric soil indicator Fe /DROLOGY etland Hydrology Indicators: mary Indicators (minimum of a Surface Water (A1)	 6 is met. :	check all that ap	B11)	-	Yes No Secondary Indicators (2 Surface Soil Cracks	(B6)	
marks: Hydric soil indicator Fe /DROLOGY etland Hydrology Indicators: mary Indicators (minimum of of Surface Water (A1) High Water Table (A2)	 6 is met. :	check all that ap	B11) ertebrates (B13)	-	Yes No Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated	(B6) Concave Surface (B	
marks: Hydric soil indicator Fe /DROLOGY etland Hydrology Indicators mary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3)	 6 is met. :	check all that ap	B11) ertebrates (B13) sulfide Odor (C1)	-	Yes No Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (t	(B6) Concave Surface (B 310)	
pe: marks: Hydric soil indicator Fo /DROLOGY etland Hydrology Indicators: mary Indicators (minimum of o Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	 6 is met. :	check all that ap	B11) ertebrates (B13) sulfide Odor (C1) water Table (C2)		Yes No Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (t Oxidized Rhizosphe	(B6) Concave Surface (B 310)	
pe: marks: Hydric soil indicator For fOROLOGY etland Hydrology Indicators mary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 6 is met. :	check all that ap	B11) ertebrates (B13) sulfide Odor (C1) n Water Table (C2) nizospheres on Liv		Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (f     Oxidized Rhizosphe     (where tilled)	(B6) Concave Surface (B 310) res on Living Roots (	
pe: marks: Hydric soil indicator For YDROLOGY etland Hydrology Indicators imary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 6 is met. :	check all that ap	B11) ertebrates (B13) Sulfide Odor (C1) N Water Table (C2) Nizospheres on Liv ot tilled)	ing Roots (C3)	Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (f     Oxidized Rhizosphe     (where tilled)     Crayfish Burrows (C	(B6) Concave Surface (B 310) res on Living Roots ( 8)	
pe: marks: Hydric soil indicator For /DROLOGY etland Hydrology Indicators: mary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	 6 is met. :	check all that ap	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4	ing Roots (C3)	Yes No     Yes No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (B     Oxidized Rhizosphe     (where tilled)     Crayfish Burrows (C     Saturation Visible or	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9)	
marks: Hydric soil indicator Fe         'DROLOGY         etland Hydrology Indicators:         mary Indicators (minimum of e         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)	6 is met.	check all that ap	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4	ing Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (B         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2)	
marks: Hydric soil indicator F         /DROLOGY         etland Hydrology Indicators:         mary Indicators (minimum of of 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 In	6 is met.	check all that ap	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4 Surface (C7)	ing Roots (C3)	Yes No     Yes No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (B     Oxidized Rhizosphe     (where tilled)     Crayfish Burrows (C     Saturation Visible or	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2) 05)	
pe: marks: Hydric soil indicator For /DROLOGY etland Hydrology Indicators: mary Indicators (minimum of of 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 In Water-Stained Leaves (B9)	6 is met.	Check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rh (where no Presence of Thin Muck S Other (Explain Depth	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4 Surface (C7) ain in Remarks)	ing Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (E         Oxidized Rhizosphe         (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (D	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2) 05) pocks (D7) <b>(LRR F)</b>	
pe: marks: Hydric soil indicator For /DROLOGY etland Hydrology Indicators: mary Indicators (minimum of of 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 In Water-Stained Leaves (B9) eld Observations:	6 is met.	check all that ap         Salt Crust (I         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rt         (where not)         Thin Muck S         Other (Expland)         Depth	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4 Surface (C7) ain in Remarks)	ing Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (F         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (D         Frost-Heave Hummon	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2) 55) pocks (D7) <b>(LRR F)</b>	
pe: marks: Hydric soil indicator Formarks: Hydric soil indicator Formarks: Hydric soil indicator formarks: mary Indicators (minimum of of 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 In Water-Stained Leaves (B9) Eld Observations: Inface Water present?	6 is met. 6 is met. : one required; of magery (B7) Yes No	check all that ap         Salt Crust (I         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rt         (where not)         Thin Muck S         Other (Expland)         Depth	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4 Surface (C7) ain in Remarks)	ing Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (F         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (D         Frost-Heave Hummon	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2) 55) pocks (D7) <b>(LRR F)</b>	
pe: marks: Hydric soil indicator For YDROLOGY etland Hydrology Indicators imary Indicators (minimum of of Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	6 is met. 6 is met. : one required; of magery (B7) Yes No Q D	check all that ap Salt Crust (I Aquatic Inve Hydrogen S Dry-Season Oxidized Rt (where no Presence of Thin Muck S Other (Explayed) Depth (inches)	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4 Surface (C7) ain in Remarks)	ing Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (F         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (D         Frost-Heave Hummon	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2) 05) pocks (D7) <b>(LRR F)</b>	
pe: marks: Hydric soil indicator Formarks: Hydric soil indicator Formarks: Hydric soil indicator formarks: mary Indicators (minimum of of 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 In Water-Stained Leaves (B9) Eld Observations: Inface Water present? ater Table present?	6 is met. 6 is met. : one required; of magery (B7) Yes No	check all that ap         Salt Crust (I)         Aquatic Inve         Hydrogen S         Dry-Season         Oxidized Rt         (where no         Presence of         Thin Muck S         Other (Expland)         Depth         (inches)         0	B11) ertebrates (B13) Sulfide Odor (C1) Nater Table (C2) Nizospheres on Liv ot tilled) f Reduced Iron (C4 Surface (C7) ain in Remarks)	ing Roots (C3)	Yes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (F         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (D         Frost-Heave Hummon	(B6) Concave Surface (B 310) res on Living Roots ( 8) n Aerial Imagery (C9) n (D2) 55) pocks (D7) <b>(LRR F)</b>	

Project/Site: Sweetland Wind Farm		City/County: Hand County Sampling Date: 10/11/2018				
Applicant/Owner: Sweetland Wind Farm, LLC		State: SD Sampling Point: SP-714				
Investigator(s): <u>K. Russo, J. Kensinger</u>		Section, Township, Range: <u>S23, T111N, R67W</u>				
Landform (hillslope, terrace, etc.) hillslope		Local relief (concave, convex, none): <u>convex</u> Slope (%): <u>3 %</u>				
Subregion (LRR): Northern Great Plains Spri	ing Wheat Region	nLat:44.407737Long:98.845541Datum:NAD83				
Soil Map Unit Name: Glenham-Propser loam	ns, 1 to 6 percent	slopes NWI Classification: N/A				
Are climate/hydrologic conditions on the site typical for this time of year? 🗌 Yes 🛛 No (If no, explain in Remarks)						
Vegetation Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No				
Significantly Disturbed?       Naturally Problematic?		(If needed, explain any answers in Remarks)				
SUMMARY OF FINDINGS – Attach site m	nap showing sa	ampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present?       [         Hydric Soil Present?       [         Wetland Hydrology Present?       [	ei	Remarks: SP-714 is an upland sample plot located adjacent to W-710, an emergent wetland. Normal hydrologic conditions are not present due to recent ainfall.				
Is the Sampled Area within a Wetland?						

