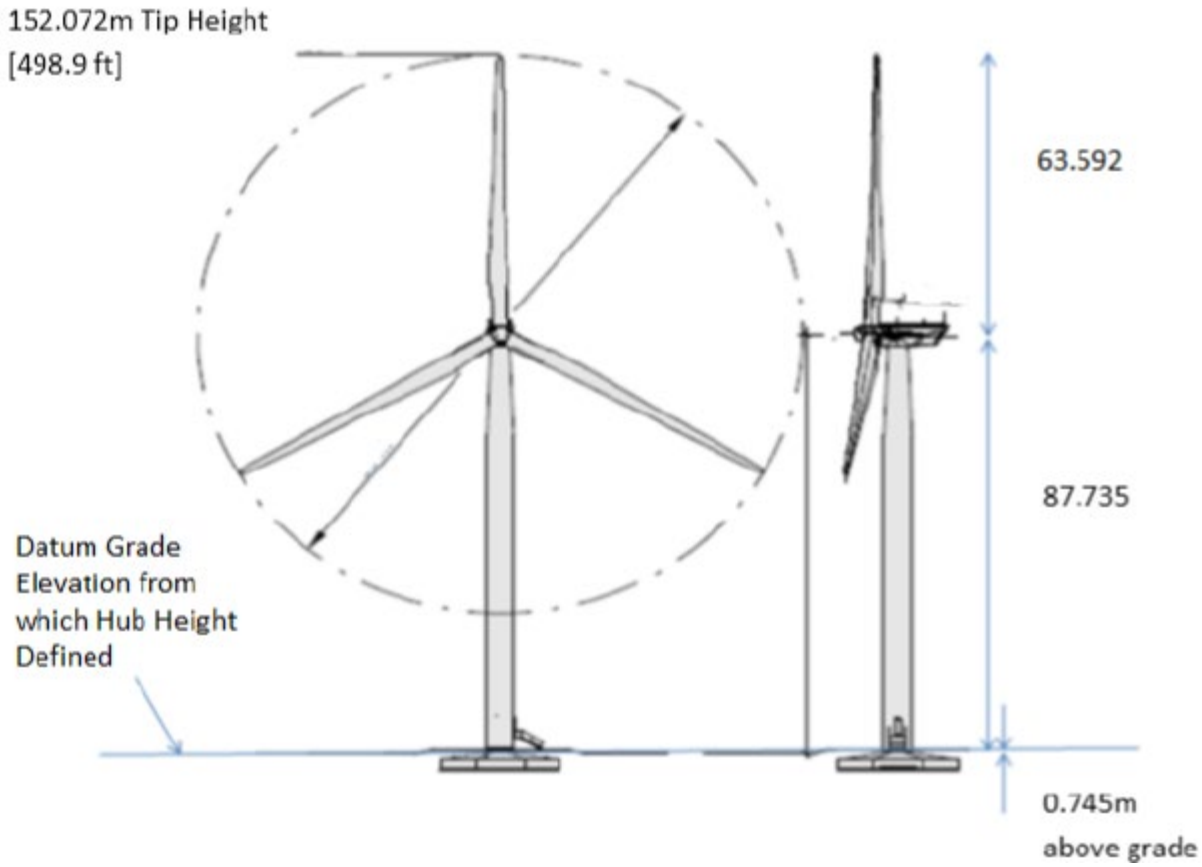
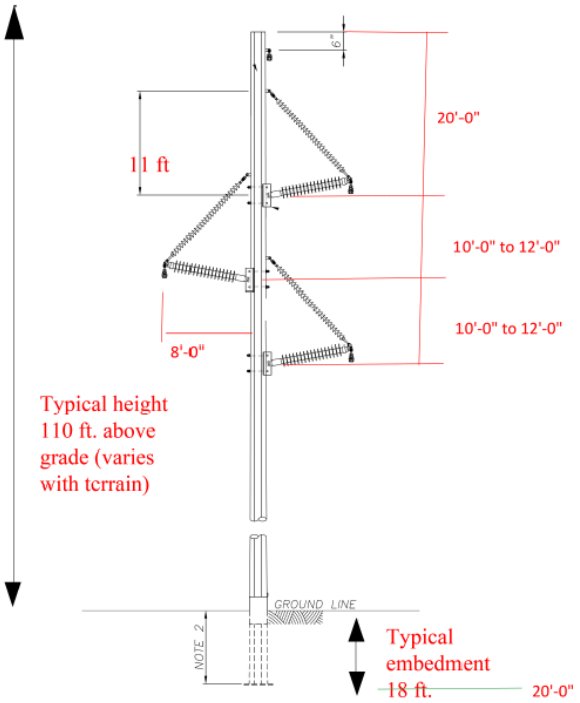
APPENDIX A – WIND TURBINE AND TRANSMISSION FACILITY DIAGRAMS



Source: General Electric, 2019

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

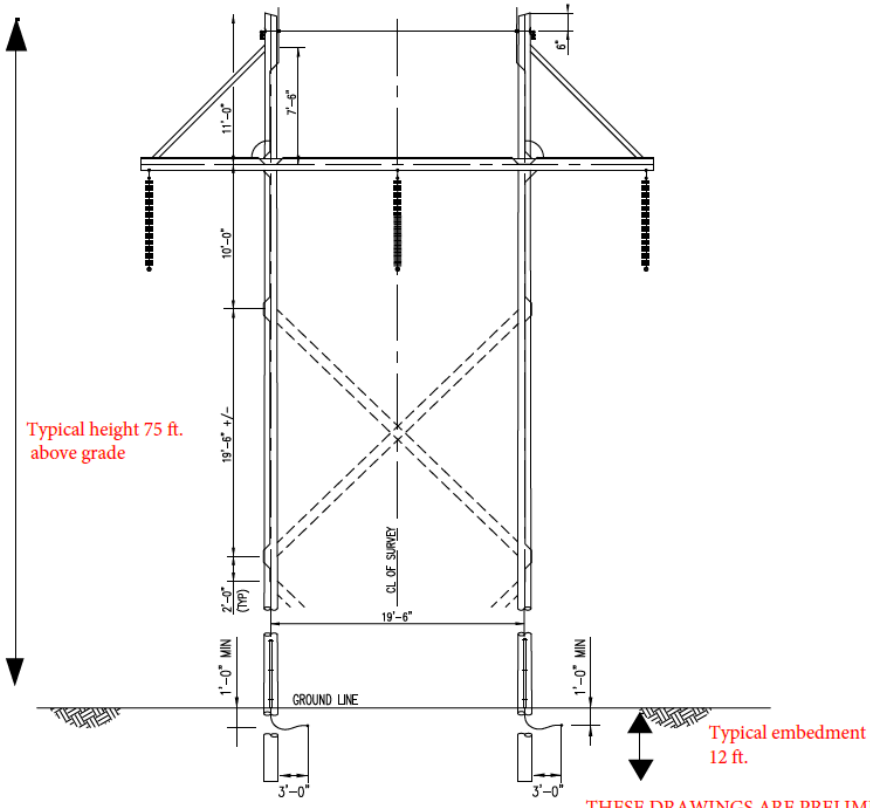


230 kv - TYPICAL SINGLE POLE TANGENT STRUCTURE

AEI

THESE DRAWINGS ARE PRELIMINARY AND CONCEPTUAL ISSUED FOR INFORMATIONAL PURPOSES ONLY

AEI



230 kv - TYPICAL H FRAME TANGENT STRUCTURE

THESE DRAWINGS ARE PRELIMINARY AND CONCEPTUAL ISSUED FOR INFORMATIONAL PURPOSES ONLY

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.

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

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

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[a, b]	Wetland Type[c]	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[a, b]	Wetland Type[c]	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[a, b]	Wetland Type[c]	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*).

Table 3: Delineated Streams within the Survey Area

Stream Number[a]	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

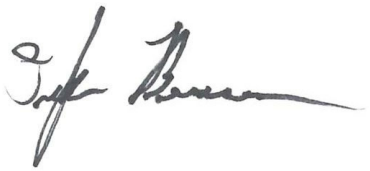
Stream Number[a]	Flow Classification	Length of Stream in Survey Area (feet)	Figure A-4 Page Number
S-510	Ephemeral	273	A-4.11
S-513	Ephemeral	270	A-4.6
S-514	Ephemeral	244	A-4.17
S-516	Ephemeral	549	A-4.7
S-517	Ephemeral	33	A-4.7
S-518	Ephemeral	504	A-4.6, A-4.7
S-519	Ephemeral	548	A-4.3
S-521	Ephemeral	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
	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.

Sincerely,

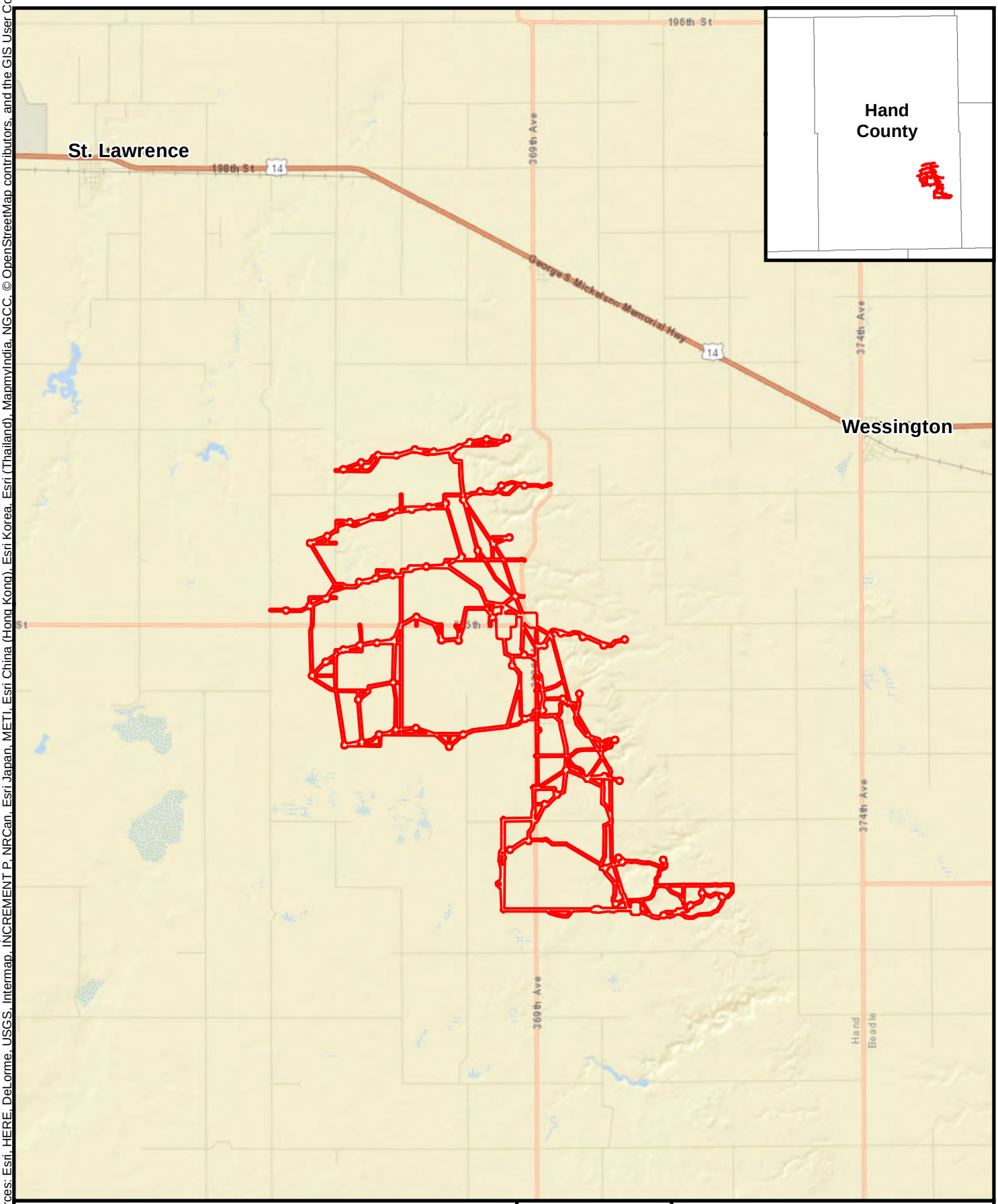


Tyler Beemer, PWS
Senior Environmental Scientist

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

cc: Paul Callahan, Burns & McDonnell
Carrie Barton, Burns & McDonnell

APPENDIX A -FIGURES



NORTH

0 1 2 Miles

Legend

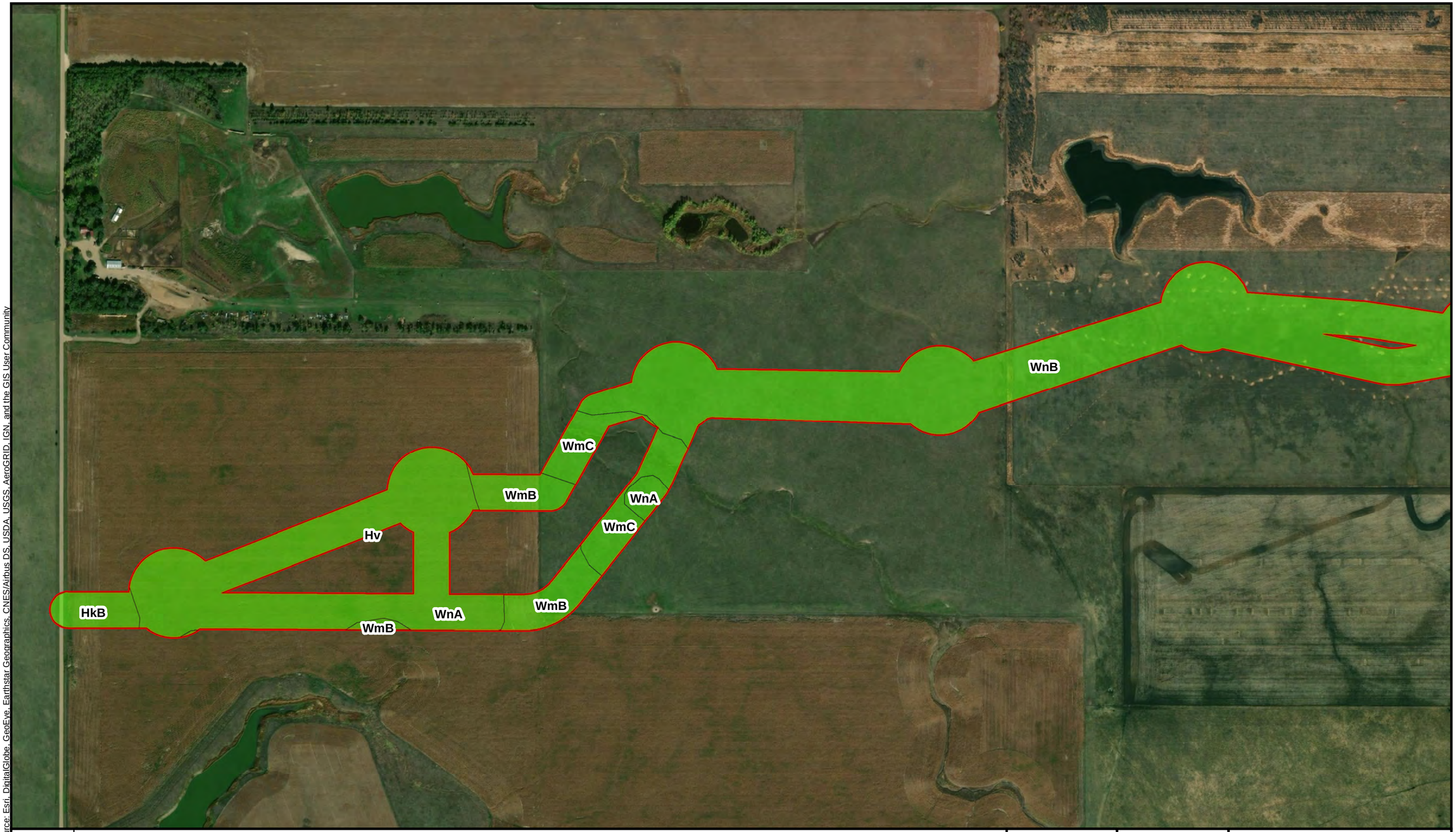
Survey Area

BURNS McDONNELL

Figure A-1
Location and Overview Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: ESRI and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

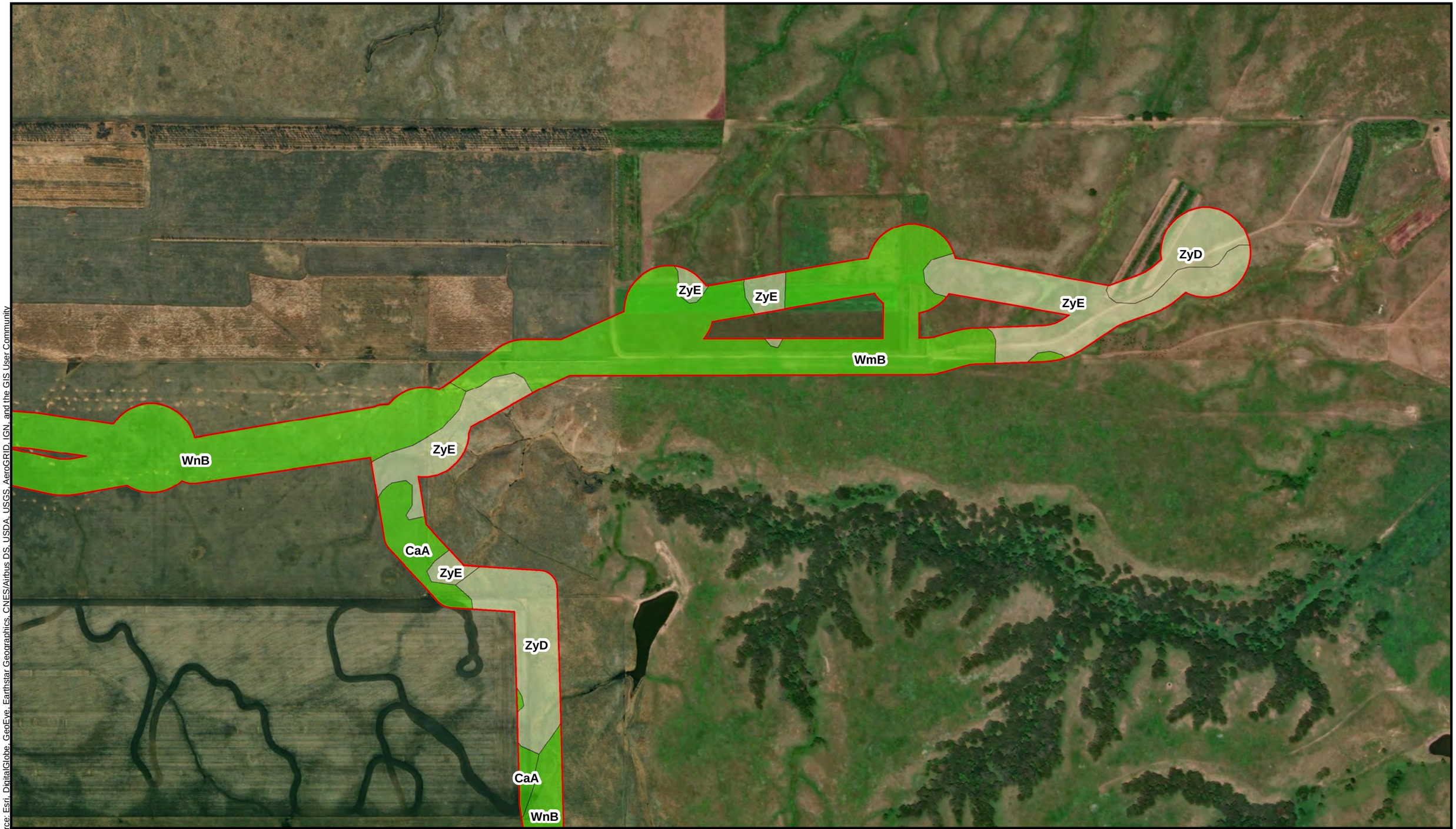
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.1
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

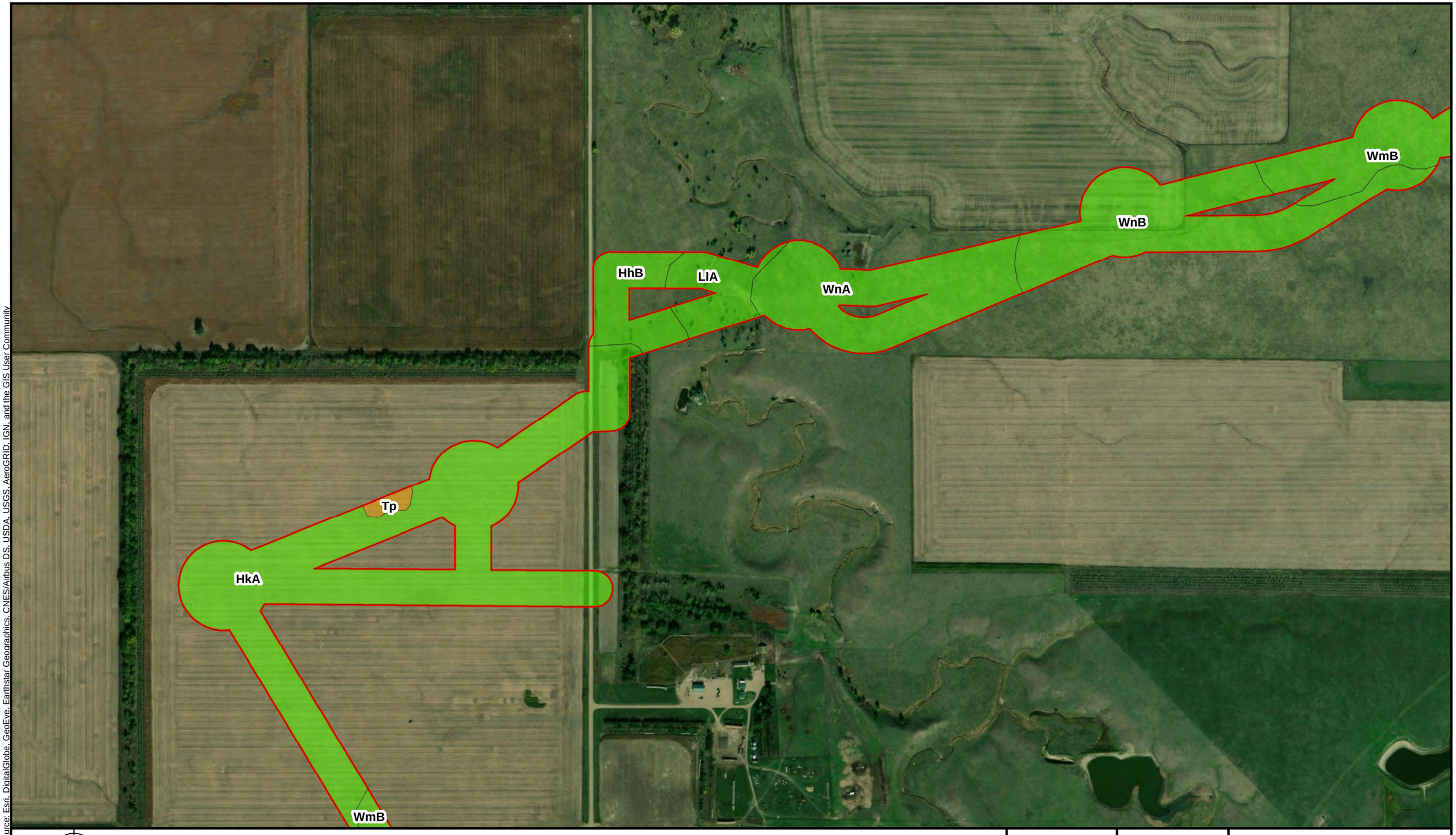
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.2
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

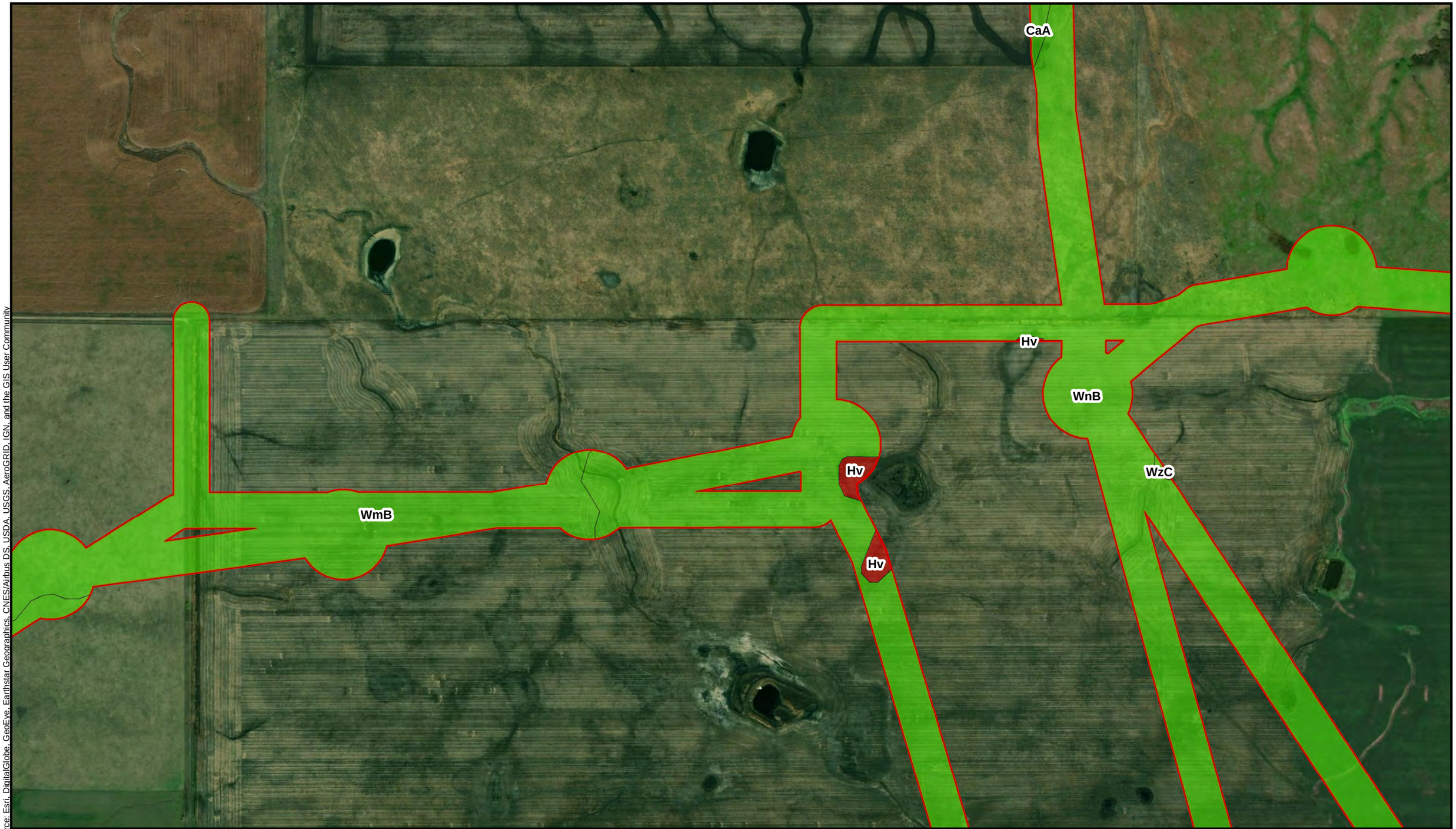
* See attached table at the end of this Figure A-2 for index of soil map unit names

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

BURNS McDONNELL

Figure A-2.3
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

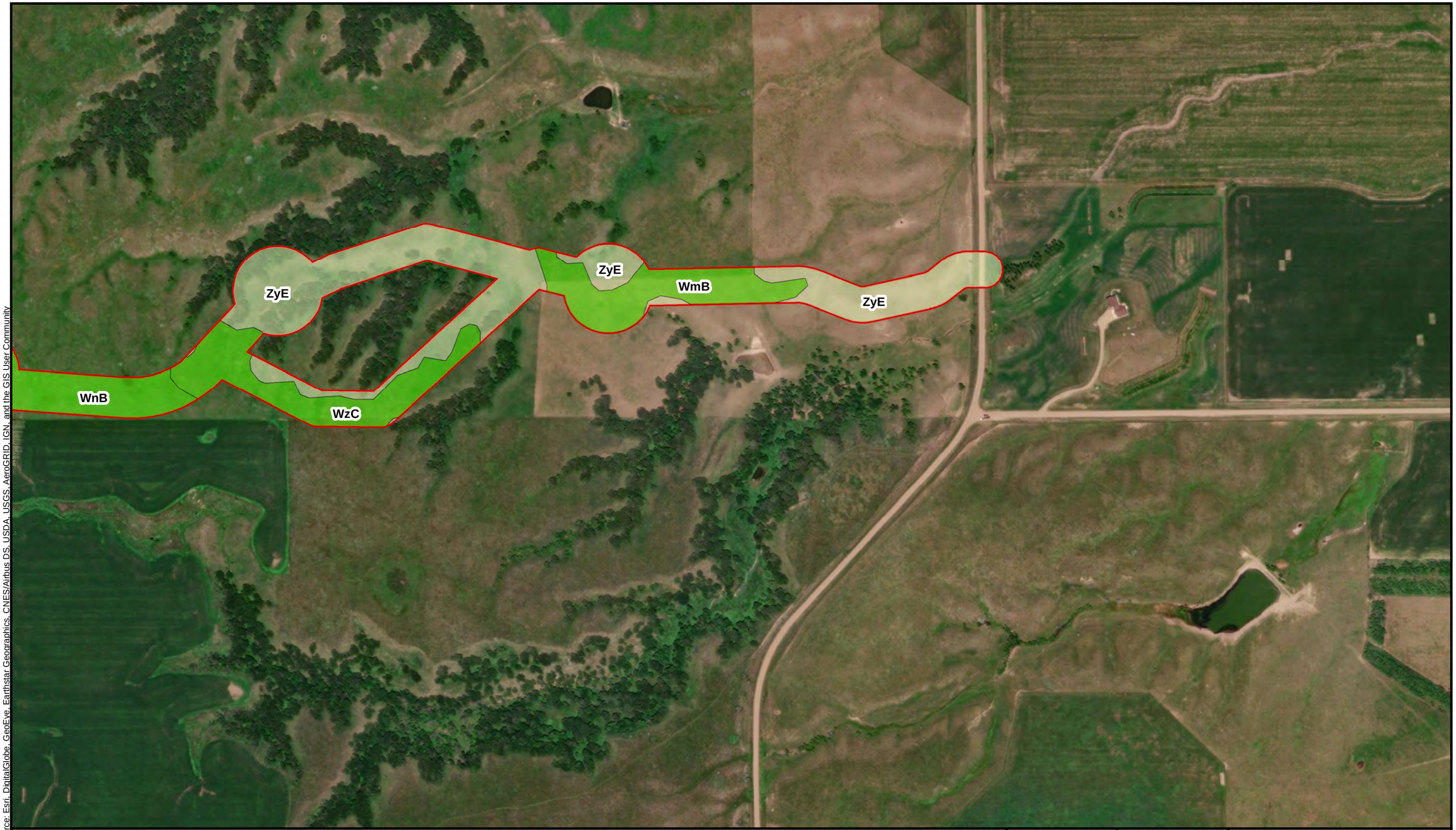
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.4
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

