EXHIBIT D

November 14, 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 an approximately new 200-megawatt wind farm and associated overhead transmission line and substation in Hand County, South Dakota. The proposed Project would include construction of up to 71 wind turbines, permanent access roads, operations and maintenance facility, up to 3 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 setback buffers applied to the proposed Project layout (Survey Area). Specifically, a 250-foot buffer (500-foot diameter) was applied to each turbine center-point, a 200-foot buffer was applied to each facility footprint, a 100-foot buffer (200-feet wide) was applied to the gen-tie transmission line, a 25-foot buffer (50-feet wide) was applied to the access roads, a 18-foot buffer (36-feet wide) was applied to the crane paths, and a 15-foot buffer (30-feet wide) was applied to the underground collection lines. The Survey Area included in the wetland delineation totaled approximately 862 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, with an additional field delineation in September 2019. These wetland delineations were done 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.

Based on lack of access and restrictive weather conditions, approximately 15% 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. It is recommended that the entire Survey Area be field verified as feasible prior to submitting this report for regulatory review and the start of construction.

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 unit is rated hydric, one map unit 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 69 palustrine emergent (PEM) wetlands and10 palustrine aquatic bed (PAB) wetlands 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 and September 2019. 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	6.76	3.16	Wetter than normal
October 2018	2.46	1.70	Wetter than normal
September 2019	4.58	1.79	Wetter than normal

Source: Miller, SD Wetland Climate Tables (WETS)

Delineation Areas

During the wetland delineation efforts, 26 wetlands and 24 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 26 wetlands, comprised of one wetland type: PEM and encompassing a total of 4.5 acres, were identified (Photograph Log, Appendix C). 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.

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-005	PEM	0.34	A-4.21
W-501	PEM	0.09	A-4.2
W-507	PEM	0.10	A-4.4
W-508	PEM	0.16	A-4.4
W-510	PEM	0.03	A-4.4
W-518	PEM	0.04	A-4.9
W-520	PEM	0.03	A-4.14
W-524	PEM	0.12	A-4.11
W-526	PEM	1.87	A-4.11
W-537	PEM	0.10	A-4.11
W-548	PEM	0.05	A-4.7
W-550	PEM	0.01	A-4.7
W-554	PEM	0.15	A-4.18

Wetland Number[a, b]	Wetland Type[c]	Acreage in Survey Area	Figure A-4 Page Number
W-558	PEM	0.02	A-4.13
W-566	PEM	0.45	A-4.20
W-579	PEM	0.01	A-4.23
W-580	PEM	0.05	A-4.19
W-584	PEM	0.03	A-4.19
W-591d	PEM	0.22	A-4.10
W-611d	PEM	0.06	A-4.21
W-614d	PEM	0.02	A-4.17
W-630d	PEM	0.05	A-4.8
W-710	PEM	0.04	A-4.10
W-712	PEM	0.39	A-4.11
W-713	PEM	0.04	A-4.11
W-901	PEM	0.05	A-4.23
	Total:	**4.52**	

(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

Streams

A total of 24 streams, consisting of two stream types (intermittent and ephemeral) and equaling 5,118 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 864 linear 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 21 ephemeral streams, extending for a total of 4,254 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-003	Intermittent	34	A-4.21
S-004	Intermittent	455	A-4.21
S-502	Ephemeral	317	A-4.5
S-504	Ephemeral	543	A-4.4
S-508	Ephemeral	36	A-4.15
S-510	Ephemeral	272	A-4.11
S-513	Ephemeral	77	A-4.6
S-514	Ephemeral	227	A-4.17
S-516	Ephemeral	361	A-4.7
S-517	Ephemeral	8	A-4.7
S-518	Ephemeral	221	A-4.6
S-519	Ephemeral	76	A-4.3
S-521	Ephemeral	211	A-4.13
S-522	Ephemeral	234	A-4.13
S-523	Intermittent	375	A-4.13
S-526	Ephemeral	520	A-4.20
S-701	Ephemeral	83	A-4.1
S-702	Ephemeral	314	A-4.11
S-703	Ephemeral	36	A-4.8

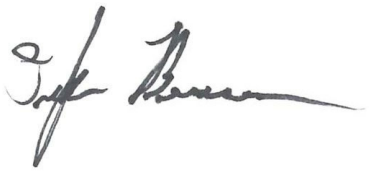
Stream Number[a]	Flow Classification	Length of Stream in Survey Area (feet)	Figure A-4 Page Number
S-704	Ephemeral	488	A-4.12
S-705	Ephemeral	42	A-4.12
S-707	Ephemeral	33	A-4.8
S-708	Ephemeral	32	A-4.4
S-901	Ephemeral	123	A-4.23
	Total	**5,118**	

(a) S = stream

SUMMARY

Burns & McDonnell conducted a wetland delineation of the Survey Area to identify wetlands and other water bodies. A total of 26 wetlands and 24 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

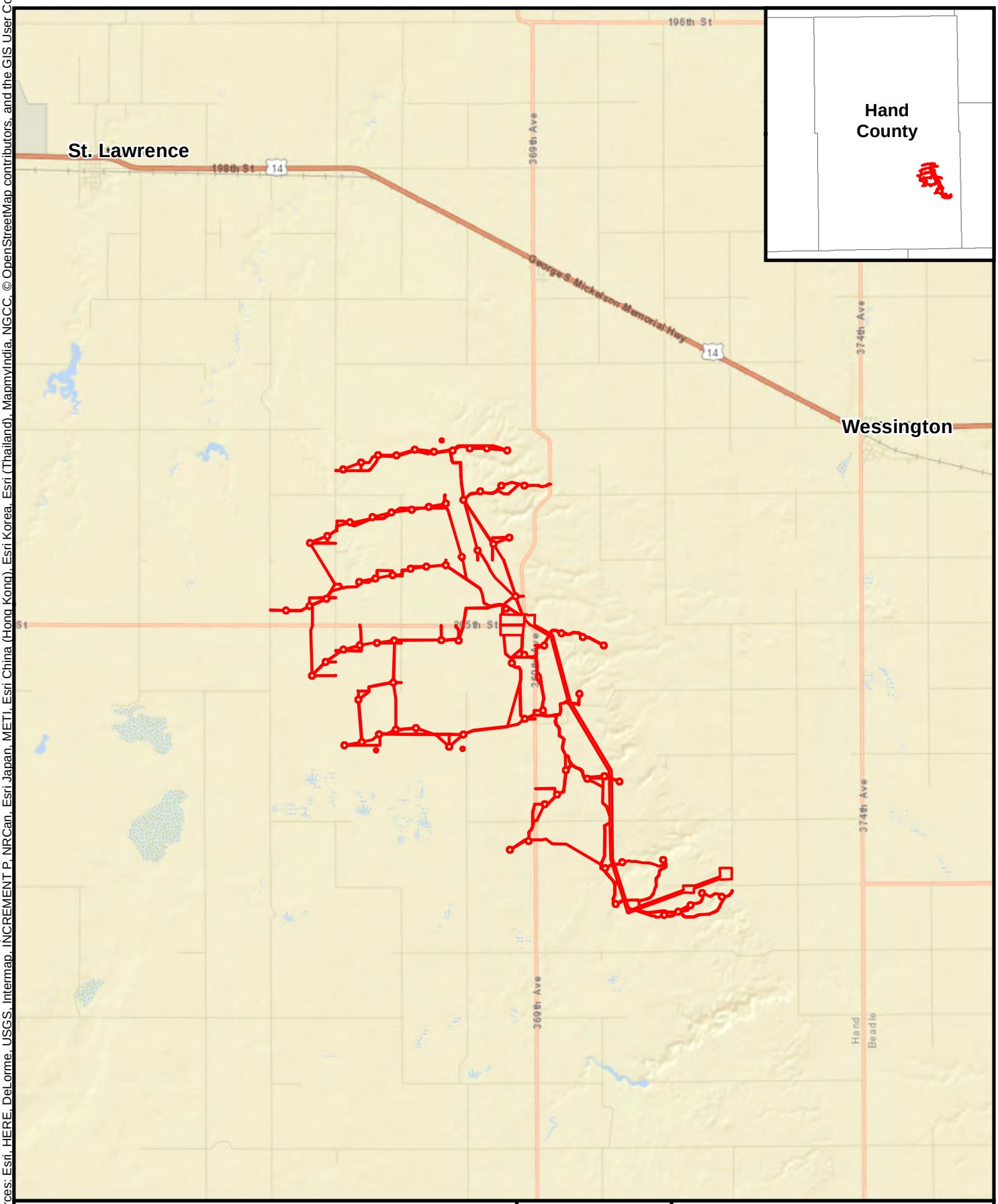


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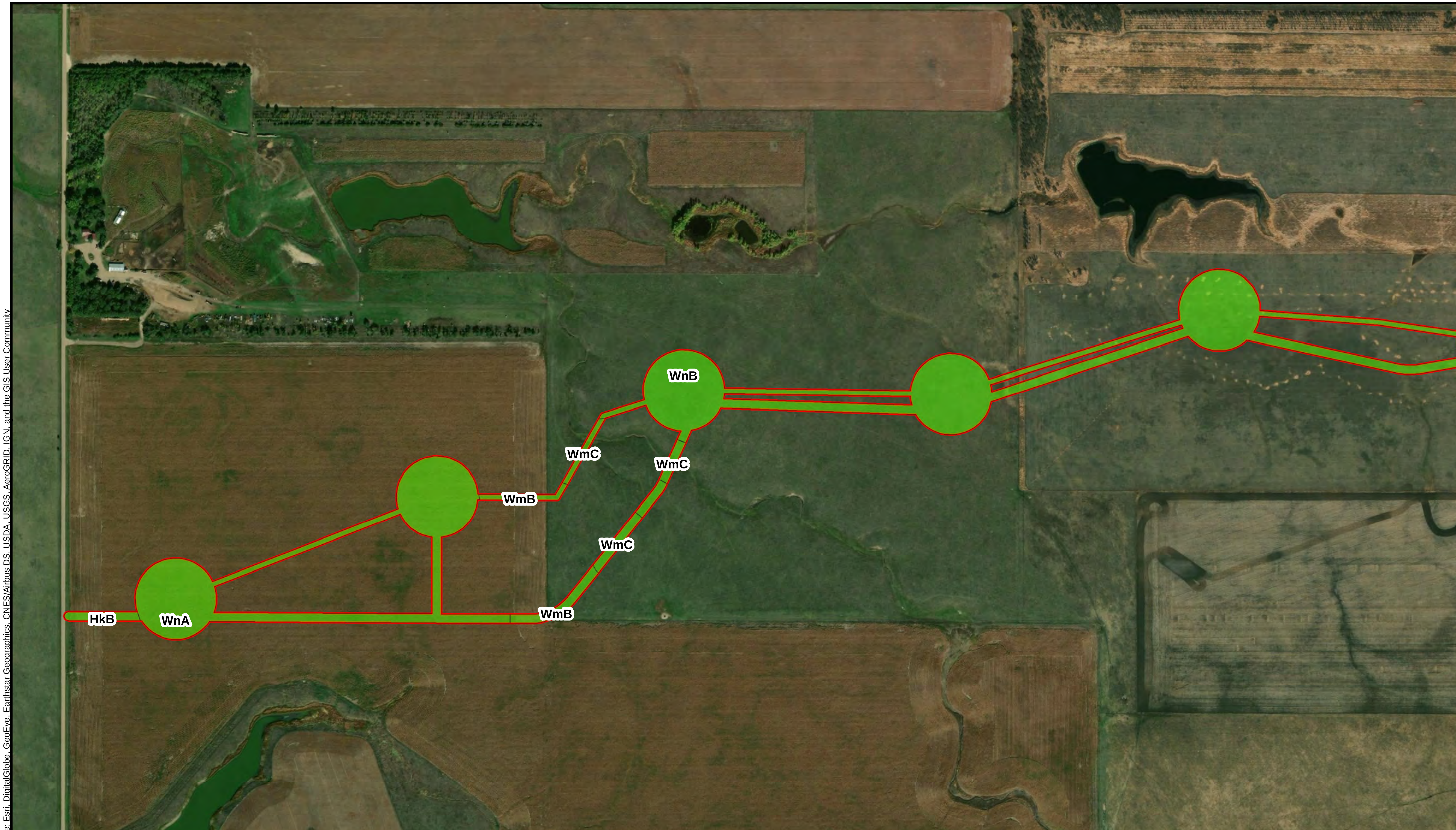
Figure A-1
Location and Overview Map
Sweetland Wind Farm Project
Hand County, South Dakota

Source: ESRI and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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: 11/12/2019

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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

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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

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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)

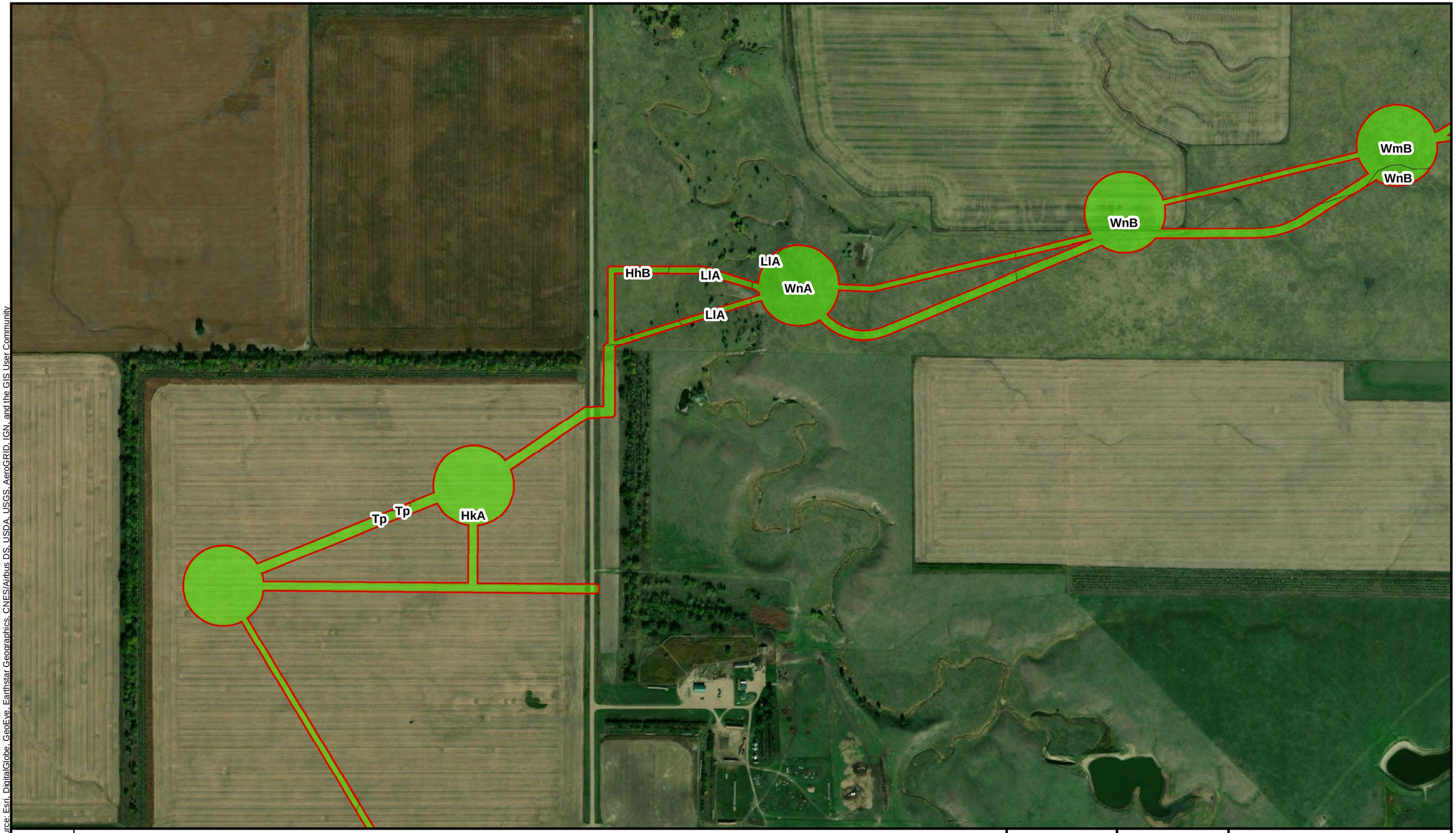
* See attached table at the end of this Figure A-2 for index of soil map unit names

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

BURNS McDONNELL

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

Issued: 11/12/2019



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

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

Issued: 11/12/2019

NORTH

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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

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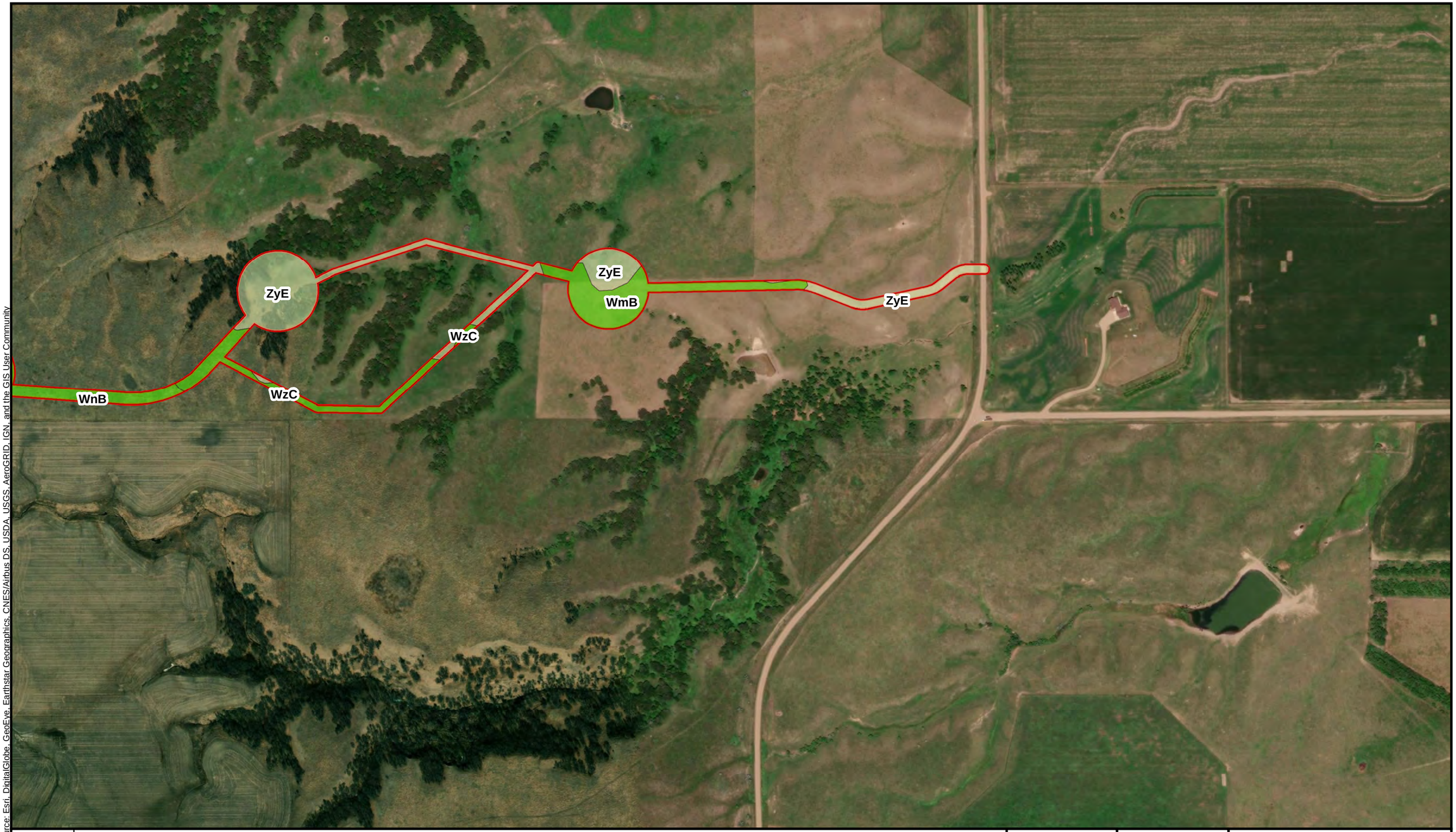
Figure A-2.4
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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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.