	Absolute		Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> )	% Cover	Species?	Status	Number of Dominant Species that
1	0/			are OBL, FACW, or FAC
2				(excluding FAC-): 0 (A)
3		<u> </u>	<u> </u>	Total Number of Dominant
4				Species Across All Strata: 1 (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )	0/			are OBL, FACW, or FAC: 0% (A/B)
1			<u> </u>	
2		·		Prevalence Index Worksheet:
3	0/			Total % Cover of: Multiply by:
4 5				OBL species         %         x 1 =
J	0 %	= Total Cover		FACW species% x 2 =0
(Dist size: 5 ft)				FAC species % x 3 = 0
Herb Stratum (Plot size: <u>5 ft.</u> )	<b>00</b> %			FACU species% x 4 =
1. <u>Bromus inermis</u>		<u> </u>	UPL	UPL species% x 5 =
2. <u>Solidago rugosa</u>		<u>N</u>	FAC	Column Totals: <u>0</u> % (A) <u>0</u> (B)
3. <u>Bouteloua curtipendula</u> 4.	0/	<u>N</u>	UPL	Prevalence Index = B/A =
4 5.				Hydrophytic Vegetation Indicators:
6.				Hydrophytic vegetation indicators.
7.				1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	100 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1		<u> </u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	%	Tatal O		must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum <u>0</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met.	Photograph C	-128.		

Profile Description: (Describe Depth Matrix	to the depth		ment the edox Fea		or confirm the	absence of indicators.)	
<i>.</i>	%		800X Fea %		Loc <sup>2</sup>	Toyturo	Pomorko
(Inches) Color (moist) 0-16 10YR 3/1	100	Color (moist)		Type <sup>1</sup>		Texture silty clay loam	Remarks
	100					Sity day loan	
					· ·		
<sup>1</sup> Type: C=Concentration, D=Dep	oletion, RM=R	educed Matrix, C	S=Cover	red or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	ELining, M=Matrix
Hydric Soil Indicators: (Applic	able to all LF	RRs, unless othe	erwise no	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
🗌 Histosol (A1)		Sandy Gl	eyed Ma	trix (S4)		1 cm Muck (A9) ( <b>LRI</b>	R I, J)
Histic Epipedon (A2)		Sandy Re	dox (S5)	)		Coast Prairie Redox	(A16) (LRR F, G, H)
Black Histic (A3)		Stripped I	Matrix (S	6)		Dark Surface (S7) (L	RR G)
Hydrogen Sulfide (A4)		🗌 Loamy M	ucky Min	eral (F1)		High Plains Depressi	
Stratified Layers (A5) (LRR F	)	🗌 Loamy Gl	eyed Ma	trix (F2)		(LRR H outside of	•
1 cm Muck (A9) (LRR F, G, H		Depleted	Matrix (F	-3)		Reduced Vertic (F18	/
Depleted Below Dark Surface	-	Redox Da				Red Parent Material	
Thick Dark Surface (A12)		Depleted	Dark Su	rface (F7)		Very Shallow Dark S	. ,
Sandy Mucky Mineral (S1)		🗌 Redox De	pressior	ns (F8)		Other (Explain in Rer	marks)
2.5 cm Mucky Peat or Peat (S	62) ( <b>LRR G, H</b>	) 🗌 High Plair	ns Depre	ssions (F16)		<sup>3</sup> Indicators of hydrophyti	c vegetation and
5 cm Mucky Peat or Peat (S3	) ( <b>LRR F</b> )	(MLRA 7	2 & 73 o	of LRR H)		wetland hydrology must disturbed or problematic	
Restrictive Layer (if present):						Hydric Soil Present?	
Туре:	Dep	oth (inches):				🗆 Yes 🖾 No	
	_						
Remarks: Hydric soil indicators a	ire not met.						
HYDROLOGY							
Wetland Hydrology Indicators:							
Primary Indicators (minimum of c	one required; o	check all that app	ly)			Secondary Indicators (2	or more required)
Surface Water (A1)		Salt Crust (B	(11)			Surface Soil Cracks	(B6)
☐ High Water Table (A2)		Aquatic Inve	,	(B13)		Sparsely Vegetated	· · /
Saturation (A3)		Hydrogen Su		. ,		Drainage Patterns (I	
☐ Water Marks (B1)		Dry-Season	Water Ta	able (C2)		Oxidized Rhizosphe	res on Living Roots (C3)
Sediment Deposits (B2)		Oxidized Rhi		. ,	Roots (C3)	(where tilled)	<b>0</b> ( )
Drift Deposits (B3)		(where no		Ū.		Crayfish Burrows (C	8)
☐ Algal Mat or Crust (B4)		Presence of	Reduced	d Iron (C4)		Saturation Visible or	n Aerial Imagery (C9)
☐ Iron Deposits (B5)		Thin Muck S	urface (C	27)		Geomorphic Position	n (D2)
Inundation Visible on Aerial Ir	nagery (B7)	Other (Expla	in in Ren	narks)		FAC-Neutral Test (D	05)
☐ Water-Stained Leaves (B9)						Frost-Heave Humme	ocks (D7) <b>(LRR F)</b>
Field Observations:		Depth	Des	cribe Record	ed Data (strea	m gauge, monitoring well,	aerial photos, previous
	Yes No	(inches)			, if available:		
Surface Water present?							
Water Table present?							
Saturation Present?							
(includes capillary fringe)							
Wetland Hydrology Present?							
Remarks: Wetland hydrology ind		t met					
rtemanto. Wedana nyarology ina		c mot.					

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/11/2018
Applicant/Owner: Sweetland Wind Farm,	, LLC		State: <u>SD</u> Sampling Point: <u>SP-715</u>
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S26, T111N, R67W</u>
Landform (hillslope, terrace, etc.)swale			_ Local relief (concave, convex, none): <u>concave</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plains	s Spring	Wheat Regi	on Lat: _44.398875 Long:98.853471 Datum:NAD83
Soil Map Unit Name: Prosper-Stickney	loams, n	early level	NWI Classification: N/A
Are climate/hydrologic conditions on the sit	e typical	for this time	of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No
Significantly Disturbed?			(If needed, evoluin any angulars in Demarks)
Naturally Problematic?			(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	ite map	showing	sampling point locations, transects, important features, etc.
	Yes	No	Remarks: SP-715 is a wetland sample plot located in W-711, an emergent wetland.
Hydrophytic Vegetation Present?	$\boxtimes$		Normal hydrologic conditions are not present due to recent rainfall.
Hydric Soil Present?	$\boxtimes$		
Wetland Hydrology Present?	$\bowtie$		
Is the Sampled Area within a Wetland?	$\boxtimes$		

Tree Stratum (Plot size: <u>30 ft.</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
		Species	Status	Number of Dominant Species that
0	0/			are OBL, FACW, or FAC
3.				(excluding FAC-): (A)
4.				Total Number of Dominant
т	0 %	= Total Cove	r	Species Across All Strata:(B)
Sapling/Shrub Stratum (Plot size: 15 ft.)				Percent of Dominant Species that are OBL, FACW, or FAC: (A/B)
1,	%			
2.				Prevalence Index Worksheet:
3	%			
4	%			Total % Cover of: Multiply by:
5	%			OBL species         % x 1 =         0
	0 %	= Total Cove	r	FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5 ft.</u> )				FAC species         % x 3 =         0           FACU species         % x 4 =         0
1. Equisetum hyemale	90 %	Y	FACW	UPL species $\% x 5 = 0$
2	%			Column Totals: 0 % (A) 0 (B)
3	%			
4	%			Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6	0/			☐ 1 Rapid Test for Hydrophytic Vegetation
7 8.	0/		·	$\square$ 2 Dominance Test is >50%
8 9	0/			
10.				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
	90 %	= Total Cove	r	4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cove	r	
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Rapid Test is met. Photograph C-129.				