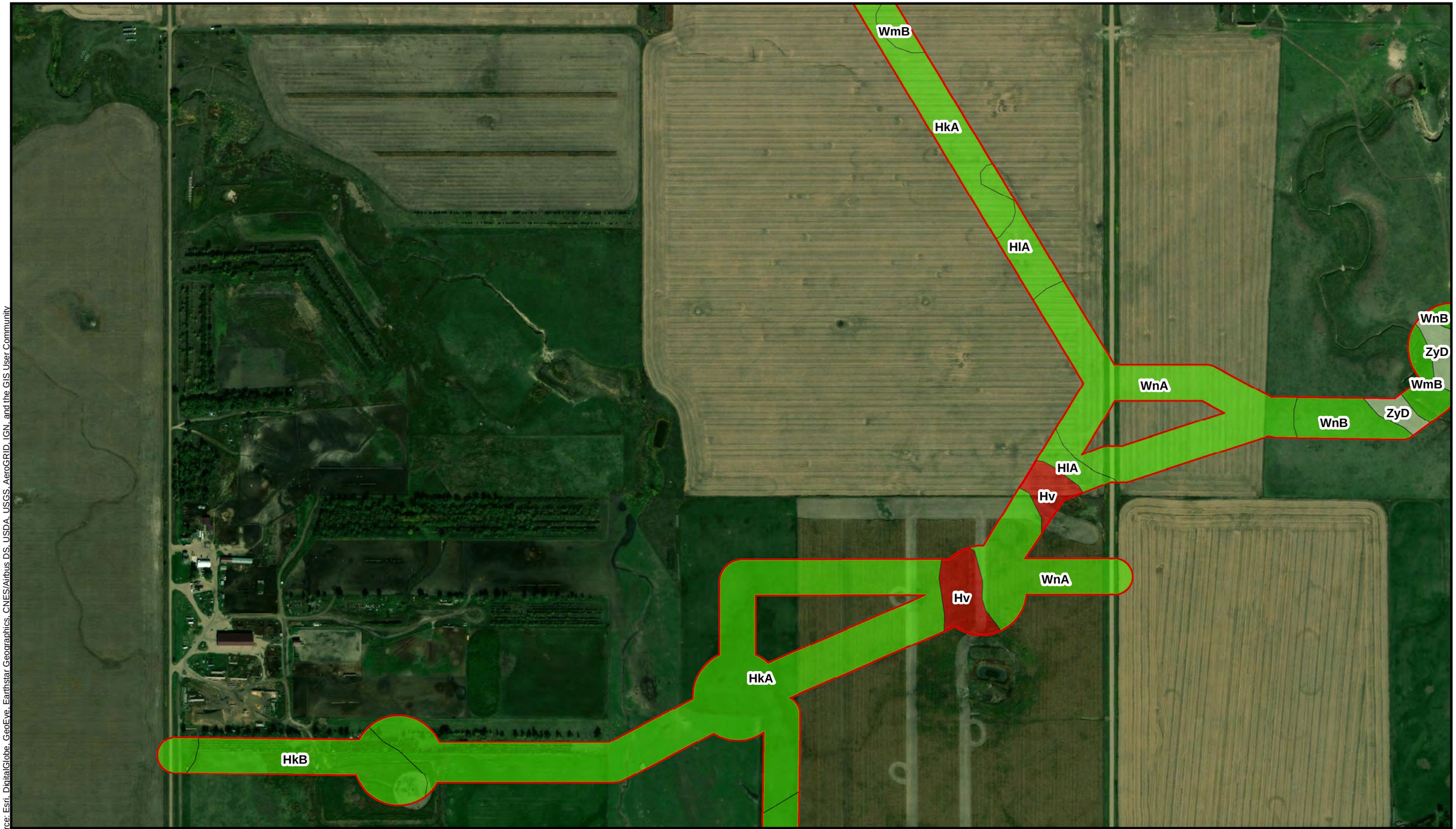
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.5
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

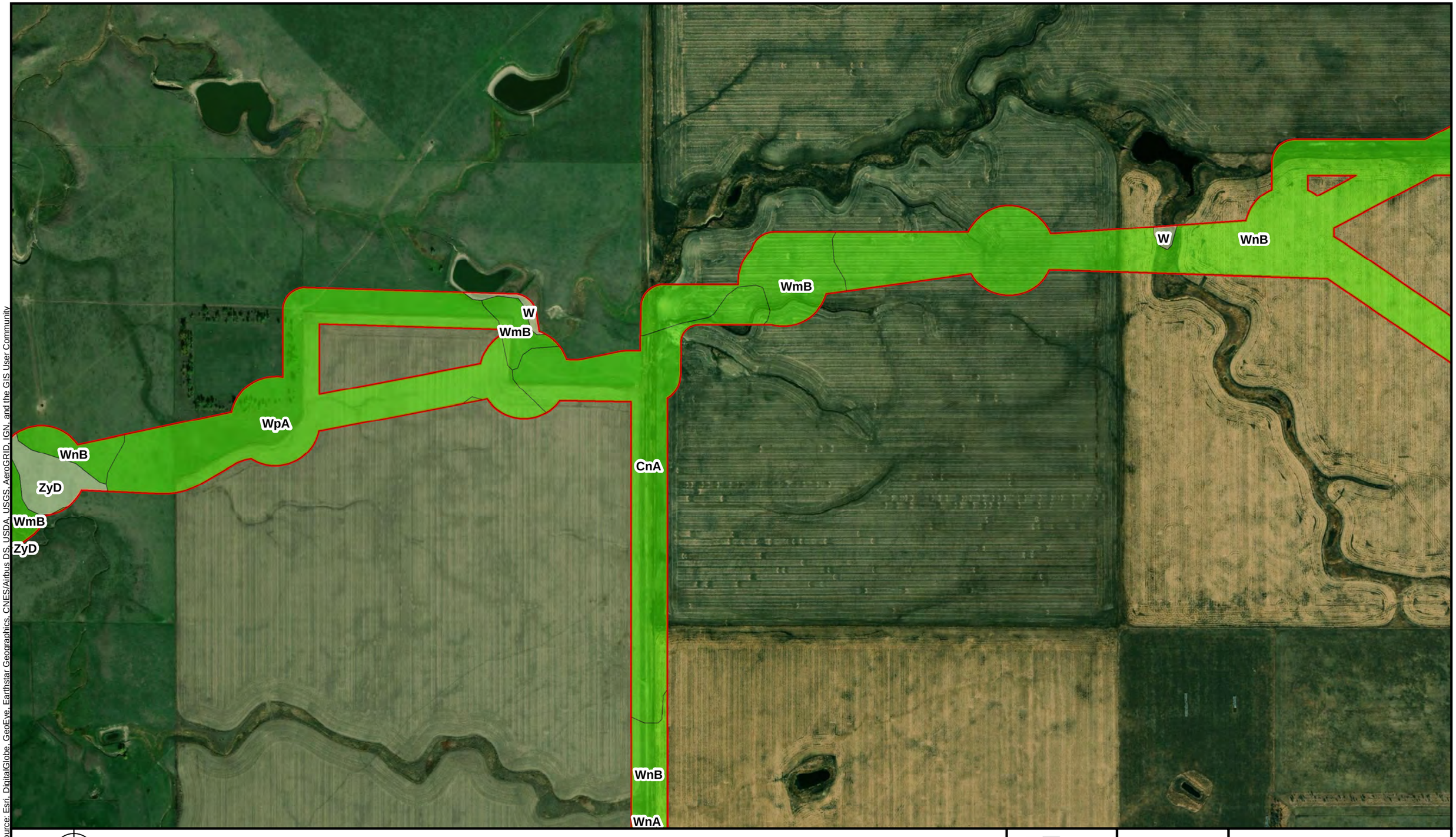
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.6
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

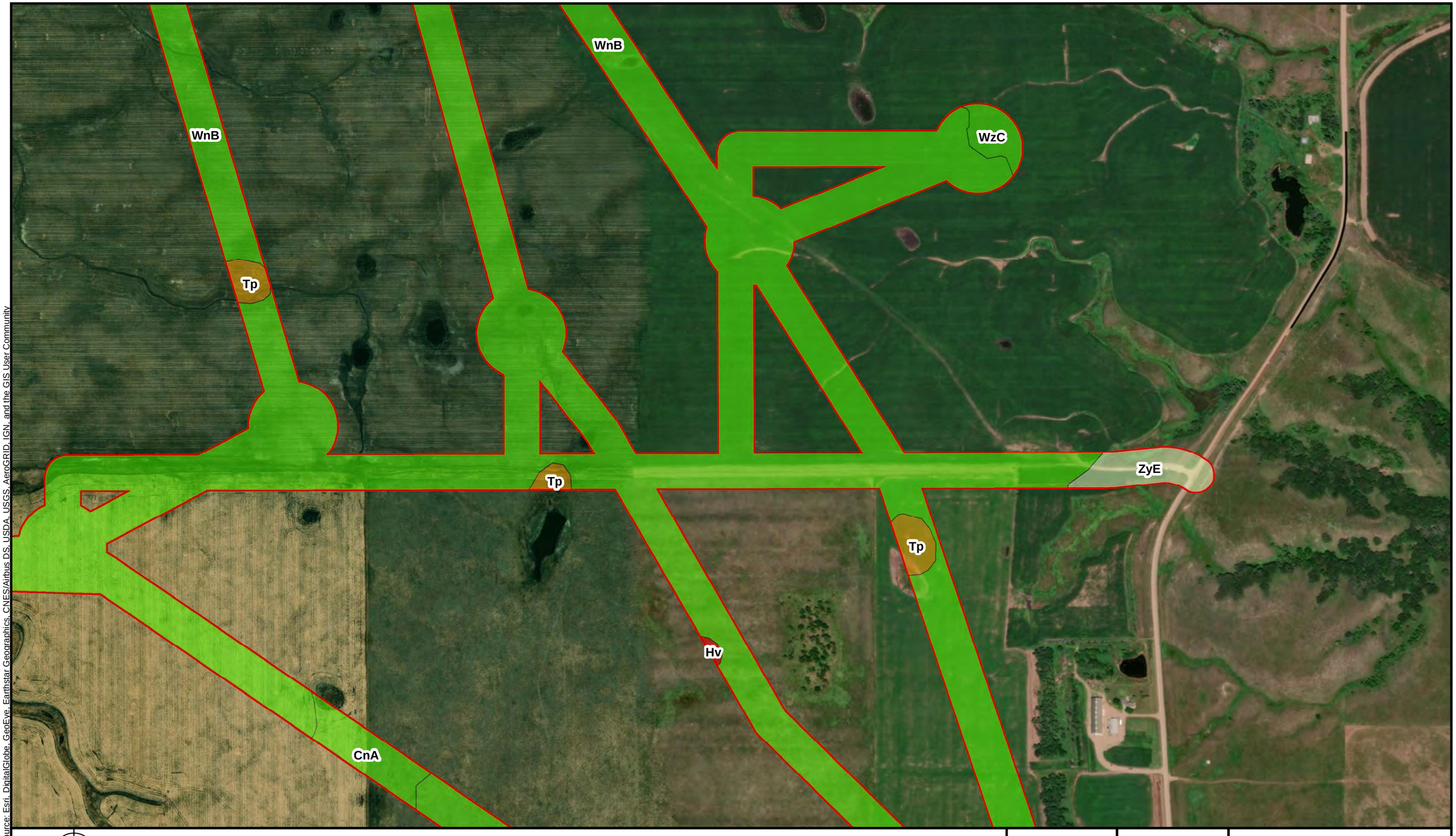
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.7
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.8
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

HkA
WnA
WnA
W
WnB
WnB
WnA
WnA
WmB
WpA
WnA

Path: Z:\Resources\Local\Clients\KCM\ENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialDataFilesvArcDocsWDR\FigureA2_Soils.mxd tbeemer 2/26/2019

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

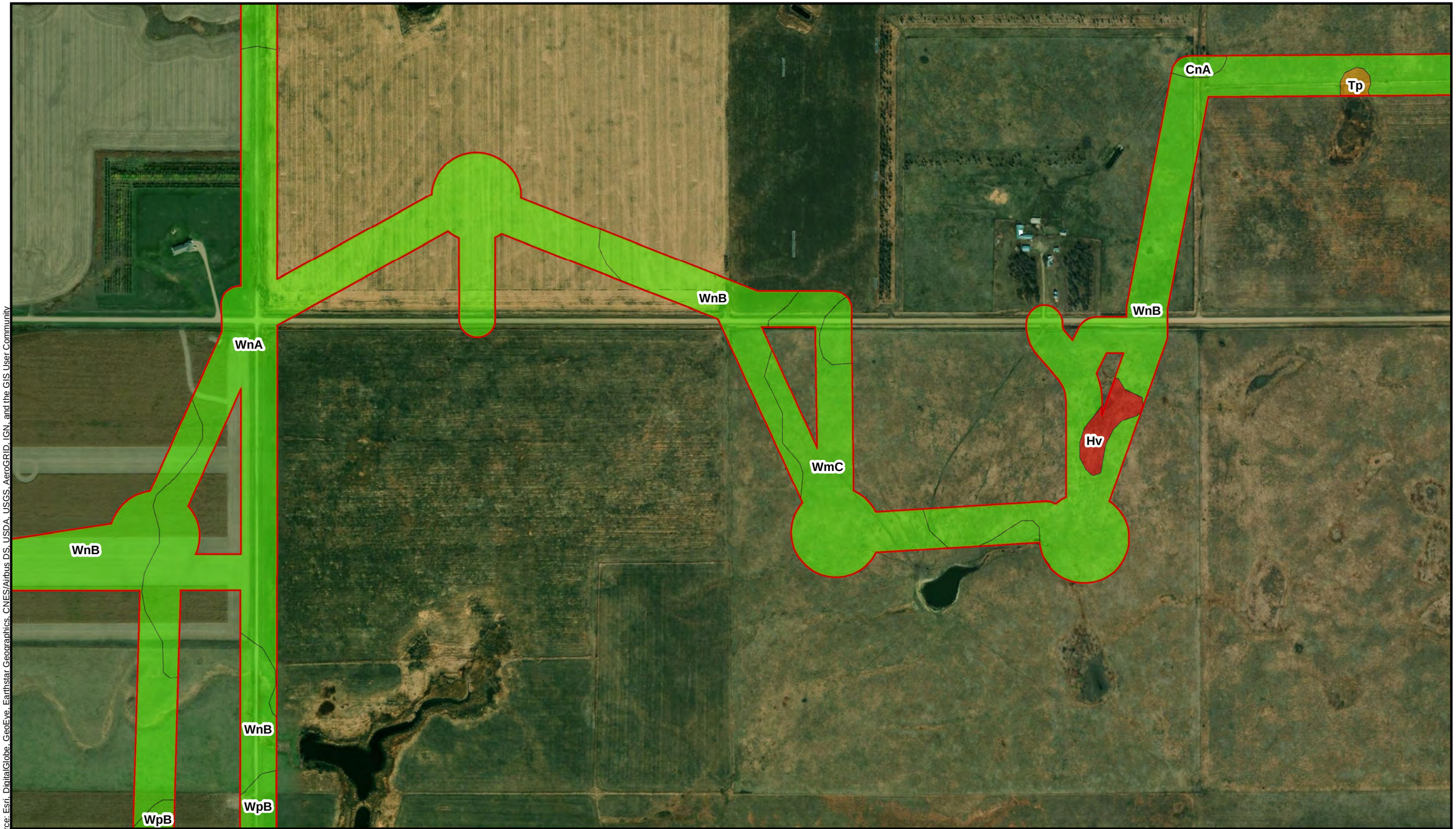
* See attached table at the end of this Figure A-2 for index of soil map unit names

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

BURNS McDONNELL

Figure A-2.9
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.10
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

CnA
Hv
Tp
Tp
W
Tp
Tp
ZyE
WnB
WmC
Tp
WzC
ZyE
ZyE
ZyE

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

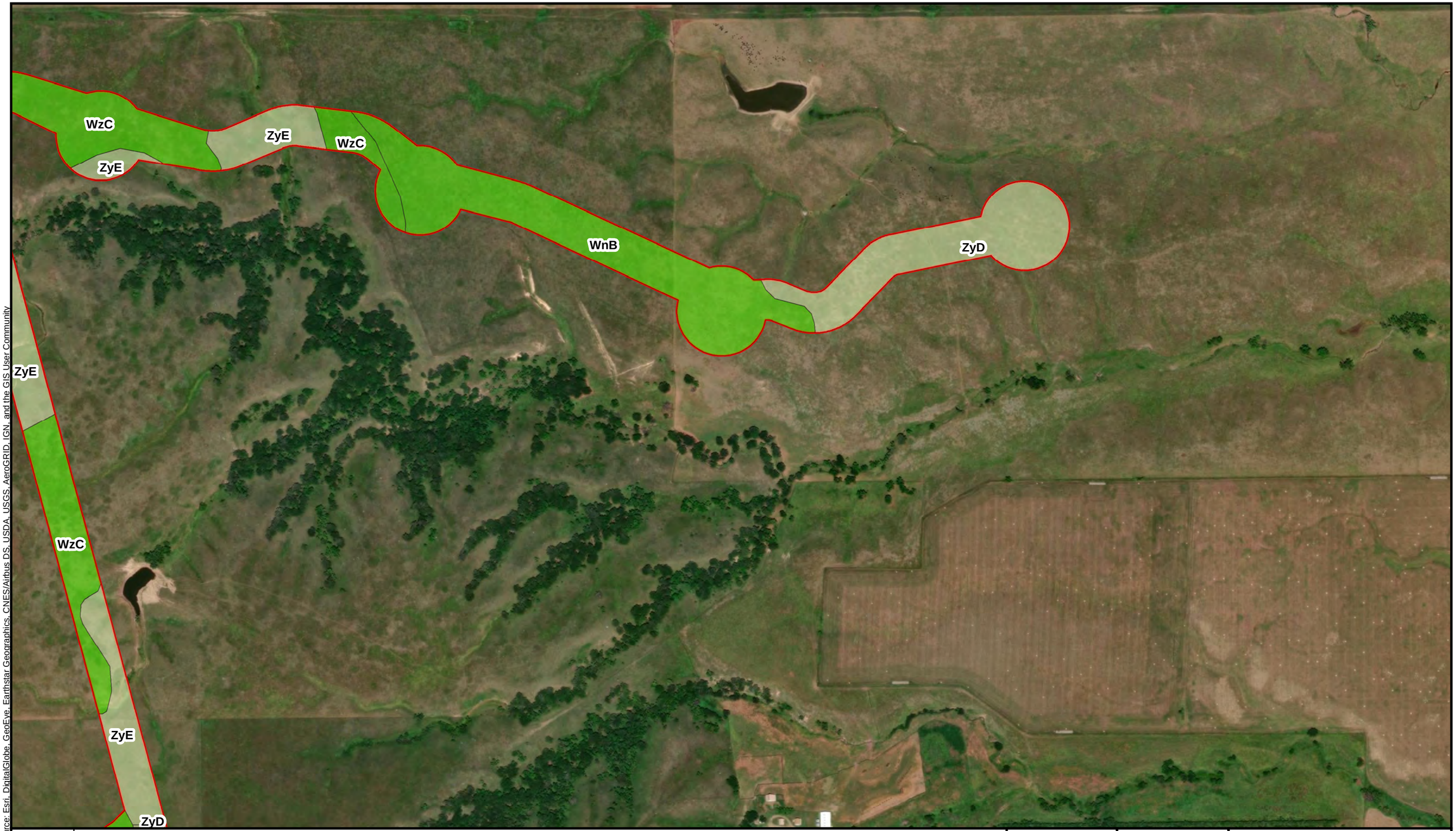
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.11
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

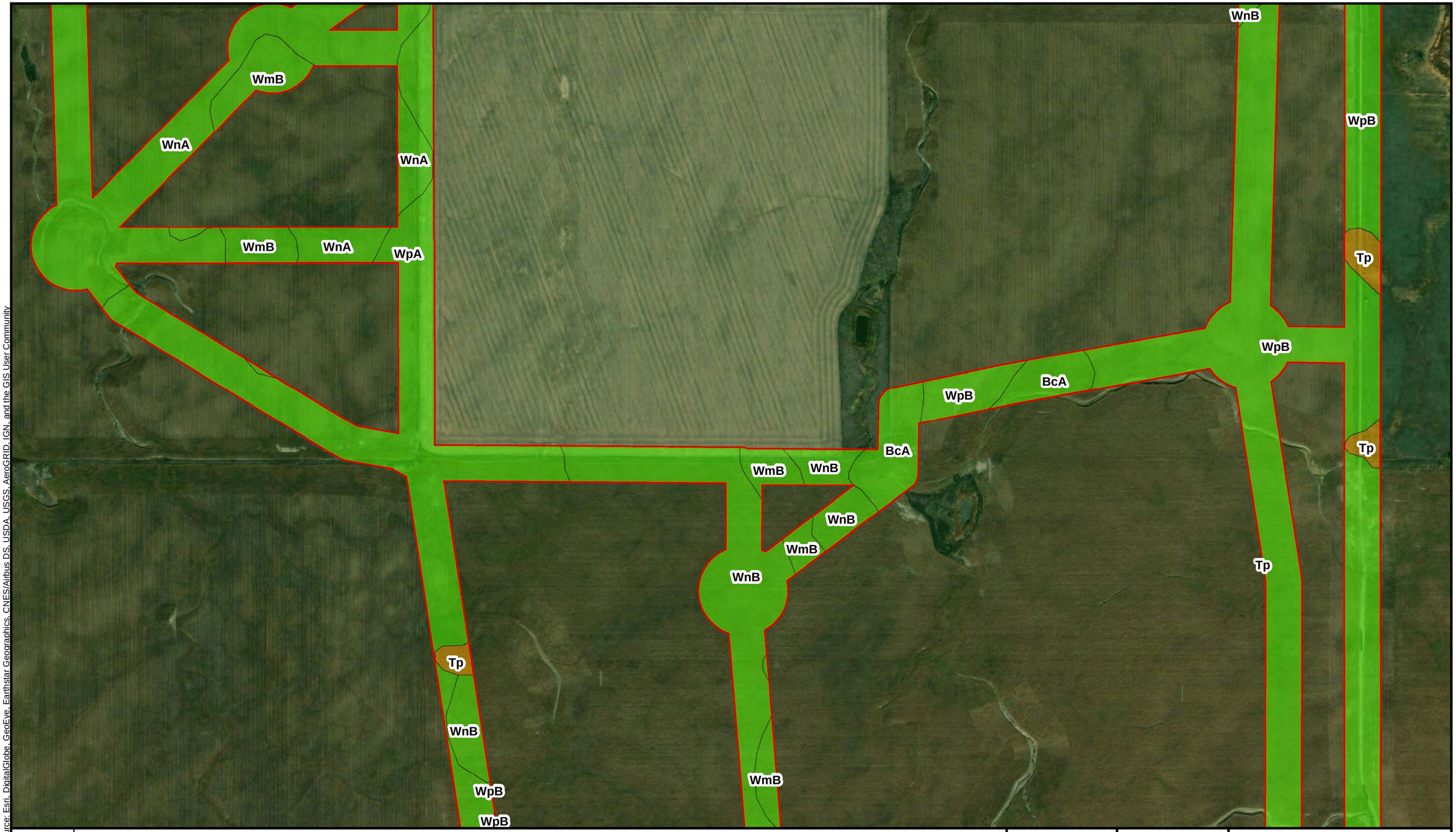
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

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

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialIDataFiles\ArcDocsWDR\FigureA2_Soils.mxd tbeemer 2/26/2019

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.13
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

WnB
WpA
WmB
WnB
Tp
WpB
Tp
WnB
Tp
WnB
WpB
HdA
Tp
WpB
Tp
Tp
Tp

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.14
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

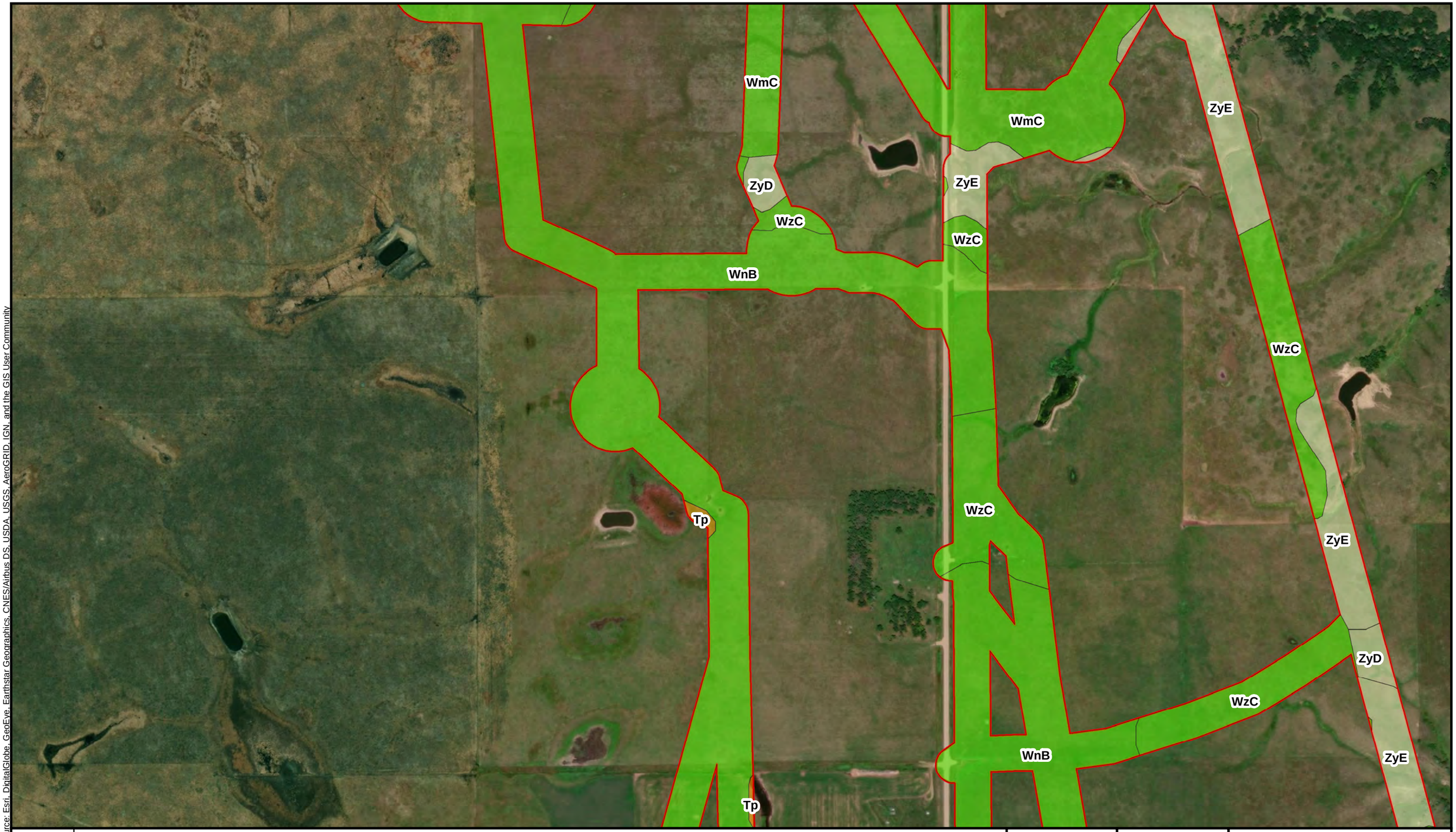
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.15
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialIDataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, and the GIS User Community

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

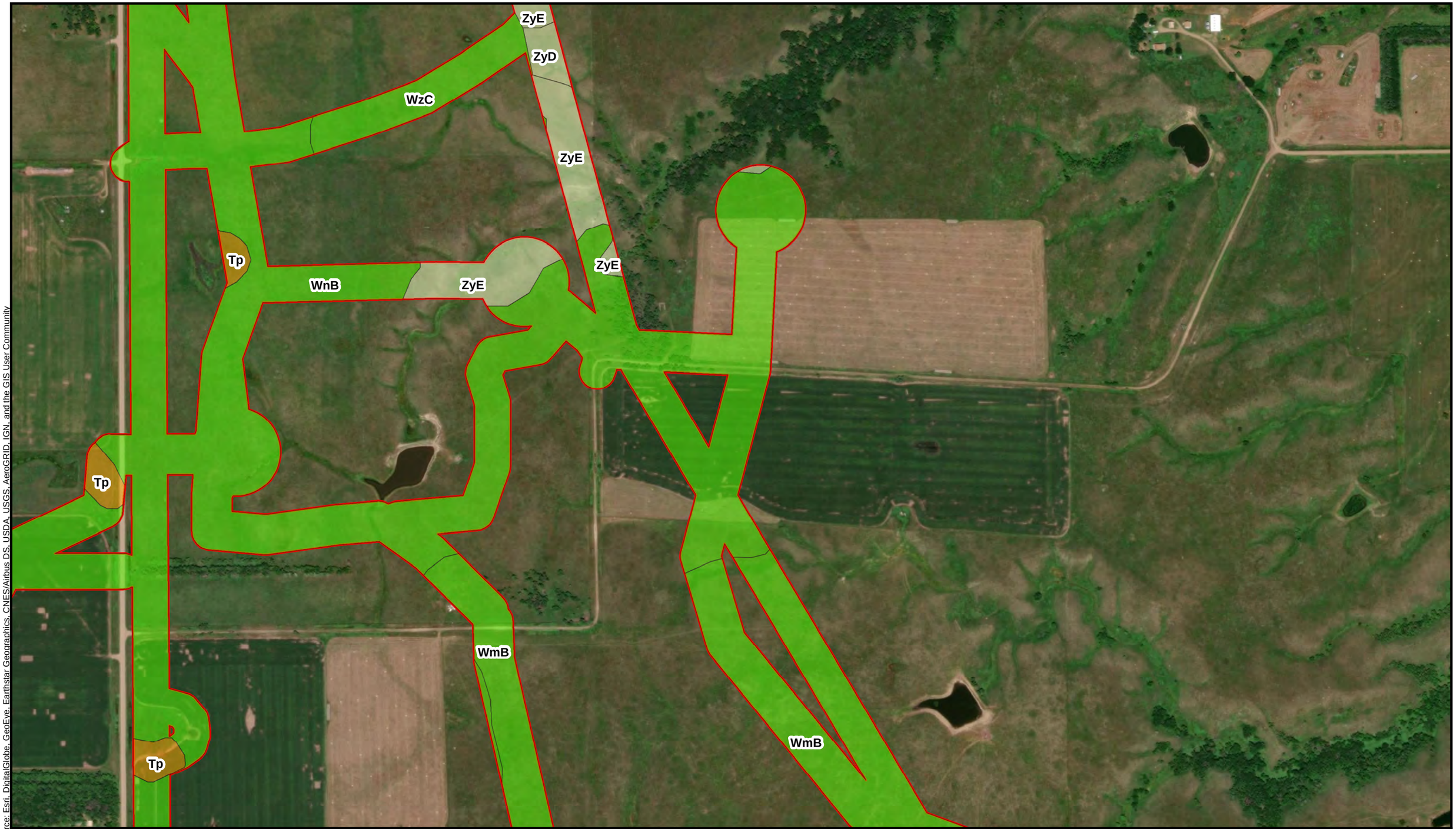
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.16
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.17
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