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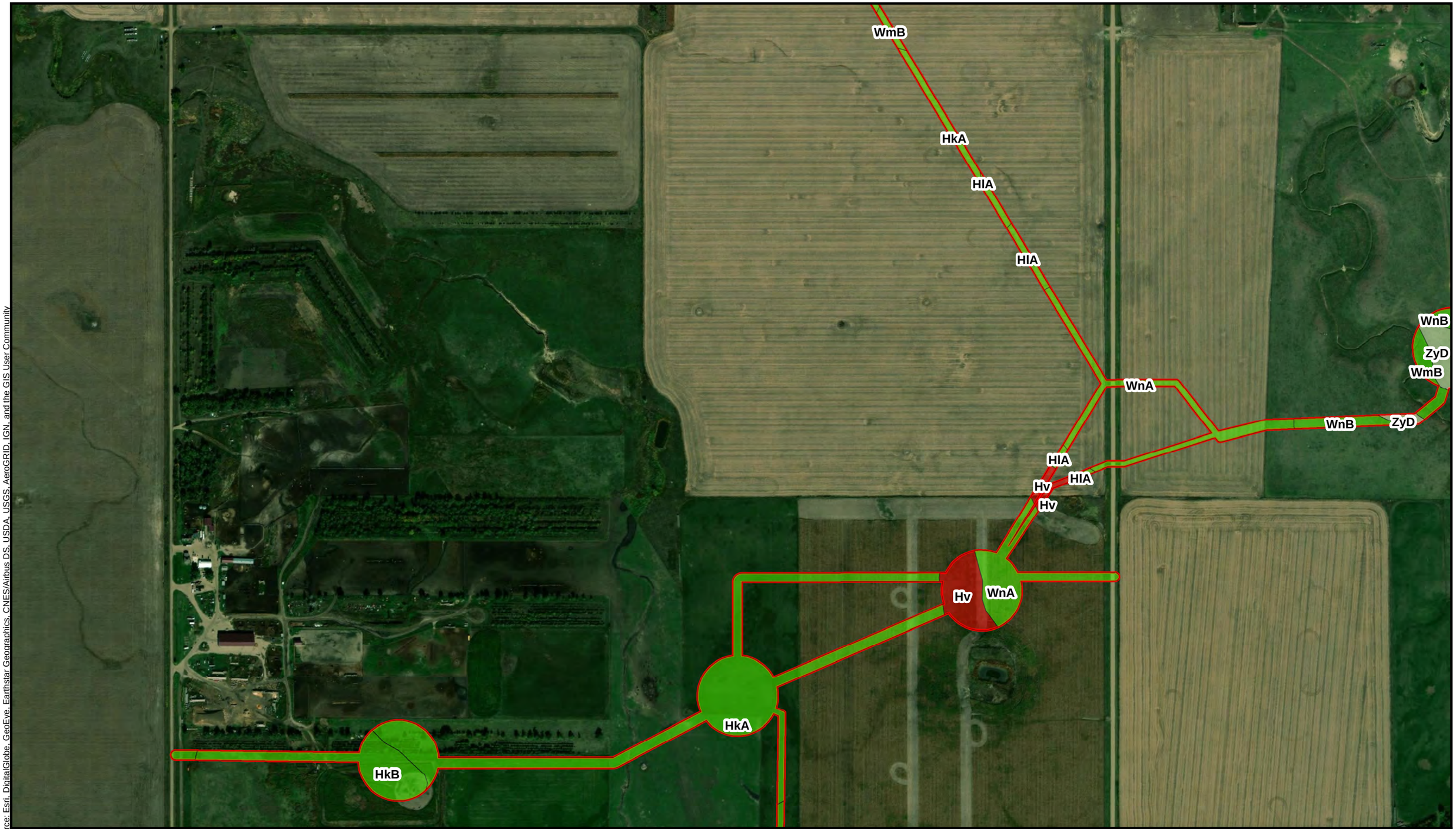
Figure A-2.5
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 11/12/2019



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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

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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: 11/12/2019

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)

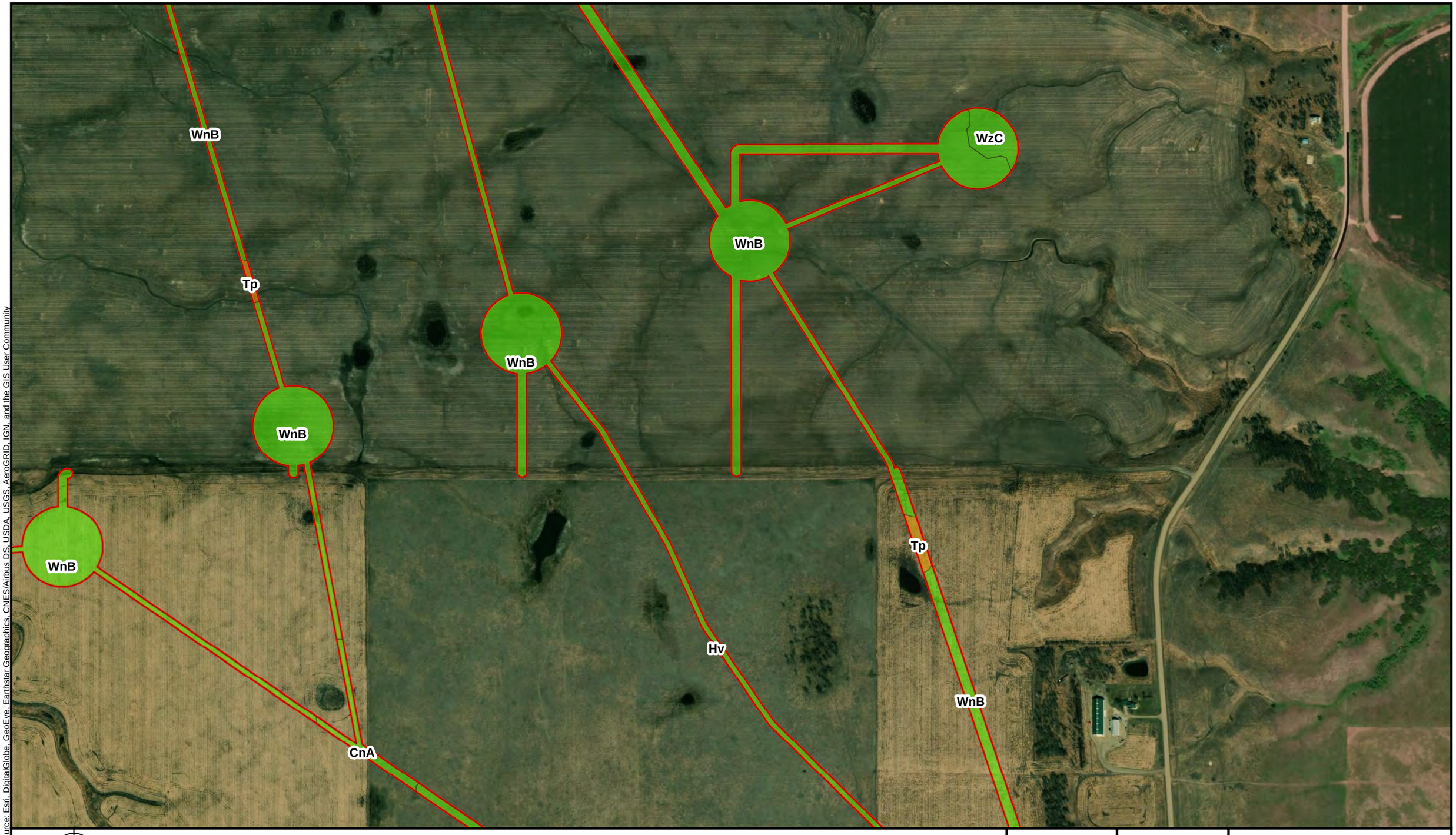
* See attached table at the end of this Figure A-2 for index of soil map unit names

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: 11/12/2019



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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

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

Issued: 11/12/2019

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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

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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)

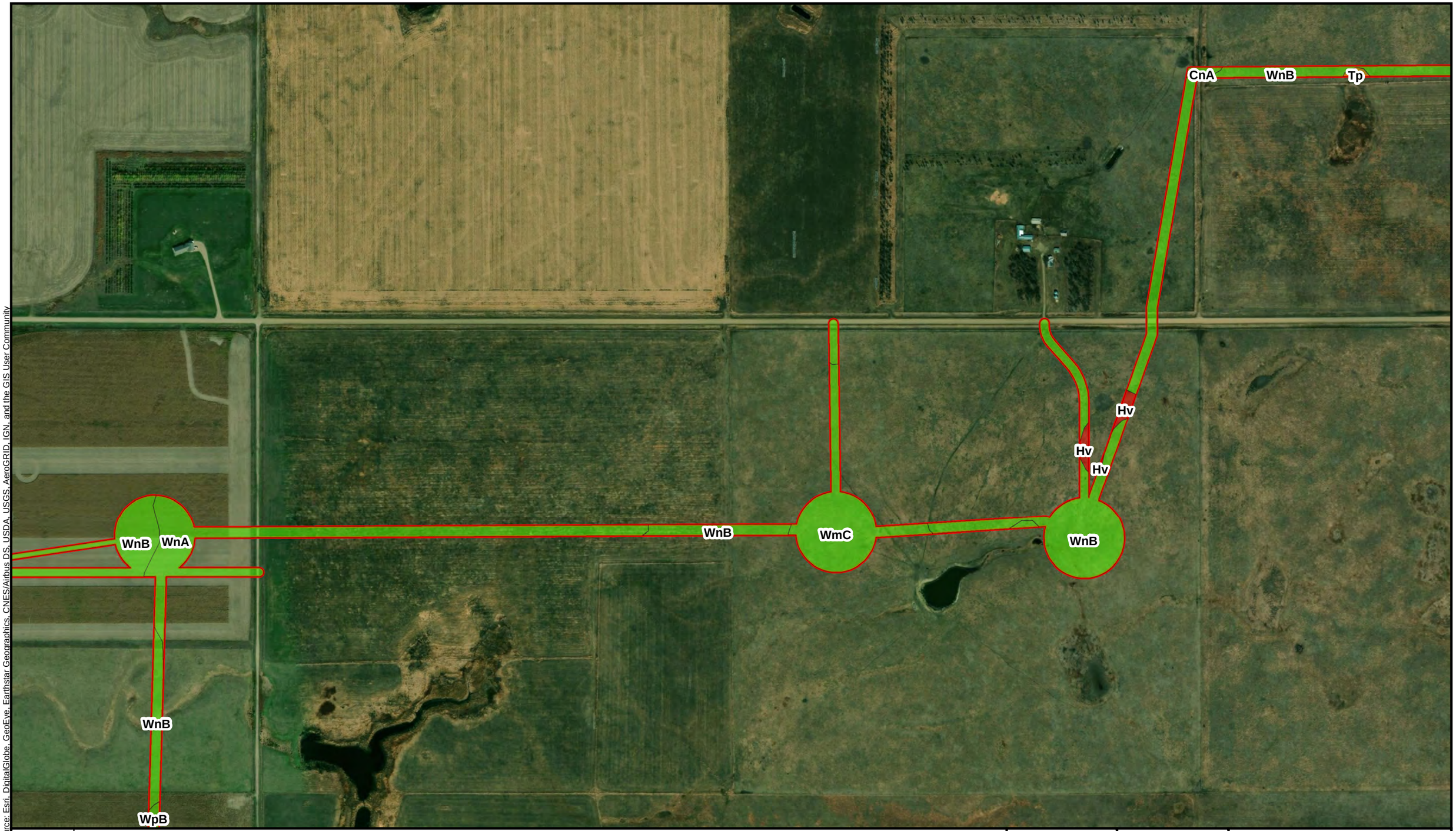
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

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

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

Issued: 11/12/2019



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Scale = 1 Inch = 500 Feet

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Survey Area

SSURGO Soil Map Unit & Hydric Rating*

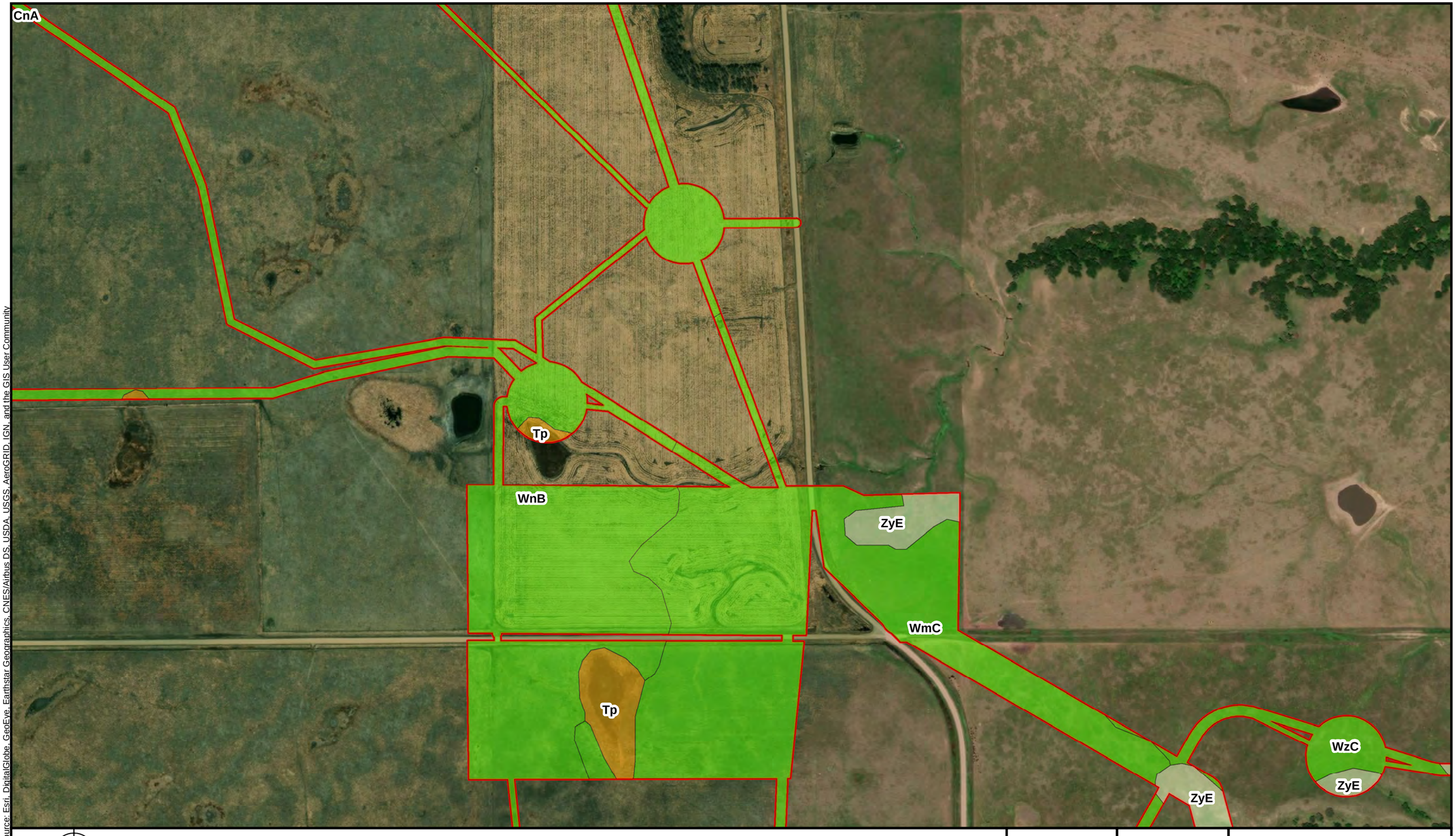
- Non-Hydric (0)
- Predominantly Non-Hydric (1-32)
- Partially Hydric (33-65)
- Predominantly Hydric (66-99)
- Hydric (100)

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

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: 11/12/2019



NORTH

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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)

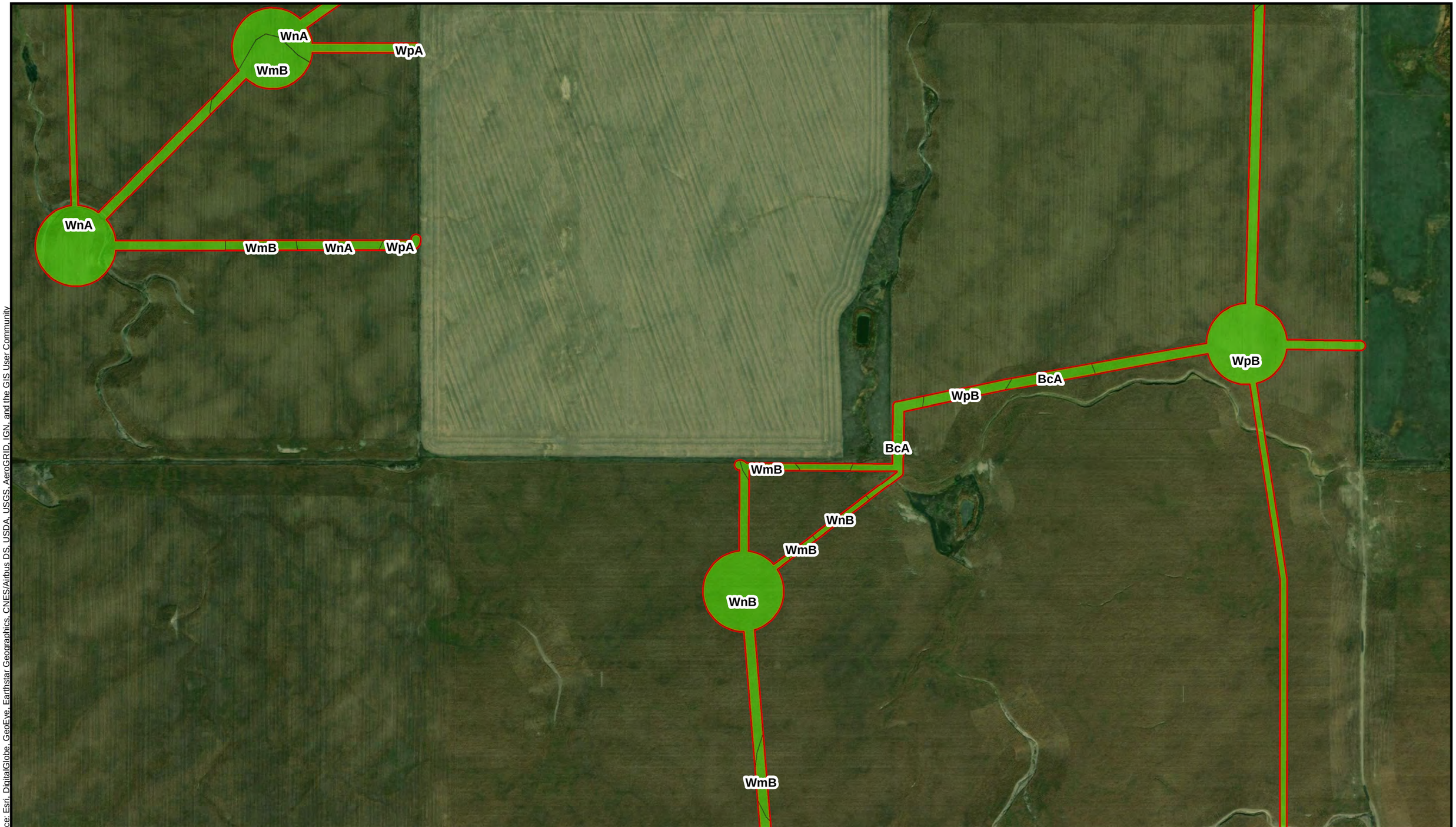
* See attached table at the end of this Figure A-2 for index of soil map unit names

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: 11/12/2019



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)

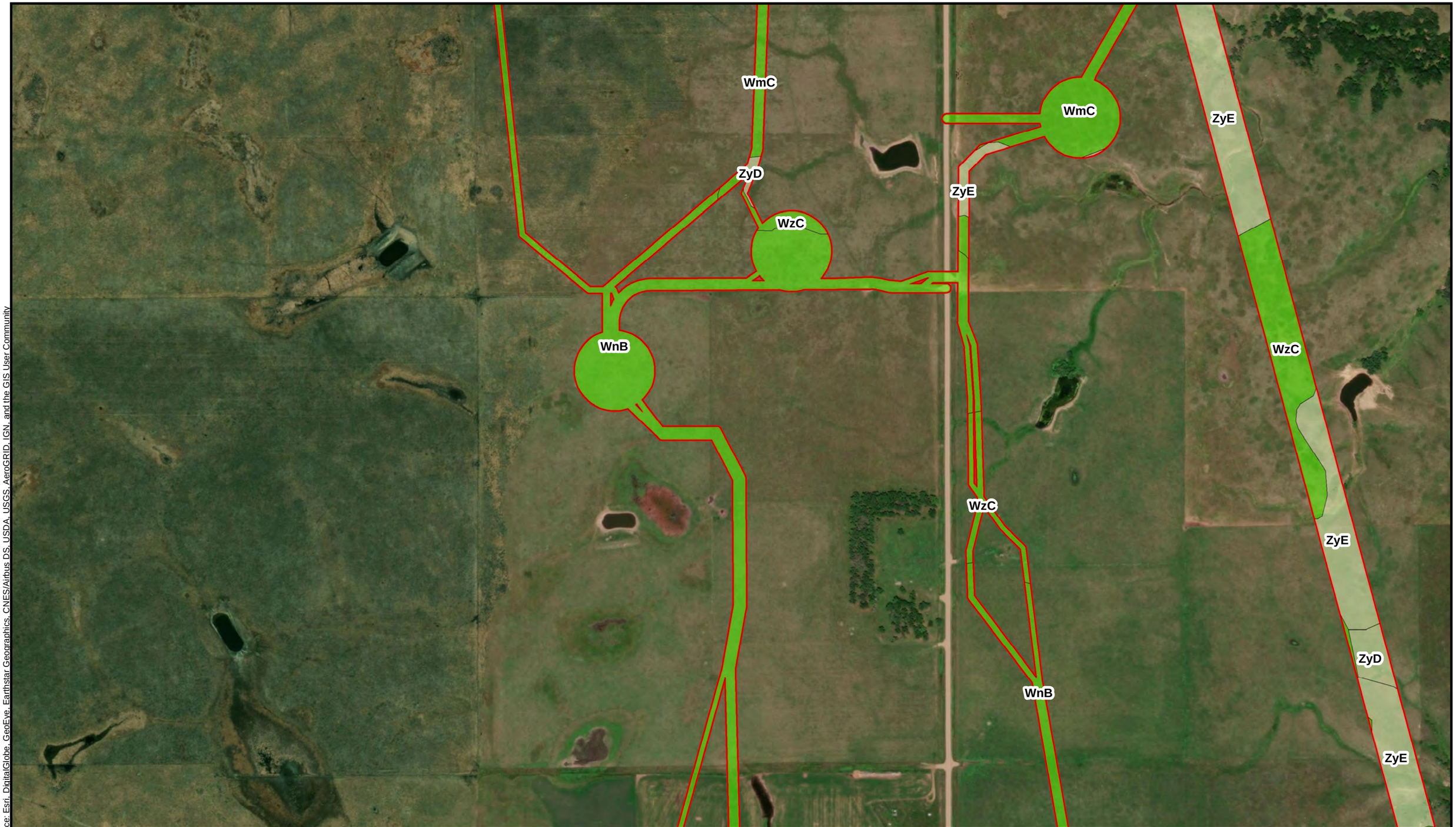
* See attached table at the end of this Figure A-2 for index of soil map unit names