Profile Descrip	otion: (Describe	to the de	epth ne	eded to do	cumer	nt the i	ndicator o	or confirm the	absence of indicators.)	
Depth	Matrix					x Featu				
(inches)	Color (moist)	%	C	olor (moist)		%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 2/1	90		10YR 5/3		10	C		silty clay	Remaine
								·		
·										
<sup>1</sup> Type: C=Con	centration, D=Dep	oletion, RI	M=Red	luced Matrix,	, CS=C	Covered	l or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil Ind	dicators: (Applic	able to a	II LRR	s, unless of	therwis	se note	ed.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (A1	)			☐ Sandy	Gleyed	d Matrix	(S4)		☐ 1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epipe	don (A2)			☐ Sandy	-		· · /		Coast Prairie Redox	
Black Histic	(A3)			Strippe	d Matr	rix (S6)			🗌 Dark Surface (S7) (L	
🗌 Hydrogen S	ulfide (A4)			Loamy	Mucky	y Minera	al (F1)		High Plains Depress	ions (F16)
Stratified La	yers (A5) (LRR F	)		Loamy	Gleye	d Matri	x (F2)		(LRR H outside of	
1 cm Muck	(A9) (LRR F, G, H	l)		Deplete	ed Mat	trix (F3)			Reduced Vertic (F18	)
Depleted Be	elow Dark Surface	e (A11)		🛛 Redox	Dark S	Surface	(F6)		Red Parent Material	· · ·
Thick Dark	Surface (A12)			Deplete	ed Darl	k Surfa	ce (F7)		Very Shallow Dark S	( )
Sandy Muck	ky Mineral (S1)			Redox	Depres	ssions	(F8)		Other (Explain in Re	marks)
	ky Peat or Peat (S	, ,		🗌 High P					<sup>3</sup> Indicators of hydrophyt	
5 cm Mucky	Peat or Peat (S3	5) ( <b>LRR F</b> )	)	(MLRA	A 72 &	73 of L	_RR H)		wetland hydrology must disturbed or problemation	
Restrictive La	yer (if present):								Hydric Soil Present?	
Туре:			Depth	(inches):					Yes 🗌 No	
		_								
Remarks: Hydr	ic soil indicator F6	6 is met.								
HYDROLOG	Y									
Wetland Hydro	ology Indicators:	:								
-	ors (minimum of o		ed. ch	eck all that a	nnlv)				Secondary Indicators (2	or more required)
	•	Jie requi								
Surface Wa	( )			Salt Crust	· /				Surface Soil Cracks	
High Water	. ,			Aquatic In		-	-		Sparsely Vegetated	. ,
Saturation (	-			☐ Hydrogen ] Dry-Seaso					Drainage Patterns (	res on Living Roots (C3)
Sediment D				Oxidized F			. ,	Roote (C3)	(where tilled)	
Drift Deposi	,		L	(where				R0015 (C3)	Crayfish Burrows (C	:8)
Algal Mat or			Г	Presence			ron (C4)		Saturation Visible or	
Iron Deposit				 Thin Muck			( )		Geomorphic Position	0,0,0
	√isible on Aerial Ir	nagery (F	_	 Other (Exp					☐ FAC-Neutral Test (E	
	ed Leaves (B9)		., -	、 <b>·</b>					☐ Frost-Heave Humm	
Field Observa				Depth		Docori	ho Poord	od Data (atrac	am gauge, monitoring well,	aorial photos, provinue
Field Observa	uons:	Yes	No	(inches)				, if available:	am gauge, monitoring weil,	aenai priotos, previous
Surface Water	present?			. ,				., ., ., ., ., ., ., ., ., ., ., ., ., .		
Water Table pr					—					
Saturation Pres				0	—					
(includes capilla		$\boxtimes$		0	-					
Wetland Hydro	ology Present?	$\boxtimes$								

Remarks: Wetland hydrology indicators D2 and D5 are met. Although saturation was observed at the soil surface, an accompanying water table was not observed. Requirements for indicator A3 are not met.

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/11/2018
Applicant/Owner: Sweetland Wind Farm	, LLC		State: <u>SD</u> Sampling Point: <u>SP-716</u>
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range: <u>S26, T111N, R67W</u>
Landform (hillslope, terrace, etc.)terrace	е		_ Local relief (concave, convex, none): <u>none</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plain	s Spring	Wheat Regi	on Lat: <u>44.398812</u> Long: <u>-98.853562</u> Datum: <u>NAD83</u>
Soil Map Unit Name: Prosper-Stickney	loams, n	early level	NWI Classification: N/A
Are climate/hydrologic conditions on the sit	te typical	for this time	of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🛛 No
Significantly Disturbed?Image: Constraint of the second secon	$\square$		(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach s	site map	showing	sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes	No ⊠ ⊠	Remarks: SP-716 is an upland sample plot located adjacent to W-711, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.
Is the Sampled Area within a Wetland?		$\boxtimes$	

Trac Stratum (Distaire: 20 ft)	Absolute		Indicator Status	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> )	% Cover	Species?	Status	Number of Dominant Species that
1				are OBL, FACW, or FAC
2				(excluding FAC-): 0 (A)
3		<u> </u>		Total Number of Dominant
4				Species Across All Strata: 1 (B)
	0 %	= Total Cover	•	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: 0% (A/B)
1				
2	%			Prevalence Index Worksheet:
3				
4	%			Total % Cover of: Multiply by:
5	%			OBL species% x 1 =
	0 %	= Total Cover		FACW species $\%$ x 2 = 0
Herb Stratum (Plot size: 5 ft.)				FAC species         % x 3 =         0           FACU species         % x 4 =         0
1. <u>Glycine max</u>	40 %	Y	UPL	FACU species         % x 4 =         0           UPL species         % x 5 =         0
2.				Column Totals: $\underline{0}$ % (A) $\underline{0}$ (B)
3.	0/			
4.				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				Tydrophytic vegetation indicators.
7	0/			1 Rapid Test for Hydrophytic Vegetation
8.	0/			☐ 2 Dominance Test is >50%
9.				☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10.				
	40 %	= Total Cover		4 Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1		. <u> </u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology
2				must be present, unless disturbed or problematic
	0 %	= Total Cover		
Bare Ground in Herb Stratum _ <u>60</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met	. The only vege	tation present i	s agricultu	ral soybean. Photograph C-130.