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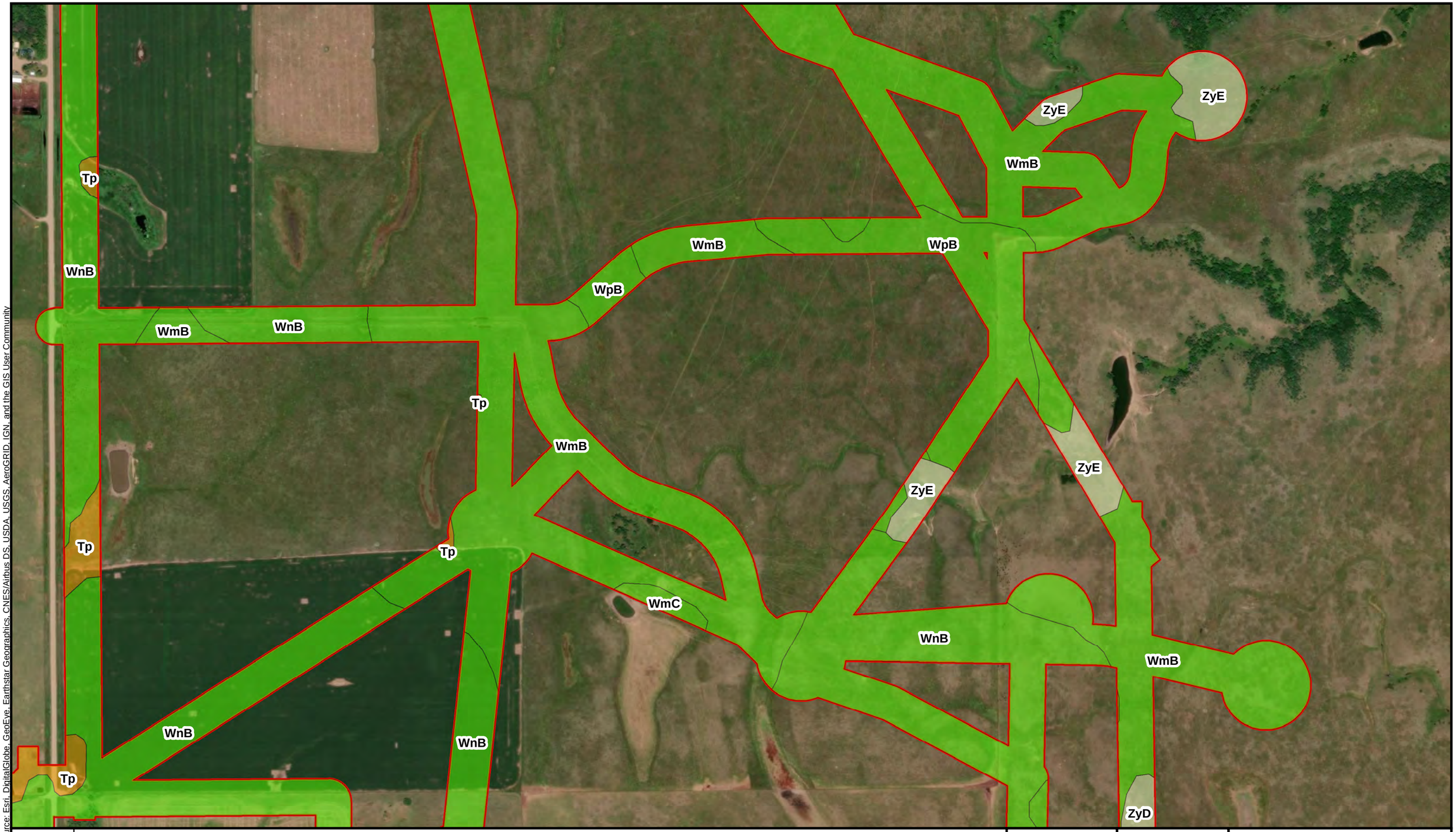


NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

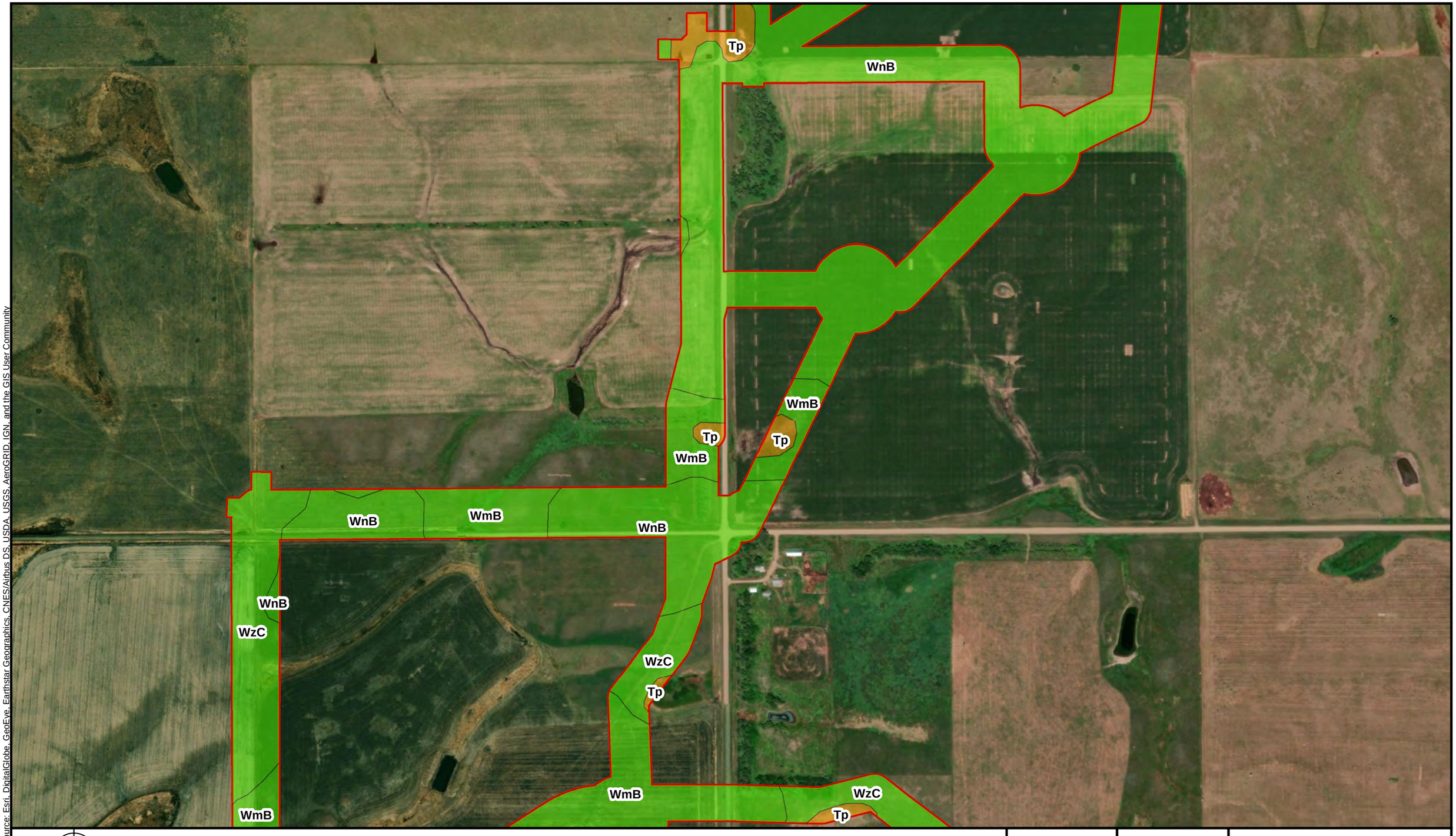
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.18
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

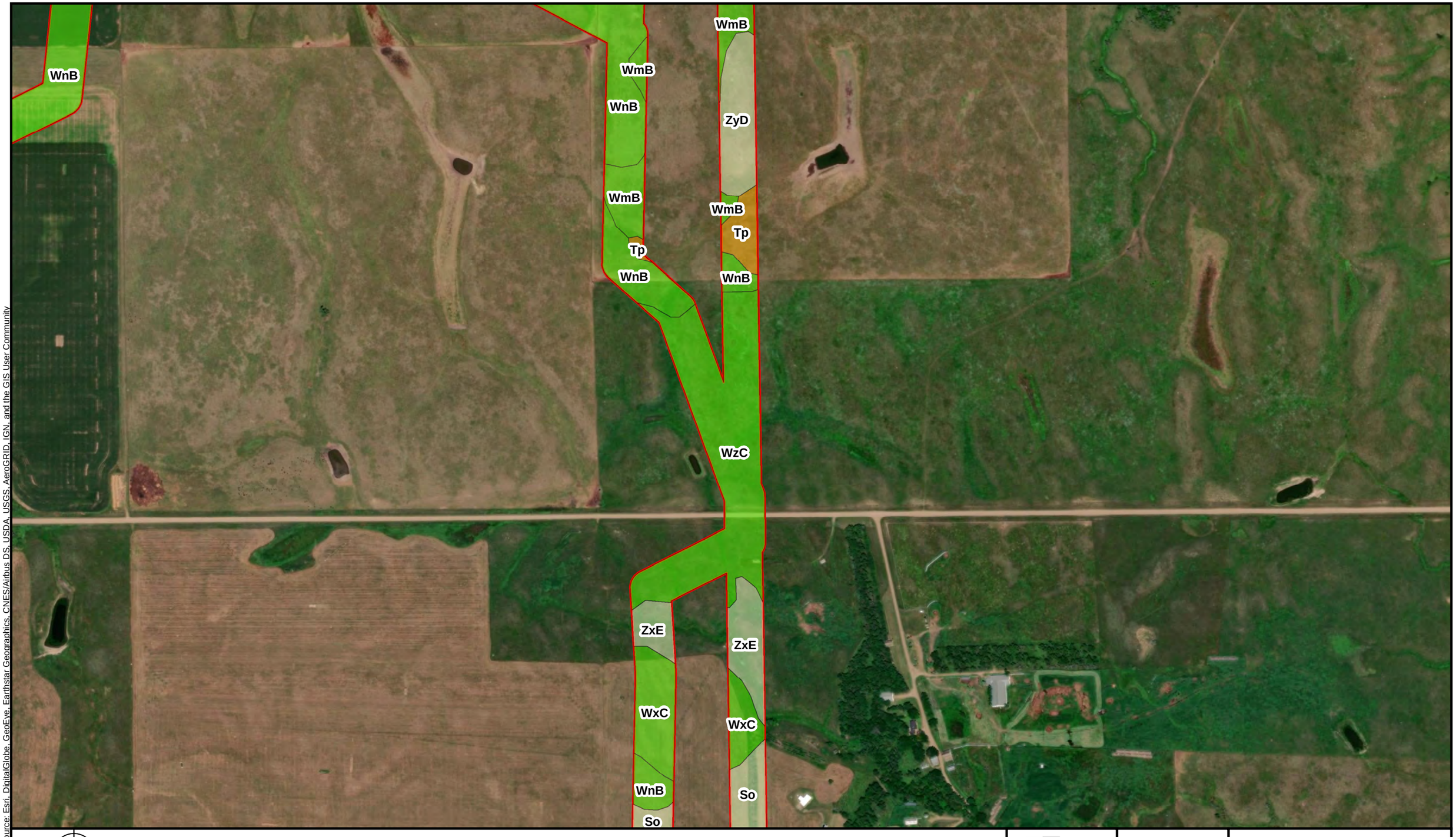
* See attached table at the end of this Figure A-2 for index of soil map unit names

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

BURNS McDONNELL

Figure A-2.19
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.20
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

Path: Z:\Resources\Local\Clients\KCM\ENS\ScoutCleanEn1103828_SweetlandWindArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

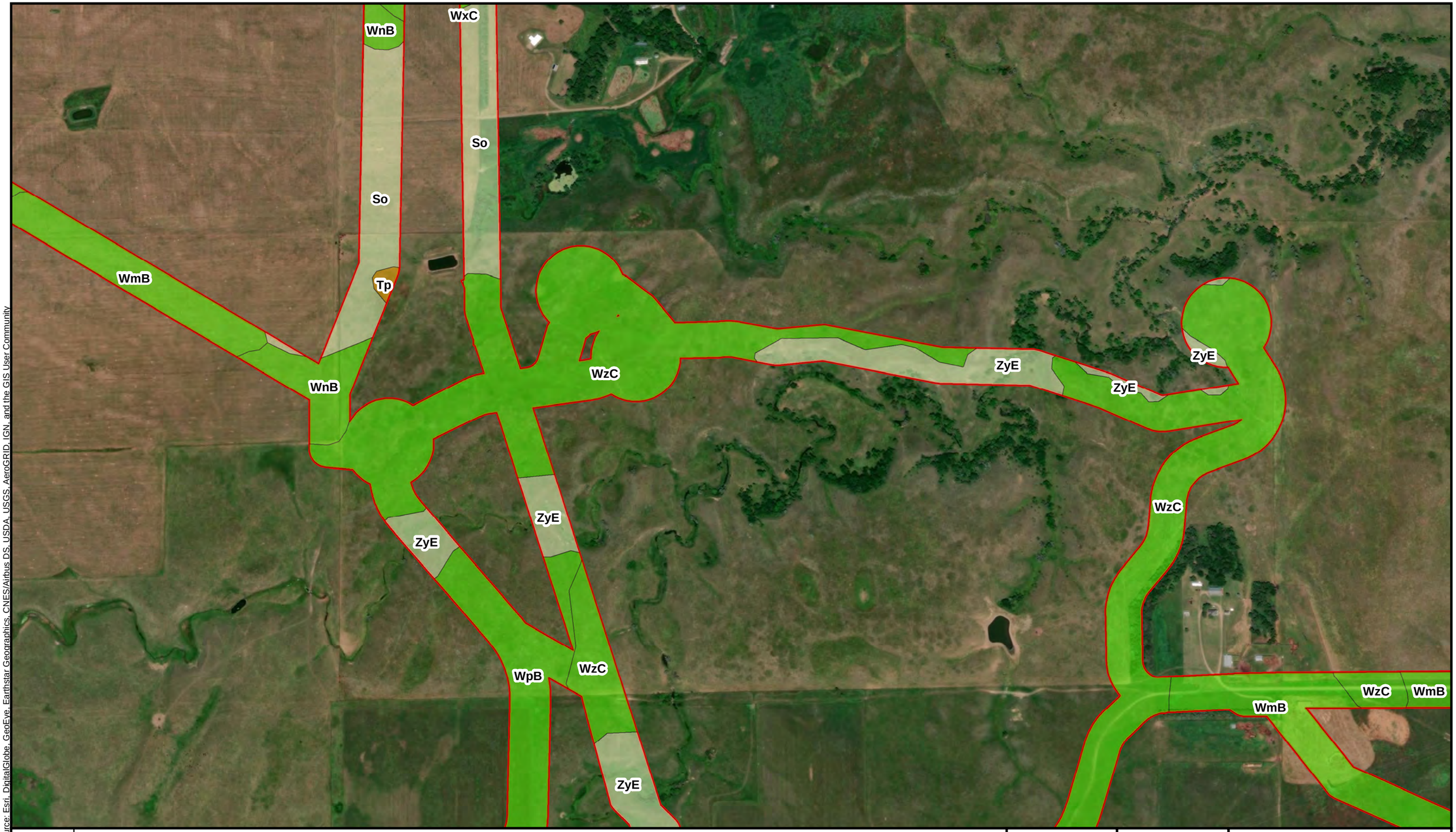
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.21
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

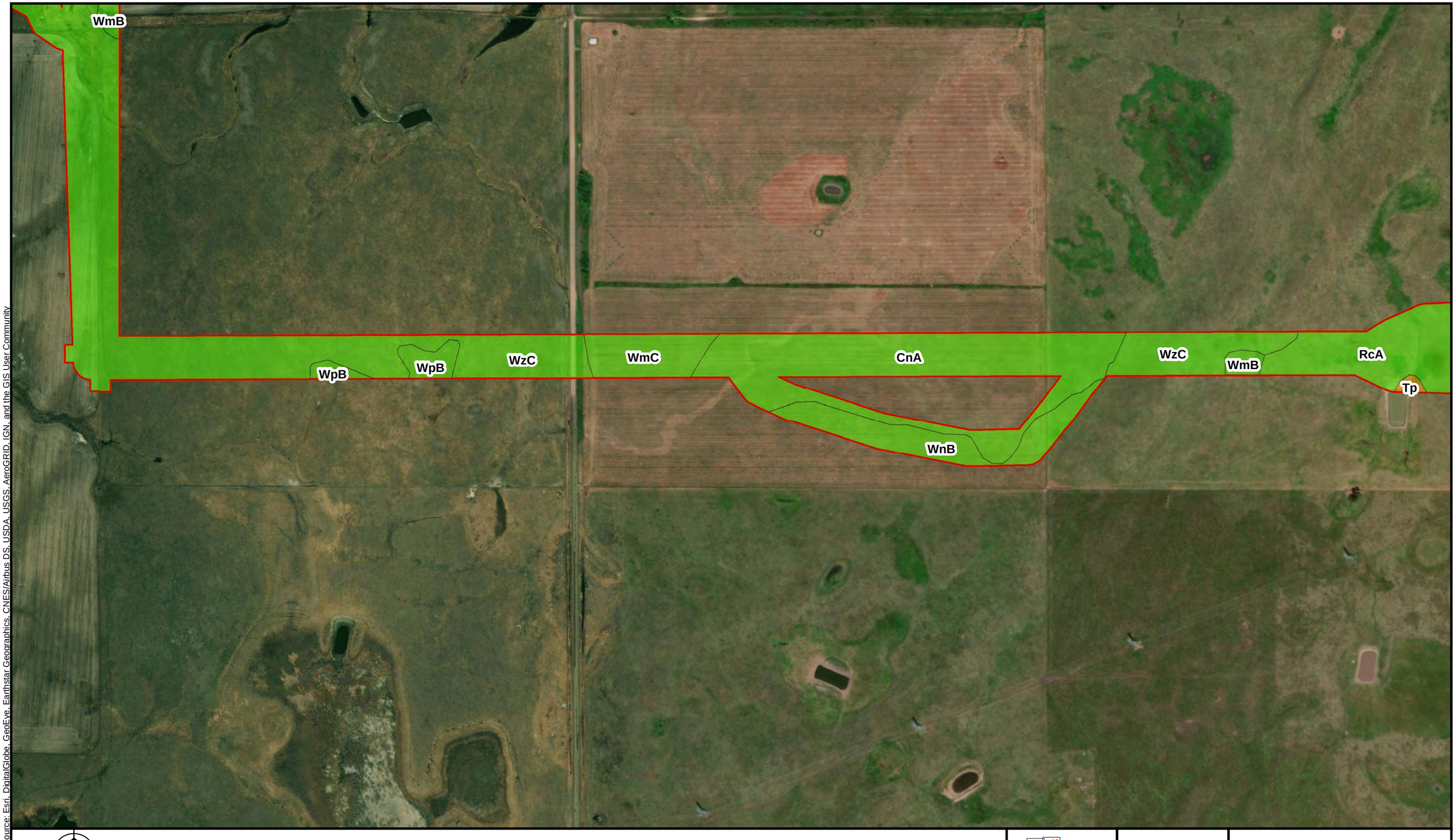
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

Figure A-2.22
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialDataFilesArcDocsWDR\FigureA2_Soils.mxd tbeemer 2/26/2019

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

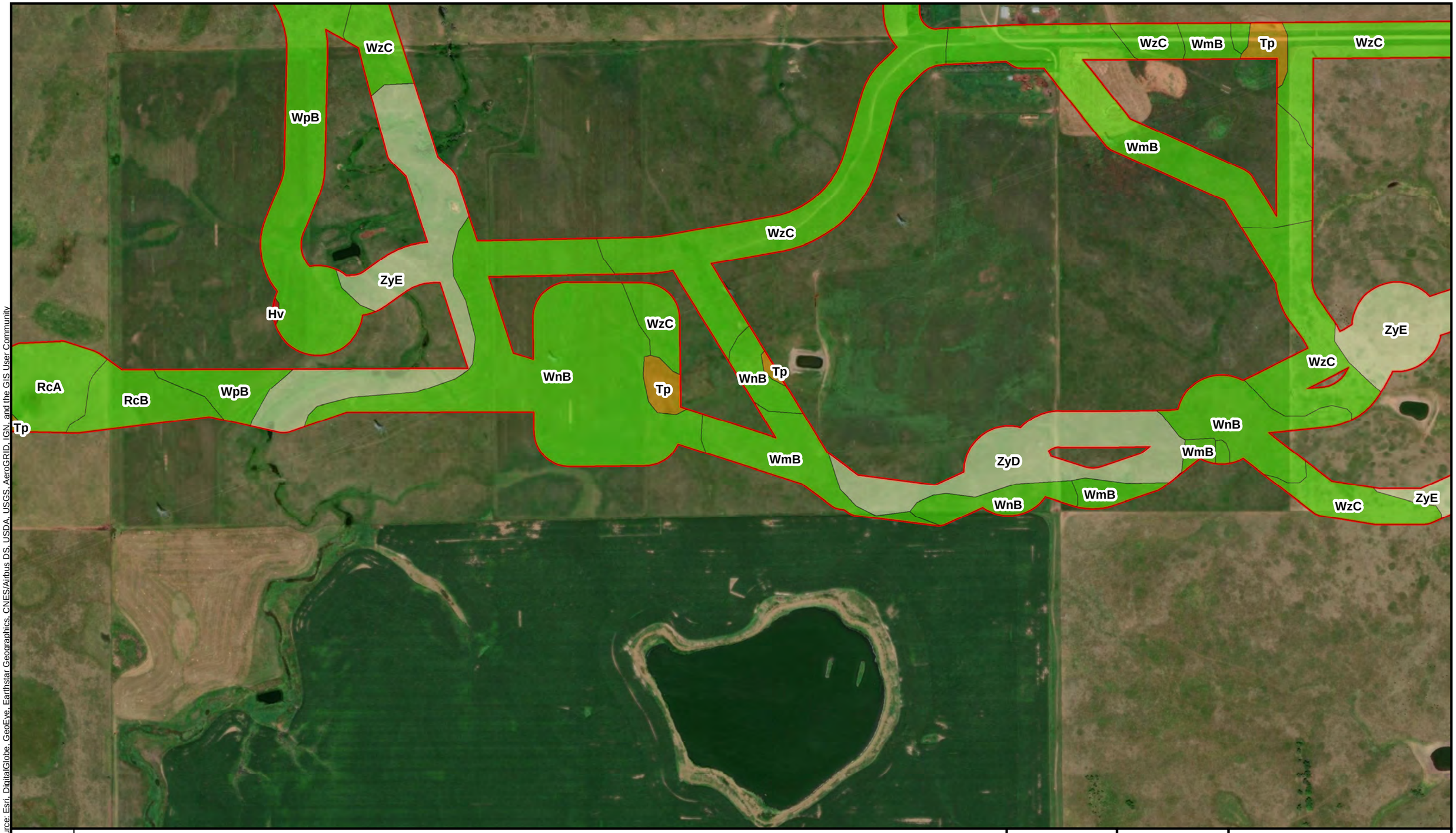
* See attached table at the end of this Figure A-2 for index of soil map unit names

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

BURNS McDONNELL

Figure A-2.23
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

BURNS McDONNELL

Figure A-2.24
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019

WzC
ZyE
WzC
ZyD
ZyE
ZyE
WzC
WnB
ZyD
ZyE
WzC

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

SSURGO Soil Map Unit & Hydric Rating*

- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

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

Source: SSURGO, NAIP, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

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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%
CaA	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%
HlA	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%
LlA	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%
Tp	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, 2006) and in the "Soil Survey Manual" (Soil Survey Division 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.

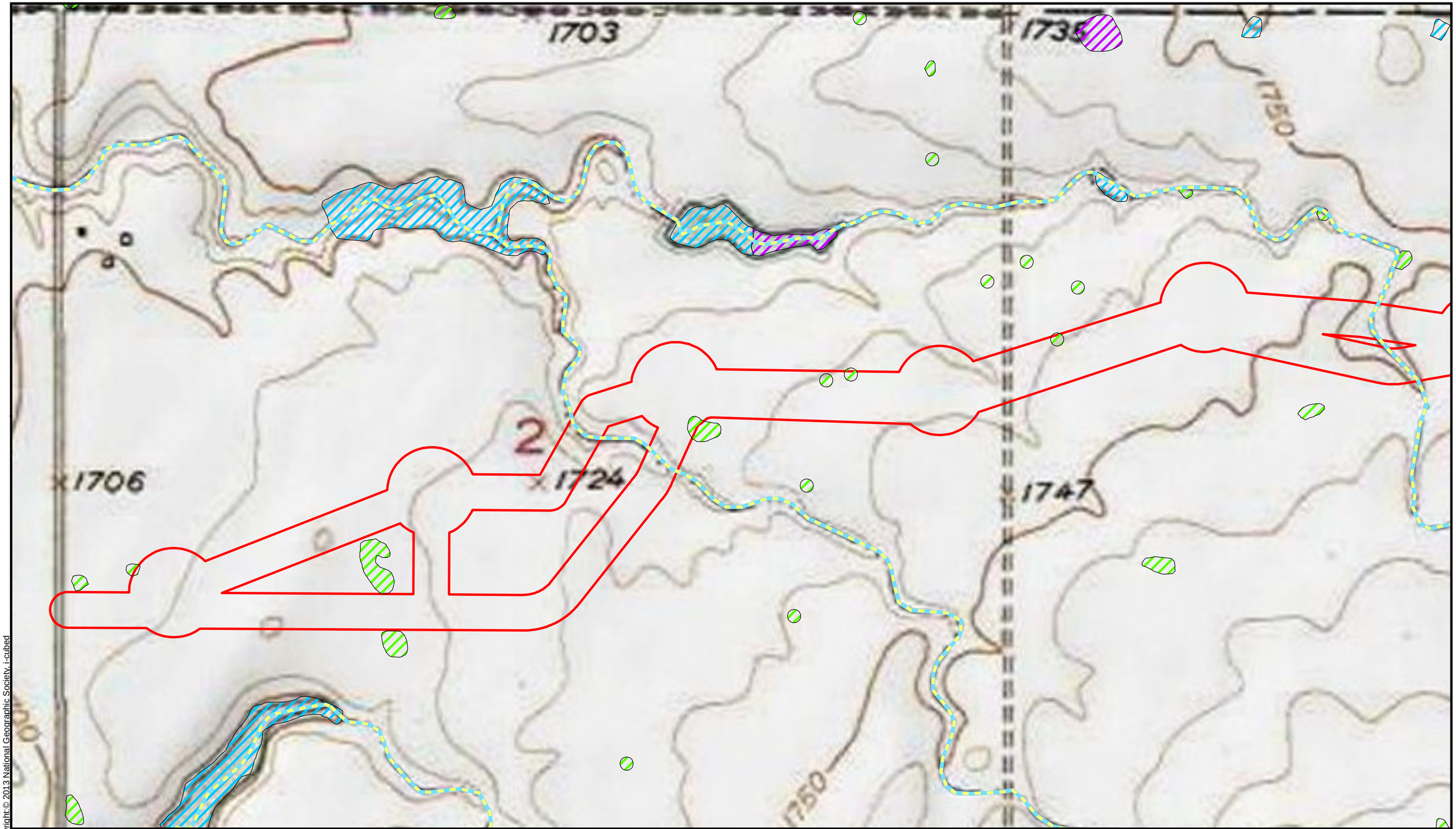
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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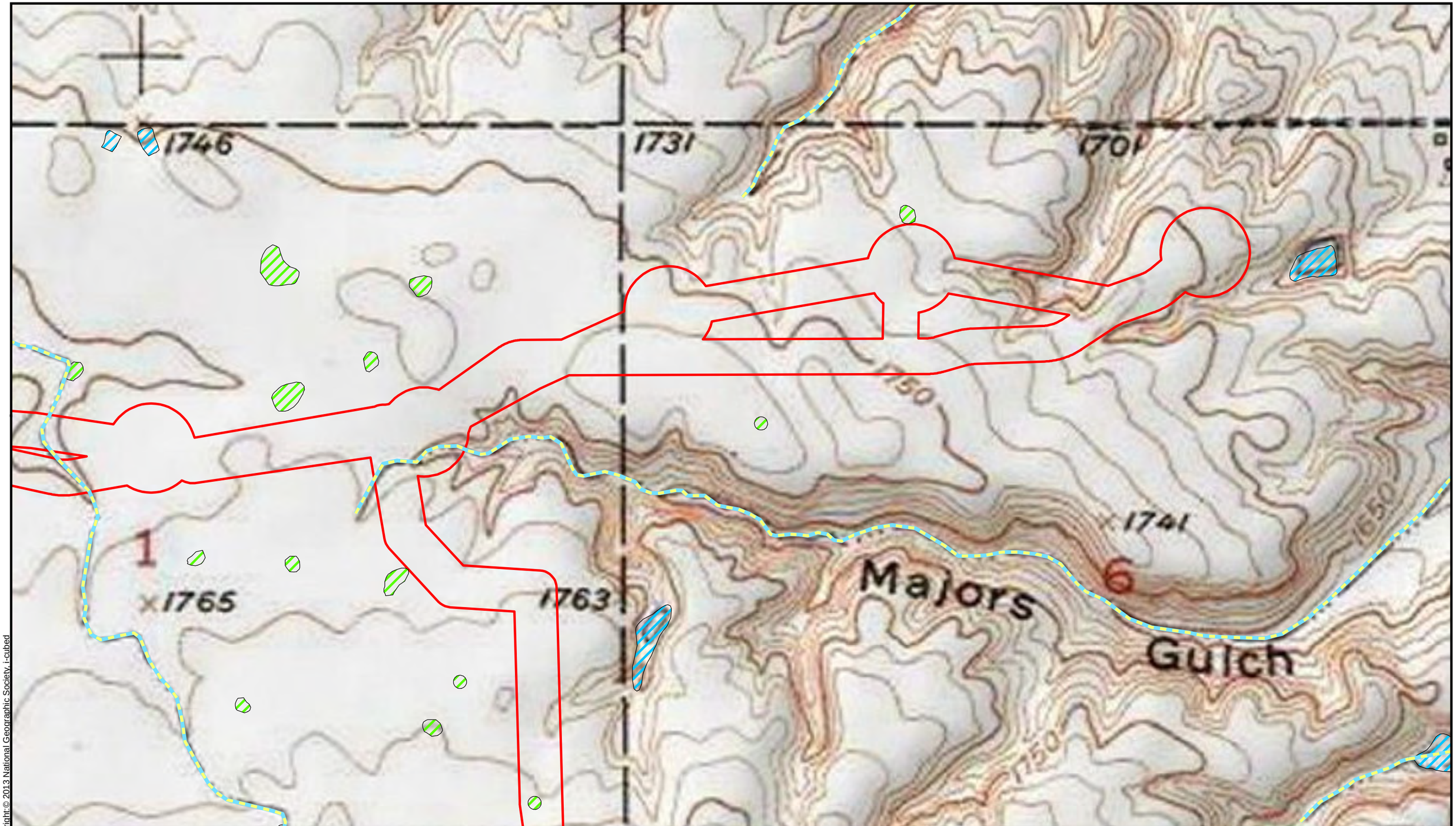
Figure A-3.1
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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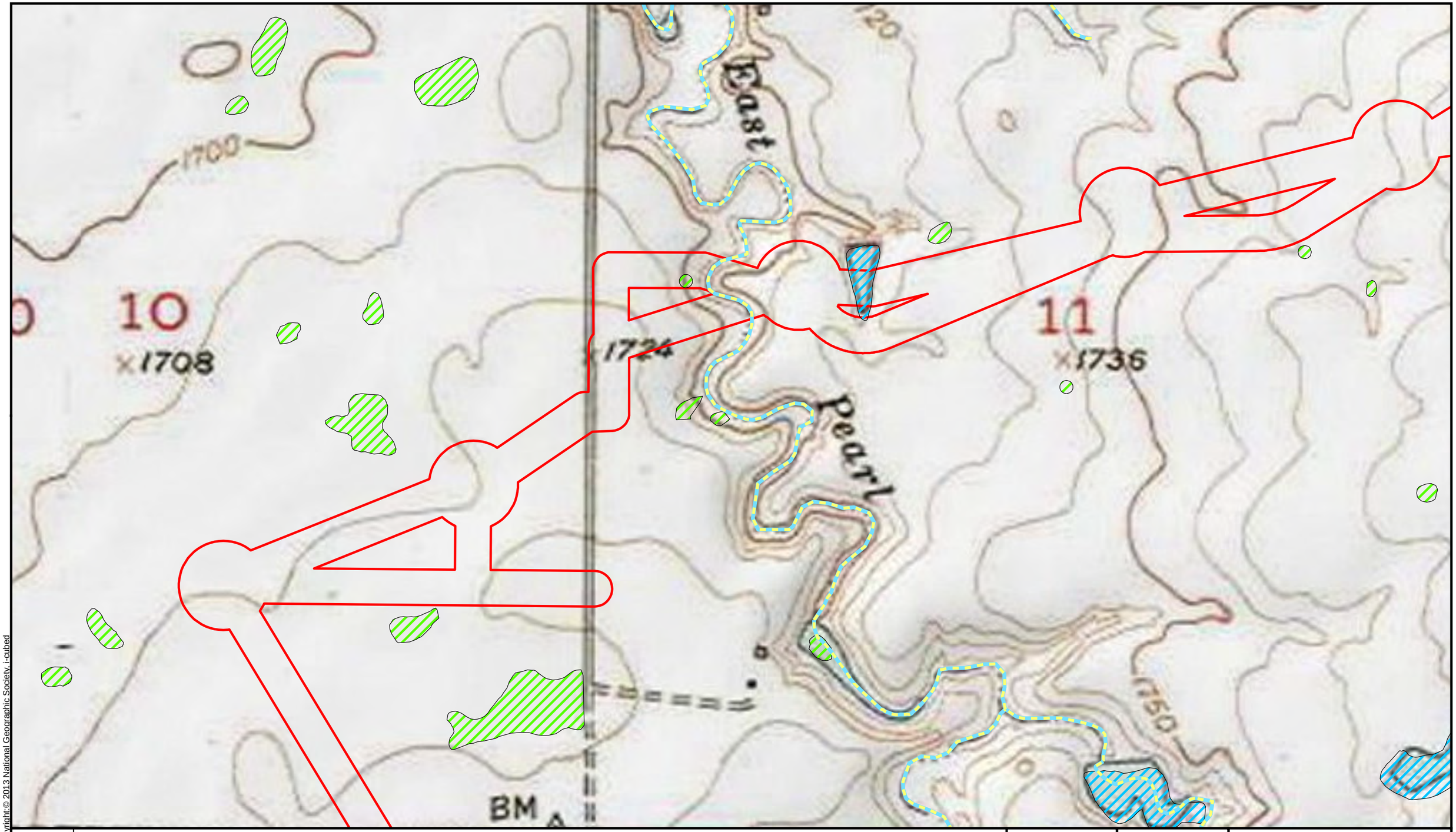
Figure A-3.2
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