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: 11/12/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

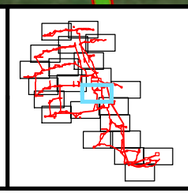
Legend

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

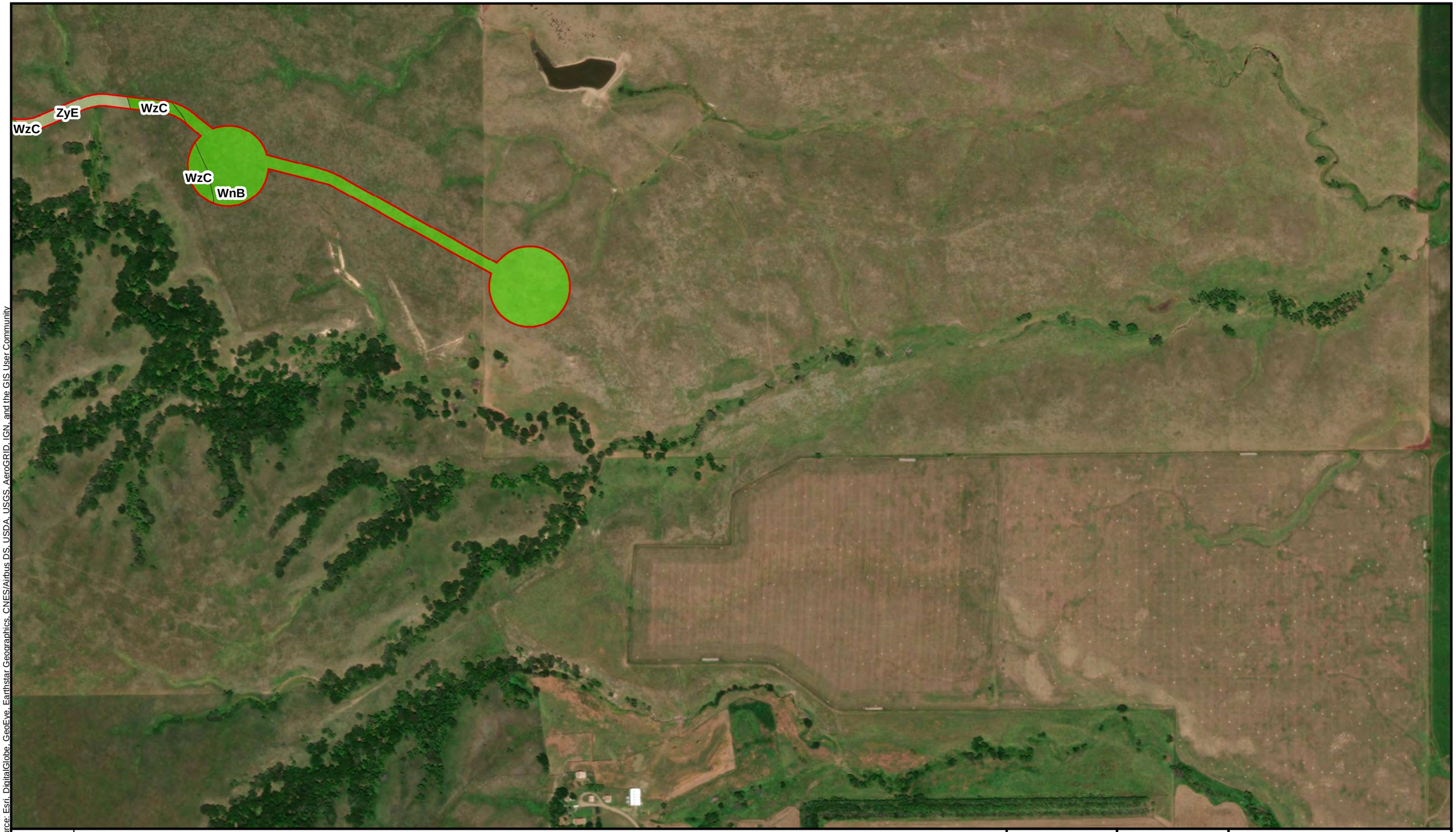


BURNS McDONNELL

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

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

Issued: 11/12/2019



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

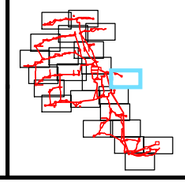


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Figure A-2.14
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019

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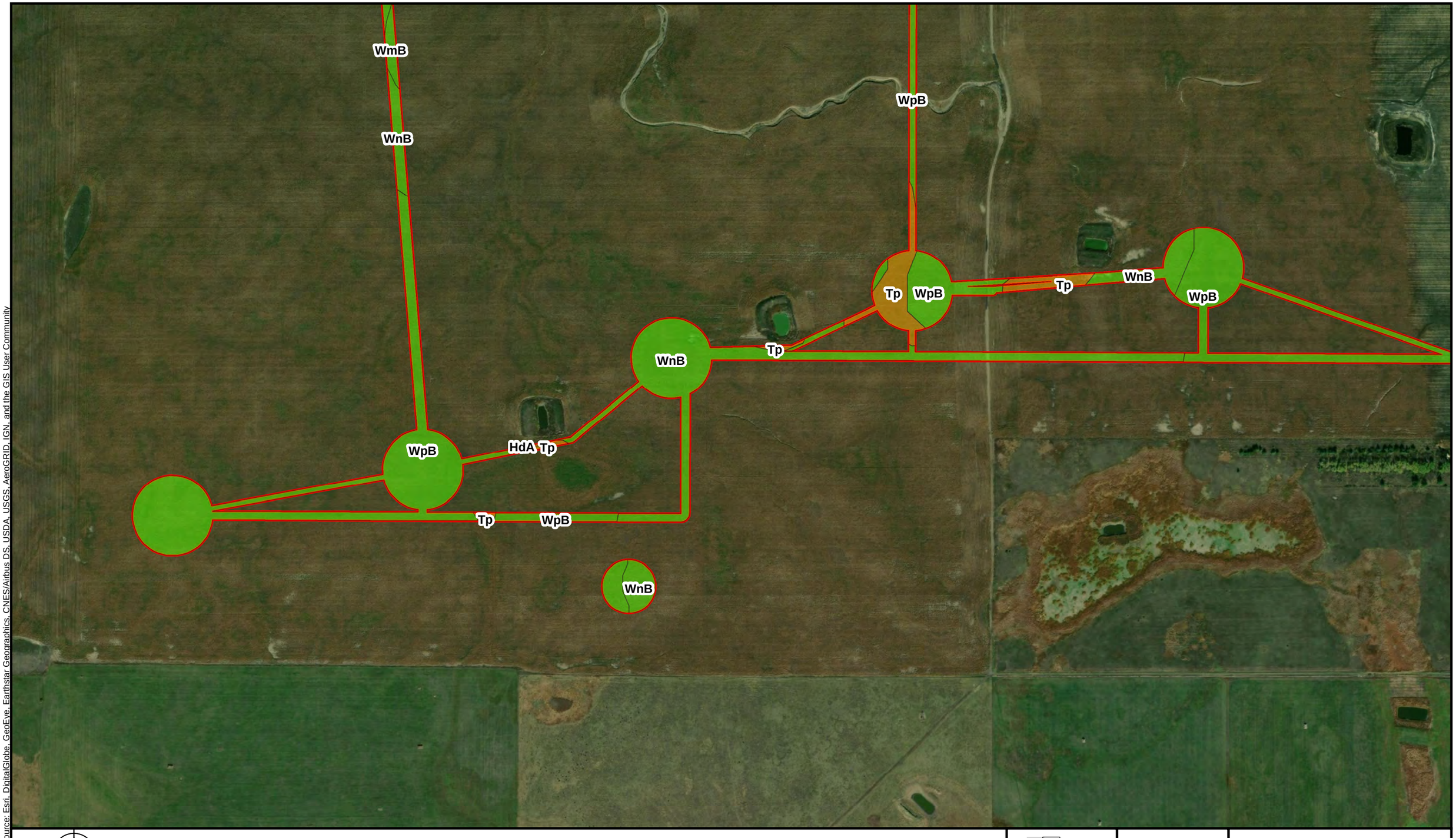


NORTH

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)

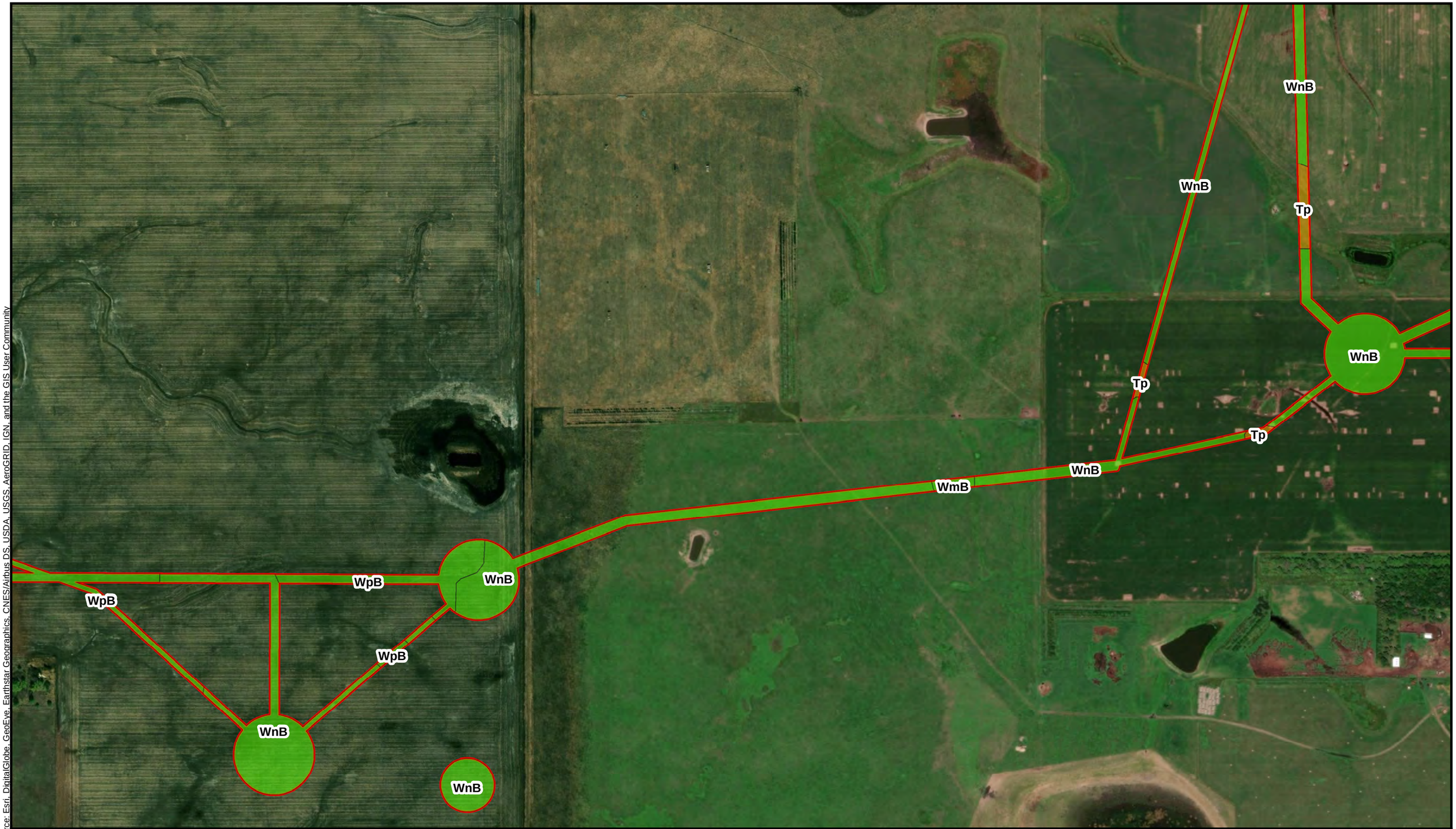
* See attached table at the end of this Figure A-2 for index of soil map unit names

BURNS McDONNELL

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

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

Issued: 11/12/2019



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

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

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WzC
ZyD
WzC
WnB
ZyE
Tp
ZyE
WnB
Tp
WmB
WmB

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)

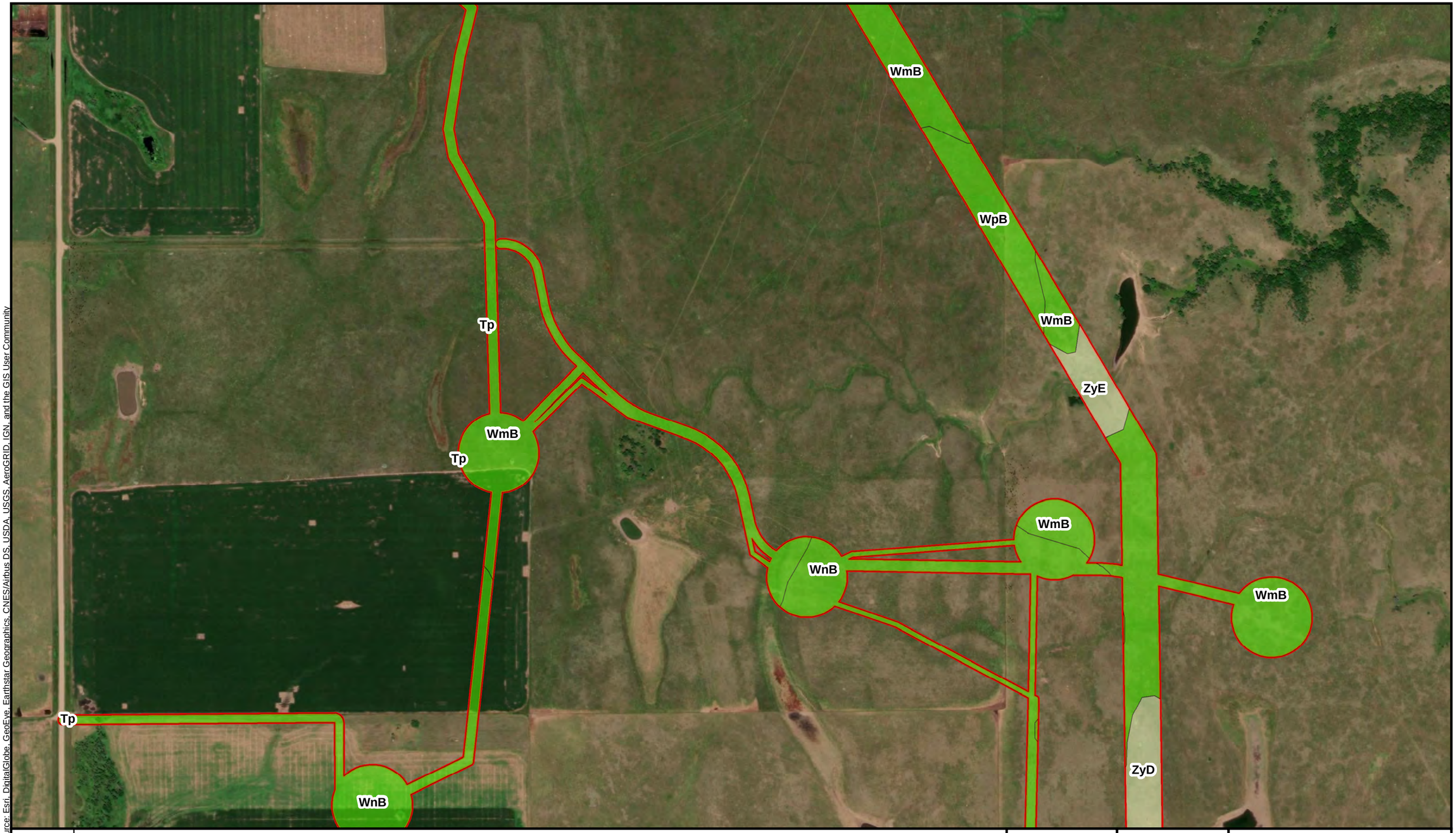
* See attached table at the end of this Figure A-2 for index of soil map unit names

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.

Issued: 11/12/2019



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

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

Issued: 11/12/2019

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

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

Issued: 11/12/2019

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: 11/12/2019

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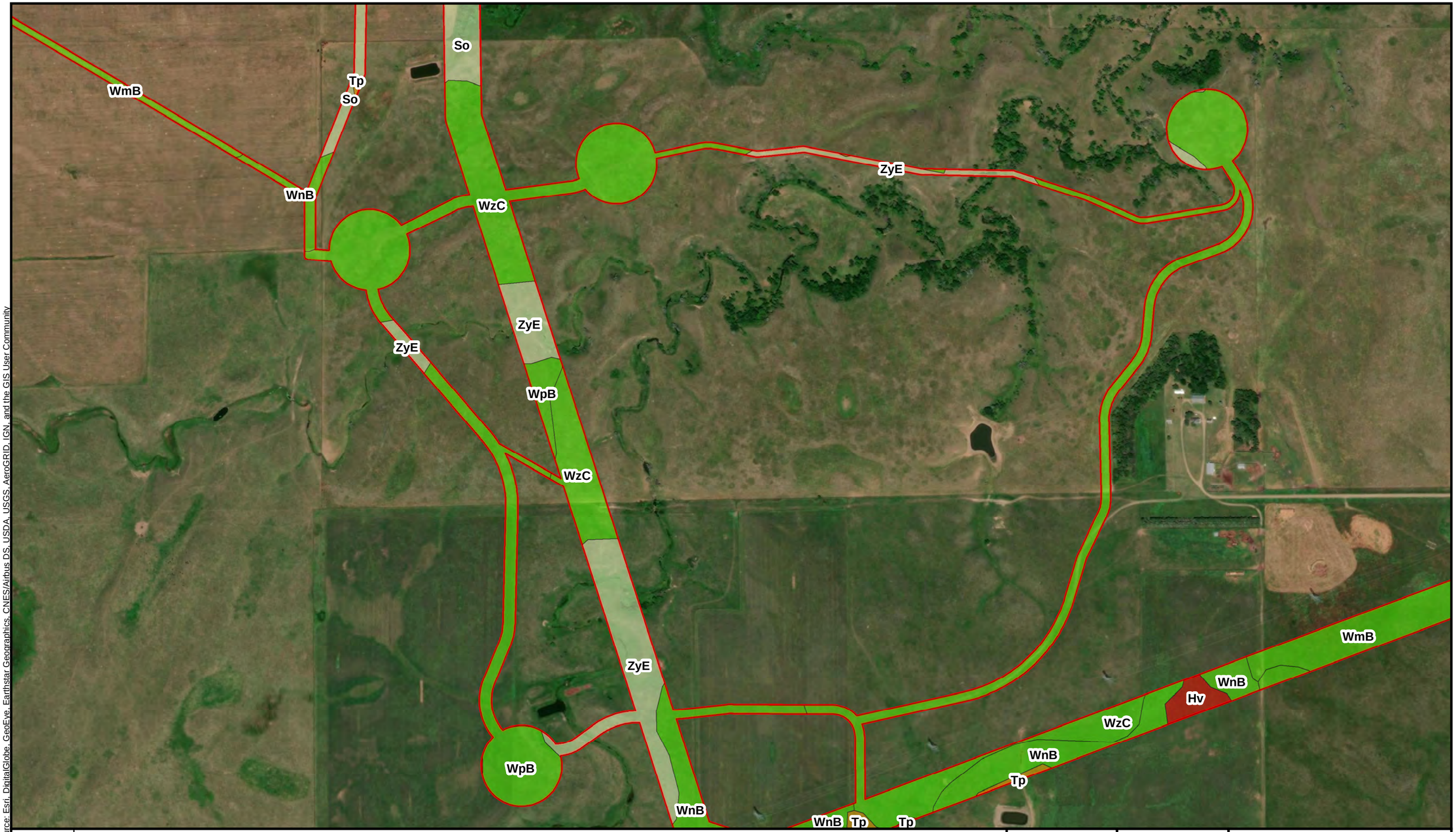