Profile Description: (Describe	e to the de	pth needed to docu	iment th	e indicator o	or confirm the	absence of indicators.)	
Depth Matrix		R	edox Fe	atures			
(inches) Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4 10YR 2/1	100					silty clay loam	
<u>4-8</u> <u>10YR 3/2</u>	100					sandy clay	
<u>8-16</u> 10YR 2/1	100					silty clay	
				·			
·				·			
				·			
<sup>1</sup> Type: C=Concentration, D=De	pletion, RN	I=Reduced Matrix, C	S=Cove	red or Coated	d Sand Grains	<sup>2</sup> Location: PL=Pore	e Lining, M=Matrix
Hydric Soil Indicators: (Appli	cable to al	I LRRs, unless oth	erwise n	oted.)		Indicators for Problem	atic Hydric Soils <sup>3</sup> :
Histosol (A1)		🗌 Sandy G	eyed Ma	ıtrix (S4)		🗌 1 cm Muck (A9) ( <b>LR</b>	R I, J)
Histic Epipedon (A2)		🗌 Sandy Re	edox (S5	)		🗌 Coast Prairie Redox	(A16) ( <b>LRR F, G, H</b> )
☐ Black Histic (A3)		Stripped	Matrix (S	6)		🗌 Dark Surface (S7) (L	.RR G)
Hydrogen Sulfide (A4)		🗌 Loamy M	-			High Plains Depress	
Stratified Layers (A5) (LRR I		🗌 Loamy G	-			(LRR H outside of	•
1 cm Muck (A9) ( <b>LRR F, G</b> ,		Depleted	•	,		Reduced Vertic (F18 Red Parent Material	,
Depleted Below Dark Surfac	e (A11)			. ,		Very Shallow Dark S	. ,
☐ Thick Dark Surface (A12) ☐ Sandy Mucky Mineral (S1)		Depleted     Redox Depleted		. ,		Other (Explain in Re	· · · ·
2.5 cm Mucky Peat or Peat (	92) (I <b>PP (</b>		•	essions (F16)			,
5 cm Mucky Peat or Peat (S	, ,	· · ·	•	of LRR H)		<sup>3</sup> Indicators of hydrophyt wetland hydrology must	be present, unless
						disturbed or problemation	2
Restrictive Layer (if present):						Hydric Soil Present?	
Туре:		Depth (inches):				🗌 Yes 🛛 No	
Remarks: Hydric soil indicators	are not met	t.					
HYDROLOGY							
Wetland Hydrology Indicators							
Primary Indicators (minimum of	one require	ed; check all that app	<u>oly)</u>			Secondary Indicators (2	2 or more required)
Surface Water (A1)		Salt Crust (E	,			Surface Soil Cracks	· · /
High Water Table (A2)		Aquatic Inve				Sparsely Vegetated	
Saturation (A3)		Hydrogen S		· · ·		Drainage Patterns (I	
Water Marks (B1)		Dry-Season		. ,	Pooto (C2)	(where tilled)	eres on Living Roots (C3)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3)		(where no		es on Living	ROOLS(C3)	Crayfish Burrows (C	(8)
Algal Mat or Crust (B4)		Presence of		d Iron (C4)		Saturation Visible or	
☐ Iron Deposits (B5)		Thin Muck S		· · ·		Geomorphic Position	••••
Inundation Visible on Aerial I	magery (B7	7) 🗌 Other (Expla	ain in Rei	marks)		FAC-Neutral Test (E	D5)
☐ Water-Stained Leaves (B9)	0 , (	,				Frost-Heave Humm	ocks (D7) <b>(LRR F)</b>
Field Observations:		Depth	Des	cribe Record	ed Data (strea	am gauge, monitoring well,	aerial photos, previous
	Yes	No (inches)		pections, etc.)		J	
Surface Water present?		⊠					
Water Table present?							
Saturation Present?							
(includes capillary fringe)	·						
Wetland Hydrology Present?		$\boxtimes$					
Remarks: Wetland hydrology in	dicators are	e not met.					

Project/Site: Sweetland Wind Farm		City/County:	Hand County	Sampling	Date: 10/12/2018
Applicant/Owner: Sweetland Wind Farm,	LLC		State: S	DSamp	oling Point: SP-717
Investigator(s): K. Russo, J. Kensinger		Sectio	n, Township, Range:	S18, T111N, R66	6W
Landform (hillslope, terrace, etc.) depress	sion	Local relief (con	cave, convex, none):	concave	Slope (%): 0 %
Subregion (LRR): Northern Great Plains	Spring Wheat	Region Lat: 44.4	16593 Long:	-98.811582	Datum: NAD83
Soil Map Unit Name: <u>Tetonka silt loam,</u>	0 to 1 percent s	lopes	NW	I Classification:	PEM1C
Are climate/hydrologic conditions on the site	typical for this	time of year? 🛛 🗌 Yes	s 🖾 No (If no, e	explain in Remarks	5)
Vegetation	Soil Hydro	ogy Are "N	ormal Circumstances"	present? 🛛 Yes	s 🗌 No
Significantly Disturbed?INaturally Problematic?I			(If needed, expla	in any answers in F	Remarks)
SUMMARY OF FINDINGS – Attach si	te map show	ing sampling point	locations, transect	s, important fea	atures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No		is a wetland sample pl conditions are not pre		2, an emergent wetland. rainfall.
Is the Sampled Area within a Wetland?	$\boxtimes$ $\Box$				

-

	Absolute		Indicator	Dominance Test Worksheet:
(, , , , , , , , , , , , , , , , , , ,	% Cover	Species?	Status	Number of Dominant Species that
1	%	<u> </u>		are OBL, FACW, or FAC
2	<u>%</u>	·		(excluding FAC-):1 (A)
3	<u>%</u>	<u> </u>		Total Number of Dominant
4	<u>%</u>			Species Across All Strata: 1 (B)
	0 %	= Total Cover		Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: <u>100%</u> (A/B)
1	%	·		
2	%	·		Prevalence Index Worksheet:
3	%	·		Total % Cover of Multiply by
4	%	·		Total % Cover of: Multiply by:
5	%	·		OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover		FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species % x 4 = 0
1. Echinochloa crus-galli	80 %	<u>Y</u>	FAC	UPL species $\% x 5 = 0$
2. <u>Rumex crispus</u>	10 %	<u>N</u>	FAC	Column Totals: $\underline{0}$ % (A) $\underline{0}$ (B)
3	%			
4	%			Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6	%	<u> </u>		
7	%	<u> </u>		1 Rapid Test for Hydrophytic Vegetation
8	%			☑ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	%	·		☐ 4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: 30 ft.)				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2.	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology
	0 %	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum10 %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Dominance Test is met. Photograph C-131.				
5 1				