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Figure A-3.3
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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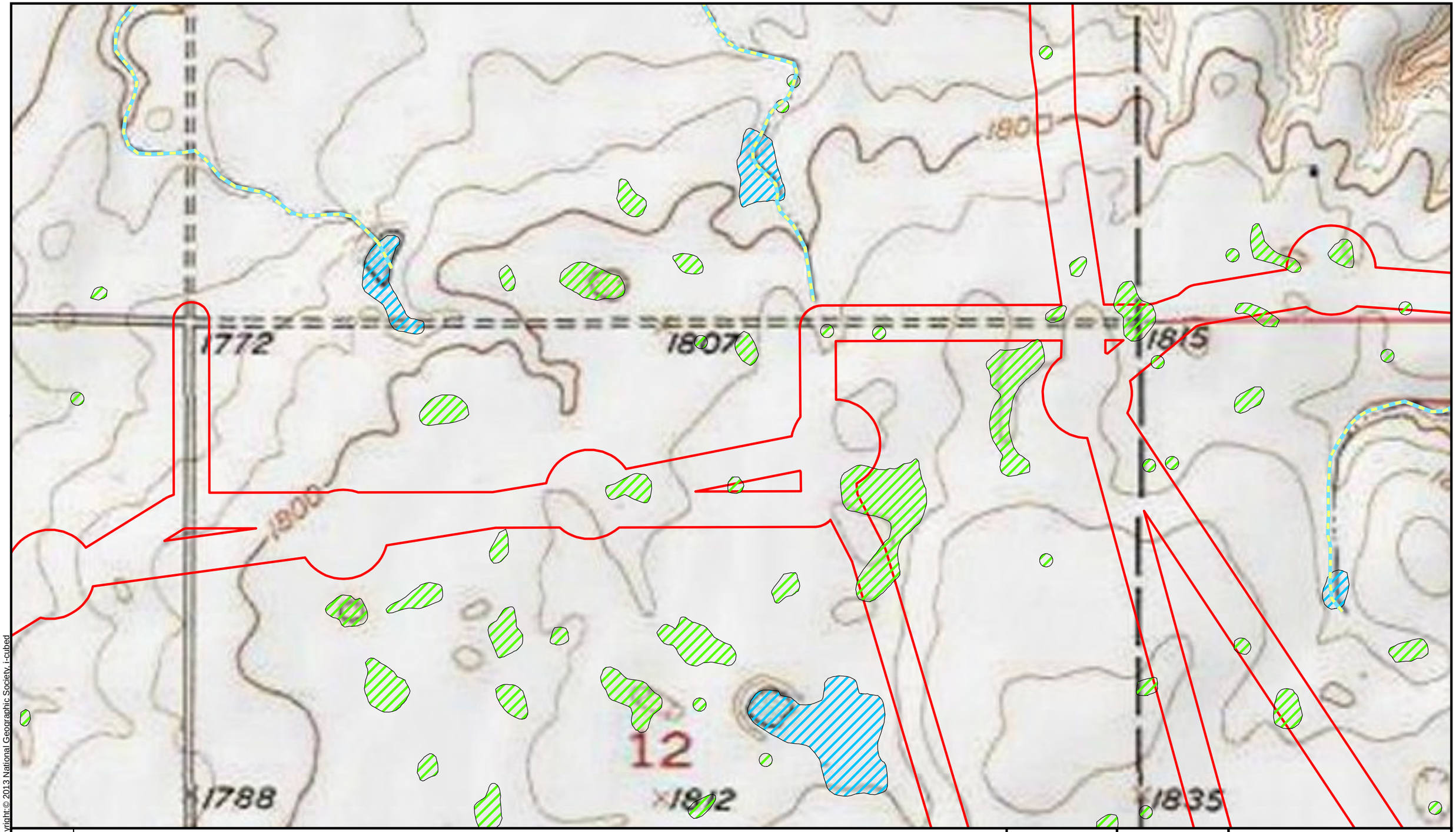

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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Figure A-3.4
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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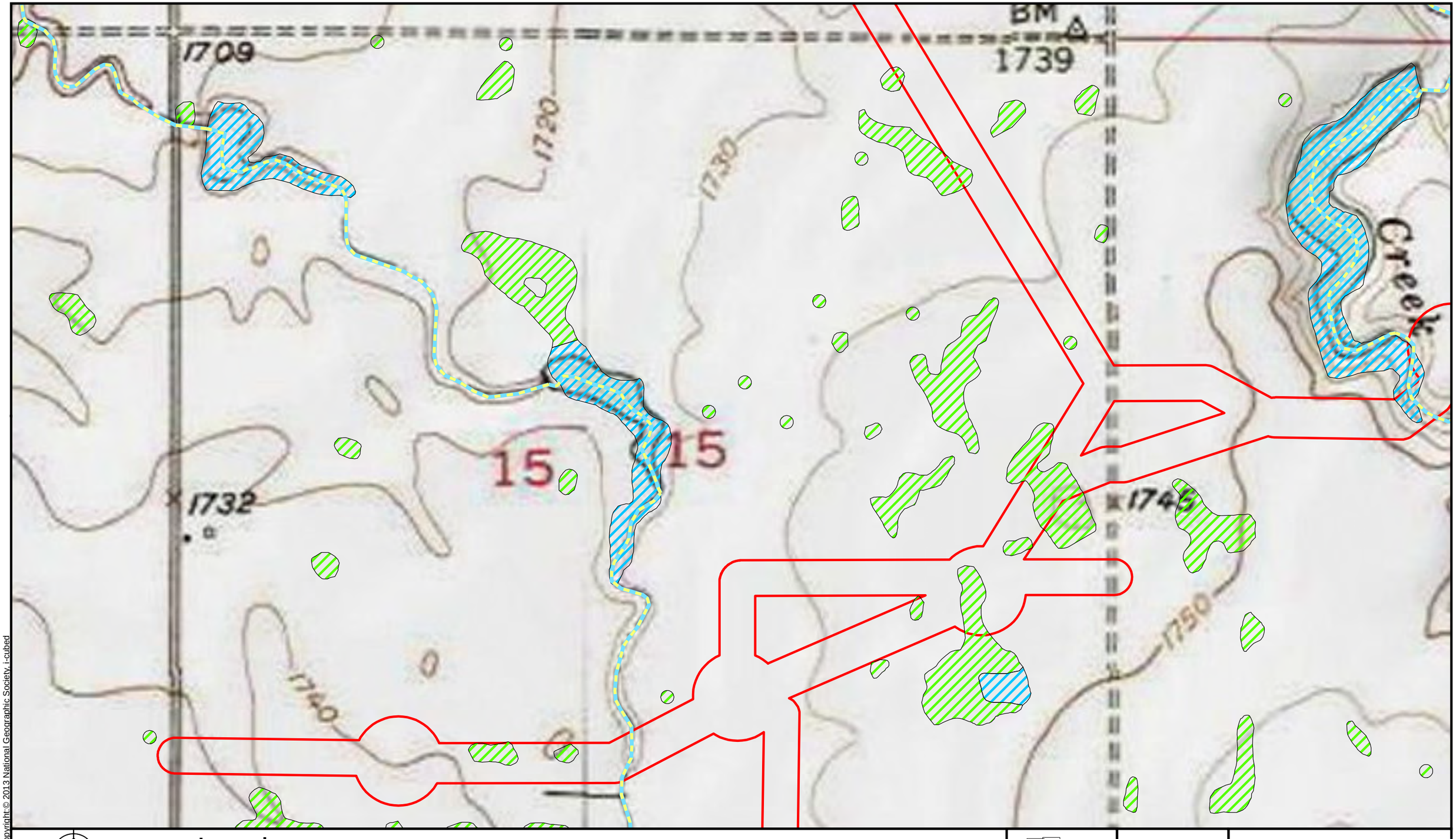
Figure A-3.5
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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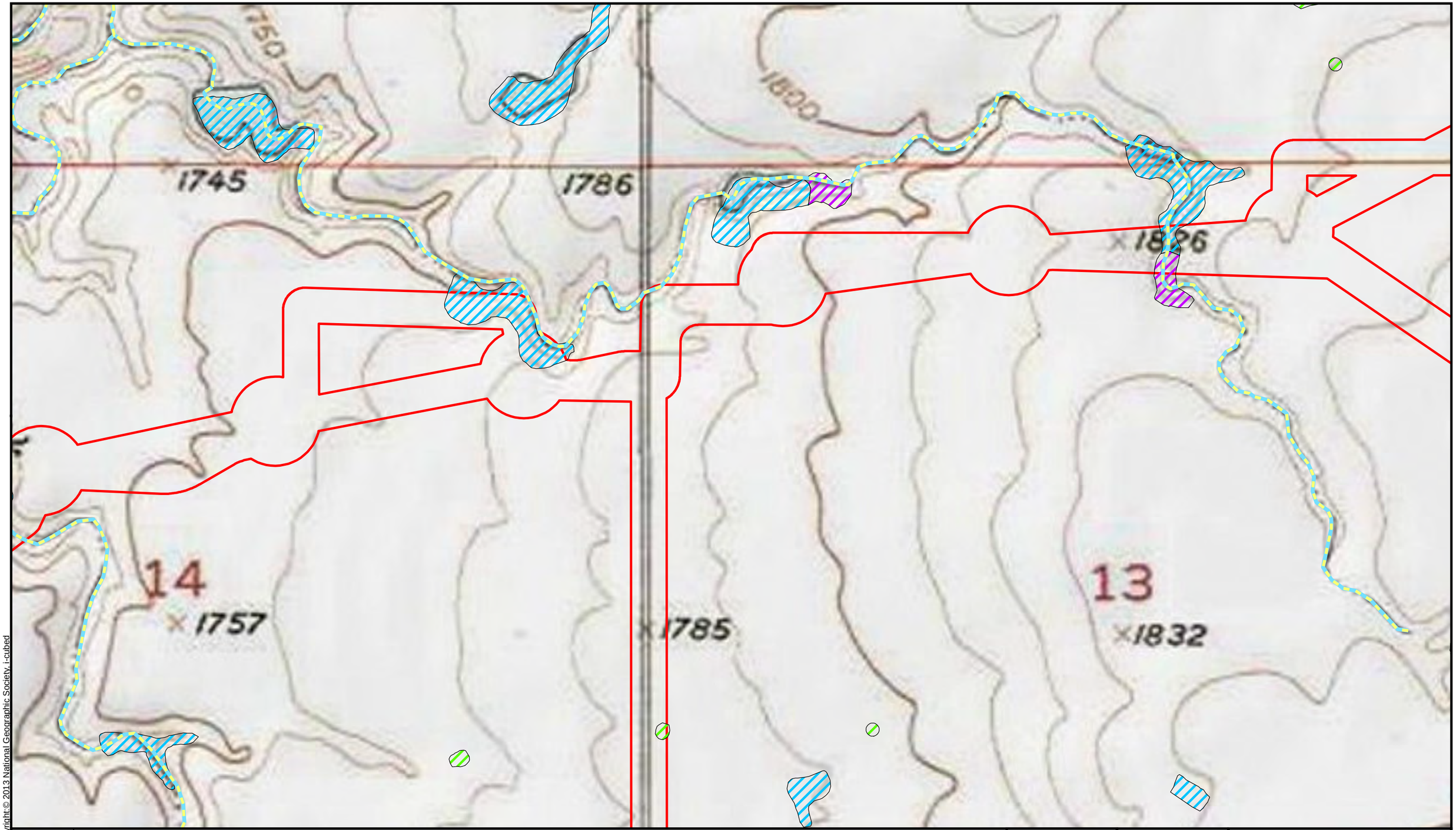
Figure A-3.6
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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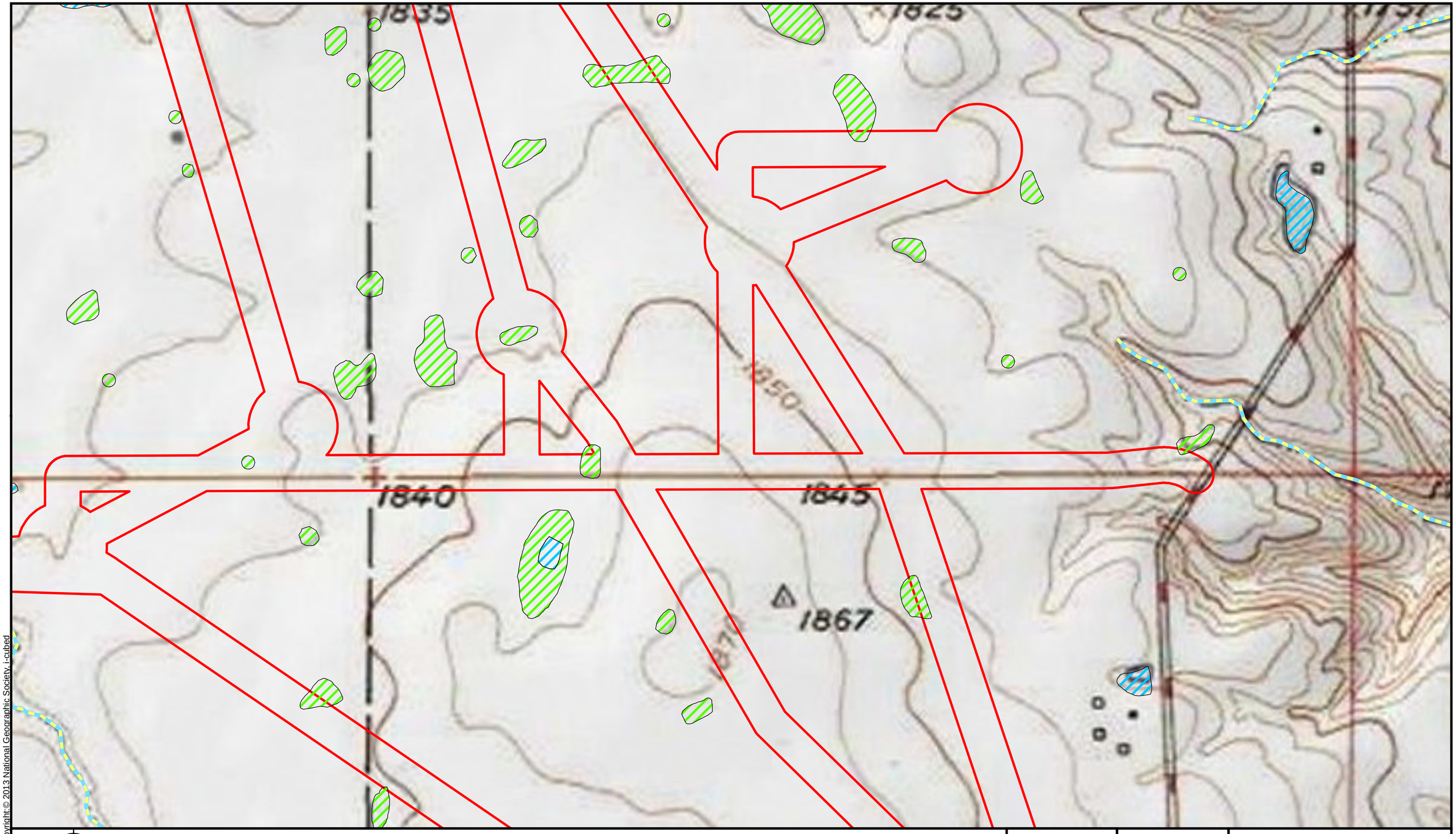
Figure A-3.7
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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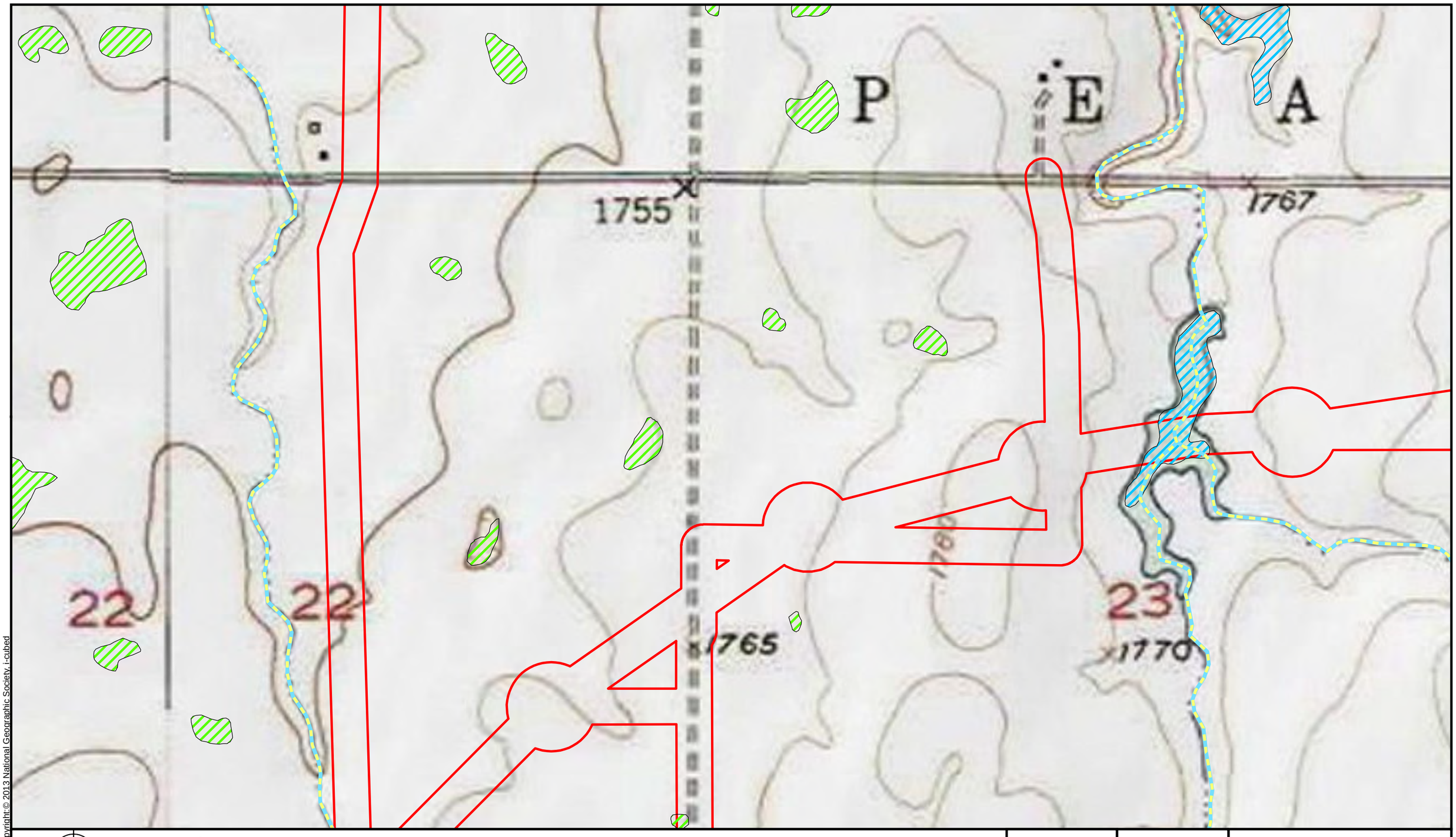
Figure A-3.8
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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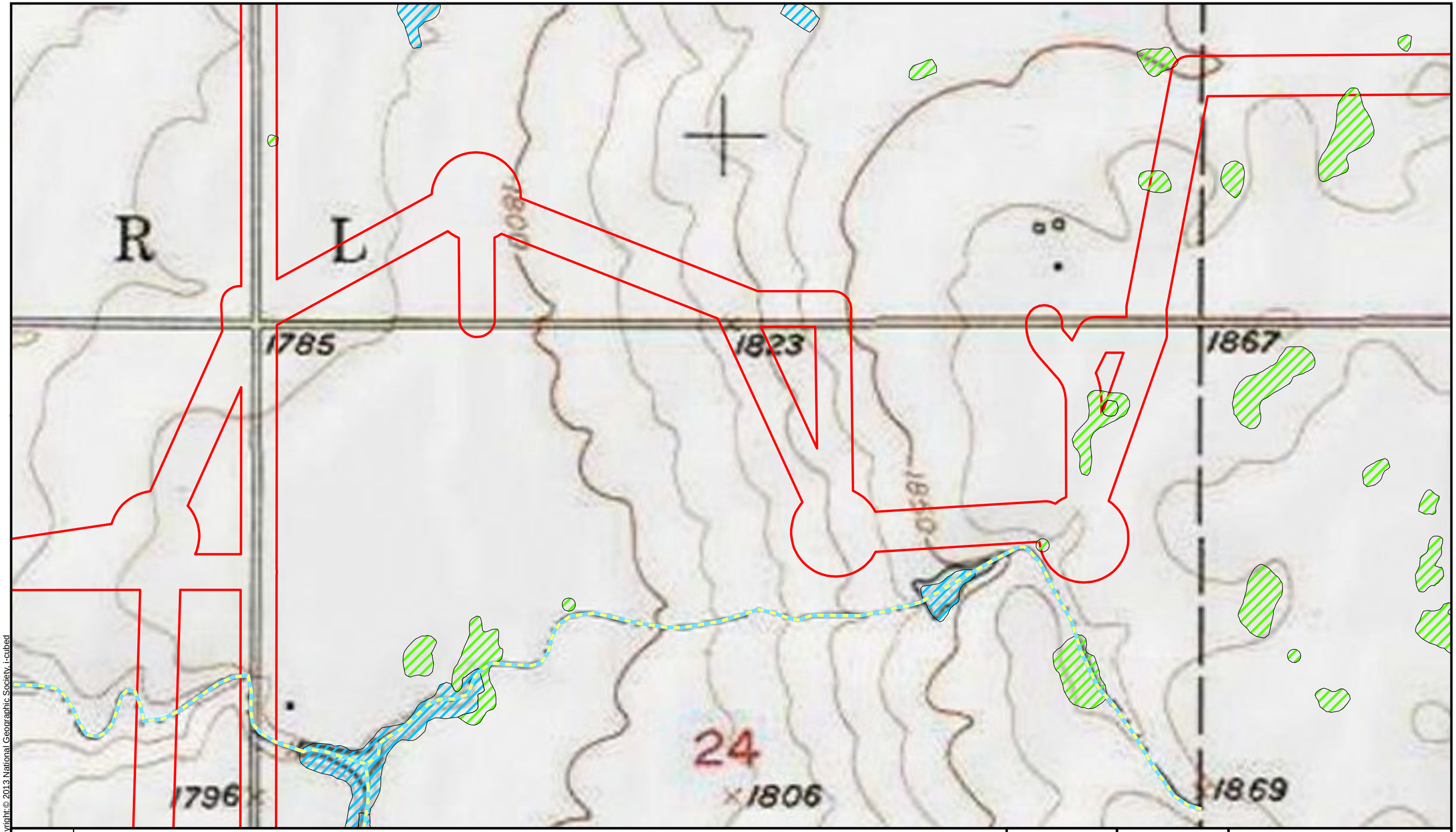
Figure A-3.9
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

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Figure A-3.10
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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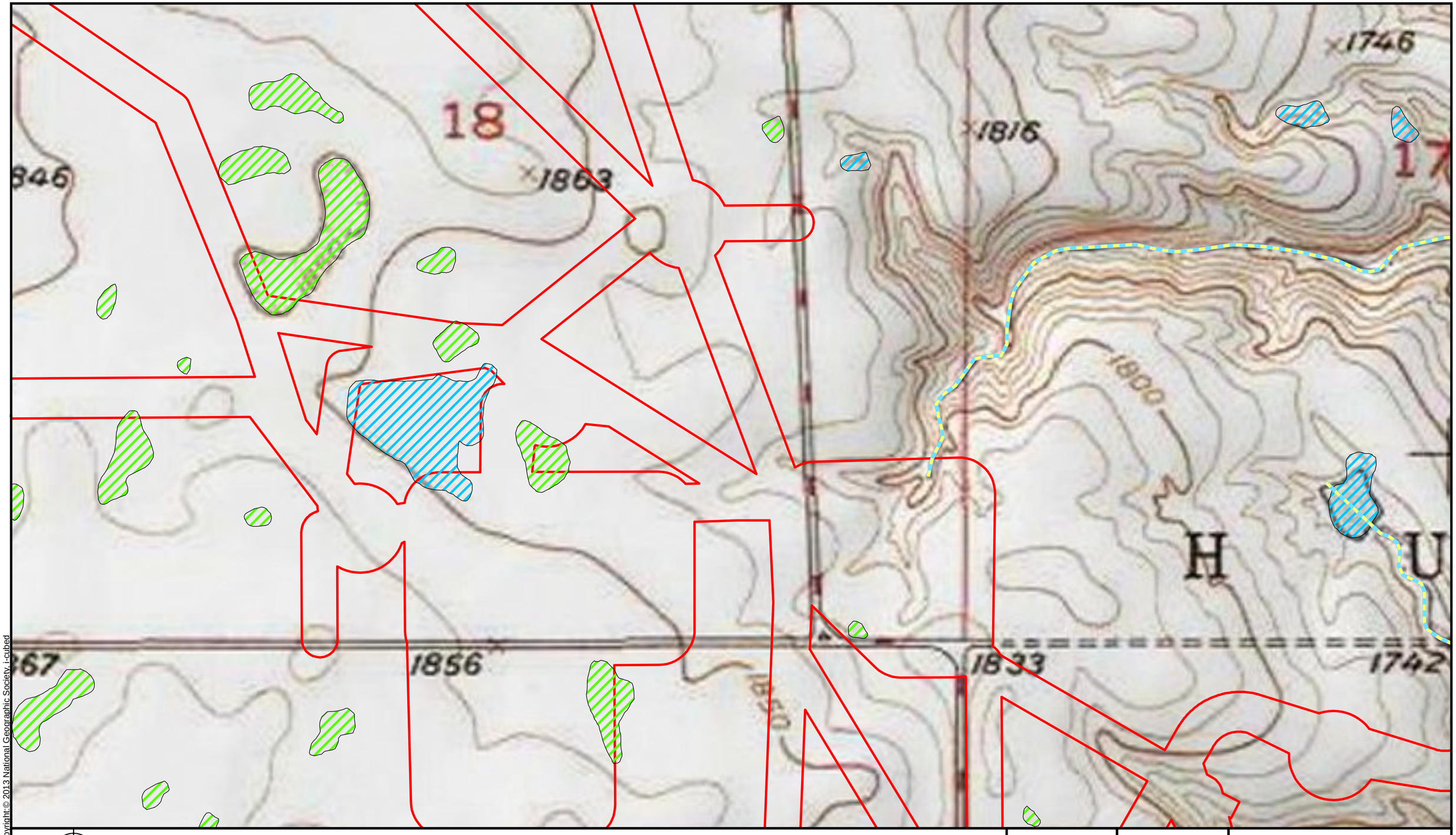