NORTH

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

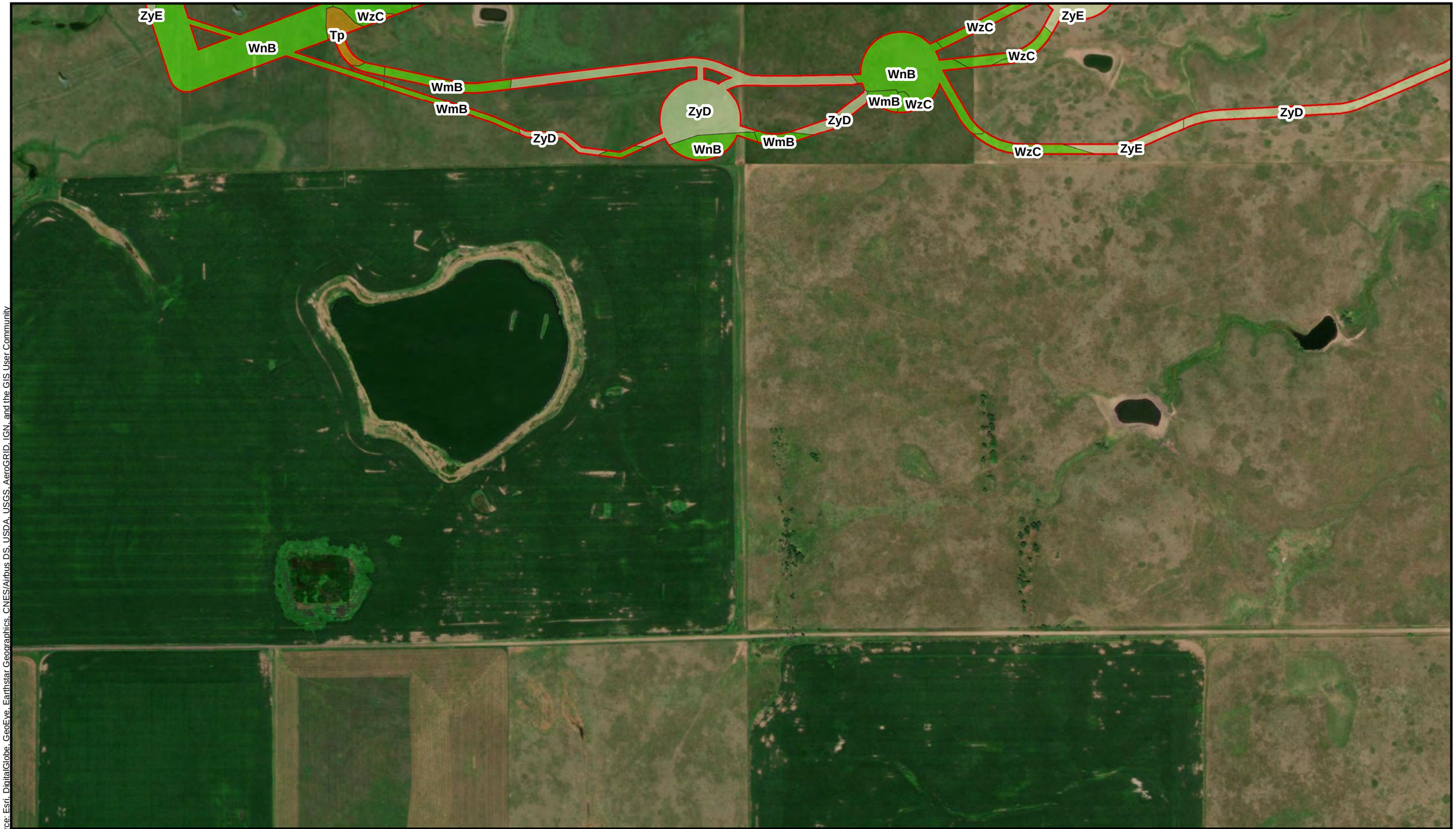
Figure A-2.21
Hydric Soils & Aerial Imagery
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 11/12/2019

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

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: 11/12/2019

ZyD
LnB
WzC
ZyE
ZyD
WzC
WmB
ZyD
ZyE
ZyE
ZyD
WnB

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

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

Issued: 11/12/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialData\Files\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 11/12/2019

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

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	1.7	0.2%
CaA	Dudley silt loam, nearly level	5	1.7	0.2%
CnA	Cavo-Glenham loams, nearly level	6	4.8	0.6%
HdA	Durrstein-Bon complex, nearly level	62	0.0	0.0%
HhB	Houdek loam, 2 to 6 percent slopes	4	0.9	0.1%
HkA	Houdek-Prosper loams, 0 to 2 percent slopes	3	25.5	3.0%
HkB	Houdek-Prosper loams, 1 to 6 percent slopes	3	3.7	0.4%
HlA	Houdek-Dudley complex, 0 to 2 percent slopes	5	0.6	0.1%
Hv	Hoven silt loam, 0 to 1 percent slopes	100	4.7	0.5%
LlA	Bon loam, channeled, 0 to 2 percent slopes, frequently flooded	9	0.7	0.1%
LnB	Lane loam, gently sloping	1	7.5	0.9%
So	Oahe-Delmont loams, 2 to 6 percent slopes	0	9.4	1.1%
Tp	Tetonka silt loam, 0 to 1 percent slopes	95	12.9	1.5%
W	Water	0	0.3	0.0%
WmB	Glenham loam, undulating	1	108.5	12.6%
WmC	Glenham loam, rolling	1	63.2	7.3%
WnA	Glenham-Prosper loams, 0 to 2 percent slopes	6	49.2	5.7%
WnB	Glenham-Propser loams, 1 to 6 percent slopes	6	322.0	37.4%
WpA	Glenham-Cavo loams, nearly level	10	9.2	1.1%
WpB	Glenham-Cavo loams, undulating	10	48.6	5.6%

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
WxC	Glenham-Java loams, rolling	1	2.5	0.3%
WzC	Glenham-Java loams, rolling	1	84.9	9.9%
ZxE	Betts-Java loams, steep	0	3.0	0.4%
ZyD	Java-Glenham loams, hilly	0	31.6	3.7%
ZyE	Betts-Java loams, steep	0	64.6	7.5%
Totals for Area of Interest			**861.6**	**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.

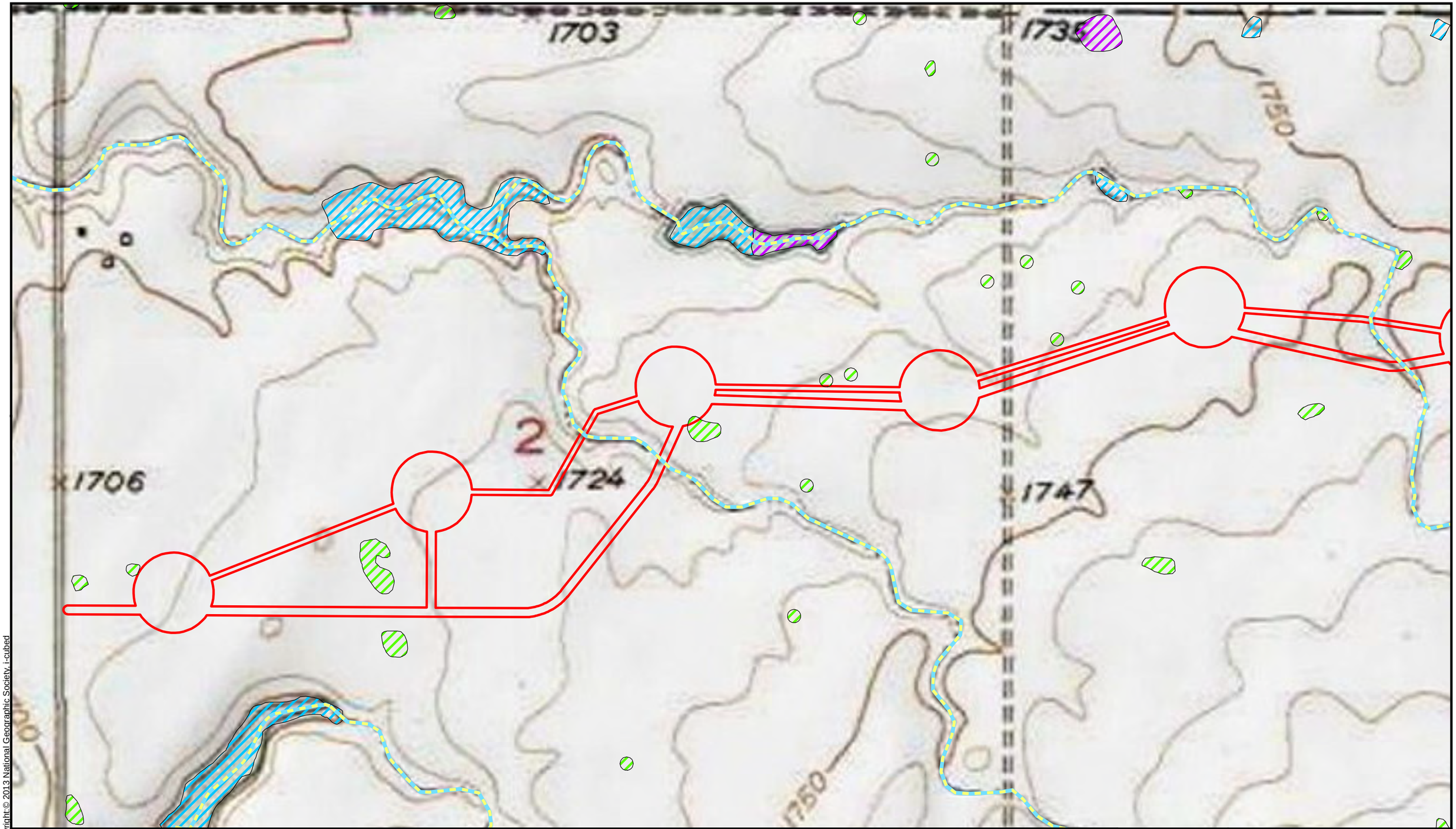
Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

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

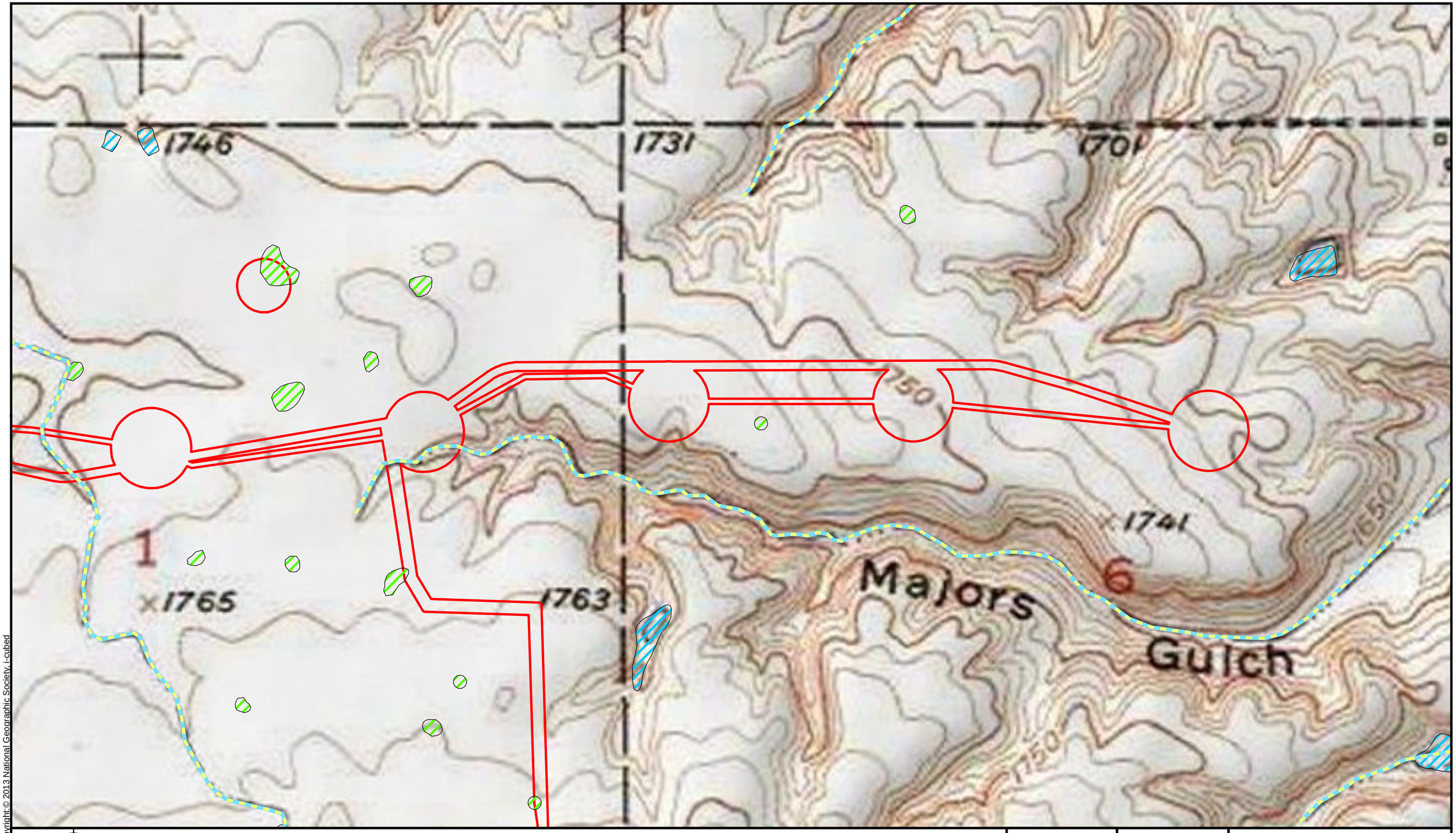
* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

BURNS McDONNELL

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

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

Issued: 11/12/2019



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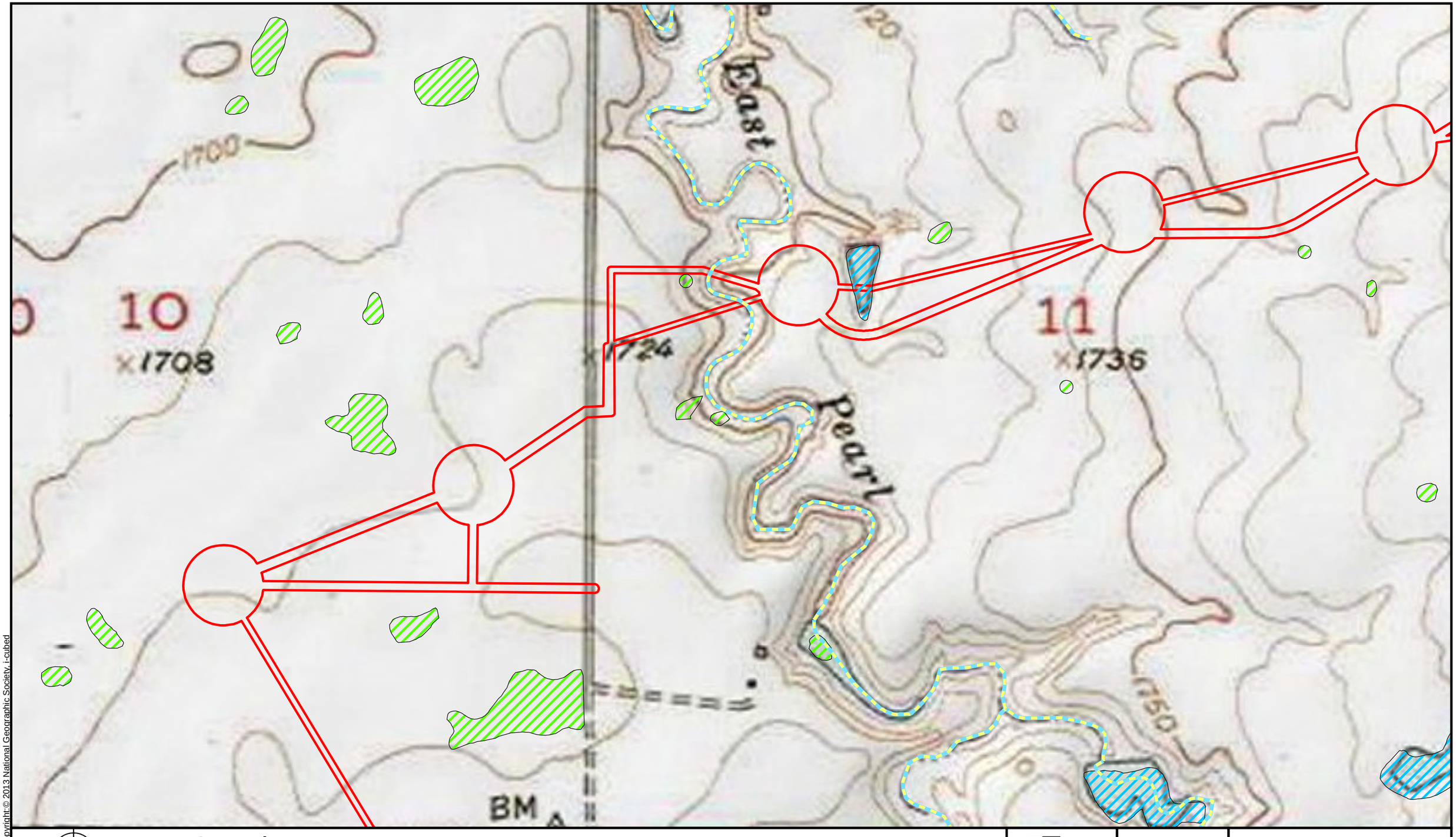
Figure A-3.2
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 11/12/2019



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.

BURNS McDONNELL

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

Issued: 11/12/2019

1772
1807
1815
1900
1788
1842
1835
12

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

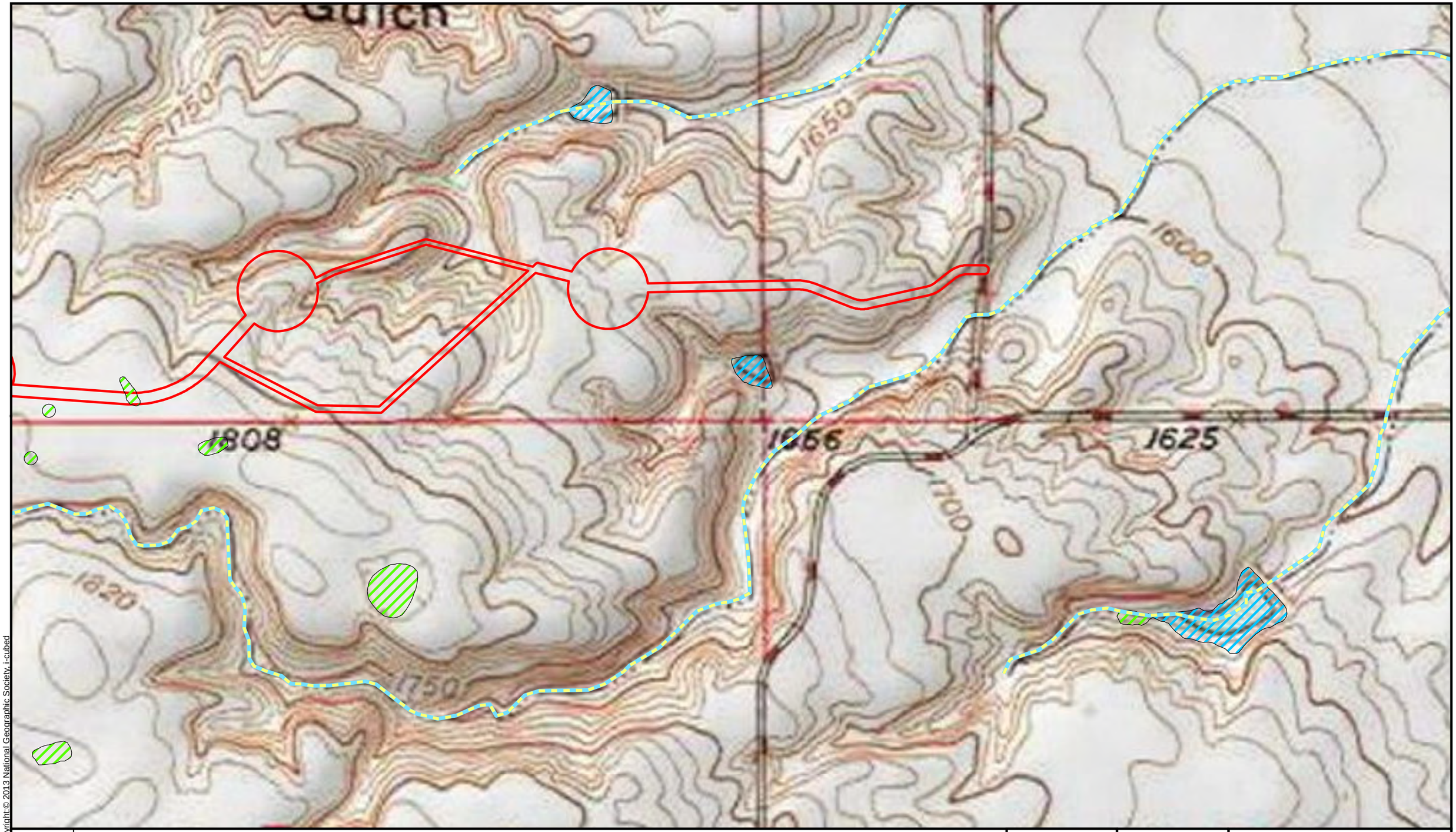
* Data Is Digitized From USFWS Paper Easement Documents Provided By Sweetland Wind Farm, LLC