Depth	Matrix			Redox Fea			_	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-4	10YR 2/1	100	401/0 2/2			<u> </u>	silty clay loam	
4-16	10YR 2/1	92	<u>10YR 3/3</u> 10YR 4/1	<u>5</u> 3	 	<u> </u>	silty clay loam	-
			10111 4/1			101		
				·				
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion. RN	/=Reduced Matrix. (	 CS=Cover	ed or Coate	d Sand Grains	<sup>2</sup> Location: PL=Pore	Lining, M=Matrix
	ndicators: (Applic						Indicators for Problem	0
•					,			•
	,		Sandy G	-			1 cm Muck (A9) (LR	
			Sandy R	. ,			Coast Prairie Redox	
Black Hist			☐ Stripped ☐ Loamy N	-	-		Dark Surface (S7) (L High Plains Depress	
	Layers (A5) ( <b>LRR F</b>	)	Loamy G	-			(LRR H outside of	
	k (A9) (LRR F, G, H			-			Reduced Vertic (F18	)
	Below Dark Surface		Redox D		,		Red Parent Material	,
	k Surface (A12)	()	Depleted		. ,		Very Shallow Dark S	urface (TF 12)
	icky Mineral (S1)		Redox D		• •		Other (Explain in Rei	marks)
2.5 cm Mu	ucky Peat or Peat (S	62) ( <b>LRR</b> (	G, H) 🛛 High Pla	ins Depre	ssions (F16)	)	<sup>3</sup> Indicators of hydrophyti	ic vegetation and
🔲 5 cm Muc	ky Peat or Peat (S3	) ( <b>LRR F</b> )	(MLRA	72 & 73 o	f LRR H)		wetland hydrology must disturbed or problematic	be present, unless
Restrictive I	over (if present).							
	.ayer (if present):						Hydric Soil Present?	
Туре:	ayer (il present):	_	Depth (inches):				Hydric Soil Present?	
Туре:	dric soil indicator F6	- S is met.	Depth (inches):				•	
Туре:		_ is met.	Depth (inches):				•	
Туре:		_ } is met.	Depth (inches):				•	
Туре:	dric soil indicator F6	– ) is met.	Depth (inches):				•	
Type: Remarks: Hy	dric soil indicator F6		Depth (inches):				•	
Type: Remarks: Hy HYDROLO Wetland Hyd	dric soil indicator F6						•	2 or more required)
Type: Remarks: Hy HYDROLO Wetland Hyd	dric soil indicator F6 GY Irology Indicators: ators (minimum of c						Yes No	· · · ·
Type: Remarks: Hy HYDROLO Wetland Hyc Primary Indic	dric soil indicator F6 GY Irology Indicators: ators (minimum of c /ater (A1)		ed; check all that ap	B11)			Yes No	(B6)
Type: Remarks: Hy HYDROLO Wetland Hyc Primary Indic	dric soil indicator F6 GY Irology Indicators: ators (minimum of c /ater (A1) er Table (A2)		ed; check all that ap	B11) ertebrates			Yes No Secondary Indicators (2 Surface Soil Cracks Sparsely Vegetated Drainage Patterns (1)	(B6) Concave Surface (B8) B10)
Type: Remarks: Hy HYDROLOO Wetland Hyo Primary Indic Surface W Migh Wate Saturation Water Ma	dric soil indicator F6 GY Irology Indicators: Eators (minimum of c /ater (A1) er Table (A2) h (A3) rks (B1)		ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	B11) ertebrates Sulfide Od n Water Ta	or (C1) able (C2)		Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (I     Oxidized Rhizosphe	(B6) Concave Surface (B8)
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Migh Wate Saturatior Water Ma Sediment	dric soil indicator F6 GY frology Indicators: mators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2)		ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor	B11) ertebrates Sulfide Od n Water Ta hizosphere	or (C1) able (C2)	Roots (C3)	Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (I     Oxidized Rhizosphe     (where tilled)	(B6) Concave Surface (B8) B10) res on Living Roots (C3)
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Migh Wate Saturatior Water Ma Sediment Drift Depo	dric soil indicator F6 GY frology Indicators: rators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) psits (B3)		ed; check all that ap Salt Crust ( Aquatic Inv Hydrogen S Dry-Seasor Oxidized Ri (where n	B11) ertebrates Sulfide Od n Water Ta hizosphere <b>ot tilled)</b>	or (C1) able (C2) es on Living	Roots (C3)	Yes □ No     Secondary Indicators (2     Surface Soil Cracks     Sparsely Vegetated     Drainage Patterns (I     Oxidized Rhizosphe     (where tilled)     Crayfish Burrows (C)	(B6) Concave Surface (B8) B10) res on Living Roots (C3)
Type: Remarks: Hy HYDROLOO Wetland Hyd Primary Indic Surface W Saturation Saturation Water Ma Sediment Drift Depo Algal Mat	dric soil indicator F6 GY Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)		ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o	B11) ertebrates Sulfide Od n Water Ta hizosphere ot tilled) of Reduced	or (C1) able (C2) es on Living d Iron (C4)	Roots (C3)	Xes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9)
Type: Remarks: Hy HYDROLOO Wetland Hyd Primary Indic Surface W Saturation Saturation Water Ma Sediment Drift Depo Algal Mat Inon Depo	dric soil indicator F6 GY frology Indicators: ators (minimum of c /ater (A1) er Table (A2) h (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5)	one require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Od n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C	or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Xes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         X Geomorphic Position	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2)
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Saturation Water Ma Saturation Unift Depo Algal Mat Inno Depo Innundation	dric soil indicator F6 GY Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) osits (B3) or Crust (B4) sits (B5) n Visible on Aerial Im	one require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Od n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C	or (C1) able (C2) es on Living d Iron (C4) C7)	Roots (C3)	Xes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         ⊠ Geomorphic Position         FAC-Neutral Test (C	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) D5)
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W High Wate Saturatior Water Ma Sediment Drift Depo Algal Mat I ron Depo I nundation Water-Sta	dric soil indicator F6 GY frology Indicators: rators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9)	one require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S Other (Expl	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks)		Xes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E         Frost-Heave Hummed	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Saturation Water Ma Saturation Unift Depo Algal Mat Inno Depo Innundation	dric soil indicator F6 GY frology Indicators: rators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) posits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9)	one require	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Xes       No         Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         ⊠ Geomorphic Position         FAC-Neutral Test (C	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Surface W Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta	dric soil indicator F6 GY frology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) visits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9) /ations:	nagery (B Yes	ed; check all that ap Salt Crust ( Aquatic Inve Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S 7) Other (Expl Depth No (inches)	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record		Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E         Frost-Heave Hummed	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy HYDROLOO Wetland Hyd Primary Indic Surface W Saturation Water Ma Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Wate	dric soil indicator F6 GY Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9) /ations: er present?	nagery (B	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S 7) Other (Expl Depth No (inches)	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E         Frost-Heave Hummed	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Saturation Saturation Saturation Water Ma Saturation Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Wate Water Table	dric soil indicator F6 GY Irology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial In ined Leaves (B9) /ations: er present? present?	nagery (B	ed; check all that ap Salt Crust ( Aquatic Invi Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S 7) Other (Expl Depth No (inches) 4	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E         Frost-Heave Hummed	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Saturation Saturation Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Wate Vater Table Saturation Pr	dric soil indicator F6 GY frology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9) /ations: er present? present?	nagery (B	ed; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S 7) Other (Expl Depth No (inches)	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E         Frost-Heave Hummed	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>
Type: Remarks: Hy HYDROLOO Wetland Hyc Primary Indic Surface W Saturation Water Ma Sediment Drift Depo Algal Mat Iron Depo Inundation Water-Sta Field Observ Surface Wate Water Table Saturation Pr (includes cap	dric soil indicator F6 GY frology Indicators: ators (minimum of c /ater (A1) er Table (A2) n (A3) rks (B1) Deposits (B2) or Crust (B4) sits (B5) n Visible on Aerial In ained Leaves (B9) /ations: er present? present?	nagery (B	ed; check all that ap Salt Crust ( Aquatic Invi Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S 7) Other (Expl Depth No (inches) 4	B11) ertebrates Sulfide Od- n Water Ta hizosphere <b>ot tilled)</b> of Reduced Surface (C lain in Rer	or (C1) able (C2) es on Living d Iron (C4) C7) narks) cribe Record	ded Data (strea	Secondary Indicators (2         Surface Soil Cracks         Sparsely Vegetated         Drainage Patterns (I         Oxidized Rhizosphe (where tilled)         Crayfish Burrows (C         Saturation Visible or         Geomorphic Position         FAC-Neutral Test (E         Frost-Heave Hummed	(B6) Concave Surface (B8) B10) res on Living Roots (C3) 8) n Aerial Imagery (C9) n (D2) 05) ocks (D7) <b>(LRR F)</b>

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/12/2018
Applicant/Owner: Sweetland Wind Farm	n, LLC		State: <u>SD</u> Sampling Point: <u>SP-718</u>
Investigator(s): K. Russo, J. Kensinger			Section, Township, Range:S18, T111N, R66W
Landform (hillslope, terrace, etc.)terra	ce		_ Local relief (concave, convex, none): <u>none</u> Slope (%): <u>0 %</u>
Subregion (LRR): Northern Great Plai	ns Spring	Wheat Regi	ion Lat: _44.416538 Long:98.811671 Datum:NAD83
Soil Map Unit Name:	n, 0 to 1 p	ercent slope	NWI Classification: PEM1C
Are climate/hydrologic conditions on the s	ite typical	for this time	e of year? 🔲 Yes 🛛 No 🛛 (If no, explain in Remarks)
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🛛 No
Significantly Disturbed?	$\boxtimes$		
Naturally Problematic?			(If needed, explain any answers in Remarks)
SUMMARY OF FINDINGS – Attach	site map	showing	sampling point locations, transects, important features, etc.
	Yes	No	Remarks: SP-718 is an upland sample plot located adjacent to W-712, an
Hydrophytic Vegetation Present?		$\boxtimes$	emergent wetland. Normal hydrologic conditions are not present due to recent
Hydric Soil Present?		$\boxtimes$	rainfall. Soil and vegetation have been disturbed by agricultural activities.
Wetland Hydrology Present?		$\boxtimes$	
Is the Sampled Area within a Wetland?		$\boxtimes$	