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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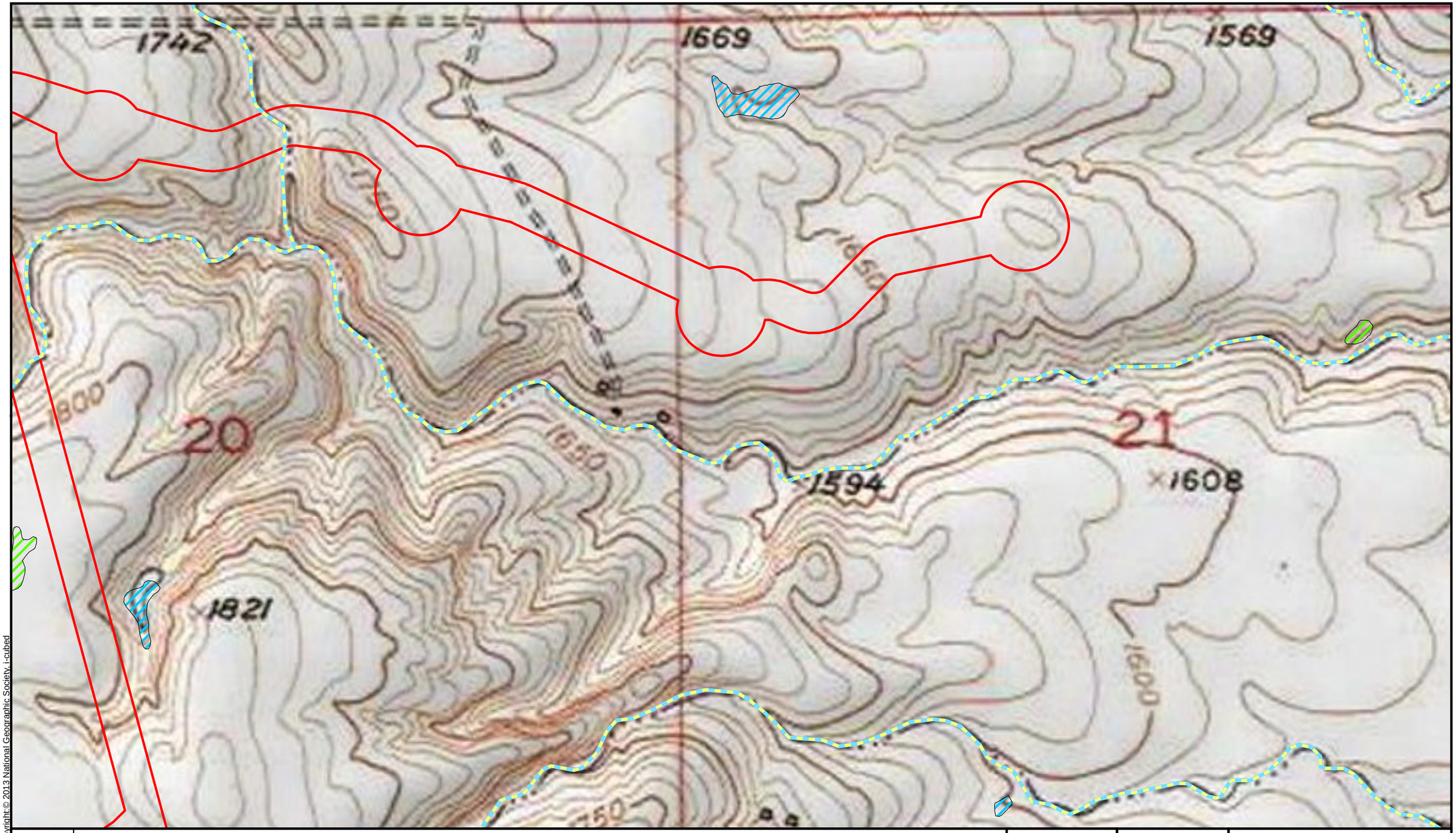
Figure A-3.11
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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Figure A-3.12
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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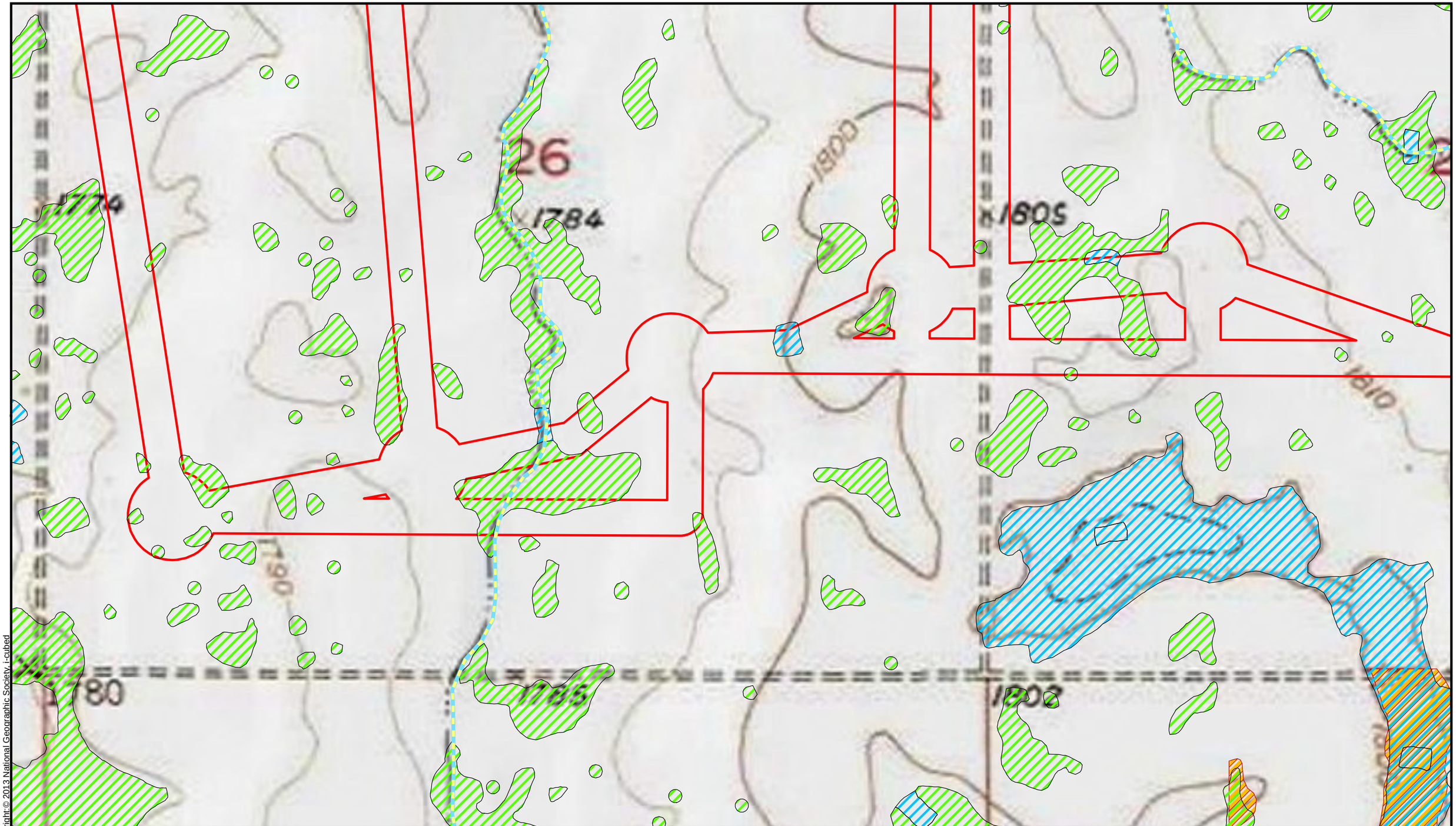
Figure A-3.13
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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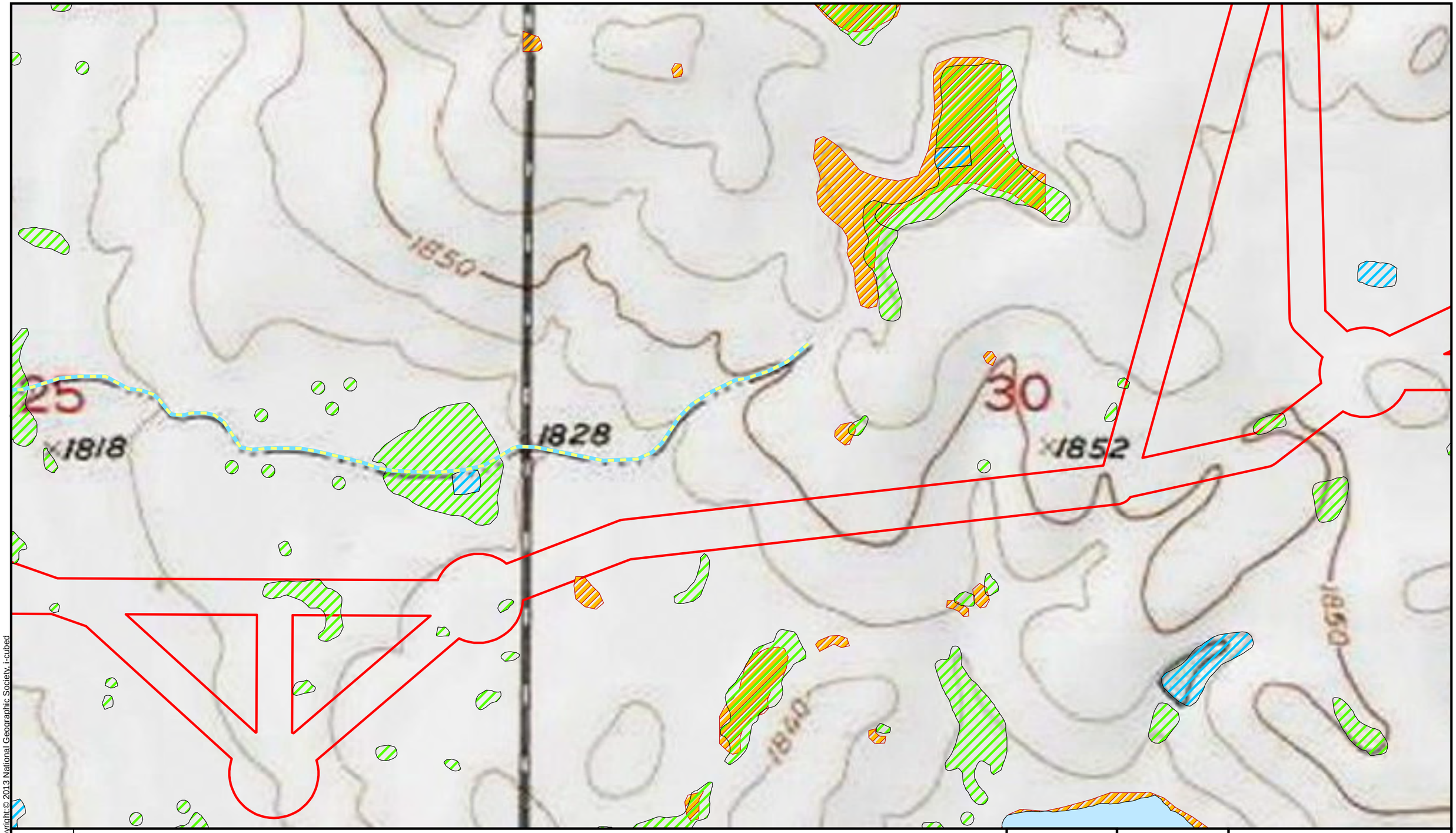
Figure A-3.14
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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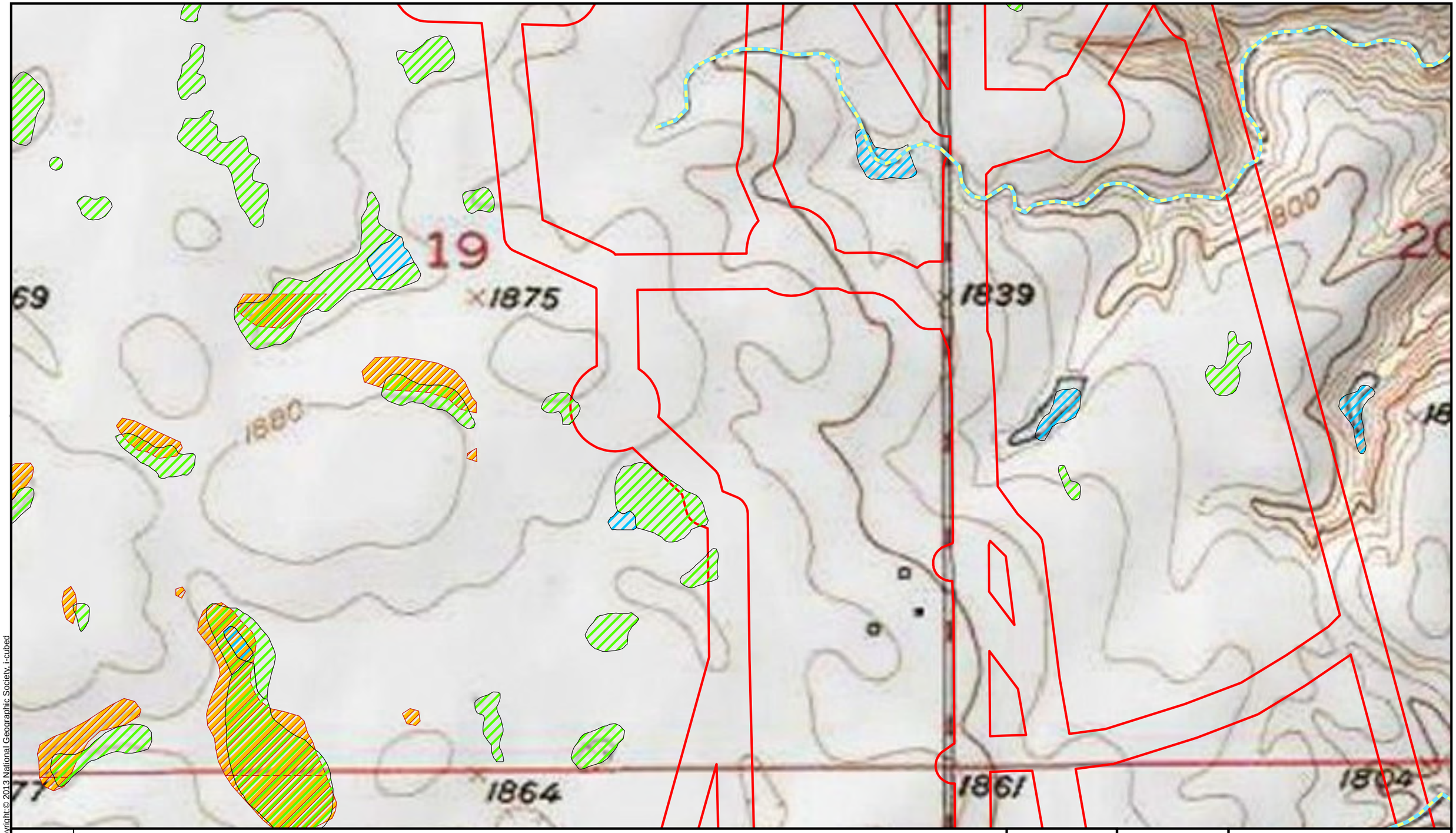
Figure A-3.15
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

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Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

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Figure A-3.16
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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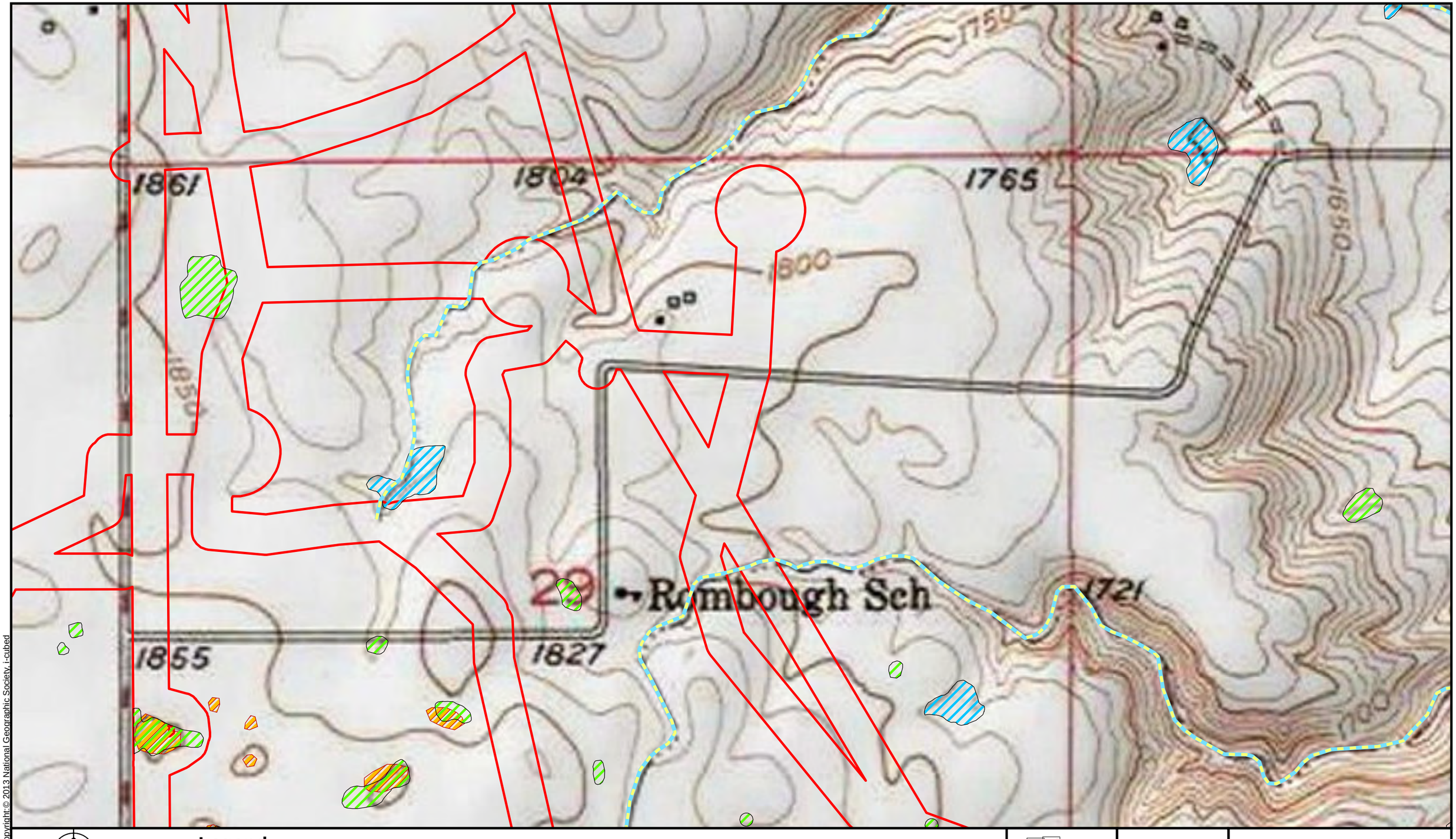

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

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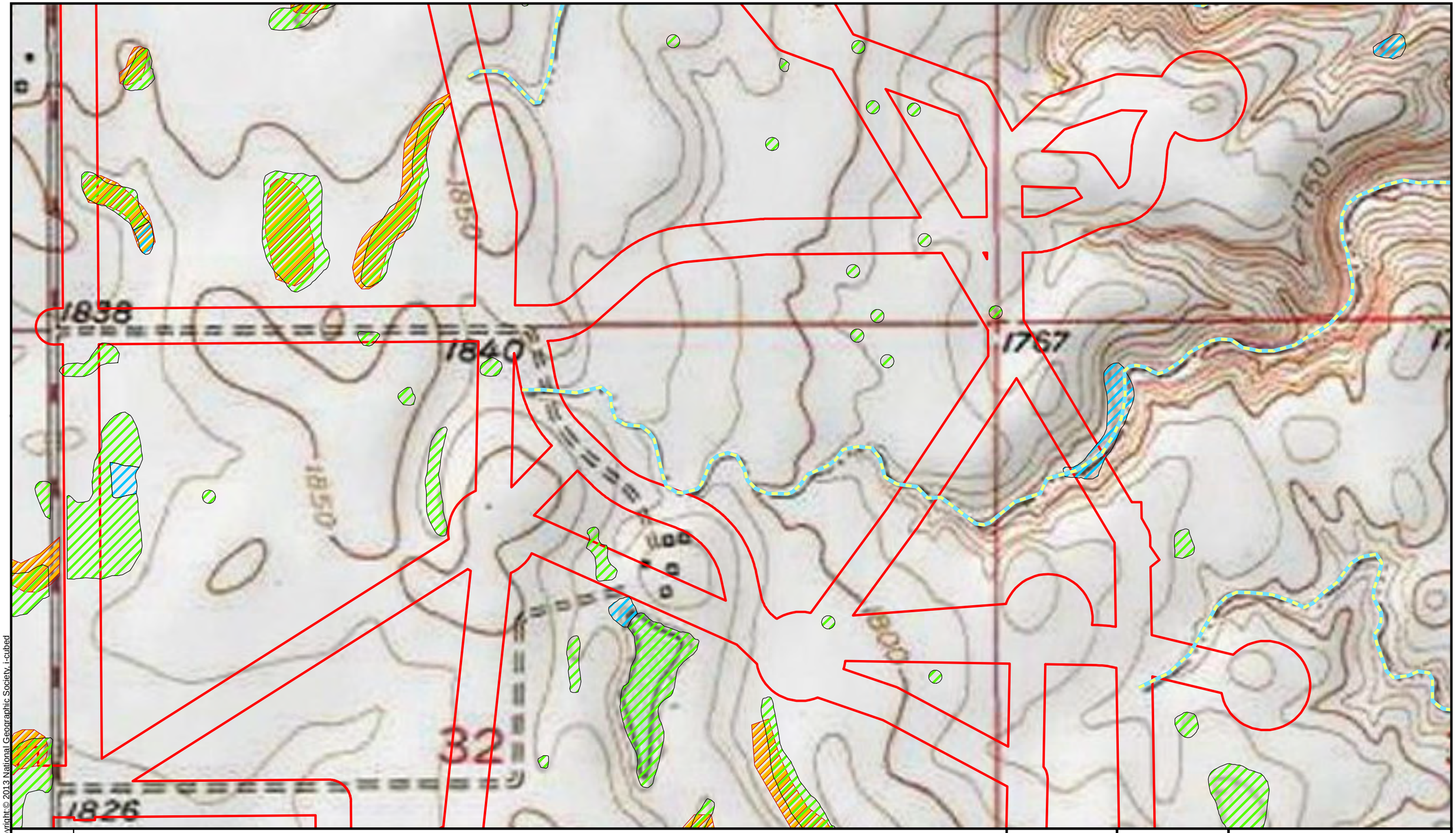
Figure A-3.17
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

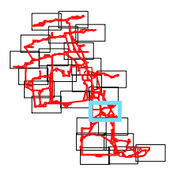


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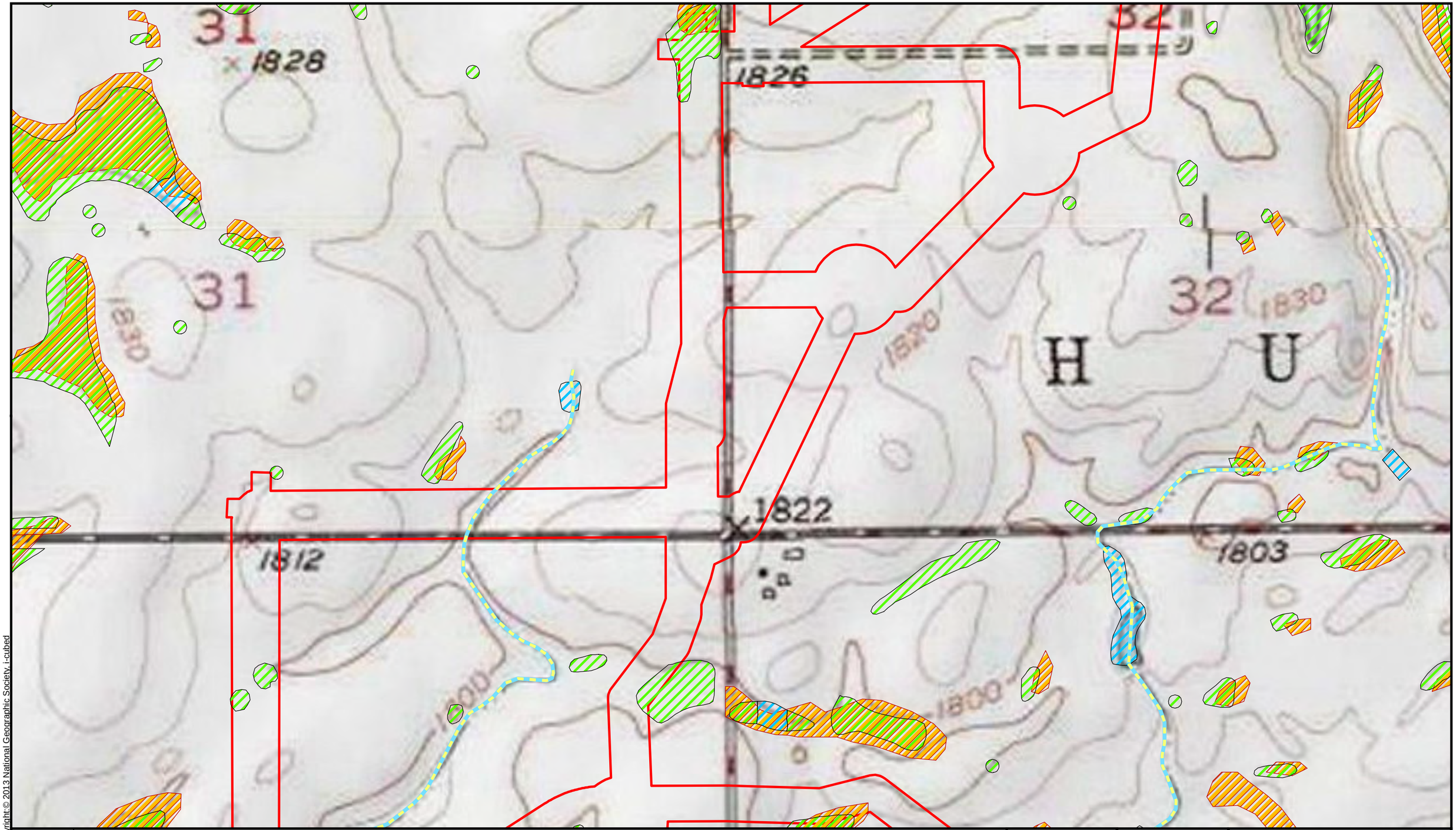
Figure A-3.18
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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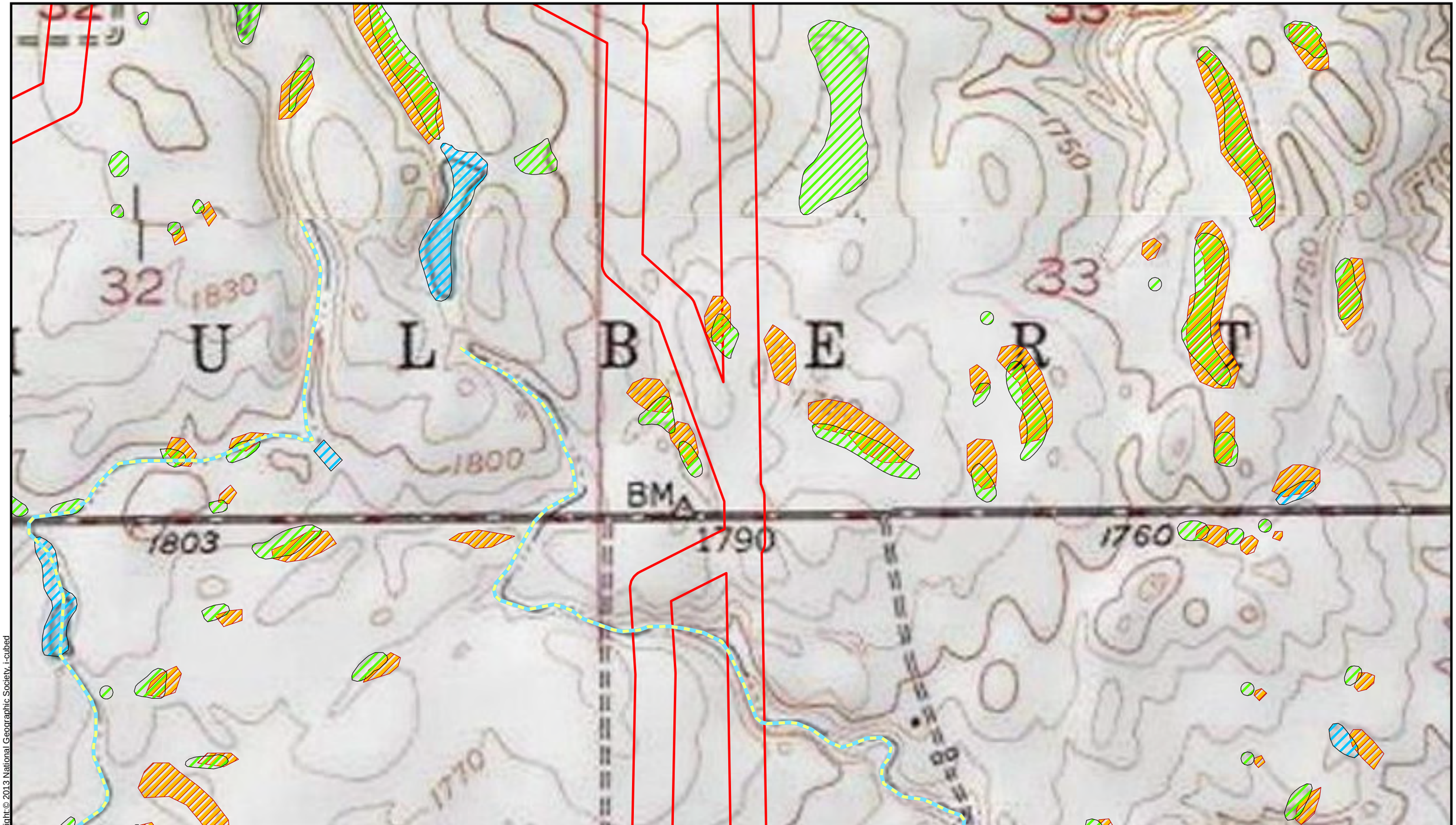
Figure A-3.19
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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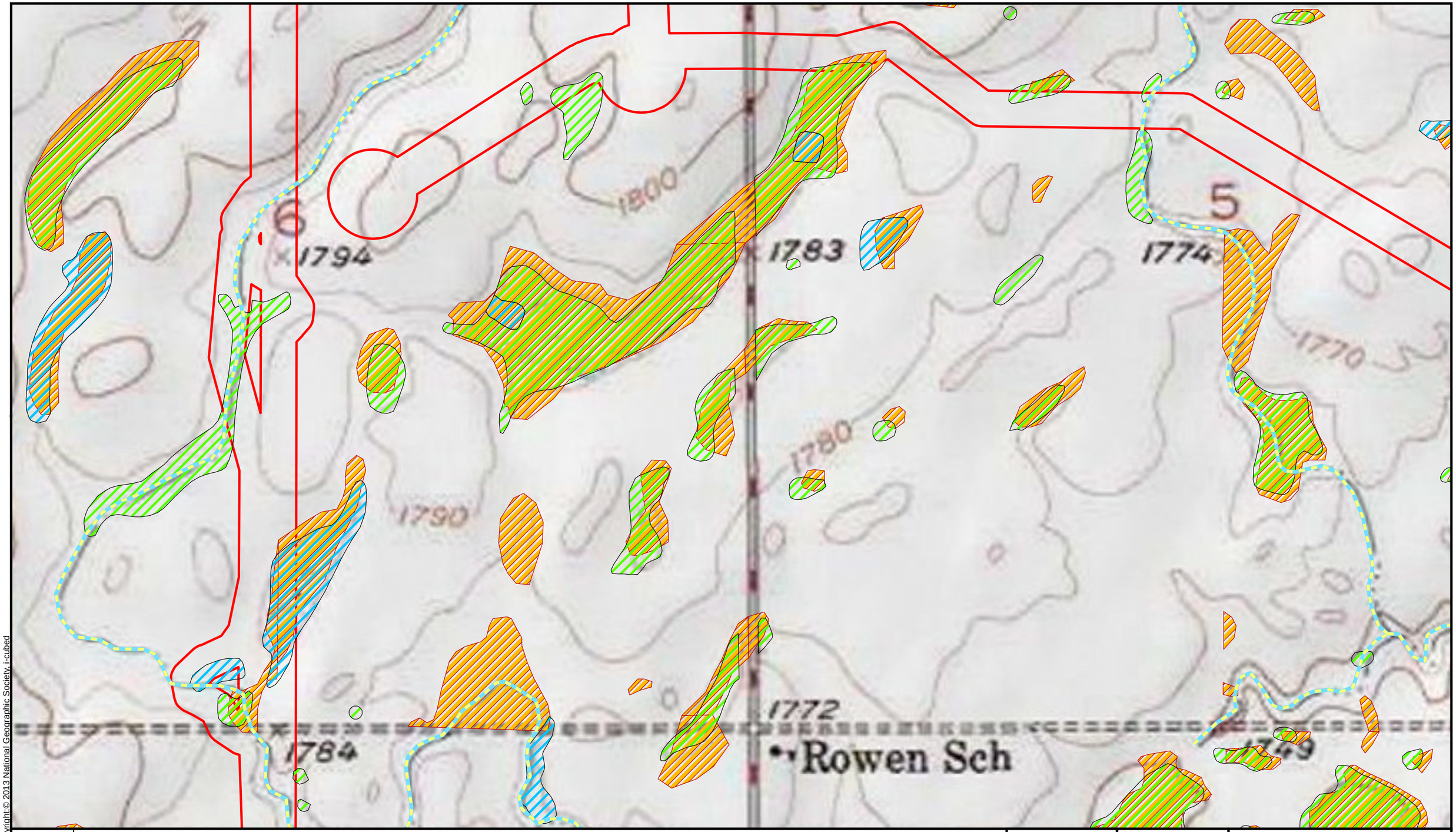
Figure A-3.20
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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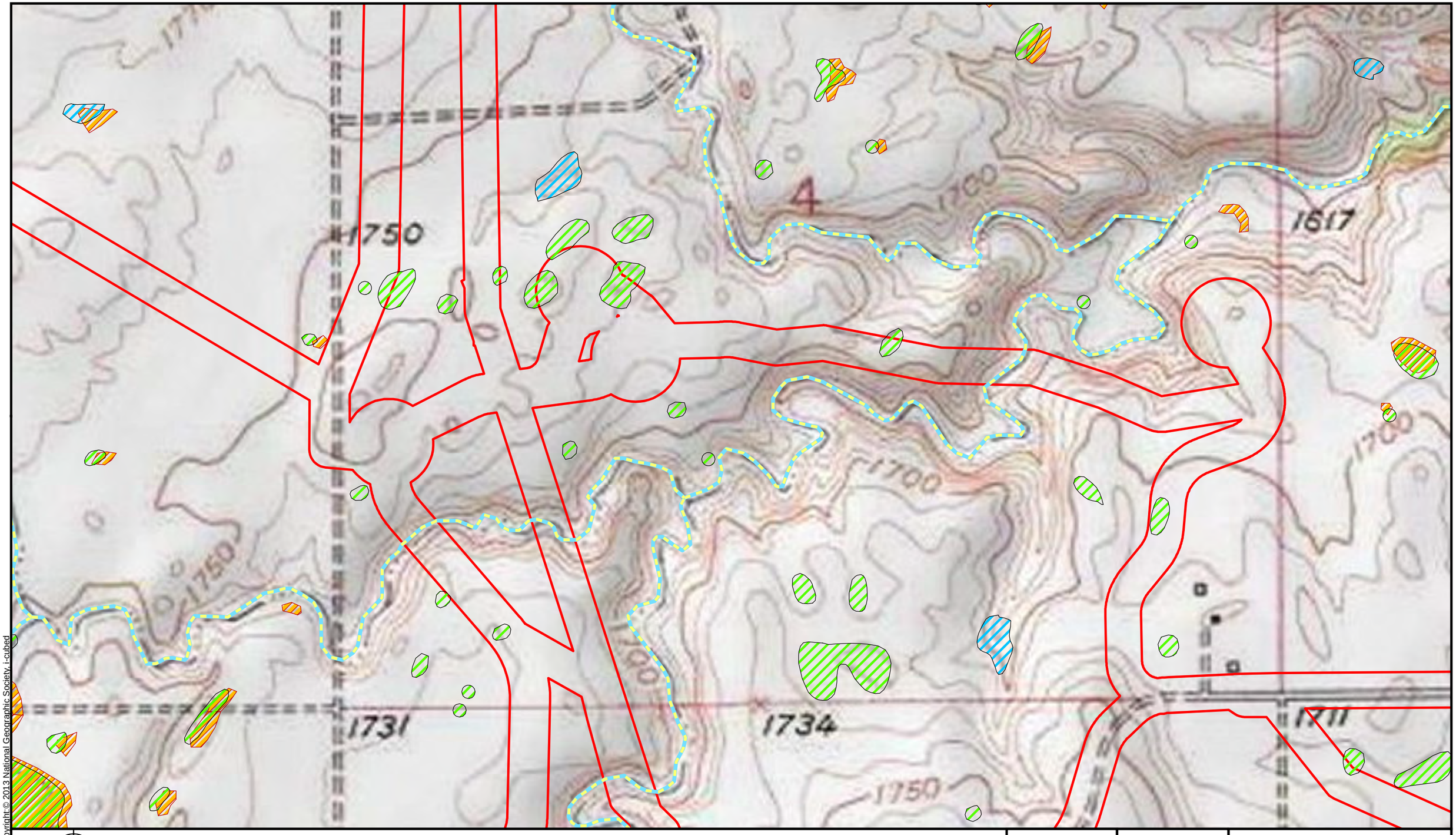
Figure A-3.21
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