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

BURNS McDONNELL

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

Issued: 11/12/2019



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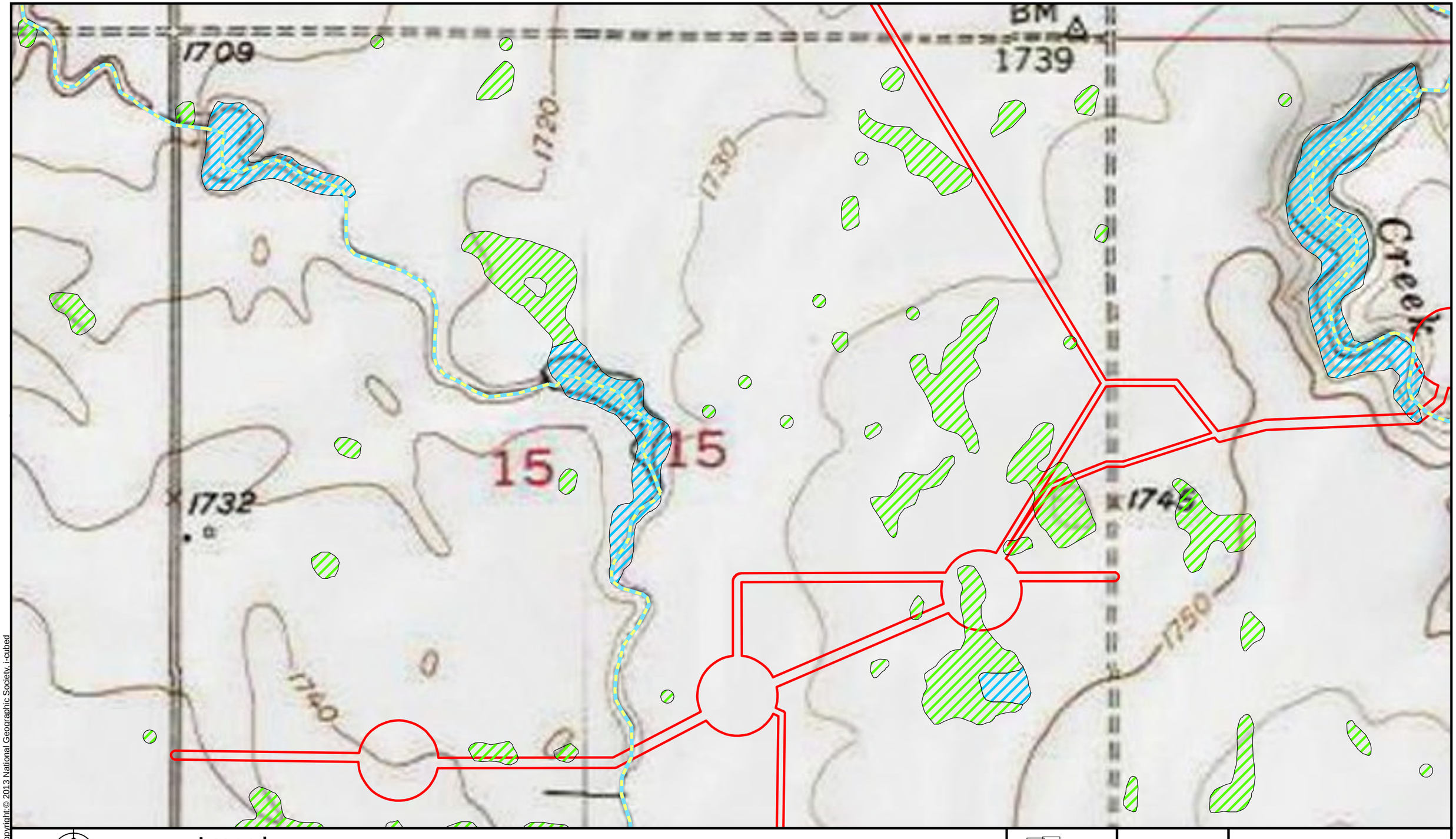
Figure A-3.5
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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

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

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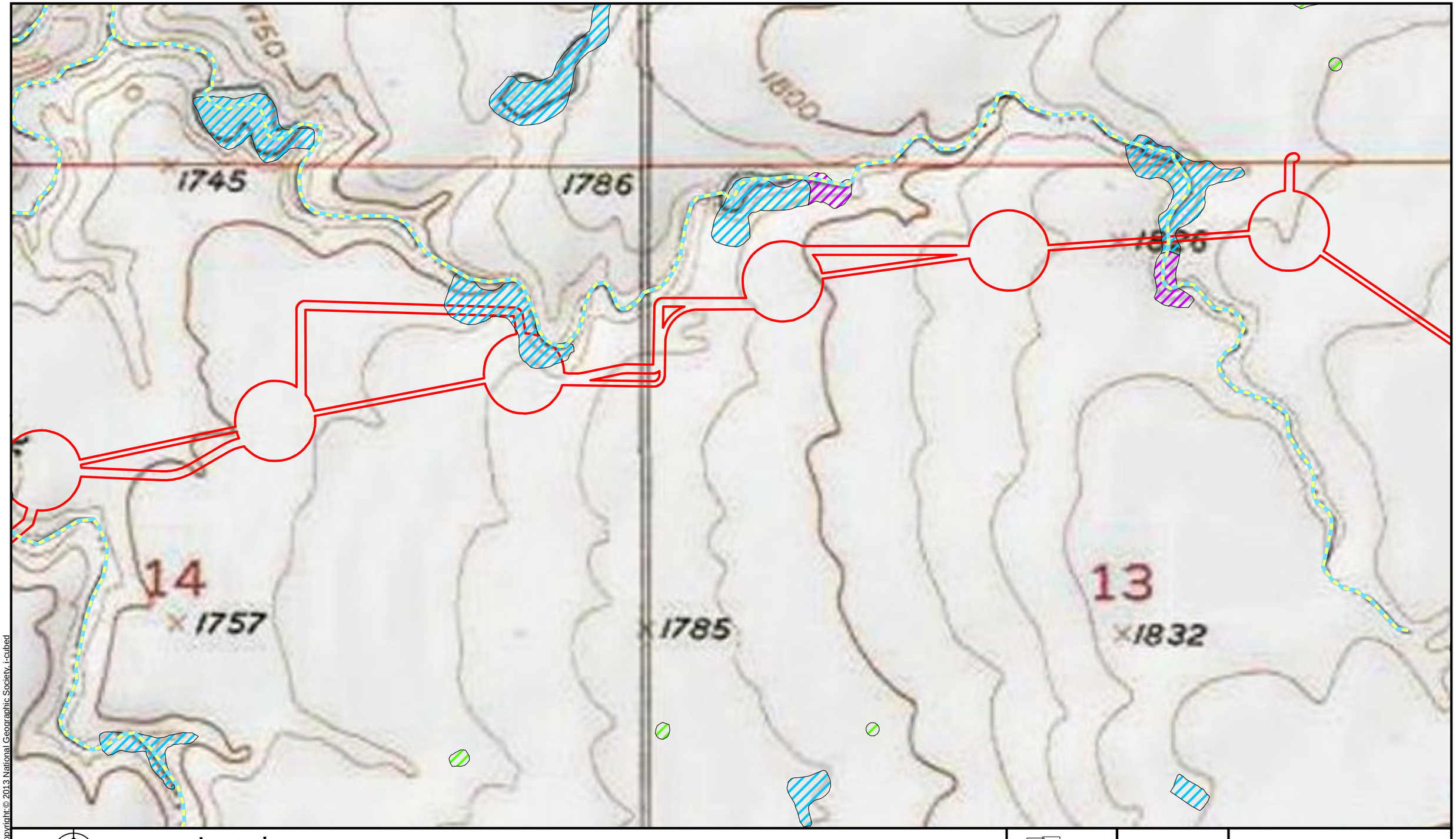

NORTH

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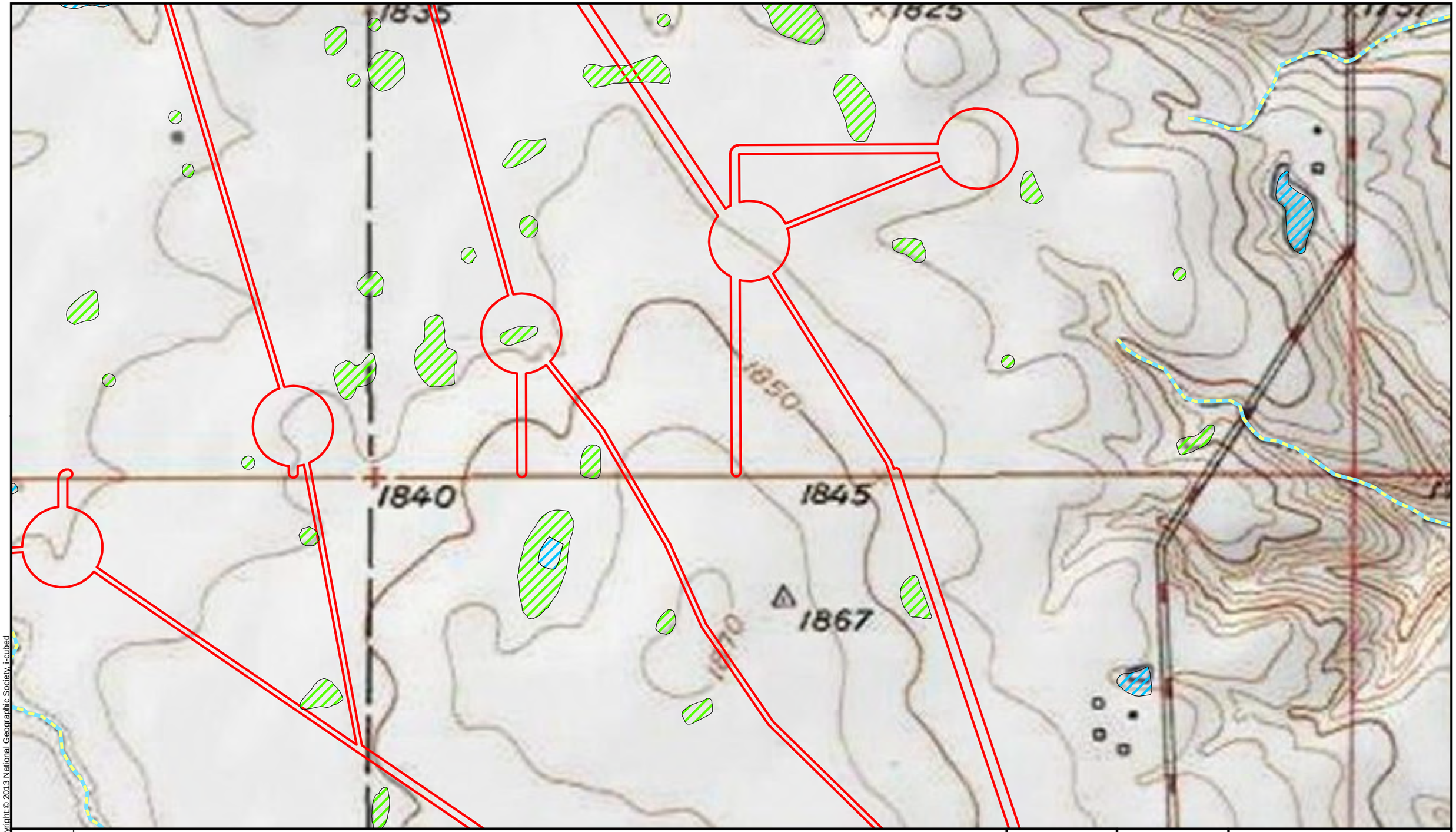
Figure A-3.7
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

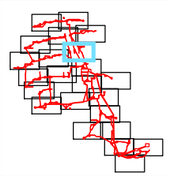
Legend

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

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

Issued: 11/12/2019

P E A

1755

1767

1765

1770

22

22

23

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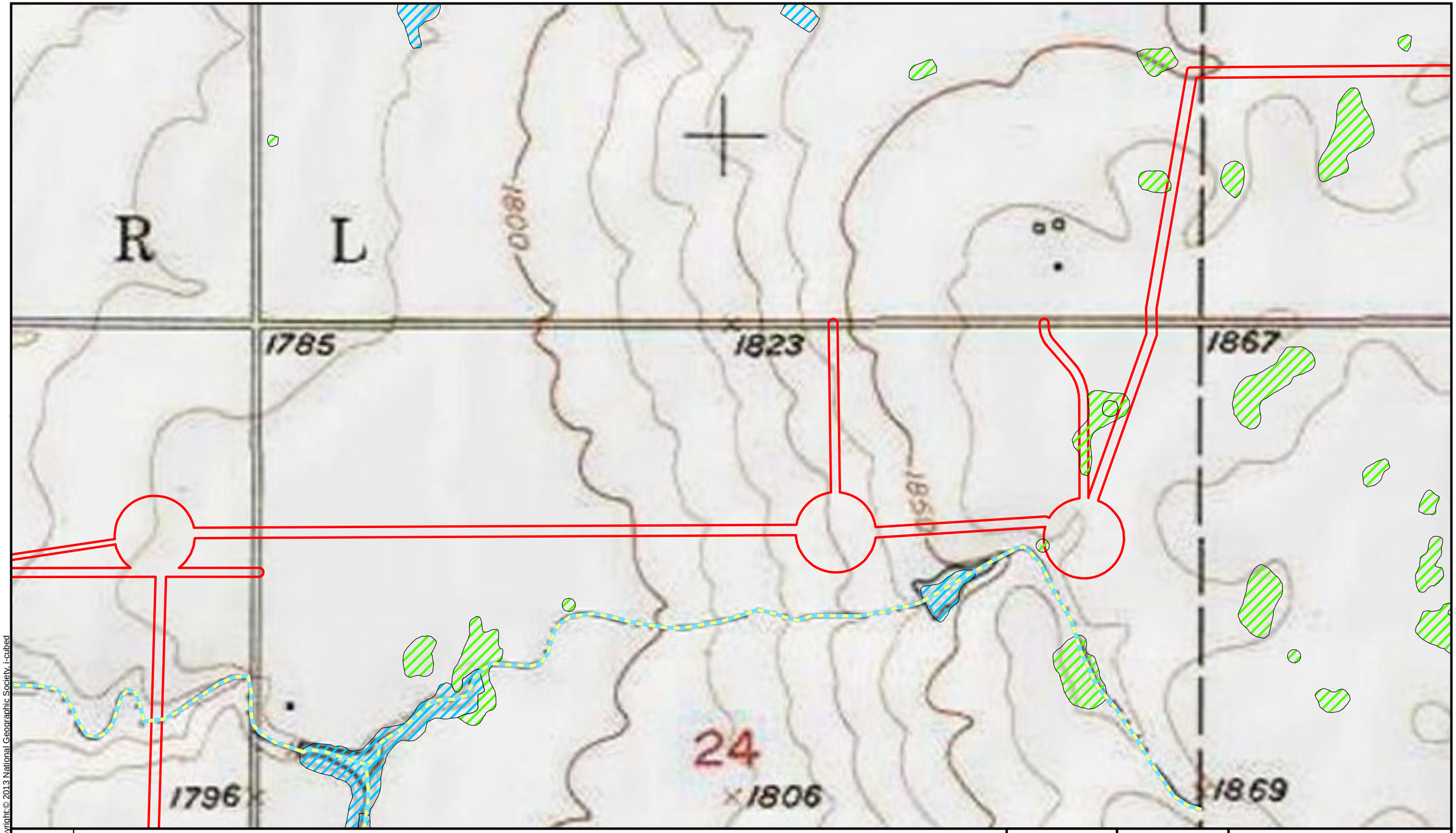
Figure A-3.9
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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

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

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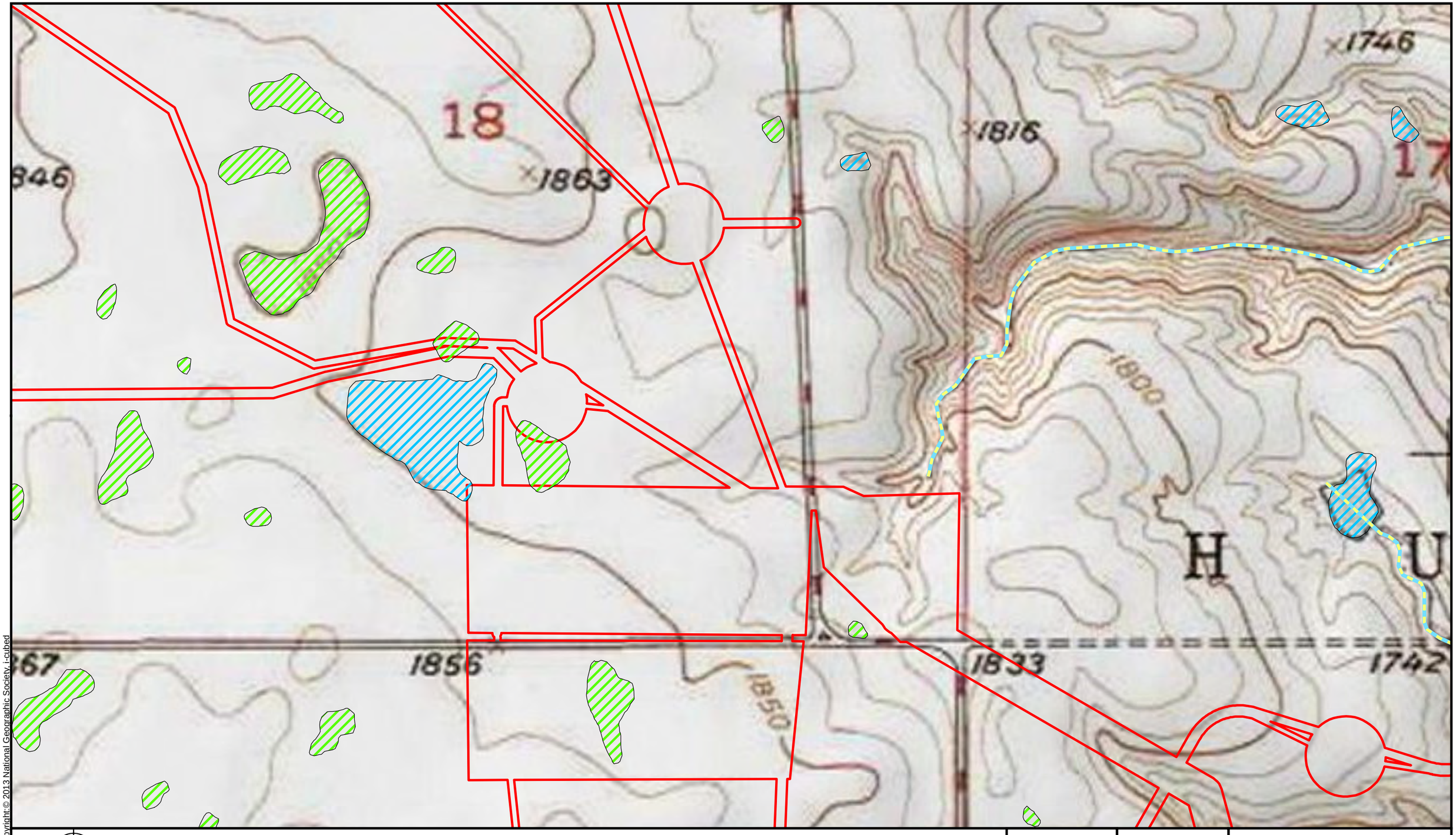
Figure A-3.10
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 11/12/2019