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
( <u></u> )	0/	Species?	Status	Number of Dominant Species that
1				are OBL, FACW, or FAC
2				(excluding FAC-): 0 (A)
3		·		Total Number of Dominant
4		Tatalo		Species Across All Strata: 1 (B)
	0 %	= Total Cover	•	Percent of Dominant Species that
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				are OBL, FACW, or FAC: 0% (A/B)
1		·		
2		·		Prevalence Index Worksheet:
3		<u> </u>		Total % Cover of: Multiply by:
4		<u> </u>		
5		<u> </u>		OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cover		FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species $\% x 4 = 0$
1. <u>Glycine max</u>	60 %	Y	UPL	UPL species $\% x 5 = 0$
2	%			Column Totals: <u>0</u> % (A) <u>0</u> (B)
3	%			Prevalence Index = B/A =
4	%			
5	%	. <u> </u>		Hydrophytic Vegetation Indicators:
6	%	<u> </u>		A Devid Test for the device is the Verset stice
7				☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9		·		☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	<u>    60  %</u>	= Total Cover		supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	%			
2	0/	. <u> </u>		<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cover		
				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Bare Ground in Herb Stratum <u>40</u> %				
Remarks: Hydrophytic vegetation indicators are not me	t. The only vege	tation present i	s agricultu	ral soybean. Photograph C-132.

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)											
Depth         Matrix           (inches)         Color (moist)           0-16         10YR 2/1	<u>%</u> 100	Color (moist)	dox Features <u>%</u> Type <sup>1</sup>		Texture silty clay loam	Remarks					
Image:	able to all L	Reduced Matrix, CS RRs, unless other Sandy Gley Sandy Red Stripped M Loamy Mud Loamy Gle Depleted M Redox Dar	S=Covered or Co wise noted.) yed Matrix (S4) lox (S5) latrix (S6) cky Mineral (F1) yed Matrix (F2) Matrix (F3) k Surface (F6) Dark Surface (F6)	ated Sand Grains		E Lining, M=Matrix hatic Hydric Soils <sup>3</sup> : <b>R I, J</b> ) (A16) (LRR F, G, H) LRR G) bions (F16) <b>MLRA 72 &amp; 73)</b> 3) (TF2) Surface (TF 12)					
Image: Sound y matrix (er)       Image: Notation of the second of the seco											
Restrictive Layer (if present): Type:	_ De	epth (inches):			Hydric Soil Present?						
	Remarks: Hydric soil indicators are not met.										
HYDROLOGY Wetland Hydrology Indicators:											
Primary Indicators (minimum of c	one required	check all that apply	<u>/)</u>		Secondary Indicators (	2 or more required)					
<ul> <li>Surface Water (A1)</li> <li>High Water Table (A2)</li> <li>Saturation (A3)</li> <li>Water Marks (B1)</li> <li>Sediment Deposits (B2)</li> <li>Drift Deposits (B3)</li> <li>Algal Mat or Crust (B4)</li> <li>Iron Deposits (B5)</li> <li>Inundation Visible on Aerial Ir</li> <li>Water-Stained Leaves (B9)</li> </ul>	nagery (B7)	ng Roots (C3) )	<ul> <li>Drainage Patterns (</li> <li>Oxidized Rhizosphe (where tilled)</li> <li>Crayfish Burrows (C</li> <li>Saturation Visible o</li> <li>Geomorphic Positio</li> <li>FAC-Neutral Test (I</li> <li>Frost-Heave Humm</li> </ul>	Concave Surface (B8) B10) eres on Living Roots (C3) C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>							
Field Observations:	Yes N	Depth o (inches)		orded Data (strea tc.), if available:	am gauge, monitoring well,	aerial photos, previous					
Surface Water present? Water Table present? Saturation Present? (includes capillary fringe) Wetland Hydrology Present?		3	,, .	,							
Remarks: Wetland hydrology ind	icators are n	ot met.									

Project/Site: Sweetland Wind Farm			City/County: Hand County Sampling Date: 10/12/2018						
Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-719									
Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S18, T111N, R66W									
Landform (hillslope, terrace, etc.) _swale Local relief (concave, convex, none): _concave Slope (%): _2 %									
Subregion (LRR): Northern Great Plains	s Spring	Wheat Regi	ion Lat: <u>44.415644</u> Long: <u>-98.803696</u> Datum: <u>NAD83</u>						
Soil Map Unit Name: Betts-Java loams	, steep		NWI Classification: N/A						
Are climate/hydrologic conditions on the site typical for this time of year? 🗌 Yes 🛛 No (If no, explain in Remarks)									
Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? 🛛 Yes 🗌 No						
Significantly Disturbed?			(If we added combine and compared in Democratic)						
Naturally Problematic?			(If needed, explain any answers in Remarks)						
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
	Yes	No	Remarks: SP-719 is a wetland sample plot located in W-713, an emergent wetland.						
Hydrophytic Vegetation Present?	$\boxtimes$		Normal hydrologic conditions are not present due to recent rainfall.						
Hydric Soil Present?	$\boxtimes$								
Wetland Hydrology Present?	$\boxtimes$								
s the Sampled Area within a Wetland? 🛛 🗌									

	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1	% Cover	opecies	Otatus	Number of Dominant Species that
2.	%			are OBL, FACW, or FAC (excluding FAC-): (A)
3.	<u>%</u>			
4.	%			Total Number of Dominant Species Across All Strata: (B)
	0 %	= Total Cove	r	()
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )				Percent of Dominant Species that are OBL, FACW, or FAC: (A/B)
1	%			
2	%			Prevalence Index Worksheet:
3	%	. <u></u>		
4	%			Total % Cover of: Multiply by:
5	%			OBL species         % x 1 =         0           FACW species         % x 2 =         0
	0 %	= Total Cove	r	FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species $\% x 4 = 0$
	95 %	<u>Y</u>	FACW	UPL species% x 5 =
2	<u>%</u>			Column Totals: <u>0</u> % (A) <u>0</u> (B)
3.	<u>%</u>			Prevalence Index = B/A =
4 5.	<u>%</u> %	<u> </u>		
	<u>%</u>			Hydrophytic Vegetation Indicators:
6 7	<u>%</u>			☑ 1 Rapid Test for Hydrophytic Vegetation
8	%			☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10	<u>%</u>	. <u></u>		4 Morphological Adaptations <sup>1</sup> (Provide
	95 %	= Total Cove	r	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )				Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1	<u>%</u>	. <u></u>		
2	%			<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
	0 %	= Total Cove	r	
Bare Ground in Herb Stratum _ <u>5</u> %				Hydrophytic Vegetation Present? 🛛 Yes 🗌 No
Remarks: The Rapid Test is met. Photograph C-133.				