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Figure A-3.22
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019

Rowen Sch

1784
1780
1789
1759
1777
1770
1749
1750

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

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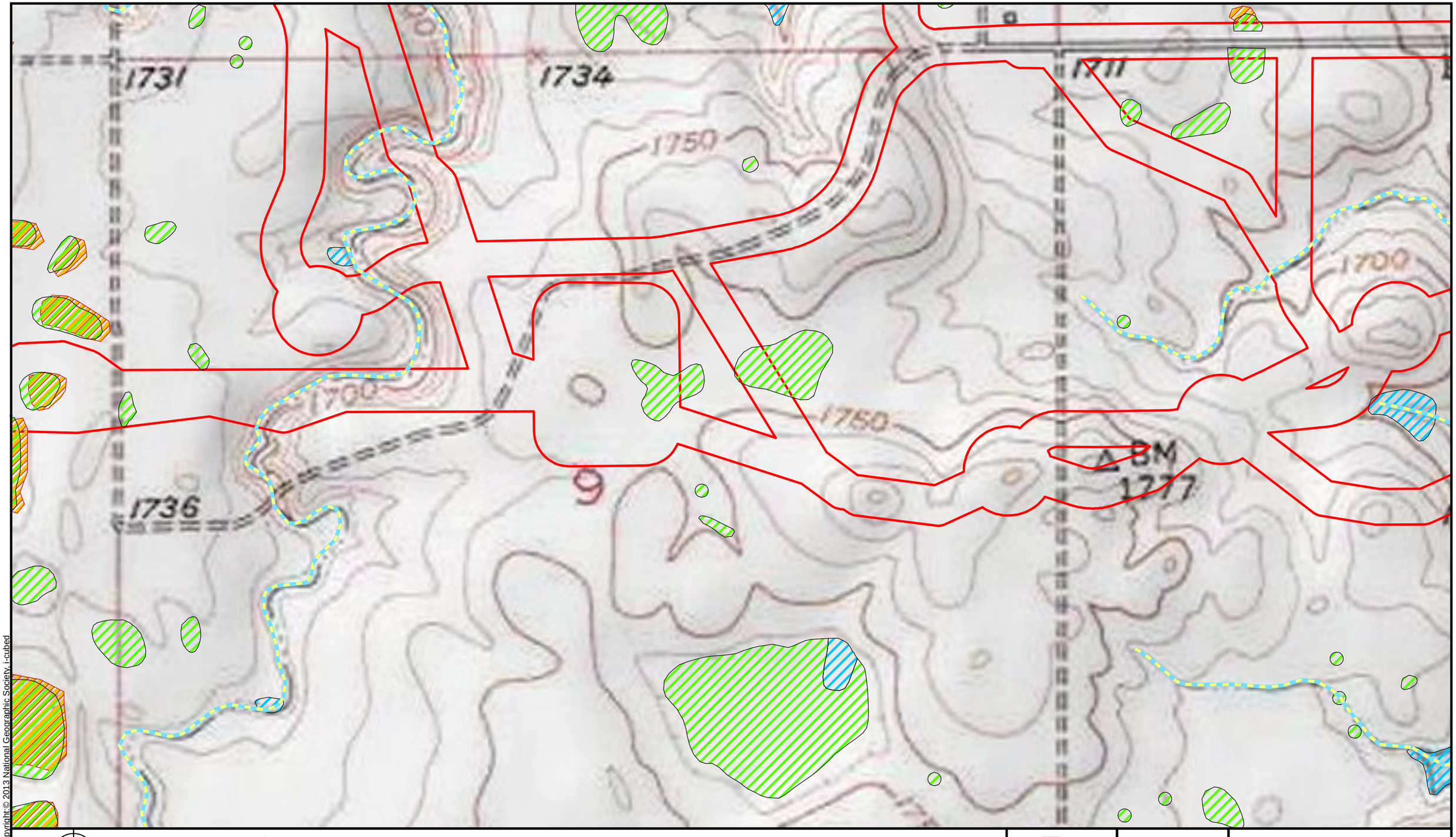
Figure A-3.23
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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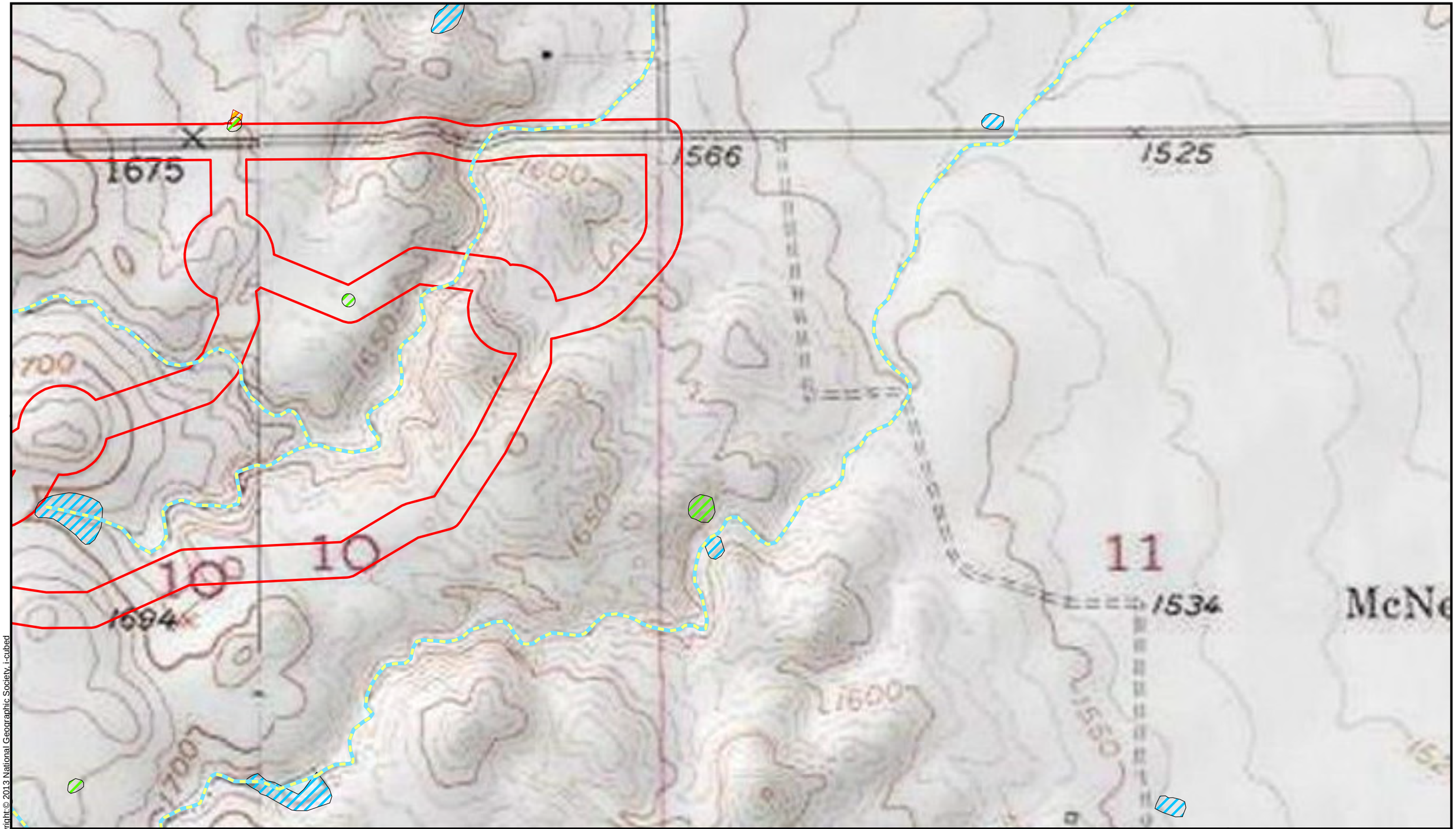
Figure A-3.24
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- NHD Stream/River
- USFWS Easement Wetland Areas*

NWI Wetland Classification

- Emergent Wetland (PEM)
- Forested/Shrub-scrub (PFO/PSS)
- Pond (PUB)
- Lake

* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

BURNS McDONNELL

Figure A-3.25
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: USFWS, USGS, and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

366th Ave

S-701

SP-706

S-701

PP-632

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

Photo Point*

Wetland Plot

Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland

PFO Wetland

PUB Wetland

Ephemeral Stream

Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.1
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

SP-502

SP-501

SP-505

SP-504

SP-503

W-501

SP-705

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

Photo Point*

Wetland Plot

Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland

PFO Wetland

PUB Wetland

Ephemeral Stream

Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.2
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

S-519

W-552

SP-603

SP-602

366th Ave

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.3
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

SP-705
SP-518
W-508
SP-517
SP-516
W-507
PP-512
W-702
SP-704
SP-703
SP-515
203rd St
S-504
SP-522
W-510
S-708

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area
Photo Point*
Wetland Plot
Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland
PFO Wetland
PUB Wetland
Ephemeral Stream
Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.4
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

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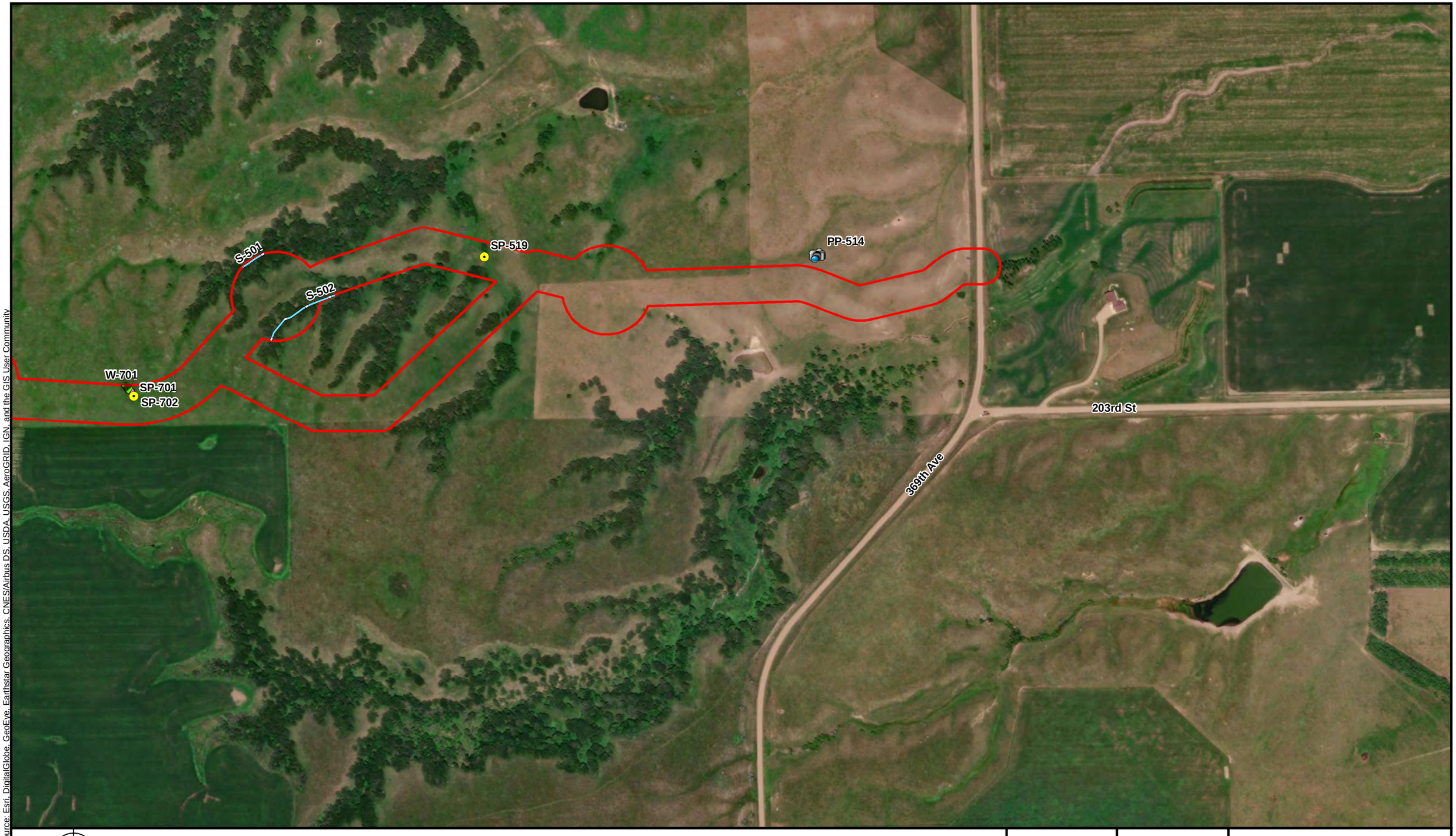


NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

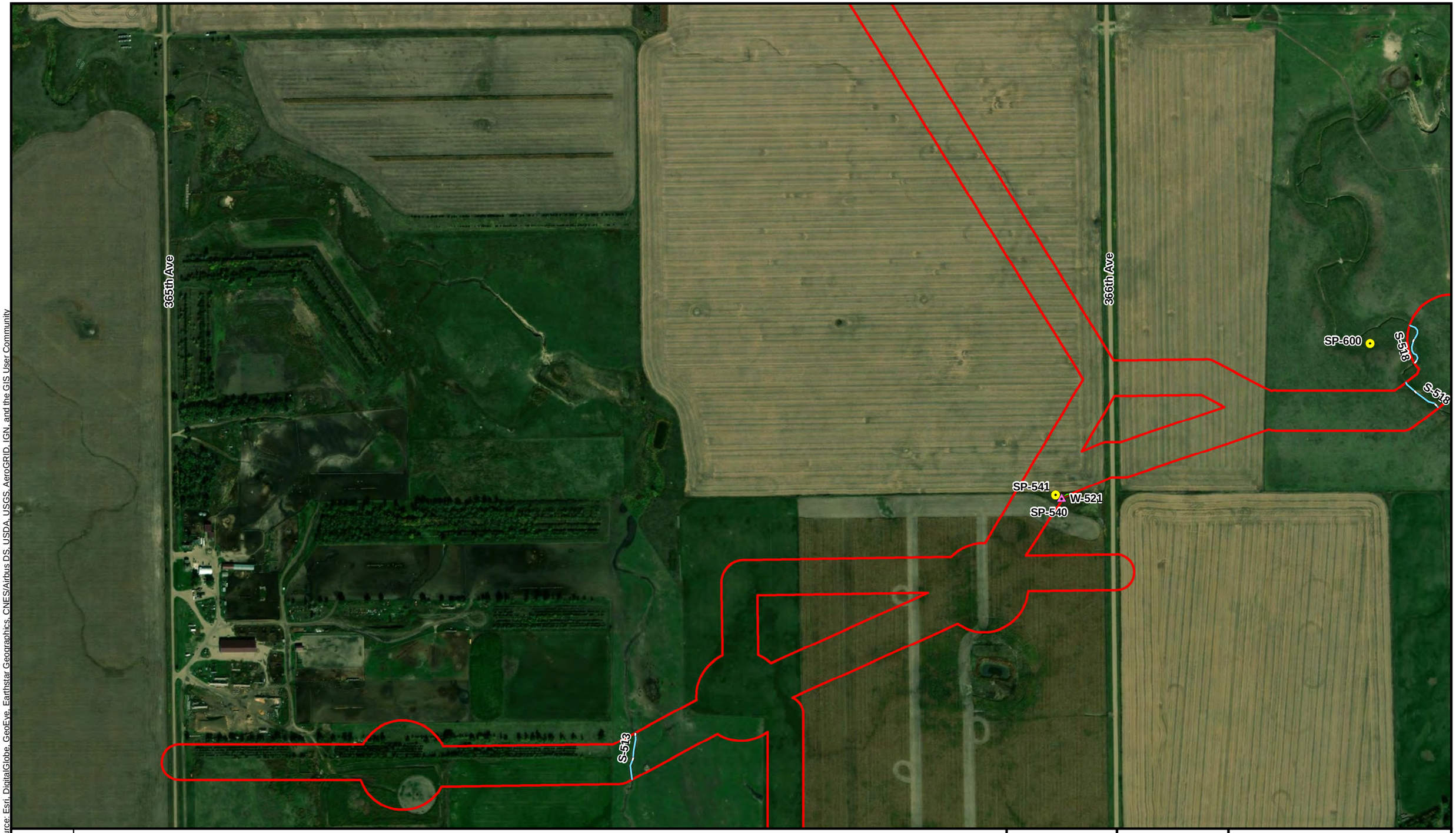
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.5
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.6
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

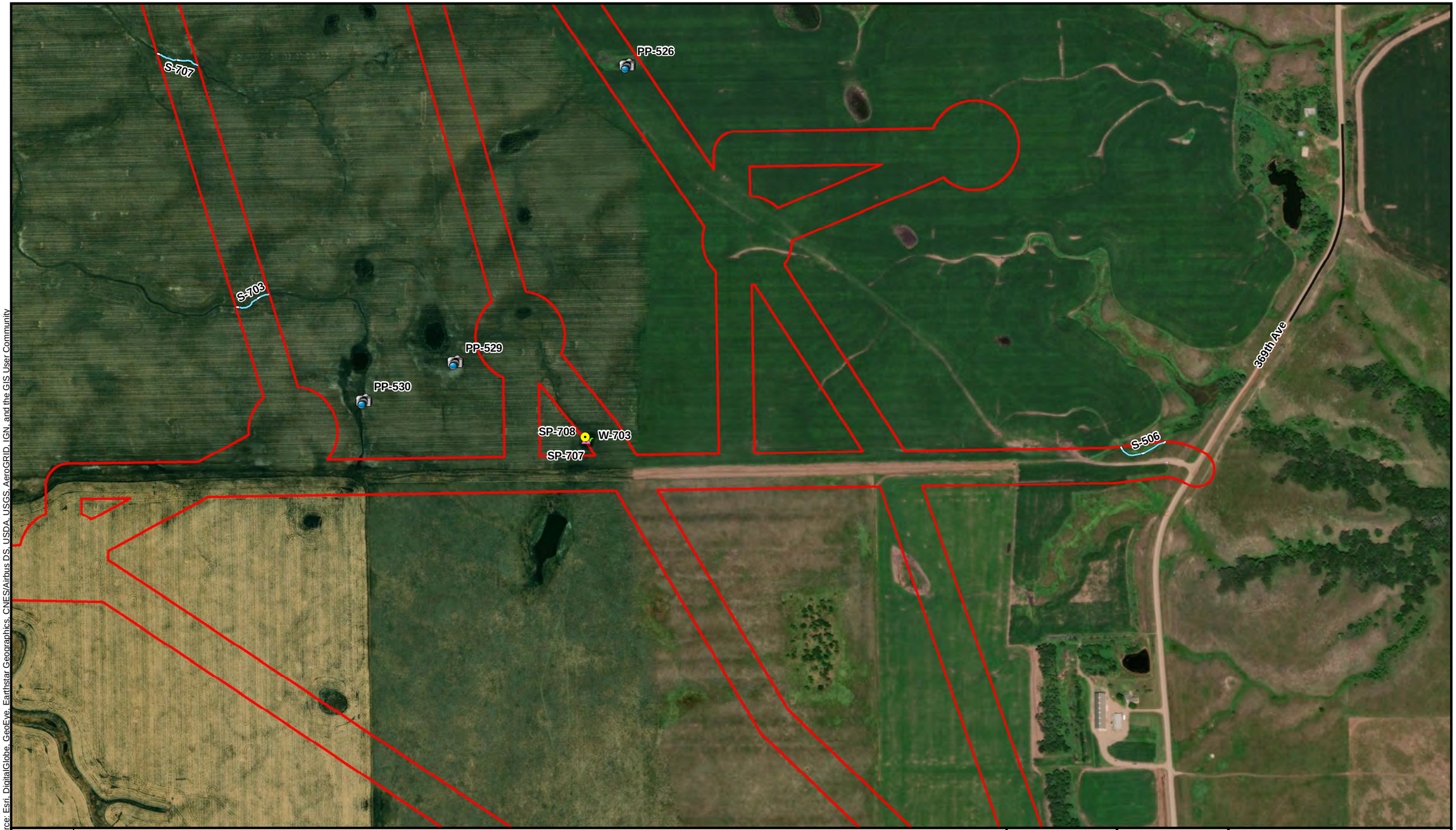
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.7
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



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Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.8
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

Figure A-4.9
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

SP-535
W-585
367th Ave
203rd St
W-597d
SP-591
SP-590
W-547
W-591d
SP-534
SP-533
W-517
SP-714
SP-713
W-710

NORTH
0 250 500
Feet
Scale = 1 Inch = 500 Feet

Legend

Survey Area
Photo Point*
Wetland Plot
Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland
PFO Wetland
PUB Wetland
Ephemeral Stream
Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.10
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

SP-710
SP-709
W-707
SP-543
W-523
SP-542
SP-545
W-524
SP-544
W-522
W-597d
W-712
SP-718
SP-717
W-524
S-702
W-713
SP-719
SP-720
S-706
W-537
SP-571
SP-570
W-537
203rd St
SP-549
W-526
SP-548
369th Ave
S-510

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

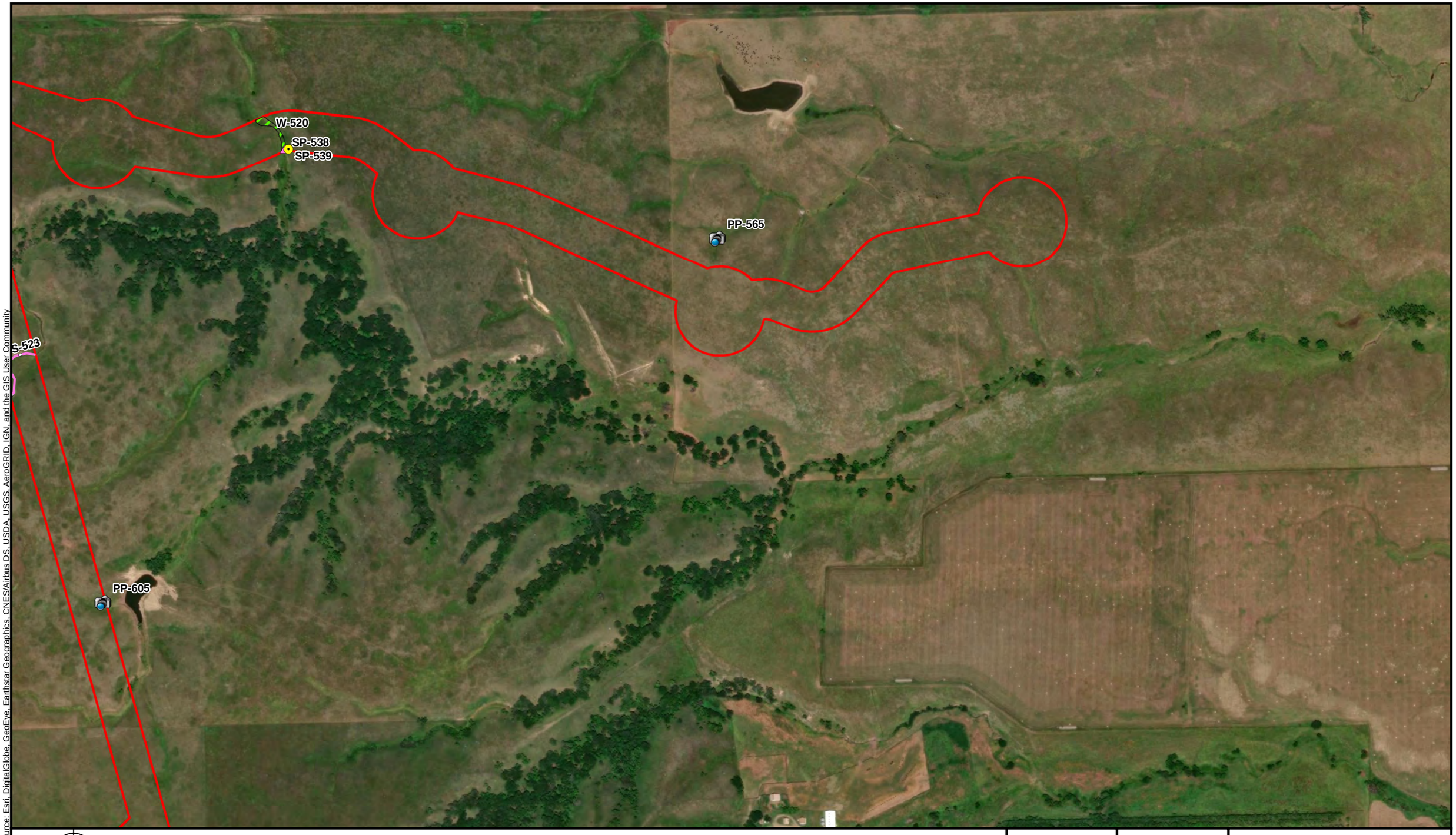
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.11
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.12
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.13
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

S-508

PP-724

W-516

W-589

SP-532

W-515

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area

Photo Point*

Wetland Plot

Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland

PFO Wetland

PUB Wetland

Ephemeral Stream

Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.14
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

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NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

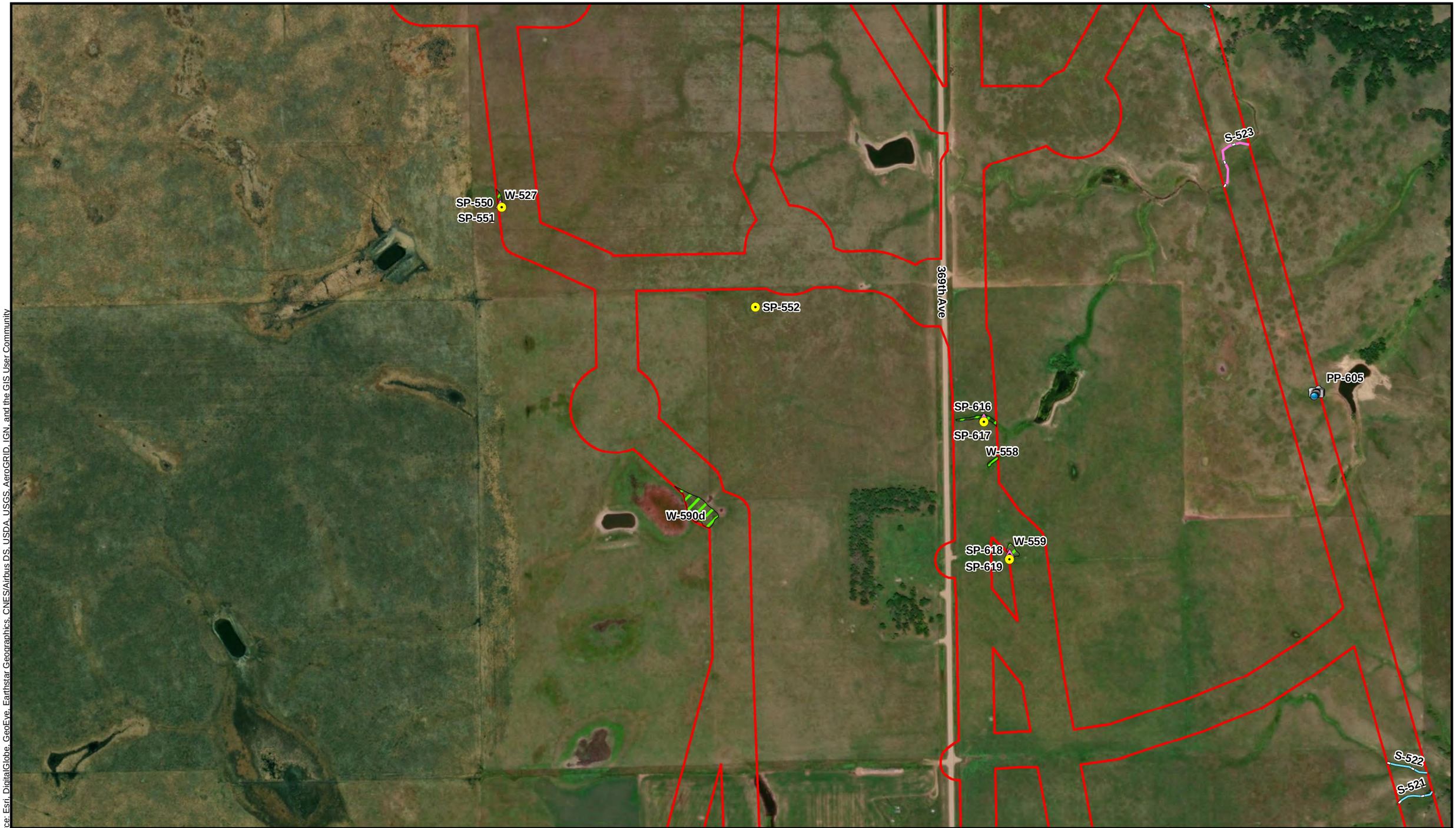
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.15
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.16
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

S-522
S-521
W-560
W-540
SP-620
SP-621
W-540
SP-576
SP-577
369th Ave
206th St
W-561
SP-622
SP-623
S-514
W-595d
W-539
SP-574
SP-575
SP-615
W-546
SP-588
SP-589

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area
Photo Point*
Wetland Plot
Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland
PFO Wetland
PUB Wetland
Ephemeral Stream
Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