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

Issued: 11/12/2019

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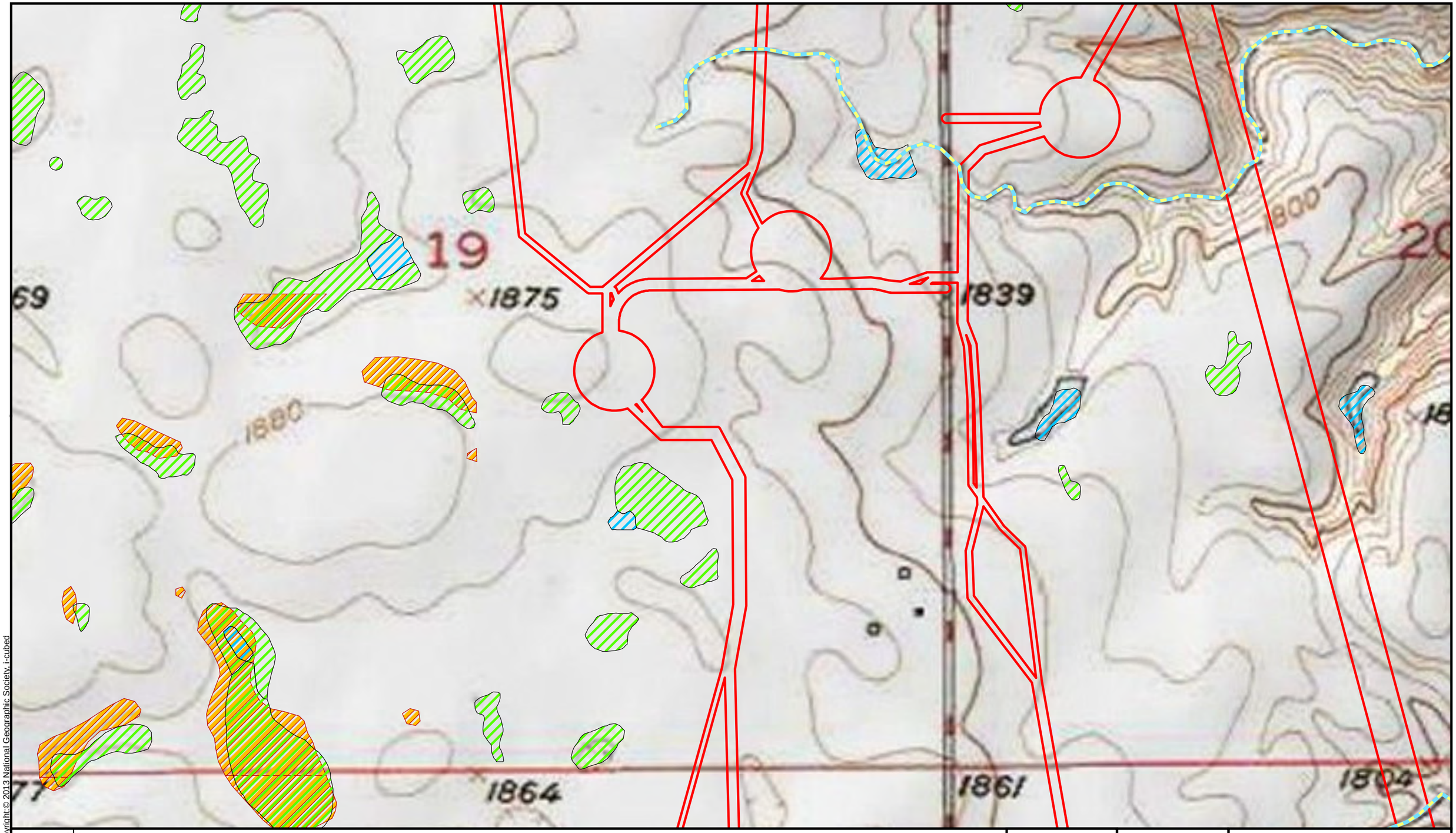
Figure A-3.12
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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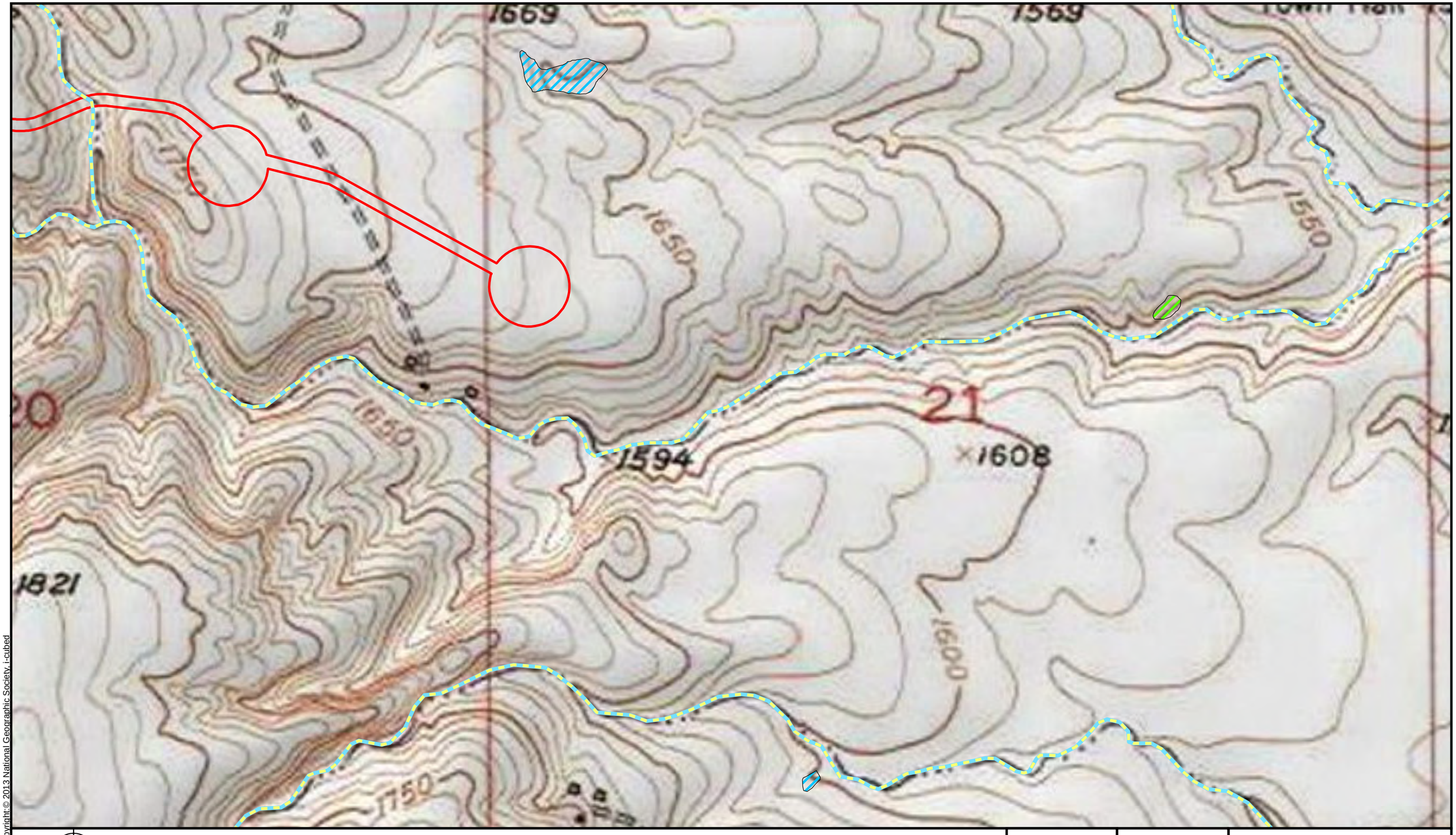
Figure A-3.13
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Issued: 11/12/2019