Depth Matrix (inches) Color (moist) %	Color (moist)	Redox Features % Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
<u>0-16</u> <u>10YR 2/1</u> <u>96</u>	10YR 3/3	<u>4</u> C	<u>N</u>	silty clay		
Type: C=Concentration, D=Depletion, I	RM=Reduced Matrix, (	CS=Covered or Coa	ted Sand Grains	s <sup>2</sup> Location: PL=Pore	e Lining, M=Matrix	
lydric Soil Indicators: (Applicable to	all LRRs, unless oth	erwise noted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :	
] Histosol (A1)		leyed Matrix (S4)		🗌 1 cm Muck (A9) ( <b>LR</b>		
] Histic Epipedon (A2)	Sandy R			Coast Prairie Redox		
☐ Black Histic (A3) ☐ Hydrogen Sulfide (A4)	Stripped	Matrix (S6) /lucky Mineral (F1)		Dark Surface (S7) (L	,	
Stratified Layers (A5) (LRR F)	•	Gleyed Matrix (F2)		High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)		
1 cm Muck (A9) ( <b>LRR F, G, H</b> )	•	d Matrix (F3)		Reduced Vertic (F18	3)	
Depleted Below Dark Surface (A11)		ark Surface (F6)		Red Parent Material	· · ·	
Thick Dark Surface (A12)		d Dark Surface (F7)		Very Shallow Dark S		
Sandy Mucky Mineral (S1)		epressions (F8)		Other (Explain in Re	marks)	
2.5 cm Mucky Peat or Peat (S2) (LR		ins Depressions (F 72 & 73 of LRR H)	16)	<sup>3</sup> Indicators of hydrophyt		
☐ 5 cm Mucky Peat or Peat (S3) ( <b>LRR</b>				wetland hydrology must disturbed or problemation		
Restrictive Layer (if present):				Hydric Soil Present?		
-	Donth (inchas);					
···	Depth (inches):			Yes No		
Remarks: Hydric soil indicator F6 is met.				X Yes L No		
Remarks: Hydric soil indicator F6 is met.				X Yes L No		
Remarks: Hydric soil indicator F6 is met. HYDROLOGY Netland Hydrology Indicators:	· · · · · · ·					
Remarks: Hydric soil indicator F6 is met. HYDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one requ	uired; check all that ap	<u> </u>		Secondary Indicators (	· · · · ·	
Remarks: Hydric soil indicator F6 is met.	uired; check all that ap □ Salt Crust (	B11)		Secondary Indicators ( Surface Soil Cracks	(B6)	
Remarks: Hydric soil indicator F6 is met. HYDROLOGY Netland Hydrology Indicators: Primary Indicators (minimum of one requ Surface Water (A1) High Water Table (A2)	<u>uired; check all that ap</u> □ Salt Crust ( □ Aquatic Invo	B11) ertebrates (B13)		Secondary Indicators ( Surface Soil Cracks	(B6) Concave Surface (B8)	
Remarks: Hydric soil indicator F6 is met.         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required)         Surface Water (A1)         Image: High Water Table (A2)         Saturation (A3)	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S	B11) ertebrates (B13) Sulfide Odor (C1)		Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns (	(B6) Concave Surface (B8) B10)	
Remarks: Hydric soil indicator F6 is met.         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required)         Surface Water (A1)         High Water Table (A2)         Saturation (A3)         Water Marks (B1)	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor	B11) ertebrates (B13) Gulfide Odor (C1) n Water Table (C2)	ng Roots (C3)	Secondary Indicators ( Surface Soil Cracks	(B6) Concave Surface (B8) B10)	
Arrow and the second state indicator indicator indicator indicator indicators:         Arrow and indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indicators (minimum of one required)         Your and the second state indited)         Your a	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livi	ng Roots (C3)	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (0	(B6) Concave Surface (B8) B10) eres on Living Roots (C	
Arrow and the second state indicator indicator indicator indicators:         Arrow and the second state indicators (minimum of one requesting indicators (minimum of	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n	B11) ertebrates (B13) Sulfide Odor (C1) N Water Table (C2) nizospheres on Livit ot tilled) f Reduced Iron (C4		Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows ( Saturation Visible o	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9)	
Arrow and the second state indicator indicator indicator indicator indicator indicators:         Arrow and indicators (minimum of one required)         Arrow and and indicators (minimum of one required)         Arrow and	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates (B13) Sulfide Odor (C1) N Water Table (C2) Nizospheres on Livit ot tilled) f Reduced Iron (C4 Surface (C7)		Secondary Indicators () Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (0) Saturation Visible o Geomorphic Positio	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2)	
Arrow Content         Arrow Content <td< td=""><td>uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S</td><td>B11) ertebrates (B13) Sulfide Odor (C1) N Water Table (C2) nizospheres on Livit ot tilled) f Reduced Iron (C4</td><td></td><td>Secondary Indicators () Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (0) Saturation Visible o Geomorphic Positio FAC-Neutral Test (1)</td><td>(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5)</td></td<>	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates (B13) Sulfide Odor (C1) N Water Table (C2) nizospheres on Livit ot tilled) f Reduced Iron (C4		Secondary Indicators () Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (0) Saturation Visible o Geomorphic Positio FAC-Neutral Test (1)	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5)	
Arrow and the second state indicator indicator indicator indicators indicators:         Primary Indicators (minimum of one requered state indicators (minimum of one requered state indicators)         A High Water Table (A2)         A High Water Table (A2)         Between Marks (B1)         Sediment Deposits (B2)         Drift Deposits (B3)         Algal Mat or Crust (B4)         Iron Deposits (B5)         Inundation Visible on Aerial Imagery water-Stained Leaves (B9)	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S (B7) Other (Expl	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livin <b>ot tilled)</b> f Reduced Iron (C4 Surface (C7) ain in Remarks)		Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows ( Saturation Visible o Saturation Visible o FAC-Neutral Test ( Frost-Heave Humm	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>	
Remarks: Hydric soil indicator F6 is met.         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one requered)         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 (B4)         Water-Stained Leaves (B9)	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livin <b>ot tilled)</b> f Reduced Iron (C4 Surface (C7) ain in Remarks) Describe Rec		Secondary Indicators () Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows (0) Saturation Visible o Geomorphic Positio FAC-Neutral Test (1)	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>	
Arrow Content         Brow Content         Arrow Content         Brow Content	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck 3 (B7) Other (Expl	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livin <b>ot tilled)</b> f Reduced Iron (C4 Surface (C7) ain in Remarks) Describe Rec	orded Data (stre	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows ( Saturation Visible o Saturation Visible o FAC-Neutral Test ( Frost-Heave Humm	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>	
Remarks: Hydric soil indicator F6 is met.         HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one required)         Surface Water (A1)         Surface 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         Water-Stained Leaves (B9)         Field Observations:         Yes         Surface Water present?	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S (B7) Other (Expl Depth No (inches)	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livin <b>ot tilled)</b> f Reduced Iron (C4 Surface (C7) ain in Remarks) Describe Rec	orded Data (stre	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows ( Saturation Visible o Saturation Visible o FAC-Neutral Test ( Frost-Heave Humm	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>	
Surface Water present?	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized RI (where n Presence o Thin Muck S (B7) Other (Expl Depth No (inches) 0.5	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livin <b>ot tilled)</b> f Reduced Iron (C4 Surface (C7) ain in Remarks) Describe Rec	orded Data (stre	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows ( Saturation Visible o Saturation Visible o FAC-Neutral Test ( Frost-Heave Humm	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>	
Arrow and the second stress of the second	uired; check all that ap Salt Crust ( Aquatic Invo Hydrogen S Dry-Seasor Oxidized Rl (where n Presence o Thin Muck S (B7) Other (Expl No (inches) 0.5 0	B11) ertebrates (B13) Sulfide Odor (C1) n Water Table (C2) nizospheres on Livin <b>ot tilled)</b> f Reduced Iron (C4 Surface (C7) ain in Remarks) Describe Rec	orded Data (stre	Secondary Indicators ( Surface Soil Cracks Sparsely Vegetated Drainage Patterns ( Oxidized Rhizosphe (where tilled) Crayfish Burrows ( Saturation Visible o Saturation Visible o FAC-Neutral Test ( Frost-Heave Humm	(B6) Concave Surface (B8) B10) eres on Living Roots (C C8) n Aerial Imagery (C9) n (D2) D5) ocks (D7) <b>(LRR F)</b>	