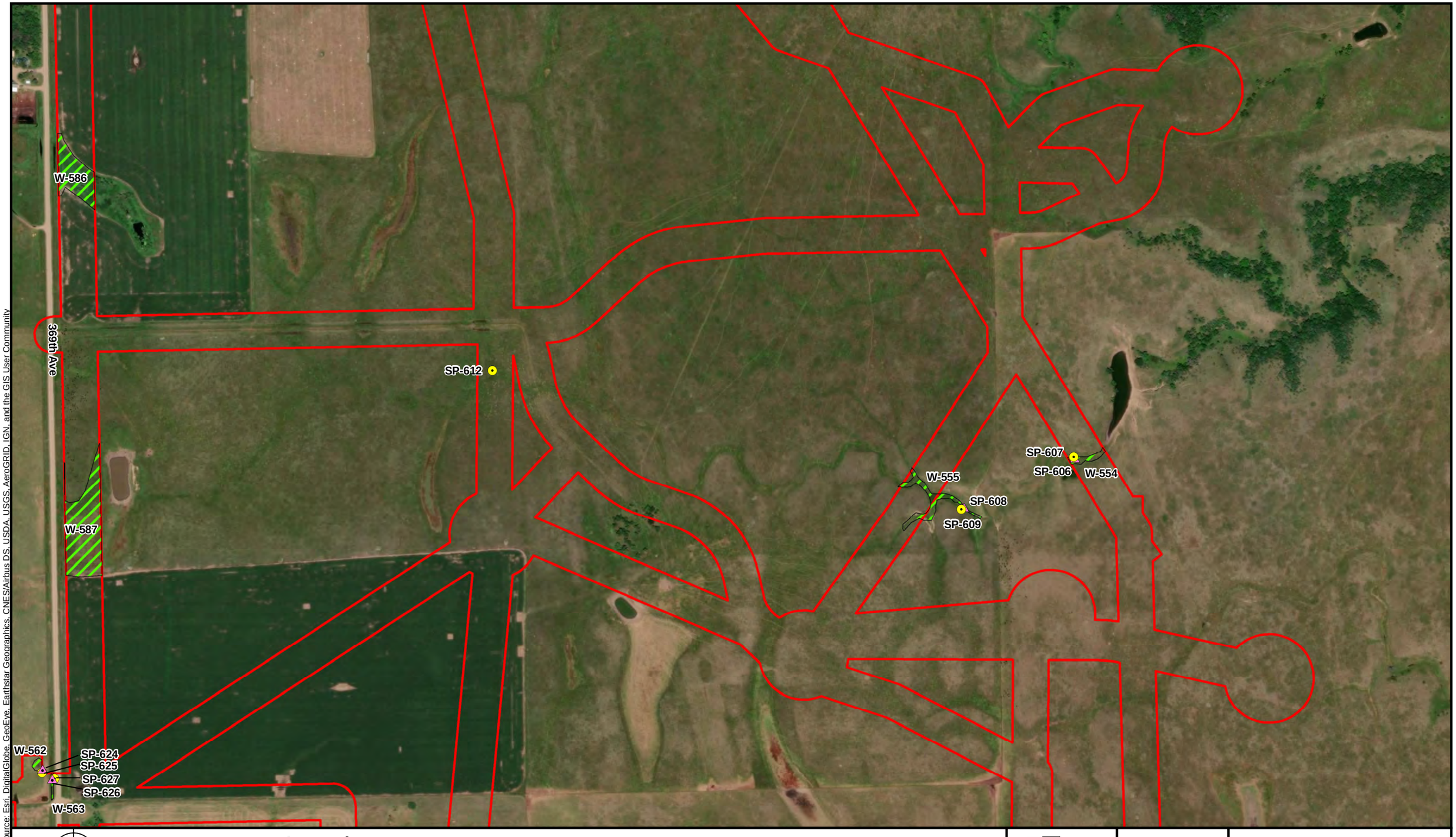
BURNS McDONNELL

Figure A-4.17
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScourCleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.18
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

W-562
SP-624
SP-625
SP-627
SP-626
W-563
PP-694
W-016
SP-628
SP-629
W-598d
SP-631
SP-630
W-564
208th St
369th Ave
SP-636
SP-637
W-567
SP-665
W-583
SP-666
PP-696
SP-669

NORTH

0 250 500

Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

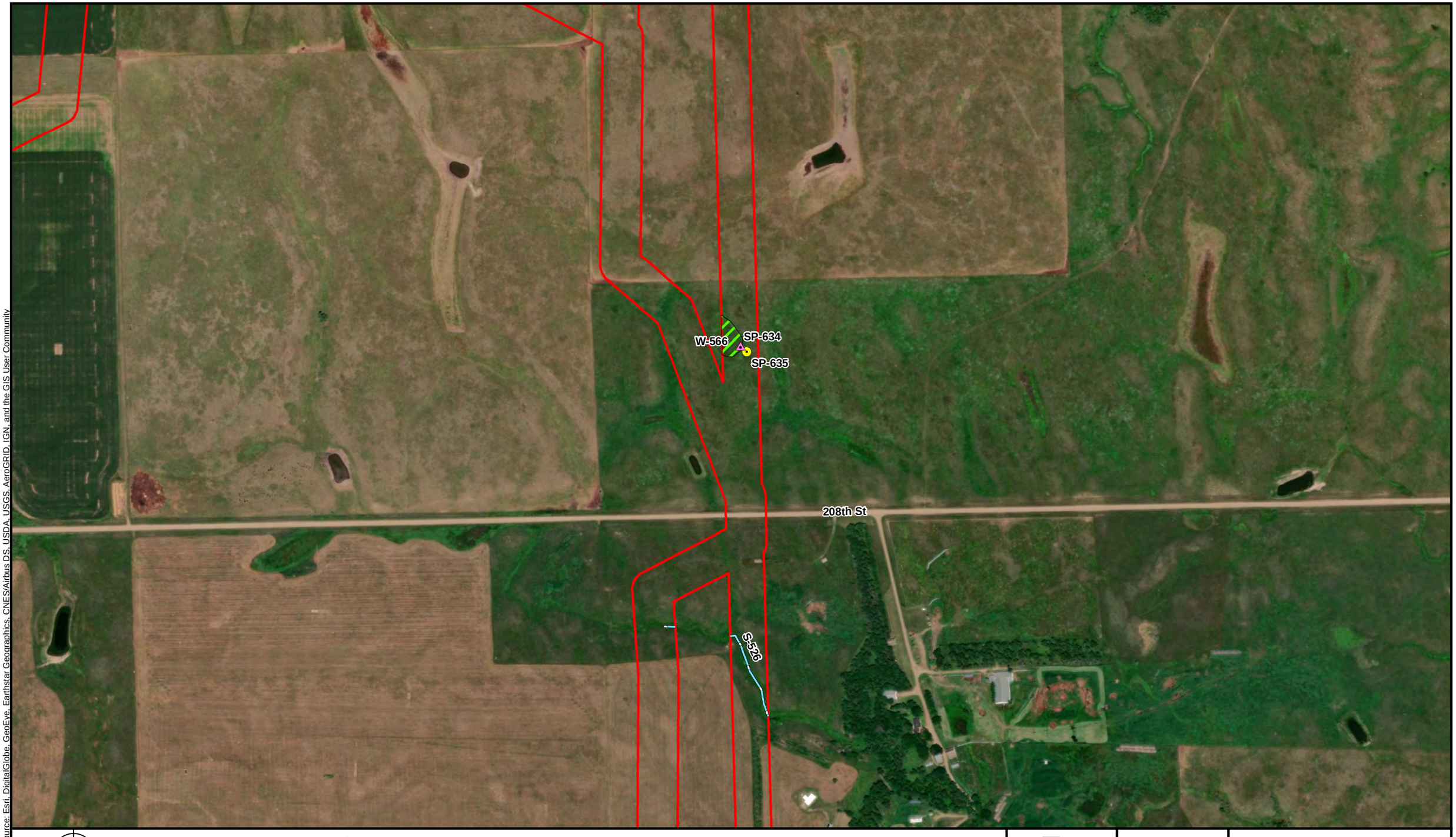
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.19
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.20
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

PP-696
SP-669
W-592d
W-580
SP-661
SP-660
W-584
SP-668
SP-667
SP-638
SP-639
W-568
SP-641
W-569
SP-640
369th Ave
SP-643
SP-642
W-570
W-571
W-599d

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

Survey Area
Photo Point*
Wetland Plot
Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

PEM Wetland
PFO Wetland
PUB Wetland
Ephemeral Stream
Intermittent Stream

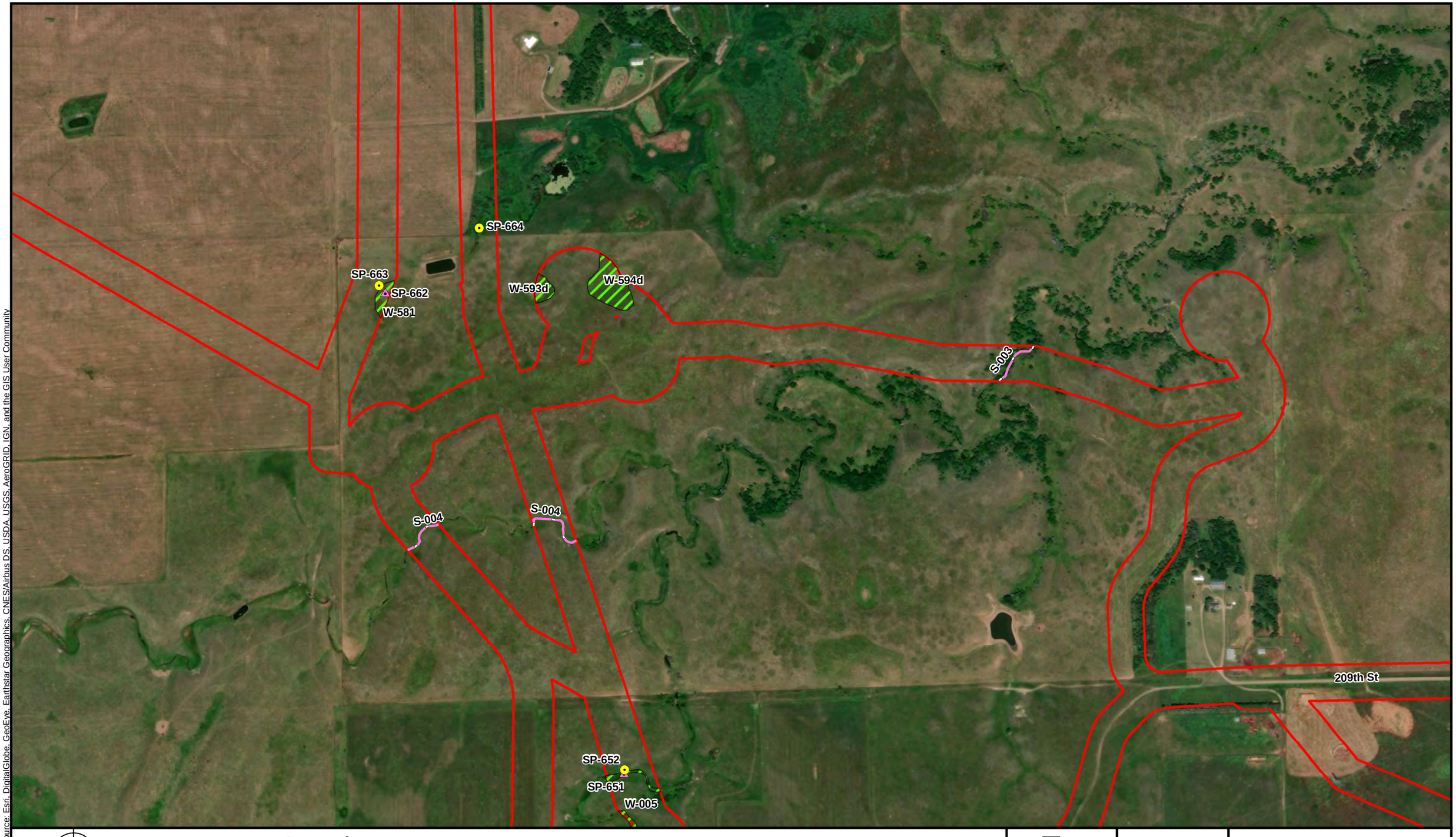
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.21
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

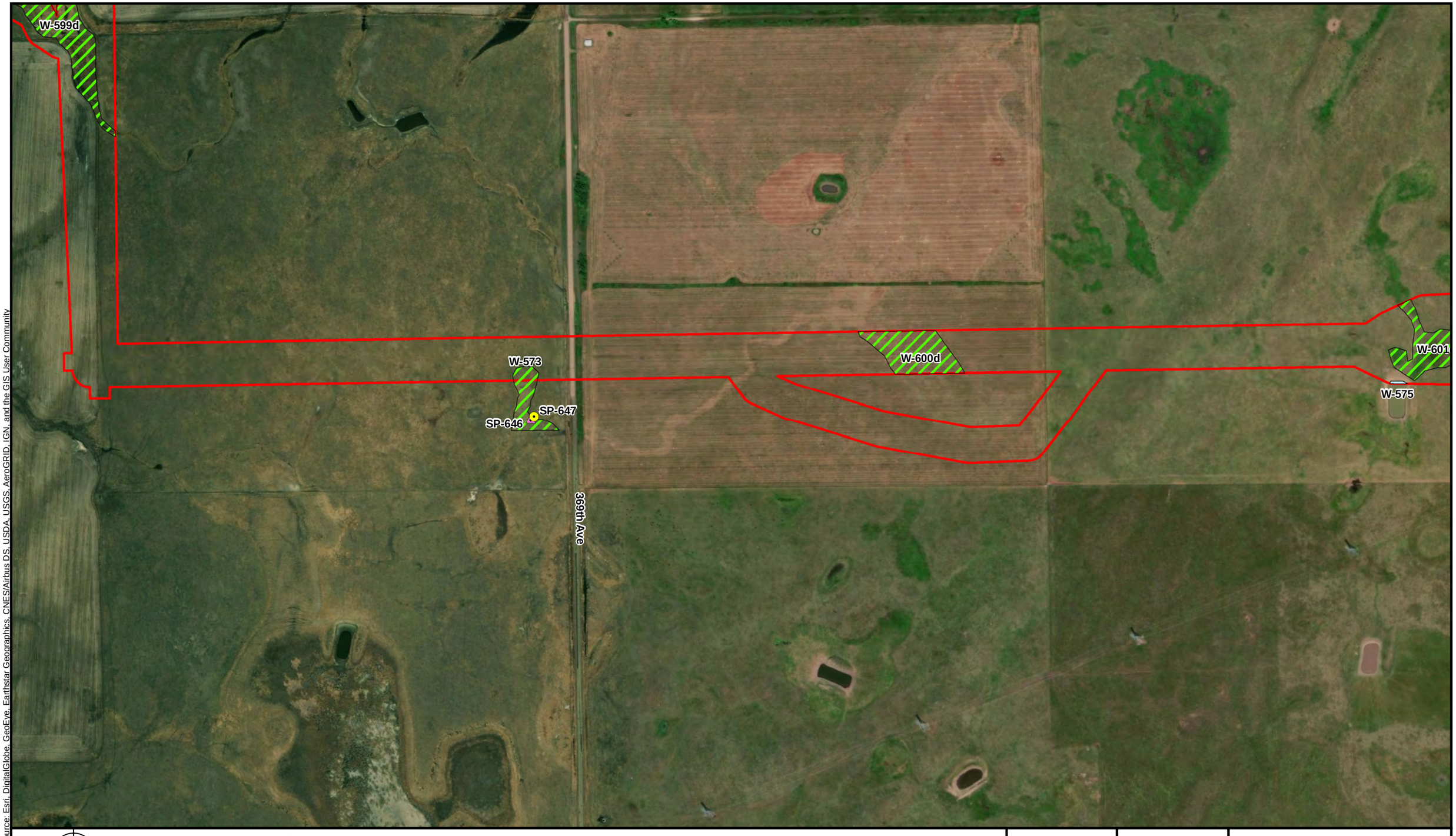
BURNS McDONNELL

Figure A-4.22
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialDataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

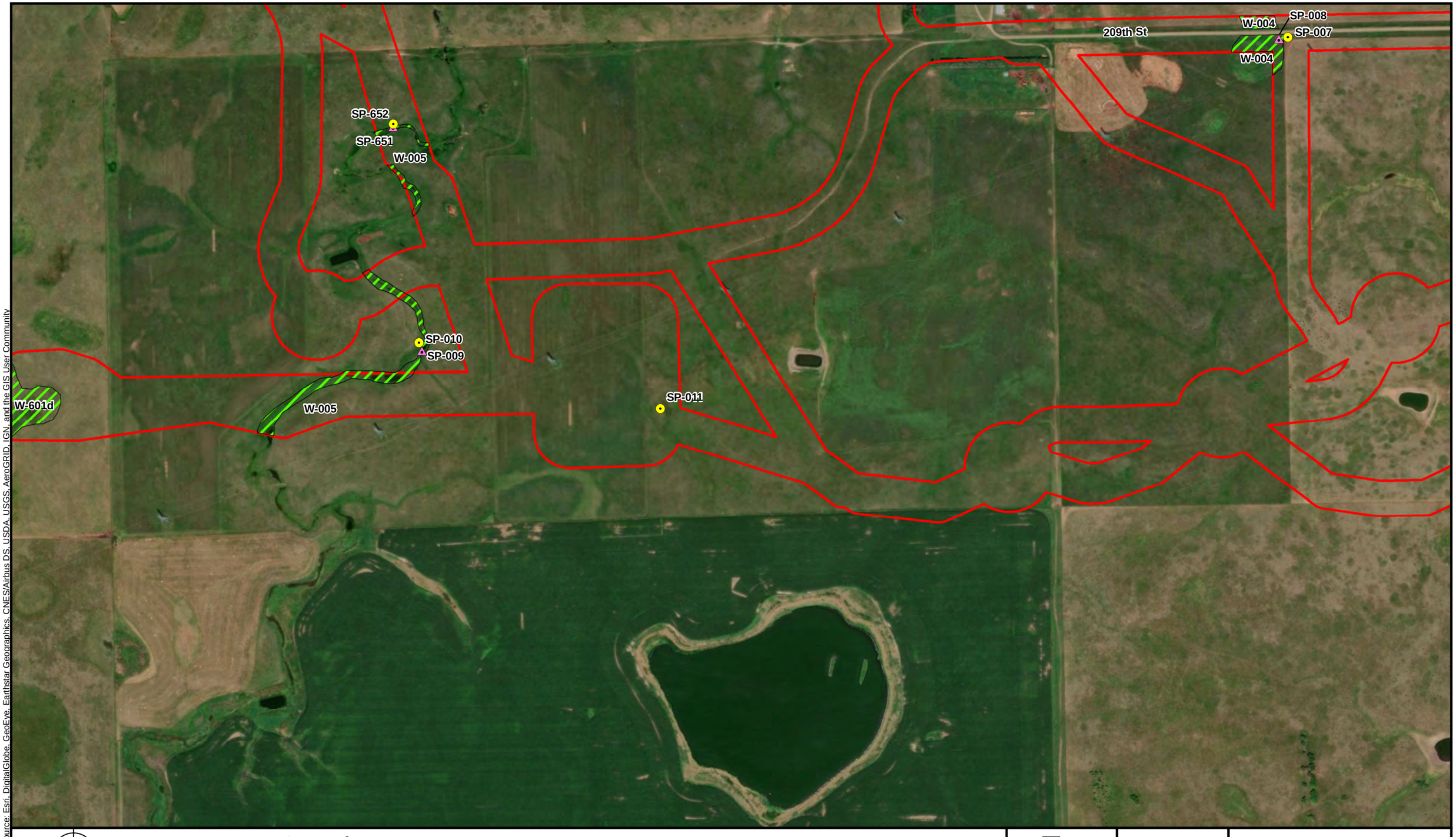
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.23
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

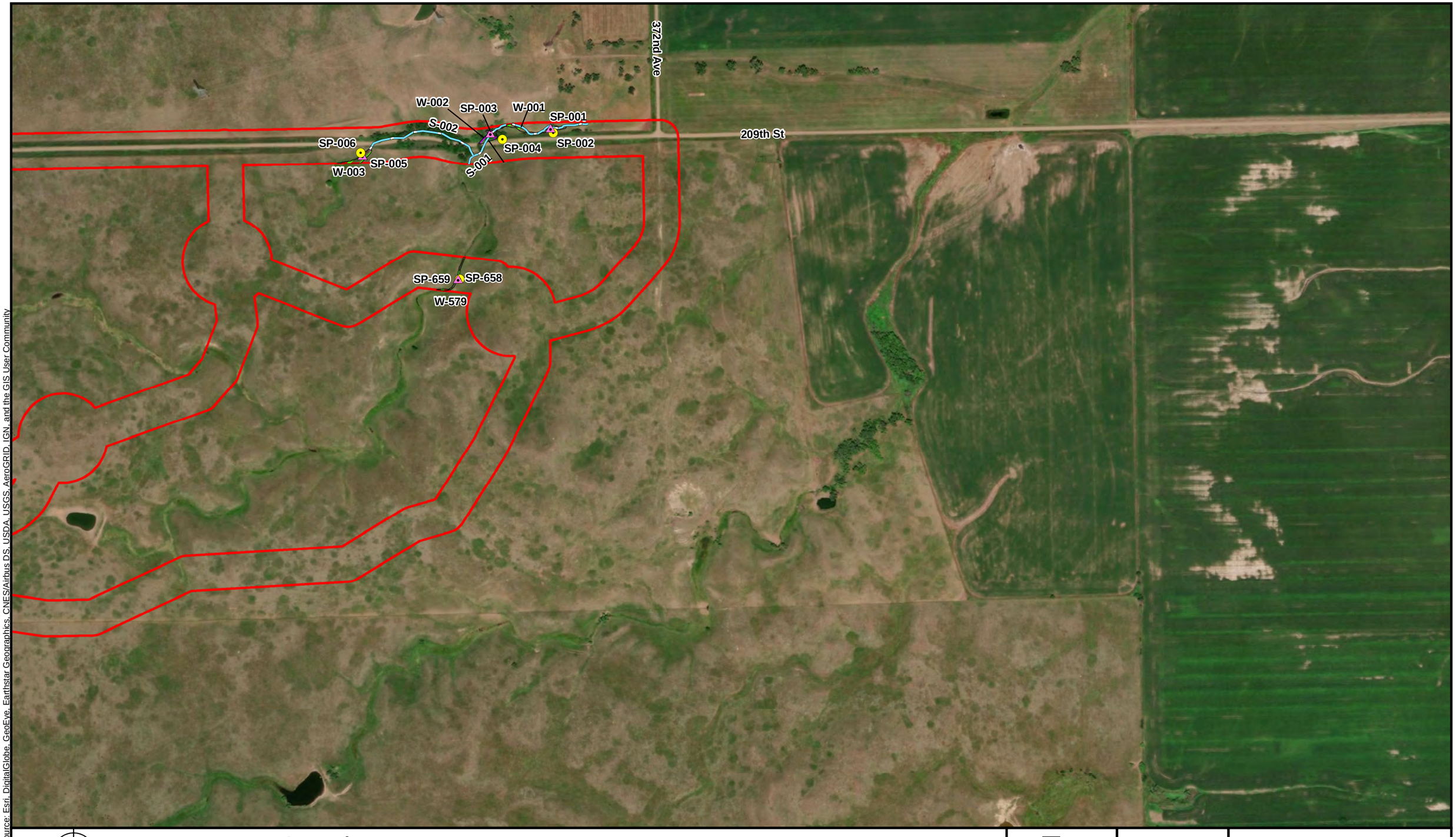
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

Figure A-4.24
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019



Legend

- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

* Additional photos were taken throughout the Project Area and are available by request

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland
- Ephemeral Stream
- Intermittent Stream

** Features ending with "d" were delineated via desktop methodologies

NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Figure A-4.25
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 2/26/2019

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-001

Investigator(s): R. Williams, A. Woehler Section, Township, Range: S2, T110N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356267 Long: -98.743979 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 year? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in emergent (PEM) wetland (W)-001.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. *Salix bebbiana*	20 %	Y	FACW
2.	%		
3.	%		
	20 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	30 %	Y	FACW
2. *Eleocharis palustris*	20 %	Y	OBL
3. *Phalaris arundinacea*	20 %	Y	FACW
4. *Ambrosia artemisiifolia*	10 %	N	FACU
5. *Bromus arvensis*	10 %	N	FACU
6. *Pascopyrum smithii*	10 %	N	FACU
7. *Leersia oryzoides*	10 %	N	OBL
8. *Dactylis glomerata*	5 %	N	FACU
9. *Xanthium strumarium*	5 %	N	FAC
10. *Rumex crispus*	5 %	N	FAC
11. *Vernonia fasciculata*	5 %	N	FAC
12. *Medicago lupulina*	2 %	N	FACU
	132 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 15 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-1.

SOIL

Sampling Point: SP-001

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/1	90	10YR 4/6	10	C	M	clay loam	w/ gravel
12-14	10YR 3/1	100					clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: gravel Depth (inches): 14

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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: S9, T110N, R66W

Landform (hillslope, terrace, etc.) sideslope Local relief (concave, convex, none): none Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356196 Long: -98.743919 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? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot adjacent to PEM W-001.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus arvensis*	60 %	Y	FACU
2. *Bromus inermis*	20 %	Y	UPL
3. *Asclepias syriaca*	10 %	N	UPL
4. *Cirsium arvense*	5 %	N	FACU
5. *Medicago lupulina*	2 %	N	FACU
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	97 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 30 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: No test is met. Photograph C-2.

SOIL

Sampling Point: SP-002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: compact rock Depth (inches): 5

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present. Soil is naturally problematic due to the presence of rock.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-003

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 3 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356198 Long: -98.745270 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 year? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Sample plot located in forested (PFO) W-002.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix bebbiana*	60 %	Y	FACW
2. *Populus deltoides*	20 %	Y	FAC
3.	%		
4.	%		
	80 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	30 %	Y	FACW
2. *Carex sp.**	15 %	Y	FAC
3. *Dactylis glomerata*	10 %	N	FACU
4. *Plantago major*	10 %	N	FAC
5. *Juncus torreyi*	5 %	N	FACW
6. *Hordeum jubatum*	5 %	N	FACW
7. *Rumex crispus*	2 %	N	FAC
8.	%		
9.	%		
10.	%		
	77 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 50 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. *Carex species could not be indentified past genus. Since most carex species in this region have an indicator status of FAC or wetter, an indicator status of FAC is assumed. Photograph C-3.

SOIL

Sampling Point: SP-003

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5YR 2.5/1	95	5YR 5/8	5	C	M	silty clay loam	w/ gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: gravel Depth (inches): 10

Hydric Soil Present? ☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present. Soil is naturally problematic due to the presence of gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☒	☐	surface
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-004

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 7 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356105 Long: -98.745013 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? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot adjacent to PFO W-002.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus tectorum*	90 %	Y	UPL
2. *Asclepias asperula*	5 %	N	UPL
3. *Convolvulus arvensis*	2 %	N	UPL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	97 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: No test is met. Photograph C-4.

SOIL

Sampling Point: SP-004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					silt loam	w/ gravel/fill

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: gravel/fill Depth (inches): 6

Hydric Soil Present?

☐ Yes ☐ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-005

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S10, T110N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355893 Long: -98.748020 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 year? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Sample plot located in PEM W-003.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2. *Eleocharis palustris*	20 %	N	OBL
3. *Juncus sp.**	5 %	N	FAC
4. *Hordeum jubatum*	2 %	N	FACW
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	117 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. *Juncus species could not be identified past genus. In this region most juncus species have an indicator of FAC or wetter, therefore, an indicator of FAC is assumed. Photograph C-5.

SOIL

Sampling Point: SP-005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	100					muck	organic matter
8-20	10YR 2/1	100					silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☒ Black Histic (A3)
- ☒ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☒ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicators A3, A4, and A9 are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☒ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	surface
Saturation Present? (includes capillary fringe)	☒	☐	surface
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-006

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S10, T110N, R66W

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

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355933 Long: -98.748054 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 year? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot adjacent to PEM W-003.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	70 %	Y	UPL
2. *Bromus arvensis*	20 %	Y	FACU
3. *Bromus tectorum*	5 %	N	UPL
4. *Portulaca pilosa*	2 %	N	FACU
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	97 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 30 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: No test is met. Photograph C-6.

SOIL

Sampling Point: SP-006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	10YR 2/1	100					silt loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: compact Depth (inches): 15

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present. Soil is naturally problematic due to compaction encountered at a depth of 15 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-007

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355943 Long: -98.756938 Datum: NAD83

Soil Map Unit Name: Tetonka silt loam, 0 to 1 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)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-004.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	90 %	Y	FACW
2. *Persicaria amphibia*	10 %	N	OBL
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-7.

SOIL

Sampling Point: SP-007

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	75	5GY 6/1	20	D	M	clay loam	
			5YR 4/6	5	C	PL	clay loam	organic material
6-20	10YR 2/1	95	5YR 3/4	5	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☒ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicators F6 and F7 are present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators B4, C9, D2, and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-008

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355968 Long: -98.756745 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot adjacent to PEM W-004.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	85 %	Y	UPL
2. *Persicaria sp.* *	5 %	N	FAC
3. *Bromus arvensis*	5 %	N	FACU
4. *Medicago lupulina*	2 %	N	FACU
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	97 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. * Persicaria species could not be identified past genus. Most of the species in this region have an indicator of FAC or wetter, therefore, an indicator of FAC is assumed. Photograph C-8.

SOIL

Sampling Point: SP-008

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	5YR 2.5/1	80	5YR 4/6	20	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: compact soil Depth (inches): 12

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-009

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S9, T110N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 3 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.351336 Long: -98.775405 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 year? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-005.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Schoenoplectus fluviatilis*	50 %	Y	OBL
2. *Xanthium strumarium*	20 %	Y	FAC
3. *Hordeum jubatum*	5 %	N	FACW
4. *Rumex crispus*	2 %	N	FAC
5. *Ambrosia artemisiifolia*	2 %	N	FACU
6. *Bromus inermis*	2 %	N	UPL
7.	%		
8.	%		
9.	%		
10.	%		
	81 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 70 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-9.

SOIL

Sampling Point: SP-009

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	95	10YR 4/4	5	C	M	silty clay loam	gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☒	☐	surface
Wetland Hydrology Present?	☐	☒	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-010

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S9, T110N, R66W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.351466 Long: -98.775470 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 year? ☒ Yes ☐ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot adjacent to PEM W-005.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus arvensis*	50 %	Y	FACU
2. *Schedonorus arundinaceus*	30 %	Y	FACU
3. *Bromus inermis*	10 %	N	UPL
4. *Cirsium arvense*	5 %	N	FACU
5. *Erigeron canadensis*	5 %	N	FACU
6. *Xanthium strumarium*	5 %	N	FAC
7.	%		
8.	%		
9.	%		
10.	%		
	105 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-10.

SOIL

Sampling Point: SP-010

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	100					silty clay loam	organic material/ gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-011

Investigator(s): R. Williams; A. Woehler Section, Township, Range: S9, T110N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.350397 Long: -98.770315 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus arvensis*	60 %	Y	FACU
2. *Xanthium strumarium*	5 %	N	FAC
3. *Eleocharis compressa*	5 %	N	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	70 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 60 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-11.

SOIL

Sampling Point: SP-011

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	95	10YR 3/3	5	C	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-501
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.454069 Long: -98.813009 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-13.

SOIL

Sampling Point: SP-501

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-502

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, 66W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.454681 Long: -98.820307 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	10 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	10 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 90 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-14.

SOIL

Sampling Point: SP-502

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Silt Loam	
8-18	10YR 3/2	90	10YR 4/4	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-503

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S1, T111N, R67W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.452187 Long: -98.827746 Datum: NAD83

Soil Map Unit Name: Betts-Java loams, steep NWI Classification: R4SBC

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?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Sample plot located in PEM W-501.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2. *Carex sp.**	10 %	N	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. * Carex species could not be identified past genus. Most Carex species in this region are Facultative or wetter, therefore, an indicator of FAC is assumed. Photograph C-15.

SOIL

Sampling Point: SP-503

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-18	10YR 3/1	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Redox is likely masked. The soil considered hydric soil based upon the positive presence of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-504
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S1, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.452245 Long: -98.827764 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: An upland plot adjacent to PEM W-501.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	70 %	Y	FACU
2. *Euphorbia sp.**	10 %	N	-
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	80 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. * Euphorbia species could not be identified past genus, no indicator is given. Photograph C-16.

SOIL

Sampling Point: SP-504

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 4/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-505
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S1, T111N, R67W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.453695 Long: 98.828842 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: No test is met. Photograph C-17.

SOIL

Sampling Point: SP-505

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-18	10YR 3/2	100					Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-515
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.442974 Long: -98.820747 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2. *Salvia sp.**	5 %	N	-
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. * Salvia species could not be identified beyond genus, therefore, no indicator status is listed. Photograph C-18.

SOIL

Sampling Point: SP-515

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Silt Loam	
8-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-516
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T11N, R66W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.443806 Long: -98.819913 Datum: NAD83
Soil Map Unit Name: Glenham-Prosper 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-507.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-19.

SOIL

Sampling Point: SP-516

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					Silt Loam	
4-20	10YR 3/1	90	10YR 5/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-517
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.443847 Long: -98.819407 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: An upland plot adjacent to PEM W-507 and PEM W-508.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	95 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-20.

SOIL

Sampling Point: SP-517

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Silt Loam	
8-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks:Hydric soil indicators are not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicator present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-518
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.443892 Long: -98.818880 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-508.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-21.

SOIL

Sampling Point: SP-518

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	100					Silt Loam	
4-20	10YR 3/1	90	10YR 5/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-519
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.445278 Long: -98.808208 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-22.

SOIL

Sampling Point: SP-519

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-522

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S12, T111N, R67W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.440352 Long: -98.829151 Datum: NAD83

Soil Map Unit Name: Hoven 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-510. No upland sample plot was recorded for W-510 due to adjacent agricultural fields.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Alisma triviale*	80 %	Y	OBL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	80 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-23.