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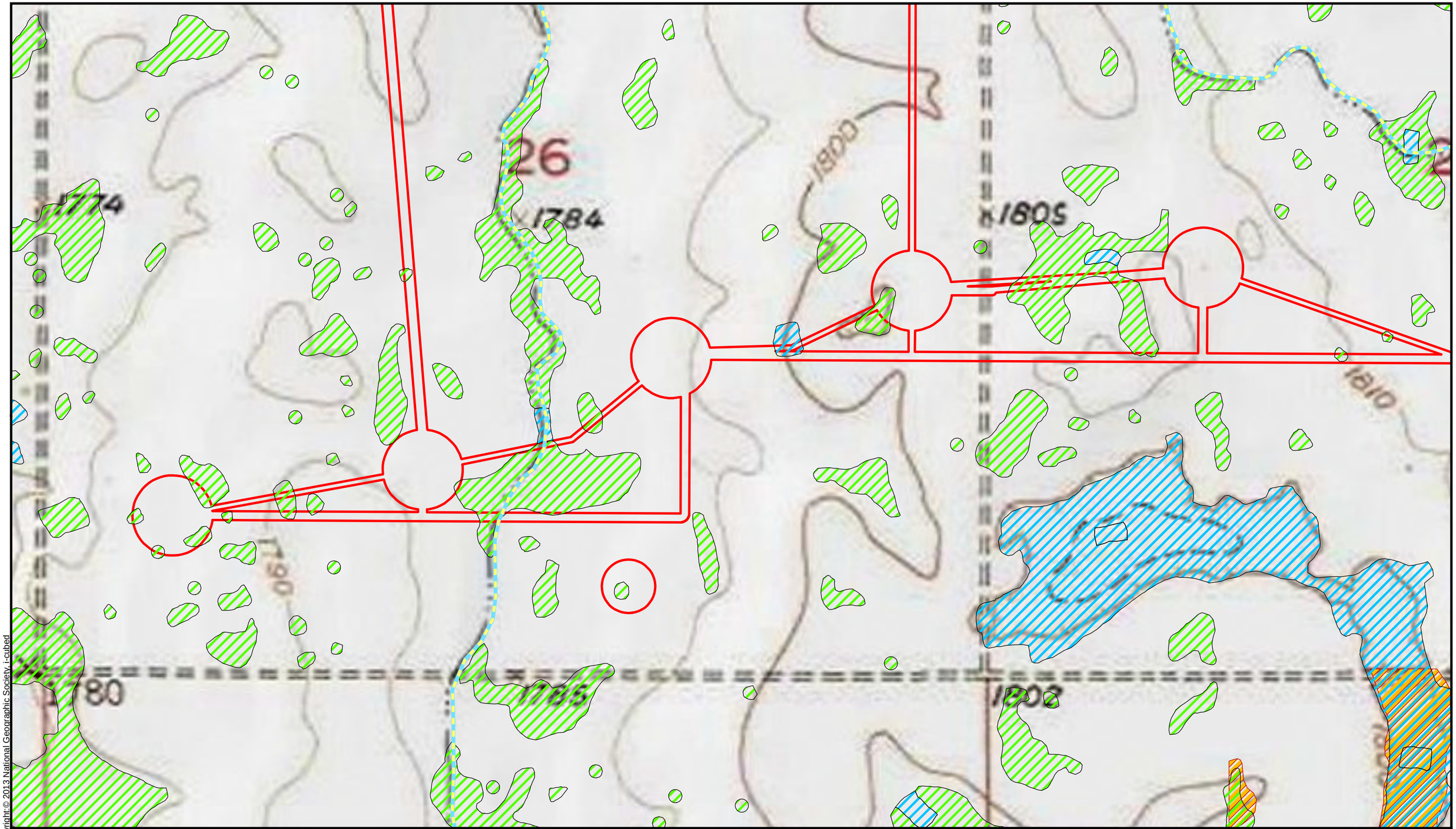
Figure A-3.14
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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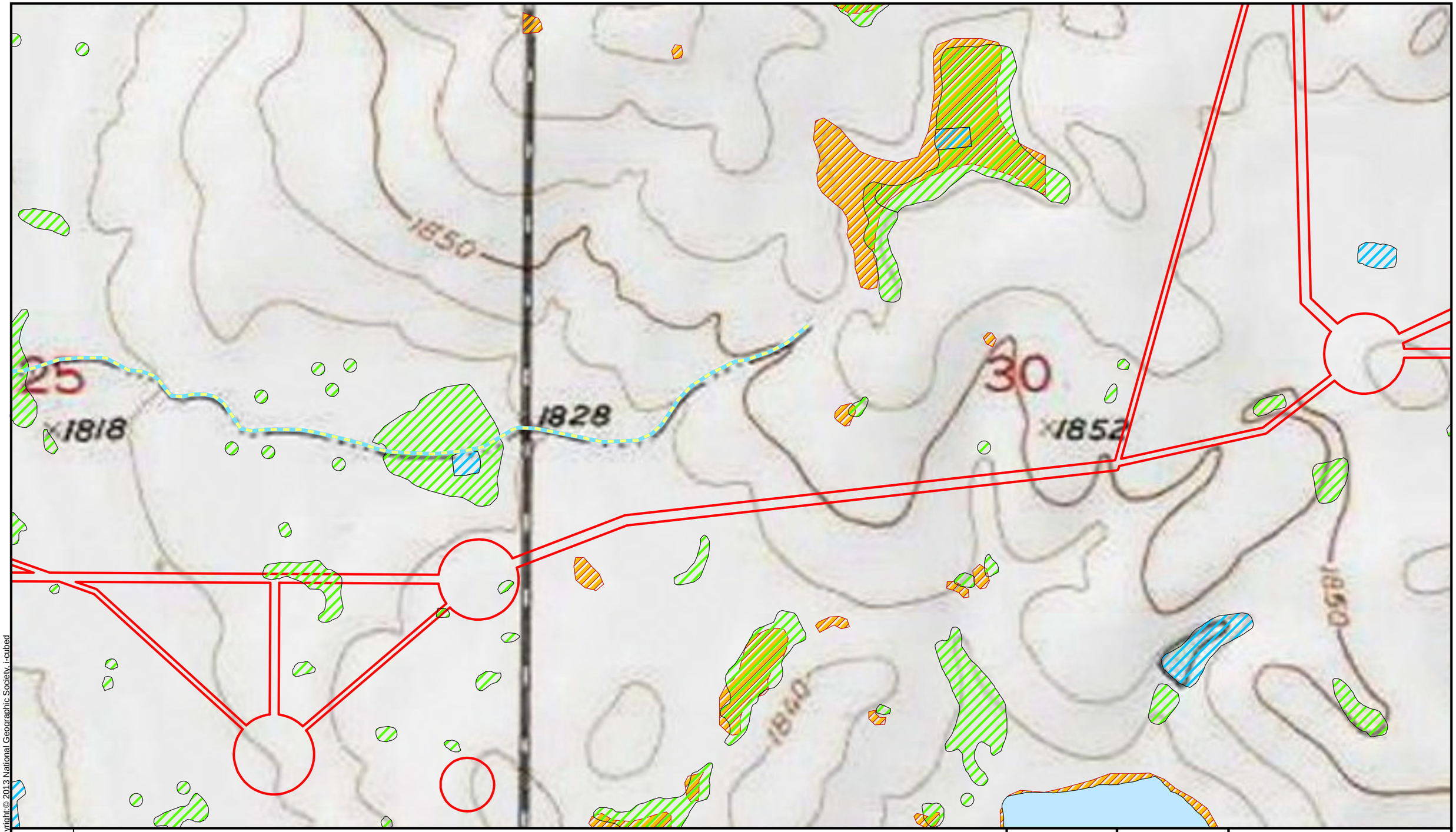
Figure A-3.15
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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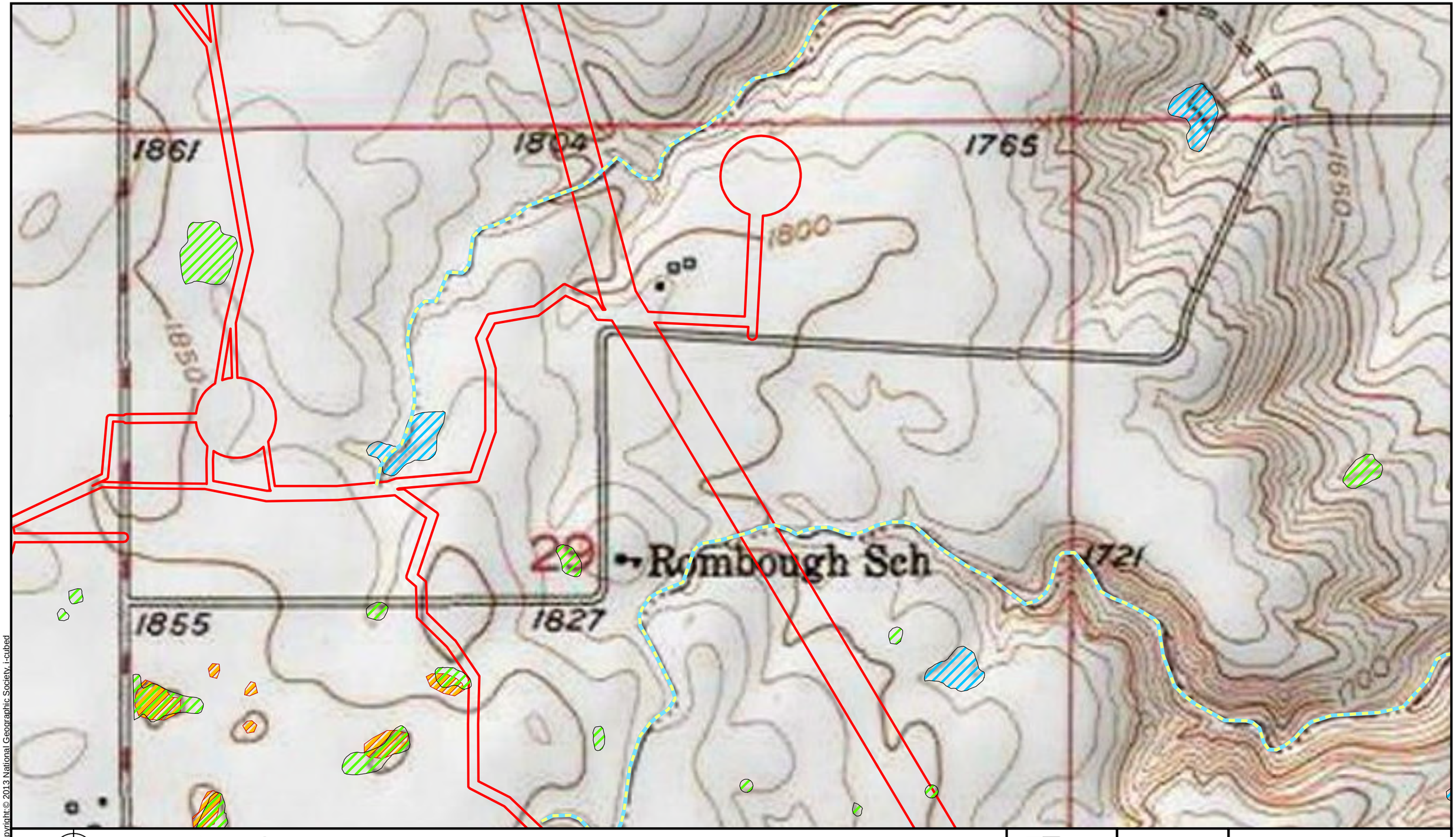
Figure A-3.16
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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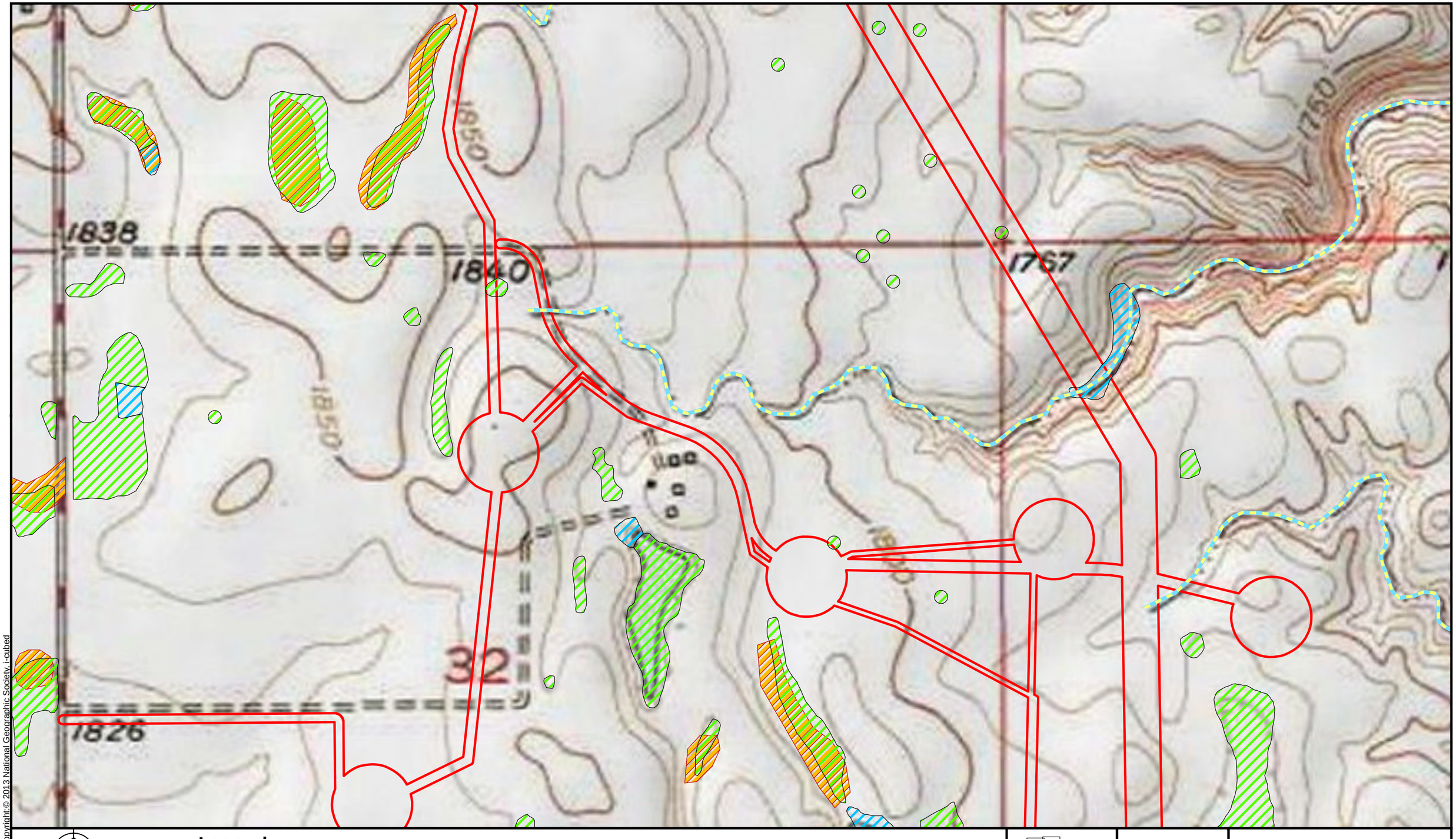
Figure A-3.17
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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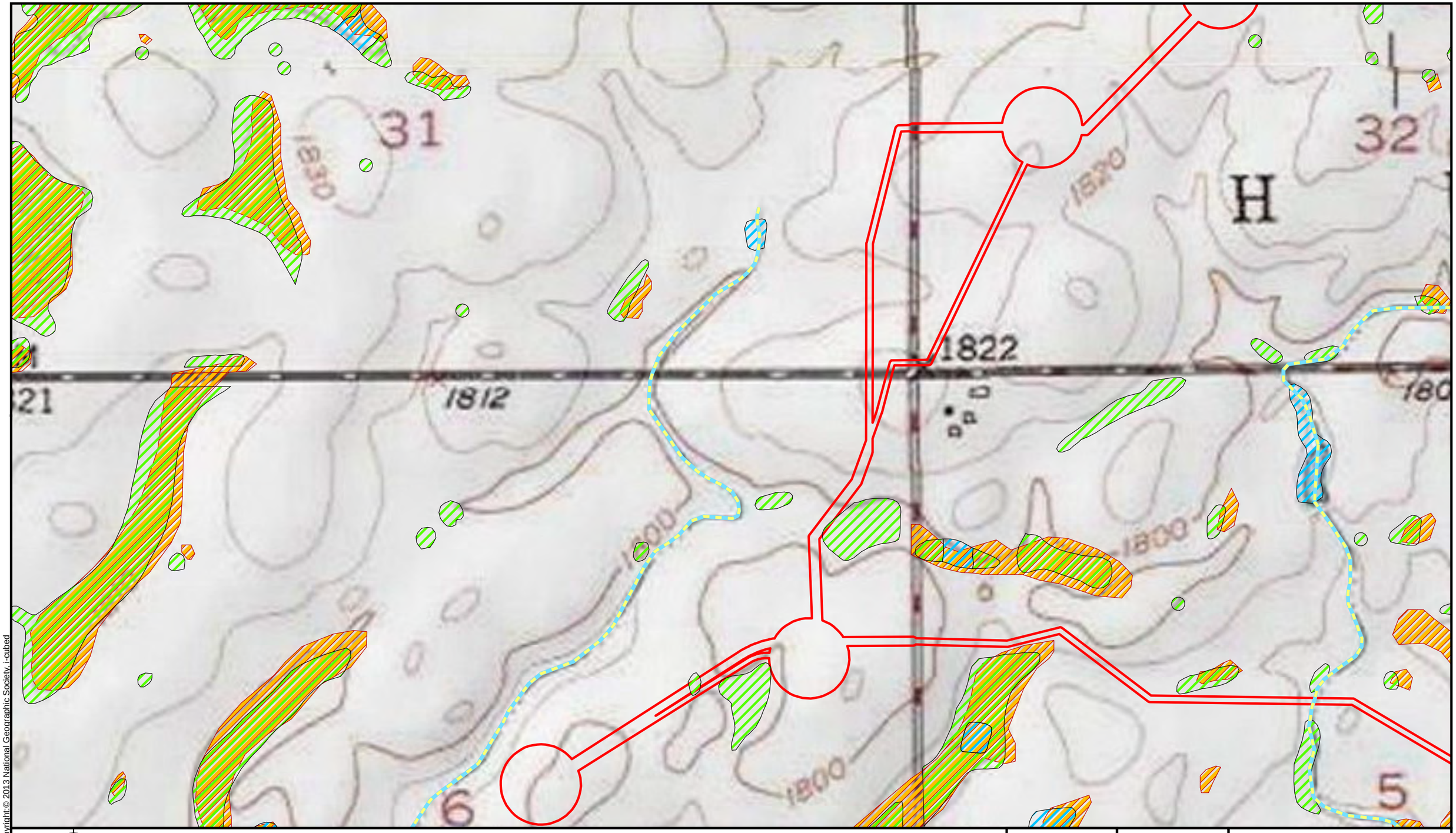
Figure A-3.18
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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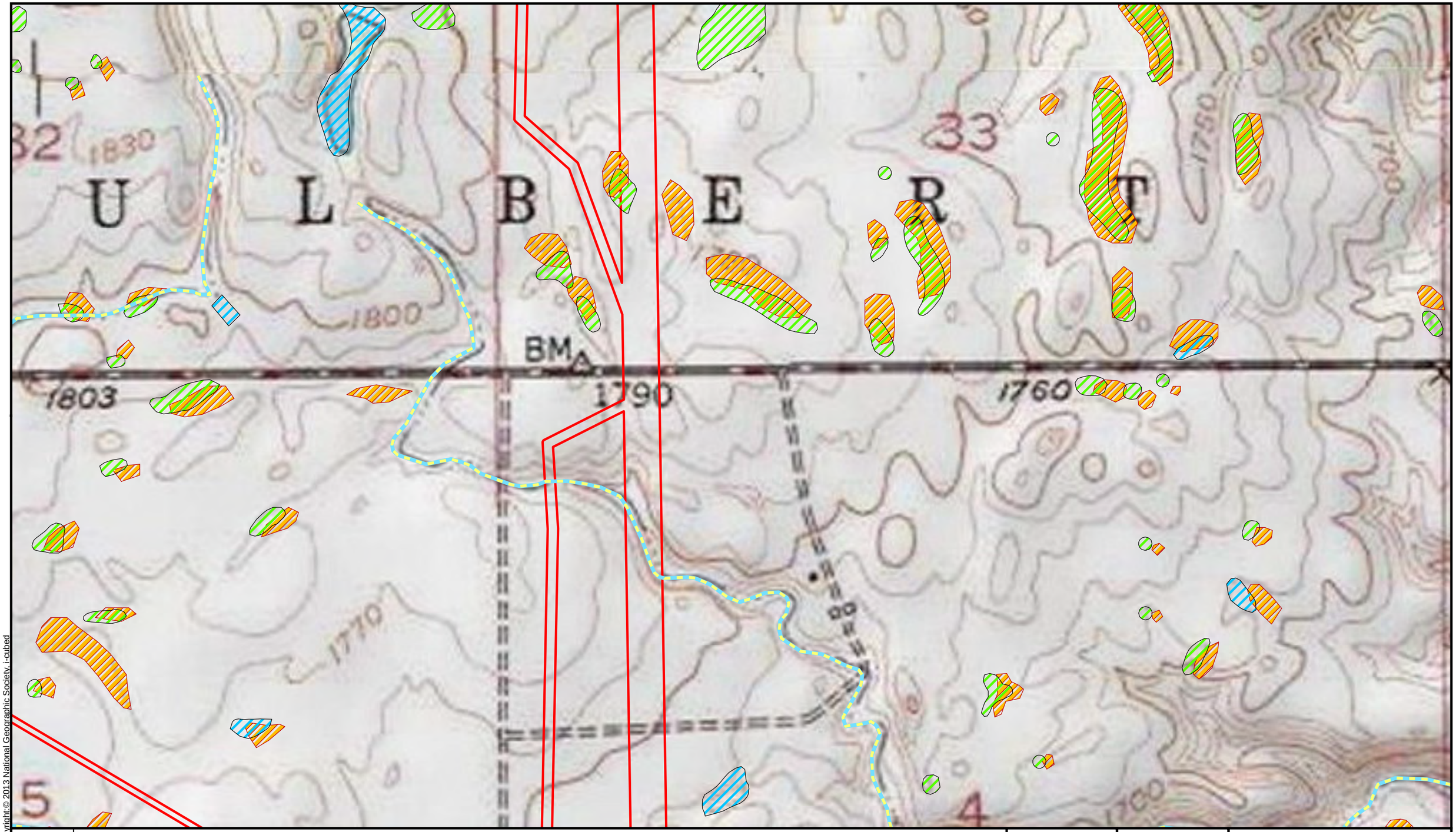
Figure A-3.19
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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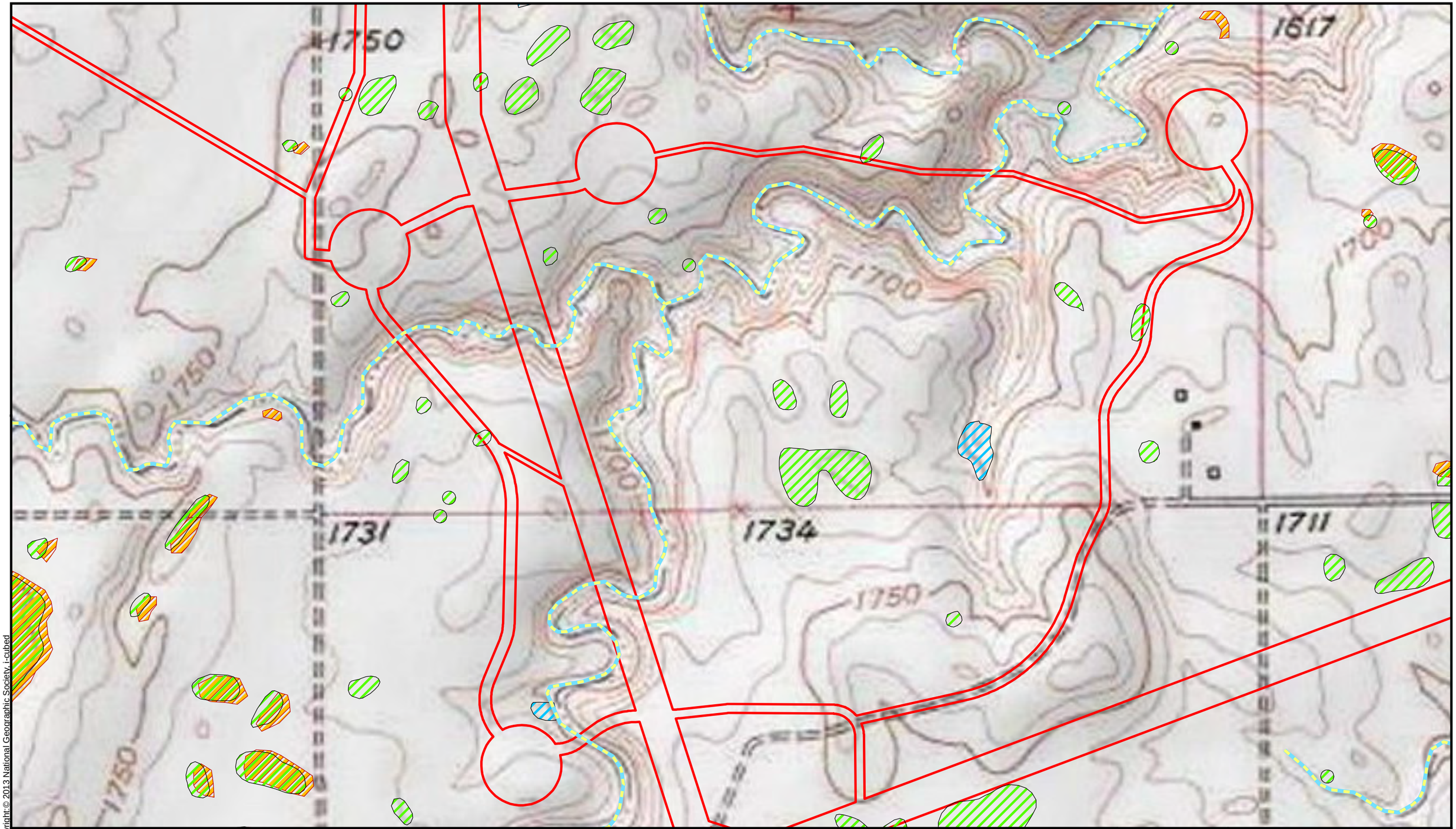
Figure A-3.20
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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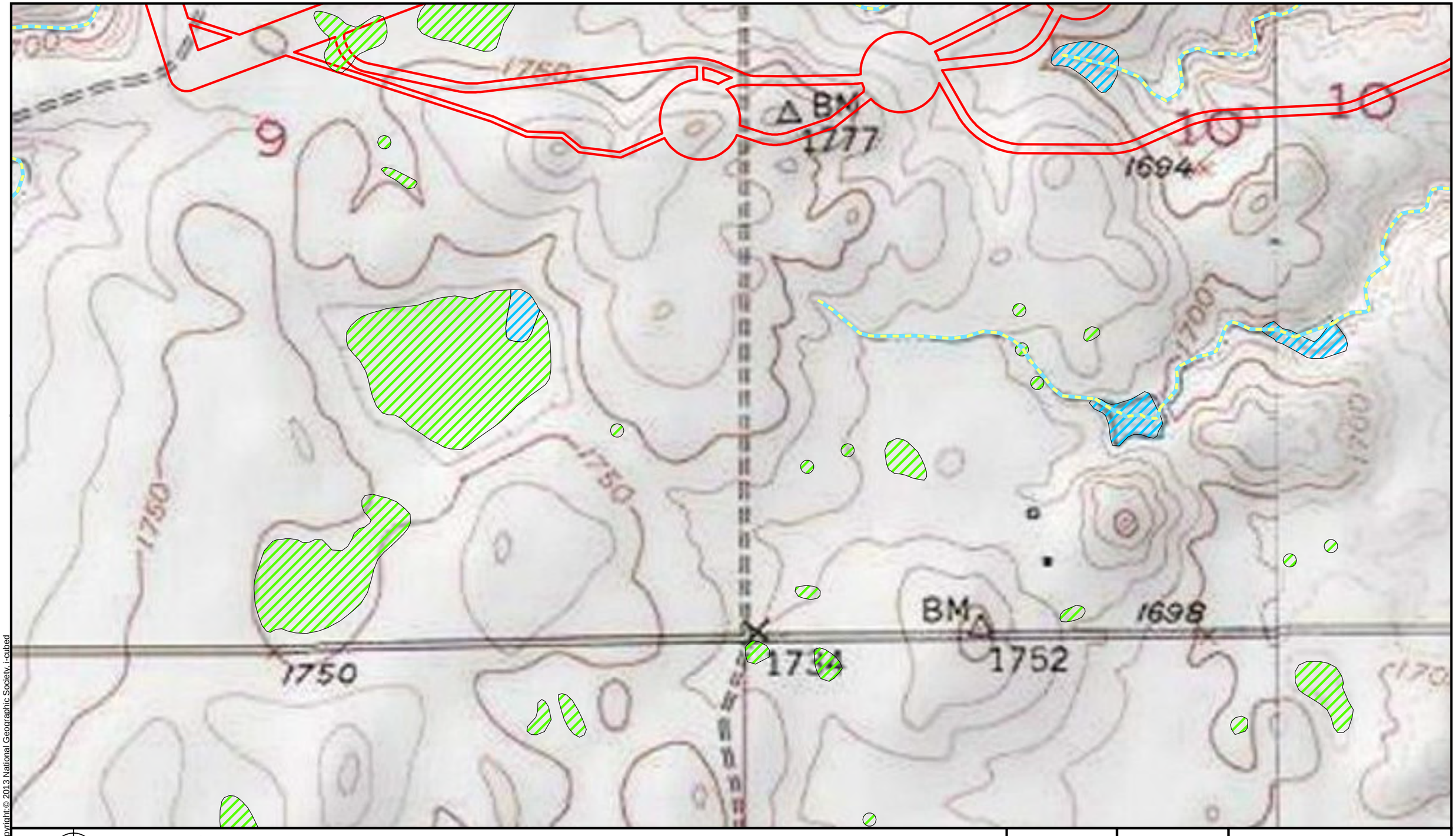
Figure A-3.21
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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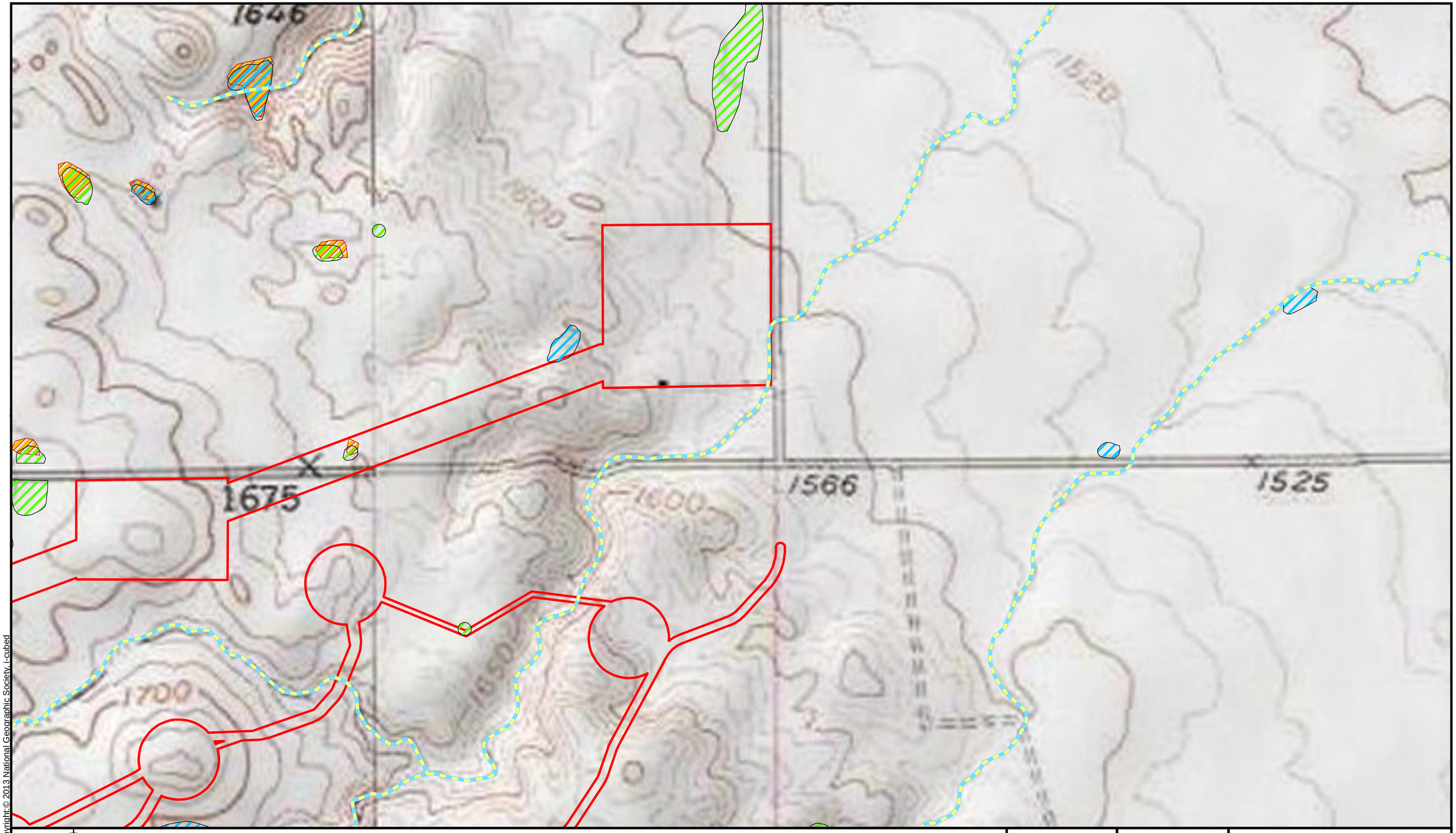
Figure A-3.22
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Issued: 11/12/2019



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

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

Issued: 11/12/2019

366th Ave

PP-505

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

Ephemeral Stream

Intermittent Stream

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

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019

PP-503
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
- Ephemeral Stream
- Intermittent Stream

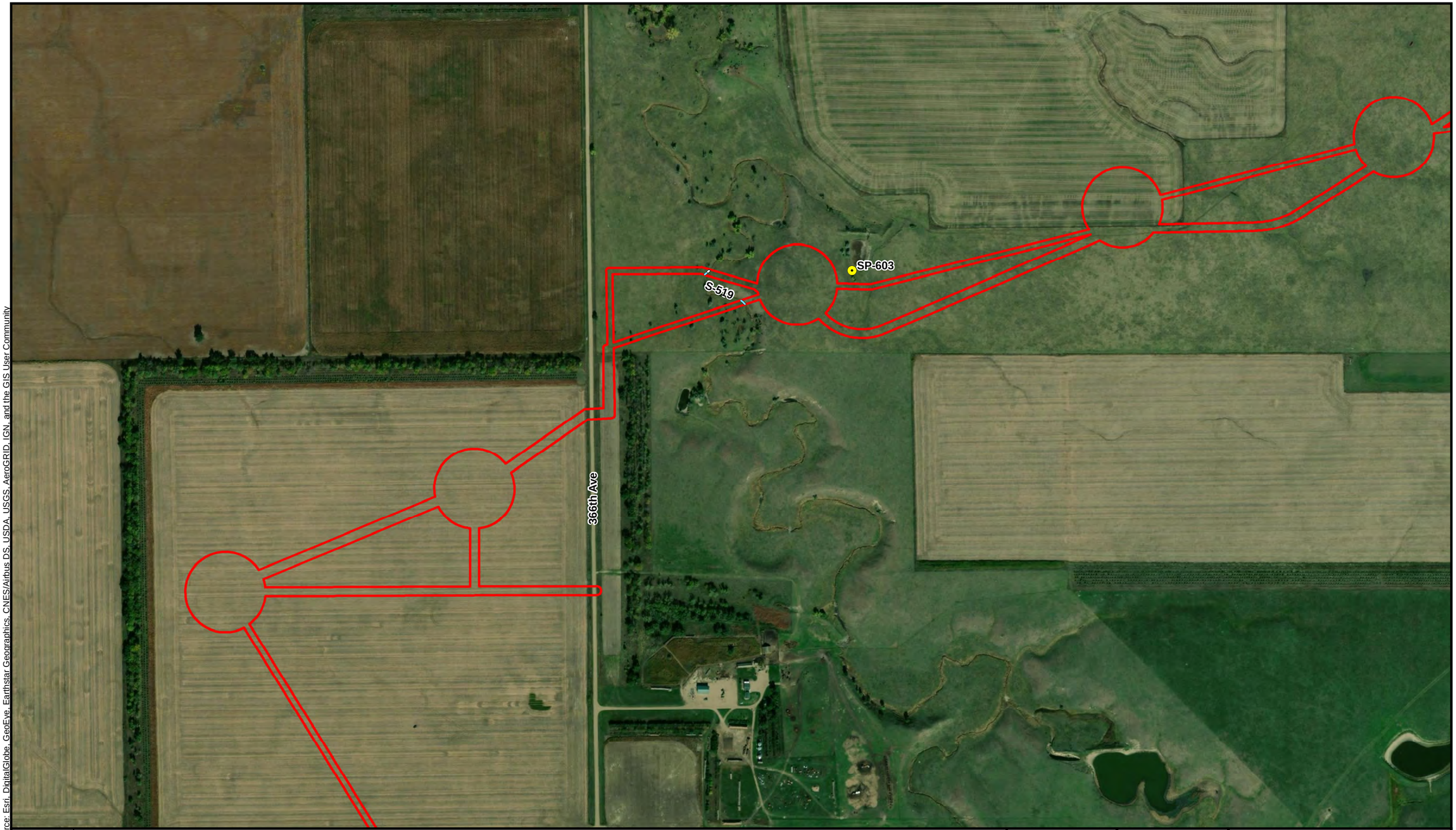
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- 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: 11/12/2019