Project/Site: Sweetland Wind Farm	City/County: Han	nd County Sampling Date: 10/12/2018							
Applicant/Owner: Sweetland Wind Farm, LLC		State: <u>SD</u> Sampling Point: <u>SP-720</u>							
Investigator(s): K. Russo, J. Kensinger	Section, To	wnship, Range: <u>S18, T111N, R66W</u>							
Landform (hillslope, terrace, etc.) hillslope	Local relief (concave,	convex, none): <u>convex</u> Slope (%): <u>5 %</u>							
Subregion (LRR): Northern Great Plains Spring Whea	at Region Lat: 44.415640	DLong: <u>-98.803628</u> Datum: <u>NAD83</u>							
Soil Map Unit Name: Betts-Java loams, steep									
Are climate/hydrologic conditions on the site typical for this time of year? 🗌 Yes 🛛 No (If no, explain in Remarks)									
Vegetation Soil Hyd	rology Are "Normal	l Circumstances" present? 🗌 Yes 🛛 No							
Significantly Disturbed?     Image: Constraint of the second		(If needed, explain any answers in Remarks)							
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.									
Hydrophytic Vegetation Present?     I       Hydric Soil Present?     I		upland sample plot located adjacent to W-712, an nal hydrologic conditions are not present due to recent							
s the Sampled Area within a Wetland?									

Tree Charter (Distaires 20 ft)	Absolute	Dominant	Indicator	Dominance Test Worksheet:
Tree Stratum (Plot size: <u>30 ft.</u> ) 1.	% Cover %	Species?	Status	Number of Dominant Species that
	0/	·		are OBL, FACW, or FAC
		·		(excluding FAC-): 0 (A)
				Total Number of Dominant
4	0 %	= Total Cover		Species Across All Strata: <u>2</u> (B)
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u> )	0 %			Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)
1	%			$\frac{1000}{1000}$
2	%			Prevalence Index Worksheet:
3		<u> </u>		Tatal % Causer of Multiply by
4		<u> </u>		Total % Cover of: Multiply by:
5				OBL species% x 1 =
	0 %	= Total Cover		FACW species         % x 2 =         0           FAC species         % x 3 =         0
Herb Stratum (Plot size: <u>5 ft.</u> )				FACU species % x 4 = 0
1. <u>Schedonorus arundinaceus</u>	50 %	<u>Y</u>	FACU	UPL species $\% x 5 = 0$
2. <u>Bromus inermis</u>	20 %	Y	UPL	Column Totals: $0\%$ (A) $0$ (B)
3. Poa pratensis	15 %	N	FACU	
4. <u>Solidago rugosa</u>		N	FAC	Prevalence Index = B/A =
5	%			Hydrophytic Vegetation Indicators:
6 7	<b>8</b> (			☐ 1 Rapid Test for Hydrophytic Vegetation
8				☐ 2 Dominance Test is >50%
9	%			☐ 3 Prevalence Index is ≤3.0 <sup>1</sup>
10				4 Morphological Adaptations <sup>1</sup> (Provide
	90 %	= Total Cover	•	supporting data in Remarks or on a separate sheet)
Woody Vine Stratum (Plot size: <u>30 ft.</u> )	0/			Problematic Hydrophytic Vegetation <sup>1</sup> (explain)
1				<sup>1</sup> Indicators of hydric soil and wetland hydrology
2	<u>%</u>	= Total Cover		must be present, unless disturbed or problematic
Bare Ground in Herb Stratum <u>10</u> %				Hydrophytic Vegetation Present? 🗌 Yes 🛛 No
Remarks: Hydrophytic vegetation indicators are not met. I	Photograph C	-134.		<u>.</u>

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix			Re	dox Fea	tures			
(inches)	Color (moist)	%	Col	or (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR 2/2	100						silty clay loam	
							·		
<sup>1</sup> Type: C=Conce							d Sand Grains	<sup>2</sup> Location: PL=Pore	
Hydric Soil Indi	cators: (Applic	able to all	LRRs	, unless othei	rwise no	ted.)		Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (A1)				Sandy Gle	-			1 cm Muck (A9) ( <b>LR</b>	-
Histic Epiped				Sandy Red				Coast Prairie Redox	
Black Histic (	,			Stripped N	•	,		Dark Surface (S7) (	
Hydrogen Su	. ,			Loamy Mu	•	. ,		High Plains Depress	
Stratified Lay				Loamy Gle	-			(LRR H outside of	
1 cm Muck (A		-			•	,		□ Reduced Vertic (F18 □ Red Parent Material	,
Depleted Bel		e (A11)				. ,		Very Shallow Dark S	
☐ Thick Dark Si ☐ Sandy Mucky	· · ·			Depleted [		. ,		Other (Explain in Re	. ,
2.5 cm Mucky		32) (I <b>RR G</b>		High Plain		. ,			
5 cm Mucky F	· ·	, ,	,,	(MLRA 72				<sup>3</sup> Indicators of hydrophyt wetland hydrology must disturbed or problemation	be present, unless
Restrictive Laye	er (if present):							Hydric Soil Present?	
Type:		г	)enth (	inches):				$\square$ Yes $\square$ No	
		_							
Remarks: Hydric	soil indicators a	are not met.							
HYDROLOGY									
Wetland Hydrol	ogy Indicators:								
Primary Indicato	<u>rs (minimum of c</u>	one require	d; cheo	ck all that apply	<u>y)</u>			Secondary Indicators (	2 or more required)
Surface Wate	er (A1)			Salt Crust (B1	11)			Surface Soil Cracks	(B6)
High Water T	able (A2)			Aquatic Invert	tebrates	(B13)		Sparsely Vegetated	Concave Surface (B8)
Saturation (A	3)			Hydrogen Sul	lfide Odo	or (C1)		🗌 Drainage Patterns (	B10)
UWater Marks	(B1)			Dry-Season V		. ,			eres on Living Roots (C3)
Sediment De	,			Oxidized Rhiz		s on Living	Roots (C3)	(where tilled)	
Drift Deposits			_	(where not	,			Crayfish Burrows (C	
Algal Mat or (				Presence of F		. ,		Saturation Visible o	
Iron Deposits	· · ·	(5-	_	Thin Muck Su Other (Explain	-			Geomorphic Positio	. ,
Inundation Vi		nagery (B7	) []			arks)		Frost-Heave Humm	
☐ Water-Staine	d Leaves (B9)				-				
Field Observati	ons:	Yes	No	Depth (inches)				m gauge, monitoring well,	aerial photos, previous
Ourface Mt 1		_		(110103)	inspe	ections, etc.)	, if available:		
Surface Water p									
Water Table pres			⊠ _						
Saturation Prese			$\boxtimes$						
(includes capillar		_							
Wetland Hydrol	ogy Present?		$\boxtimes$						
Remarks: Wetland hydrology indicators are not met.									