SOIL

Sampling Point: SP-522

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☒	☐	8
Wetland Hydrology Present?	☒	☐	

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

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.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-532

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S26, T111N, R67W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.387995 Long: -98.853210 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-515. No upland sample plot was recorded for W-515 due to adjacent agricultrual fields.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Persicaria maculosa*	80 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	80 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-24.

SOIL

Sampling Point: SP-532

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☒	☐	6
Wetland Hydrology Present?	☒	☐	

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

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.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-533
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S23, T111N, R67W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.408279 Long: -98.843908 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Sample plot located in PEM W-517.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	100 %	Y	OBL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-26.

SOIL

Sampling Point: SP-533

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☒	☐	6
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators B10, D2, and D5 present. Although saturation was present, an accompanying water table was not observed. Therefore, indicator A3 is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-534
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S23, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.408481 Long: -98.843995 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot adjacent to PEM W-517.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2. *Solidago canadensis*	10 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: No test is met. Photograph C-27.

SOIL

Sampling Point: SP-534

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-535

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S14, T111N, R67W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.418335 Long: -98.843885 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland confirmation plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: No test is met. Photograph C-28.

SOIL

Sampling Point: SP-535

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Clay Loam	
6-18	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Hydrology indicator B10 and D2 present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Local relief (concave, convex, none): concave 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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-518.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	60 %	Y	FACW
2. *Persicaria maculosa*	30 %	Y	FACW
3. *Phalaris arundinacea*	20 %	N	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	110 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-29.

SOIL

Sampling Point: SP-536

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Clay Loam	
4-10	10YR 3/2	95	10YR 4/6	5	C	M	Clay Loam	
10-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-537
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S23, T111N, 67W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.409805 Long: -98.853890 Datum: NAD83
Soil Map Unit Name: Water 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-518.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2. *Solidago canadensis*	15 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	105 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-30.

SOIL

Sampling Point: SP-537

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-538

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 3 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.411377 Long: -98.790429 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-520.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex vulpinoidea*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-31.

SOIL

Sampling Point: SP-538

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 3/1	100					Clay Loam	
2-12	10YR 5/2	85	10YR 4/6	15	C	M	Clay Loam	
12-20	10YR 5/1	85	10YR 5/6	15	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	1
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-539
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W
Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.411369 Long: -98.790267 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-520.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Lonicera japonica*	20 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
	20 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	80 %	Y	FACU
2. *Solidago canadensis*	10 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-32.

SOIL

Sampling Point: SP-539

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Clay Loam	
6-18	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-540
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S15, T111N, R67W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.421106 Long: -98.864751 Datum: NAD83
Soil Map Unit Name: Hoven silt loam, 0 to 1 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-521.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	40 %	Y	OBL
2. *Spartina pectinata*	40 %	Y	FACW
3. *Alisma triviale*	10 %	N	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-33.

SOIL

Sampling Point: SP-540

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	10
Saturation Present? (includes capillary fringe)	☒	☐	4
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-541

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S15, T111N, R67W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.421129 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plost adjacent to PEM W-521.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-34.

SOIL

Sampling Point: SP-541

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Clay Loam	
6-18	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-542
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 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Sample plot located in PEM W-523.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex vulpinoidea*	70 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	70 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 30 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-36.

SOIL

Sampling Point: SP-542

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	12
Saturation Present? (includes capillary fringe)	☒	☐	6
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-543
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.418407 Long: -98.813386 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot aadjacent to PEM W-523.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-37.

SOIL

Sampling Point: SP-543

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Clay Loam	
6-18	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-544
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: 44.417732 Long: -98.815380 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-524.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	50 %	Y	OBL
2. *Carex vulpinoidea*	40 %	Y	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-38.

SOIL

Sampling Point: SP-544

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	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	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	2
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-545
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.417936 Long: -98.815433 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-524.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	95 %	Y	FACU
2. *Toxicodendron radicans*	5 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-39.

SOIL

Sampling Point: SP-545

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Clay Loam	
6-18	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-548
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S19, T111N, R66W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.412908 Long: -98.810003 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-526.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-40.

SOIL

Sampling Point: SP-548

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Silt Loam	
4-18	10YR 3/2	95	10YR 4/6	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicator D2 and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-549
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S19, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.413227 Long: -98.809759 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-526.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-41.

SOIL

Sampling Point: SP-549

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-550
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S19, T111N, R66W
Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.407978 Long: -98.812164 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-527.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Alopecurus pratensis*	80 %	Y	FACW
2. *Carex sp.* *	10 %	N	FAC
3. *Persicaria hydropiperoides*	5 %	N	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. * Carex species could not be identified beyond genus. Carex species in this region are typically facultative or wetter, therefore, indicator is assumed to be FAC. Photograph C-42.

SOIL

Sampling Point: SP-550

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Silt Loam	
4-18	10YR 3/2	95	10YR 4/6	5	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicator D2 and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-551
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S19, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.407936 Long: -98.812115 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-527.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	60 %	Y	FACU
2. *Alopecurus pratensis*	20 %	Y	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	80 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-43.

SOIL

Sampling Point: SP-551

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Section, Township, Range: S19, T111N, R66W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.406381 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	60 %	Y	FACU
2. *Alopecurus pratensis*	20 %	Y	FACW
3. *Salvia sp.**	10 %	N	-
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. * Salvia species could not be identified past genus, therefore, no indicator status is listed. Photograph C-44.

SOIL

Sampling Point: SP-552

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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): concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.394612 Long: -98.806047 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-533.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Persicaria maculosa*	60 %	Y	FACW
2. *Rumex crispus*	20 %	Y	FAC
3. *Carex vulpinoidea*	10 %	N	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test for hydrophytic vegetation is met. Photograph C-45.

SOIL

Sampling Point: SP-561

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					Silty Loam	
4-18	10YR 3/2	95	10YR 4/6	5	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-562
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S30, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.394736 Long: -98.806108 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot associated with PEM W-533.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2. *Solidago canadensis*	5 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-46.

SOIL

Sampling Point: SP-562

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100					Silty Loam	
6-18	10YR 3/3	100					Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-570
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.413980 Long: -98.804757 Datum: NAD83
Soil Map Unit Name: Glenham loam, rolling 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-537.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	100 %	Y	OBL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-47.

SOIL

Sampling Point: SP-570

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	80	10YR 5/6	20	C	M	Clay Loam	
10-20	10YR 6/1	80	10YR 5/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	2
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-571

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W

Landform (hillslope, terrace, etc.) berm Local relief (concave, convex, none): convex Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.414015 Long: -98.805000 Datum: NAD83

Soil Map Unit Name: Glenham loam, 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to W-537.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-48.

SOIL

Sampling Point: SP-571

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-18	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-574

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.393359 Long: -98.798896 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-539.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	70 %	Y	FACU
2. *Alopecurus pratensis*	40 %	Y	FACW
3. *Alisma triviale*	10 %	N	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	120 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	10 %	x 1 =	10
FACW species	40 %	x 2 =	80
FAC species	0 %	x 3 =	0
FACU species	70 %	x 4 =	280
UPL species	0 %	x 5 =	0
Column Totals:	120 %	(A)	370 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☒ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

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.

SOIL

Sampling Point: SP-574

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	
8-18	10YR 3/2	80	10YR 5/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-575
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.393303 Long: -98.798899 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-539.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	80 %	Y	FACU
2. *Salvia sp.**	5 %	N	-
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	85 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 15 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. *Salvia species could not be identified beyond genus, therefore, no indicator status is listed. Photograph C-50.

SOIL

Sampling Point: SP-575

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-18	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Local relief (concave, convex, none): concave Slope (%): 3 %
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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-540.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2. *Carex vulpinoidea*	10 %	N	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	110 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-51.

SOIL

Sampling Point: SP-576

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	80	10YR 5/6	20	C	M	Clay Loam	
10-20	10YR 6/1	80	10YR 5/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	2
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-577
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 15 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.395702 Long: -98.796500 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-540.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	60 %	Y	FACU
2. *Solidago canadensis*	30 %	Y	FACU
3. *Salvia sp.**	5 %	N	-
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. *Salvia species could not be identified beyond genus, therefore, no indicator status is listed. Photograph C-52.

SOIL

Sampling Point: SP-577

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 8

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-588

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.390492 Long: -98.801447 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-546.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-53.

SOIL

Sampling Point: SP-588

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	90	10YR 4/6	10	C	M	Silty Clay	
4-14	10YR 3/2	85	10YR 5/6	15	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 14

Hydric Soil Present? ☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-589
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.390364 Long: -98.801324 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-546.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2. *Asclepias speciosa*	5 %	N	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	105 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-54.

SOIL

Sampling Point: SP-589

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-14	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 14

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-590
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S24, T111N, R67W
Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.412609 Long: -98.825605 Datum: NAD83
Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-547.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	50 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	50 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 50 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-55.

SOIL

Sampling Point: SP-590

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 10

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-591
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S24, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.412711 Long: -98.825603 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-547.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	80 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	80 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-56.

SOIL

Sampling Point: SP-591

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Silt Loam	
10-20	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.427160 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-548.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Persicaria maculosa*	60 %	Y	FACW
2. *Typha latifolia*	30 %	Y	OBL
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-57.

SOIL

Sampling Point: SP-592

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	80	10YR 5/6	20	C	M	Clay Loam	
10-20	10YR 6/1	80	10YR 5/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	1
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-593
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S13, T111N, R67W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.427162 Long: -98.832692 Datum: NAD83
Soil Map Unit Name: Water 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?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-548.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	90 %	Y	FACW
2. *Solidago canadensis*	20 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	110 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-58.

SOIL

Sampling Point: SP-593

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-10	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 10

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present. Naturally problematic soil due to compaction at 10 inches.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D5 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-596
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S14, T111N, R67W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.425833 Long: -98.844313 Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-550.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-59.

SOIL

Sampling Point: SP-596

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	80	10YR 5/6	20	C	M	Clay Loam	
10-20	10YR 6/1	80	10YR 5/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	0
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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): none Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.425766 Long: -98.844374 Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-550.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2. *Solidago canadensis*	5 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-60.

SOIL

Sampling Point: SP-597

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	100					Silt Loam	
6-12	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 12

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-600

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S14, T111N, R67W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.423495 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-61.

SOIL

Sampling Point: SP-600

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 12

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-602

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S11, T111N, R67W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.437189 Long: -98.858378 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-552.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Alisma triviale*	60 %	Y	OBL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	60 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 40 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-62.

SOIL

Sampling Point: SP-602

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 5/1	80	10YR 5/6	20	C	M	Clay Loam	
10-20	10YR 6/1	80	10YR 5/6	20	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	8
Saturation Present? (includes capillary fringe)	☒	☐	2
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-603

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S11, T111N, R67W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.437162 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-552.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-63.

SOIL

Sampling Point: SP-603

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 3/2	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: Compacted Depth (inches): 12

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-606
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S33, T111N, R66W
Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-554.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2. *Xanthium strumarium*	5 %	N	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-64.

SOIL

Sampling Point: SP-606

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 2/1	100					silty clay loam	
2-8	10YR 2/2	90	10YR 5/4	10	C	M	clay	
8-20	10YR 5/1	60	10YR 2/2	30	C	M	clay	
			10YR 5/4	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 and F6 are met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-607

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S33, T111N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 7 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.382969 Long: -98.780482 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-554.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	50 %	Y	UPL
2. *Poa pratensis*	50 %	Y	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-65.

SOIL

Sampling Point: SP-607

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Silt Loam	
6-18	10YR 3/3	100					Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-608
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 Region Lat: 44.381944 Long: -98.782854 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-555.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa palustris*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-66.

SOIL

Sampling Point: SP-608

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 2/1	100					silty clay loam	
2-8	10YR 2/1	90	10YR 5/4	10	C	M	clay	
8-20	10YR 5/1	60	10YR 2/2	30	C	M	clay	
			10YR 5/4	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 and F6 are met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☒	☐	10
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators B10, D2, and D5 are met. Saturation was observed at a depth of 10 inches, however, an accompanying water table was not observed. Therefore, indicator A3 is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 (%): 10 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.381918 Long: -98.782909 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot associated with PEM W-555.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-67.

SOIL

Sampling Point: SP-609

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					Clay Loam	
8-20	10YR 3/4	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-612

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S32, T111N, R66W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.384156 Long: -98.792923 Datum: NAD83

Soil Map Unit Name: Glenham loam, undulating NWI Classification: PEM1Ad

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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-68.

SOIL

Sampling Point: SP-612

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/3	100					Clay Loam	
8-20	10YR 3/4	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Local relief (concave, convex, none): none Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.390799 Long: -98.795293 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1Ad

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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-69.

SOIL

Sampling Point: SP-615

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-616

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 4 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.404606 Long: -98.801614 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-558.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-70.

SOIL

Sampling Point: SP-616

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-6	10YR 3/2	100					Clay Loam	
6-18	10YR 3/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-617
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.404534 Long: -98.801618 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-558.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	65 %	Y	UPL
2. *Poa pratensis*	15 %	N	FACU
3. *Spartina pectinata*	10 %	N	FACW
4. *Trifolium repens*	5 %	N	FACU
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-71.

SOIL

Sampling Point: SP-617

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-618
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-559.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	80 %	Y	FACW
2. *Xanthium strumarium*	10 %	N	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-72.

SOIL

Sampling Point: SP-618

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Lat: 44.402410 Long: -98.801110 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-559.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-73.

SOIL

Sampling Point: SP-619

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-620
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.397647 Long: -98.800335 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-560.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	50 %	Y	FACW
2. *Xanthium strumarium*	30 %	Y	FAC
3. *Persicaria maculosa*	20 %	Y	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-74.

SOIL

Sampling Point: SP-620

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-560.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-75.

SOIL

Sampling Point: SP-621

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-622
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.396015 Long: -98.799784 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-561.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	50 %	Y	FACW
2. *Xanthium strumarium*	30 %	Y	FAC
3. *Persicaria maculosa*	20 %	Y	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-76.

SOIL

Sampling Point: SP-622

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-623

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.395976 Long: -98.799820 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-561.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-77.

SOIL

Sampling Point: SP-623

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-624
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.378129 Long: -98.802694 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-562.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	50 %	Y	FACW
2. *Xanthium strumarium*	30 %	Y	FAC
3. *Persicaria maculosa*	20 %	Y	FACW
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-78.

SOIL

Sampling Point: SP-624

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-625
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.378079 Long: -98.802709 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-562.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-79.

SOIL

Sampling Point: SP-625

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-626

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W

Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 1 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.377976 Long: -98.802486 Datum: NAD83

Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-563.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2. *Poa pratensis*	5 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-80.

SOIL

Sampling Point: SP-626

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-627

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W

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

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.377982 Long: -98.802443 Datum: NAD83

Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI 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?	☐	☐	☐
Naturally Problematic?	☐	☒	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-563.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-81.

SOIL

Sampling Point: SP-627

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: rock Depth (inches): 10

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present. Naturally problematic soil due to presence of rock.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-630

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W

Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 3 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.370374 Long: -98.807992 Datum: NAD83

Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PFO W-564.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvania*	40 %	Y	FAC
2.	%		
3.	%		
4.	%		
	40 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	65 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	65 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 35 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-82.

SOIL

Sampling Point: SP-630

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					Clay Loam	
6-20	10YR 2/1	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-631
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.370393 Long: -98.808085 Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PFO W-564.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1. *Fraxinus pennsylvanica*	10 %	Y	FAC
2.	%		
3.	%		
4.	%		
	10 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-83.

SOIL

Sampling Point: SP-631

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: rock Depth (inches): 10

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Local 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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-566.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Eleocharis obtusa*	35 %	Y	OBL
2. *Spartina pectinata*	25 %	Y	FACW
3. *Alisma gramineum*	5 %	N	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	65 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 35 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-84.

SOIL

Sampling Point: SP-634

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/1	100					clay	
1-6	10YR 2/1	90	10YR 6/4	10	C	M	clay	
6-20	10YR 6/1	70	10YR 2/1	20	C	M	clay	
			10YR 6/4	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicators F3 and F6 are met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	1
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-635

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S33, T111N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.372942 Long: -98.778920 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-566.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	90 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-85.

SOIL

Sampling Point: SP-635

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-636
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.368141 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 time of year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-567.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-86.

SOIL

Sampling Point: SP-636

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	0.5
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.368079 Long: -98.812289 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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-567.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-87.

SOIL

Sampling Point: SP-637

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Region 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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-568.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Echinochloa crus-galli*	85 %	Y	FAC
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	85 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 15 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-88.

SOIL

Sampling Point: SP-638

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators B10 and D2 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-639
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-568.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-89.

SOIL

Sampling Point: SP-639

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-640
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 Region Lat: 44.362386 Long: -98.812630 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-569.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	80 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	80 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 20 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-90.

SOIL

Sampling Point: SP-640

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-641
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362503 Long: -98.812687 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-569.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-91.

SOIL

Sampling Point: SP-641

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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): concave Slope (%): 1 %
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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-570.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	60 %	Y	OBL
2. *Spartina pectinata*	40 %	Y	FACW
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-92.

SOIL

Sampling Point: SP-642

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-2	10YR 2/1	100					Clay Loam	
2-20	10YR 6/1	80	10YR 4/1	10	D	M	Clay Loam	
			10YR 4/6	10	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	1
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-643

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.358708 Long: -98.812227 Datum: NAD83

Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-570.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-93.

SOIL

Sampling Point: SP-643

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-646
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S7, T110N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 1 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.349727 Long: -98.803170 Datum: NAD83
Soil Map Unit Name: Glenham-Cavo loams, undulating 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-573.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	90 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-94.

SOIL

Sampling Point: SP-646

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	6
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-647
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S7, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.349755 Long: -98.803094 Datum: NAD83
Soil Map Unit Name: Glenham-Cavo loams, undulating 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-573.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-95.

SOIL

Sampling Point: SP-647

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Local relief (concave, convex, none): concave 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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-579.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Hordeum jubatum*	50 %	Y	FACW
2. *Spartina pectinata*	45 %	Y	FACW
3. *Typha angustifolia*	5 %	N	OBL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-97.

SOIL Sampling Point: SP-658

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 2/1	100					mucky clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☒ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F1 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	1
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Local relief (concave, convex, none): convex Slope (%): 10 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.353964 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 year? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-579.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	100 %	Y	FACU
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-98.

SOIL

Sampling Point: SP-659

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-660
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S5, T110N, R66W
Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.364107 Long: -98.793791 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? ☒ Yes ☐ No (If no, explain in Remarks.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-580.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-99.

SOIL

Sampling Point: SP-660

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-20	10YR 2/1	100					mucky clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☒ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F1 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☒ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-661
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S5, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.364096 Long: -98.793736 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-580.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-100.

SOIL

Sampling Point: SP-661

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-662
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S4, T110N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362234 Long: -98.780918 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-581.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	80 %	Y	FACW
2. *Solidago gigantea*	30 %	Y	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	110 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☒ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-101.

SOIL

Sampling Point: SP-662

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Clay Loam	
6-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-663
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S4, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362340 Long: -98.781045 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-581.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-102.

SOIL

Sampling Point: SP-663

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-664

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S4, T110N, R66W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.363204 Long: -98.778882 Datum: NAD83

Soil Map Unit Name: Oahe-Delmont loams, 2 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Echinochloa crus-galli*	100 %	Y	FAC
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Dominance test is met. Photograph C-103.

SOIL

Sampling Point: SP-664

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Clay	
12-20	10YR 3/2	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-665
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 3 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.367786 Long: -98.802841 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-583.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-104.

SOIL

Sampling Point: SP-665

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Clay Loam	
6-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-666
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.367701 Long: -98.802809 Datum: NAD83
Soil Map Unit Name: Tetonka silt loam, 0 to 1 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.)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-583.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-105.

SOIL

Sampling Point: SP-666

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-667

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W

Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.365499 Long: -98.805284 Datum: NAD83

Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: Wetland sample plot located in PEM W-584.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phalaris arundinacea*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-106.

SOIL

Sampling Point: SP-667

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Clay Loam	
6-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-668
Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.365510 Long: -98.805115 Datum: NAD83
Soil Map Unit Name: Glenham loam, undulating 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?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot adjacent to PEM W-584.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	20 %	Y	UPL
2. *Setaria pumila*	20 %	Y	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	40 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 60 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation
☐ 2 Dominance Test is >50%
☐ 3 Prevalence Index is ≤3.0[1]
☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-107.

SOIL

Sampling Point: SP-668

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-669

Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S5, T110N, R66W

Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.365936 Long: -98.799860 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: Upland sample plot.

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30')			
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5')			
1. *Bromus inermis*	100 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation is not present. Photograph C-108.

SOIL

Sampling Point: SP-669

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6	10YR 2/2	100					Clay Loam	
6-20	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-701

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S6, T111N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %

Subregion (LRR): Northern Great Plains Spring Wheat Lat: 44.443277 Long: -98.815796 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☒	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-701 is located within W-701, a PEM wetland. Normal conditions are not present due to recent rainfall and distubance caused by cattle.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eleocharis obtusa*	45 %	Y	OBL
2. *Hordeum jubatum*	25 %	Y	FACW
3. *Rumex crispus*	25 %	Y	FAC
4. *Echinochloa crus-galli*	5 %	N	FAC
5. *Xanthium strumarium*	5 %	N	FAC
6. *Helianthus maximiliani*	2 %	N	FACU
7.	%		
8.	%		
9.	%		
10.	%		
	107 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Dominance Test is met. Photograph C-113.

SOIL

Sampling Point: SP-701

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/1	97	10YR 4/3	3	C	M	silty clay	
2-8	10YR 2/1	100					clay with fine gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: compacted soil Depth (inches): 8

Hydric Soil Present?

☒ Yes ☐ No

Remarks:Soil has been disturbed by cattle. Redox is present however not of a concentration to meet F8 and not of a thickness to meet F6. If cows were removed, it is likely that soil would meet F6, F8, or both.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	2.5
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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: S6, T111N, R66W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.443172 Long: -98.815723 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-702 is located adjacent to W-701, a PEM wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Bromus inermis*	95 %	Y	UPL
2. *Helianthus maximiliani*	3 %	N	FACU
3. *Symphyotrichum pilosum*	2 %	N	FACU
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-114.

SOIL

Sampling Point: SP-702

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-8	10YR 3/1	93	10YR 3/4	7	C	M	silty clay loam	
8-16	10YR 3/1	100					clay	
16-22	10YR 2/1	97	10YR 4/1	3	D	M	clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.442897 Long: -98.822982 Datum: NAD83

Soil Map Unit Name: Glenham-propser loams, 1 to 6 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-703 is located within W-702, a PEM wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil has been disturbed by cattle.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Eleocharis obtusa*	40 %	Y	OBL
2. *Echinochloa crus-galli*	35 %	Y	FAC
3. *Rorippa sylvestris*	3 %	N	FACW
4. *Rumex crispus*	2 %	N	FAC
5. *Xanthium strumarium*	2 %	N	FAC
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	82 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 18 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Dominance Test is met. Photograph C-115.

SOIL

Sampling Point: SP-703

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	90	10YR 3/4	10	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	2
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-704

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S6, T111N, R66W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.442875 Long: -98.822851 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: SP-704 is an upland sample plot located adjacent to W-702. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Bromus inermis*	95 %	Y	UPL
2. *Setaria pumila*	5 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-116.

SOIL

Sampling Point: SP-704

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 2/1	97	10YR 4/6	3	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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: S1, T111N, R67W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.446896 Long: -98.825337 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: SP-705 is an upland sample plot. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Bromus inermis*	50 %	Y	UPL
2. *Ambrosia artemisiifolia*	15 %	N	FACU
3. *Xanthium strumarium*	10 %	N	FAC
4. *Poa pratensis*	10 %	N	FACU
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	85 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 15 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-117.

SOIL

Sampling Point: SP-705

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 2/1	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-706

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S2, T111N, R67W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.45108 Long: -98.849898 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☐	☒

Remarks: SP-706 is an upland sample plot. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	95 %	Y	FACU
2. *Echinochloa crus-galli*	3 %	N	FAC
3. *Xanthium strumarium*	2 %	N	FAC
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-118.

SOIL

Sampling Point: SP-706

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 2/1	100					silty clay loam	
6-8	10YR 3/1	95	10YR 4/4	5	C	M	silty clay	
8-16	10YR 2/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☒	☐	6
Saturation Present? (includes capillary fringe)	☒	☐	6
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-707

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S7, T111N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428725 Long: -98.818685 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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
Significantly Disturbed?	☐	☒	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

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.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Xanthium strumarium*	40 %	Y	FAC
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	40 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 60 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Dominance Test is met. Photograph C-119.

SOIL

Sampling Point: SP-707

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/1	97	10YR 4/4	3	C	M	silty clay loam	
8-16	10YR 4/1	90	10YR 3/3	10	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicators F3 and F6 are met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	3
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-708

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S7, T111N, R66W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428708 Long: -98.818716 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 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
Significantly Disturbed?	☒	☒	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

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.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glycine max*	75 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	75 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 25 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation observed was agricultural soybean. Photograph C-120.

SOIL

Sampling Point: SP-708

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 2/1	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428725 Long: -98.818685 Datum: NAD83

Soil Map Unit Name: Hoven silt loam, 0 to 1 percent 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-709 is a wetland sample plot located in W-707, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Spartina pectinata*	100 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Rapid Test is met. Photograph C-122.

SOIL

Sampling Point: SP-709

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 2/1	95	10YR 4/4	5	C	PL	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicators F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☒ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	0.25
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

Remarks: Wetland hydrology indicator A1, A2, A3, C3, D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-710

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S18, T111N, R66W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428708 Long: -98.818716 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

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.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Poa pratensis*	50 %	Y	FACU
2. *Bromus inermis*	45 %	Y	UPL
3. *Artemisia biennis*	5 %	N	FACU
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-123.

SOIL

Sampling Point: SP-710

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-12	10YR 2/1	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-711

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S22, T111N, R67W

Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.399814 Long: -98.865263 Datum: NAD83

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? ☐ Yes ☒ No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology
Significantly Disturbed?	☒	☒	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-711 is a wetland sample plot located in W-708, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Echinochloa crus-galli*	25 %	Y	FAC
2. *Setaria pumila*	15 %	Y	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	40 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 60 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	0 %	x 1 =	0
FACW species	0 %	x 2 =	0
FAC species	25 %	x 3 =	75
FACU species	15 %	x 4 =	60
UPL species	0 %	x 5 =	0
Column Totals:	40 %	(A)	135 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☒ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

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.

SOIL

Sampling Point: SP-711

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-10	10YR 2/1	95	10YR 4/3	5	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	4
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-712

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S22, T111N, R67W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.399786 Long: -98.865246 Datum: NAD83

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
Significantly Disturbed?	☒	☒	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

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.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glycine max*	90 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation present was agricultural soybean. Photograph C-125.

SOIL

Sampling Point: SP-712

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 2/1	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-713

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S23, T111N, R67W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 1 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.407817 Long: -98.845507 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-713 is a wetland sample plot located in W-710, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Spartina pectinata*	95 %	Y	FACW
2. *Helianthus maximiliani*	5 %	N	FACU
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Rapid Test is met. Photograph C-127.

SOIL

Sampling Point: SP-713

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	94	10YR 4/4	6	C	M	silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☐	
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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): K. Russo, J. Kensinger Section, Township, Range: S23, T111N, R67W

Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 3 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.407737 Long: -98.845541 Datum: NAD83

Soil Map Unit Name: Glenham-Propser loams, 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

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 rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Bromus inermis*	80 %	Y	UPL
2. *Solidago rugosa*	10 %	N	FAC
3. *Bouteloua curtipendula*	10 %	N	UPL
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	100 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 0 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-128.

SOIL

Sampling Point: SP-714

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 3/1	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-715

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S26, T111N, R67W

Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.398875 Long: -98.853471 Datum: NAD83

Soil Map Unit Name: Prosper-Stickney loams, 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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-715 is a wetland sample plot located in W-711, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Equisetum hyemale*	90 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Rapid Test is met. Photograph C-129.

SOIL

Sampling Point: SP-715

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	90	10YR 5/3	10	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☐	
Water Table present?	☐	☐	
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-716

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S26, T111N, R67W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.398812 Long: -98.853562 Datum: NAD83

Soil Map Unit Name: Prosper-Stickney loams, 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
Significantly Disturbed?	☒	☒	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

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.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glycine max*	40 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	40 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 60 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation present is agricultural soybean. Photograph C-130.

SOIL

Sampling Point: SP-716

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					silty clay loam	
4-8	10YR 3/2	100					sandy clay	
8-16	10YR 2/1	100					silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-717

Investigator(s): K. Russo, J. Kensinger 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: 44.416593 Long: -98.811582 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-717 is a wetland sample plot located in W-712, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Echinochloa crus-galli*	80 %	Y	FAC
2. *Rumex crispus*	10 %	N	FAC
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☒ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Dominance Test is met. Photograph C-131.

SOIL

Sampling Point: SP-717

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100					silty clay loam	
4-16	10YR 2/1	92	10YR 3/3	5	C	M	silty clay loam	
			10YR 4/1	3	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☐	
Water Table present?	☒	☐	4
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-718

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S18, T111N, R66W

Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.416538 Long: -98.811671 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?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: SP-718 is an upland sample plot located adjacent to W-712, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Glycine max*	60 %	Y	UPL
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	60 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 40 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation present is agricultural soybean. Photograph C-132.

SOIL

Sampling Point: SP-718

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 2/1	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

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 Spring Wheat Region Lat: 44.415644 Long: -98.803696 Datum: NAD83

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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☒	☐
Hydric Soil Present?	☒	☐
Wetland Hydrology Present?	☒	☐
Is the Sampled Area within a Wetland?	☒	☐

Remarks: SP-719 is a wetland sample plot located in W-713, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Spartina pectinata*	95 %	Y	FACW
2.	%		
3.	%		
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	95 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 5 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

☒ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☒ Yes ☐ No

Remarks: The Rapid Test is met. Photograph C-133.

SOIL

Sampling Point: SP-719

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	96	10YR 3/3	4	C	M	silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☒ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☒ Yes ☐ No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☒ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☒ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☒	☐	0.5
Water Table present?	☒	☐	0
Saturation Present? (includes capillary fringe)	☒	☐	0
Wetland Hydrology Present?	☒	☐	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

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-720

Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S18, T111N, R66W

Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 5 %

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.415640 Long: -98.803628 Datum: NAD83

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
Significantly Disturbed?	☐	☐	☐
Naturally Problematic?	☐	☐	☐

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.

	Yes	No
Hydrophytic Vegetation Present?	☐	☒
Hydric Soil Present?	☐	☒
Wetland Hydrology Present?	☐	☒
Is the Sampled Area within a Wetland?	☐	☒

Remarks: SP-720 is an upland sample plot located adjacent to W-712, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30 ft.)	Absolute % Cover	Dominant Species?	Indicator Status
1.	%		
2.	%		
3.	%		
4.	%		
	0 %	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft.)			
1.	%		
2.	%		
3.	%		
4.	%		
5.	%		
	0 %	= Total Cover	
Herb Stratum (Plot size: 5 ft.)			
1. *Schedonorus arundinaceus*	50 %	Y	FACU
2. *Bromus inermis*	20 %	Y	UPL
3. *Poa pratensis*	15 %	N	FACU
4. *Solidago rugosa*	5 %	N	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	90 %	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft.)			
1.	%		
2.	%		
	0 %	= Total Cover	

Bare Ground in Herb Stratum 10 %

Dominance Test Worksheet:

Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet:

Total % Cover of:		Multiply by:	
OBL species	%	x 1 =	0
FACW species	%	x 2 =	0
FAC species	%	x 3 =	0
FACU species	%	x 4 =	0
UPL species	%	x 5 =	0
Column Totals:	0 %	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ 1 Rapid Test for Hydrophytic Vegetation

☐ 2 Dominance Test is >50%

☐ 3 Prevalence Index is ≤3.0[1]

☐ 4 Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (explain)

[1] Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? ☐ Yes ☒ No

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-134.

SOIL

Sampling Point: SP-720

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
0-16	10YR 2/2	100					silty clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR F**)
- ☐ 1 cm Muck (A9) (**LRR F, G, H**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (**LRR G, H**)
- ☐ 5 cm Mucky Peat or Peat (S3) (**LRR F**)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 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)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

☐ Yes ☒ No

Remarks: Hydric soil indicators are not met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)
- ☐ Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:	Yes	No	Depth (inches)
Surface Water present?	☐	☒	
Water Table present?	☐	☒	
Saturation Present? (includes capillary fringe)	☐	☒	
Wetland Hydrology Present?	☐	☒	

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

Remarks: Wetland hydrology indicators are not met.