SP-705
SP-518
W-508
SP-517
SP-516
W-507
PP-512
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
Ephemeral Stream
Intermittent Stream

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

BURNS McDONNELL

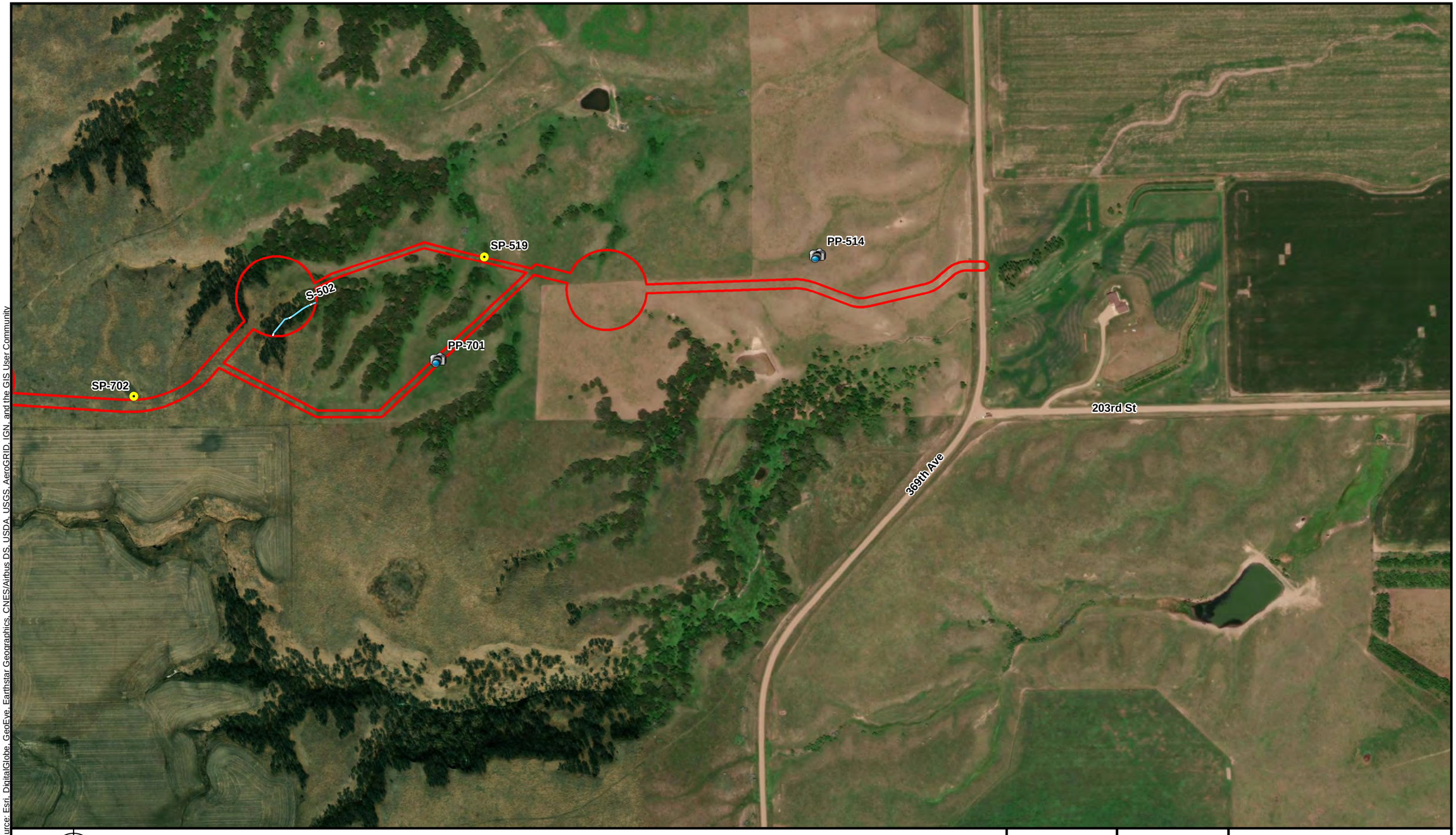
Figure A-4.4
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialDataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 11/12/2019

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
- Photo Point*
- Wetland Plot
- Upland Plot

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

Delineated Features**

- PEM Wetland
- Ephemeral Stream
- Intermittent Stream

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

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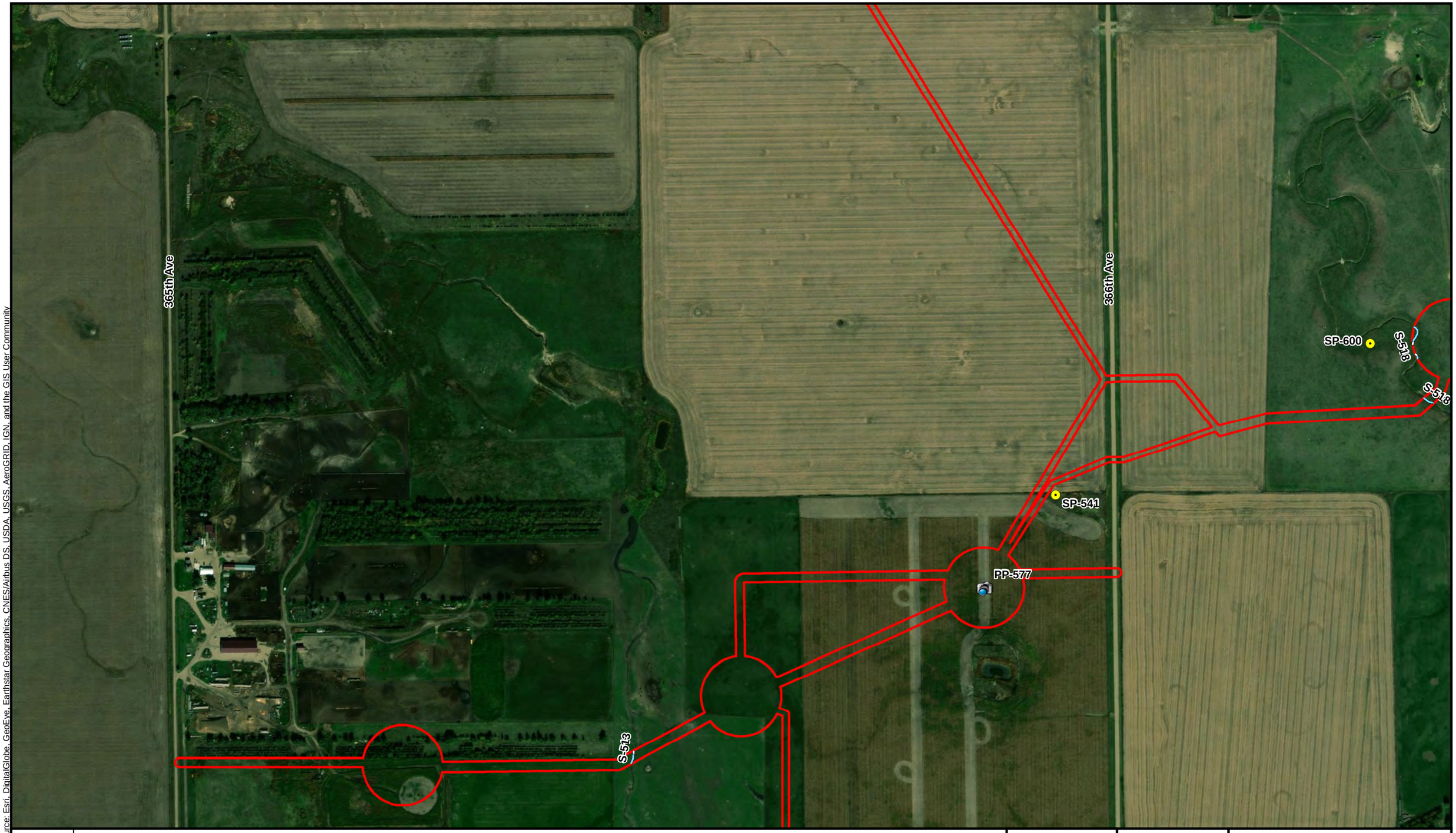
Figure A-4.5
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- Ephemeral Stream
- Intermittent Stream

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

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019

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
- Ephemeral Stream
- Intermittent Stream

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

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019

PP-526
S-707
PP-533
S-703
PP-529
PP-530
SP-708
369th Ave
W-630d
PP-537

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
- 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: 11/12/2019

366th Ave

203rd St

SP-537

SP-536

W-518

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

Ephemeral Stream

Intermittent Stream

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

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019

Path: Z:\Resources\Local\Clients\KCM\ENS\ScoutCleanEn1103828_SweetlandWindArcGIS\GeospatialData\FilesArcDocs\WDR\FigureA4_Results.mxd tbeemer 11/12/2019

SP-535

W-585

367th Ave

203rd St

SP-591

W-591d

SP-714

W-710

SP-713

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
- Ephemeral Stream
- Intermittent Stream

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

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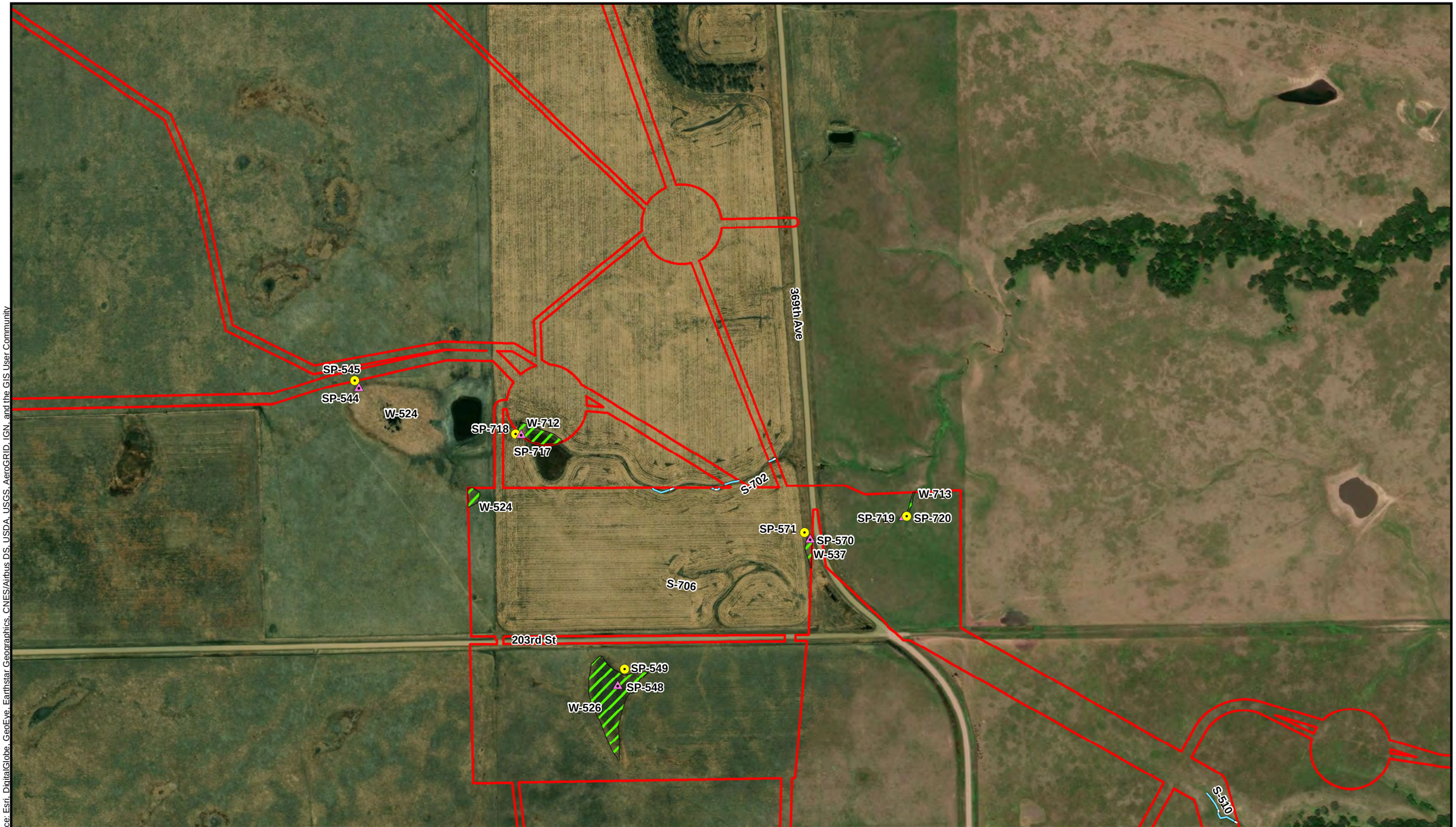
Figure A-4.10
Delineation Results
Sweetland Wind Farm Project
Hand County, South Dakota

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- Ephemeral Stream
- Intermittent Stream

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

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019

S-704

367th Ave

S-705

SP-716

S-508

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

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: 11/12/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialIDataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 11/12/2019

SP-551
SP-552
369th Ave
S-523
PP-605
W-558
SP-616
SP-617
SP-619
S-522
S-521

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
- Ephemeral Stream
- Intermittent Stream

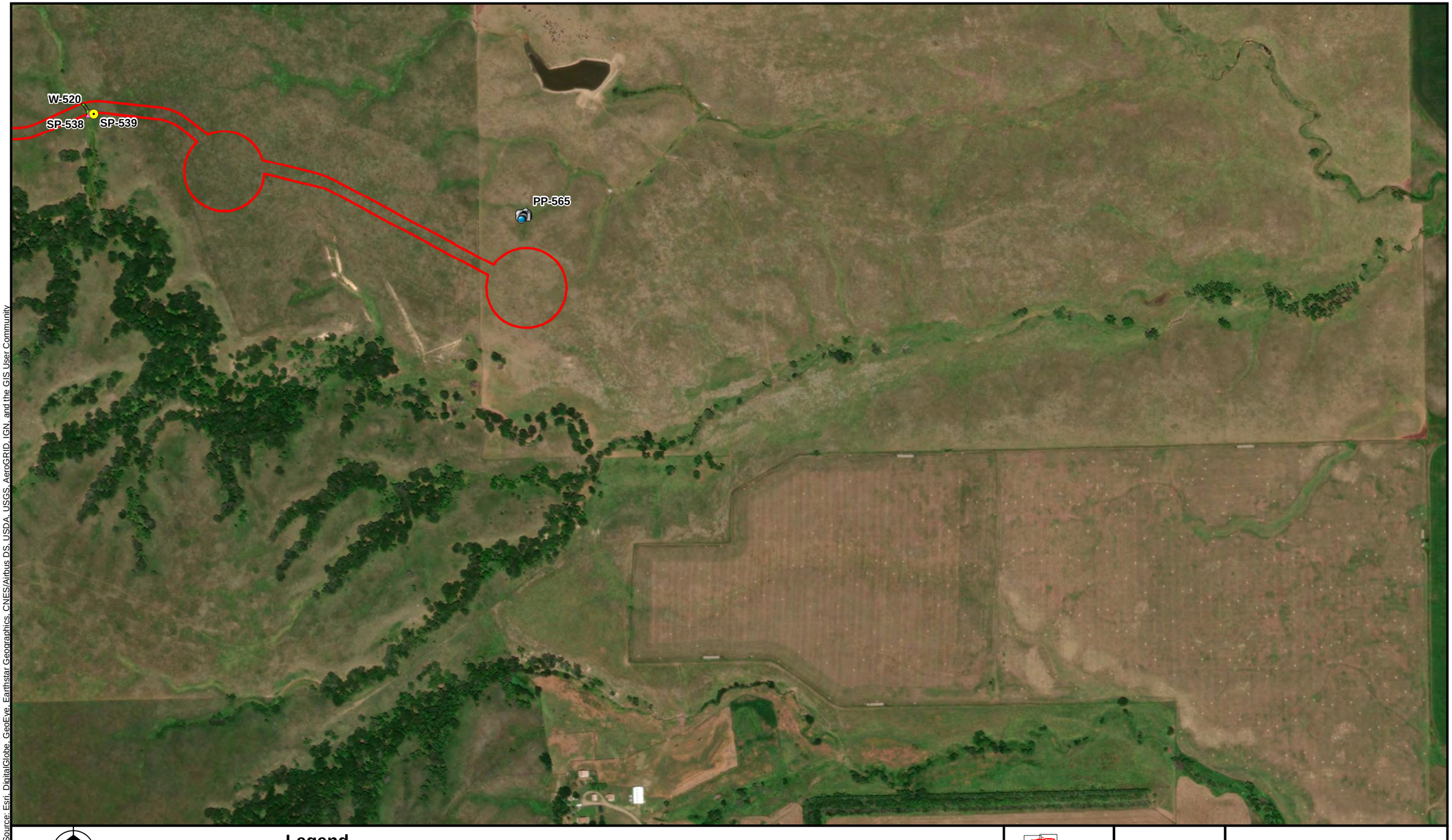
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- Ephemeral Stream
- Intermittent Stream

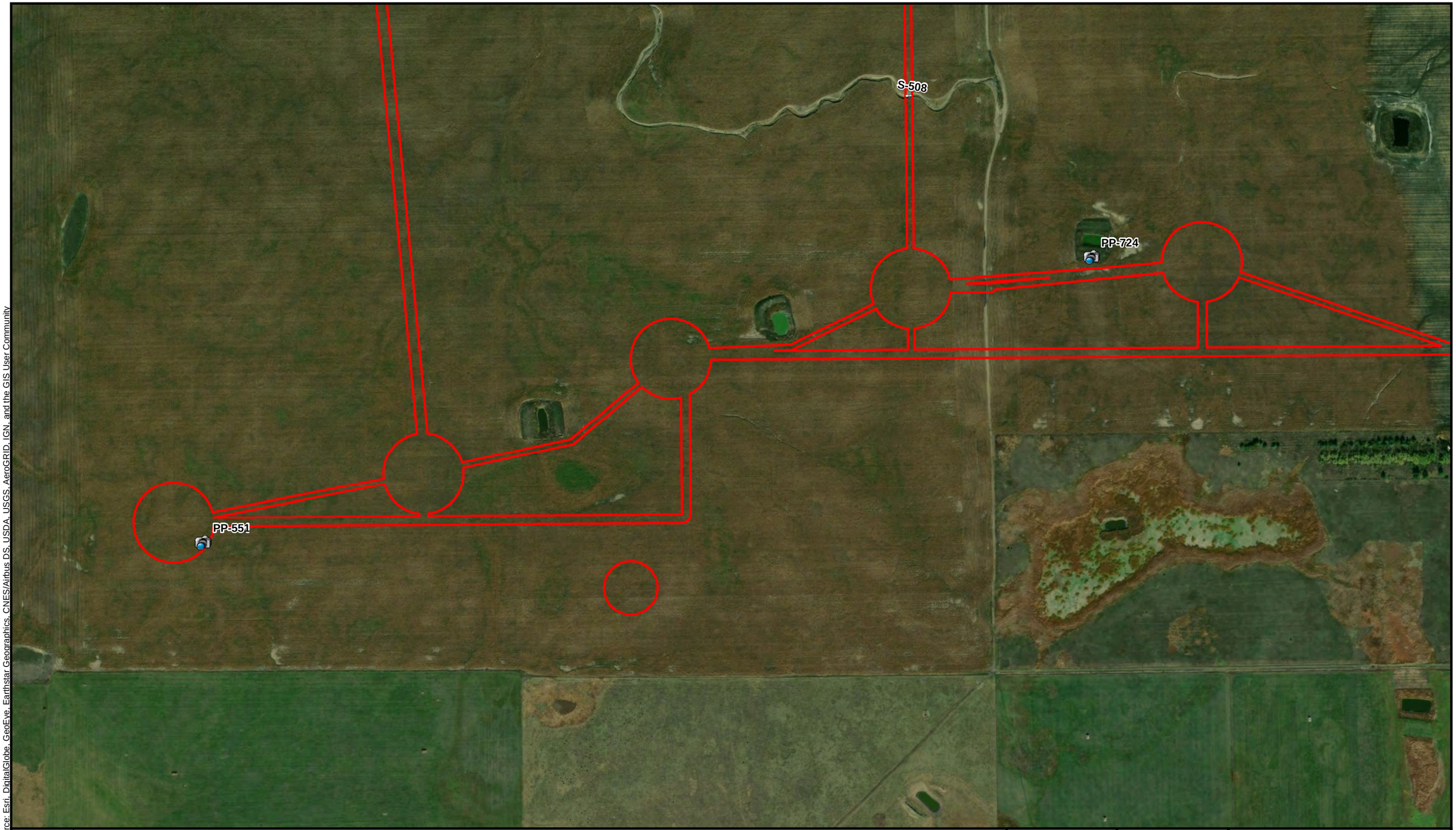
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- 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: 11/12/2019

Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialData\Files\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 11/12/2019

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
- Photo Point*
- Wetland Plot
- Upland Plot

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

Delineated Features**

- PEM 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: 11/12/2019

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
- Ephemeral Stream
- Intermittent Stream

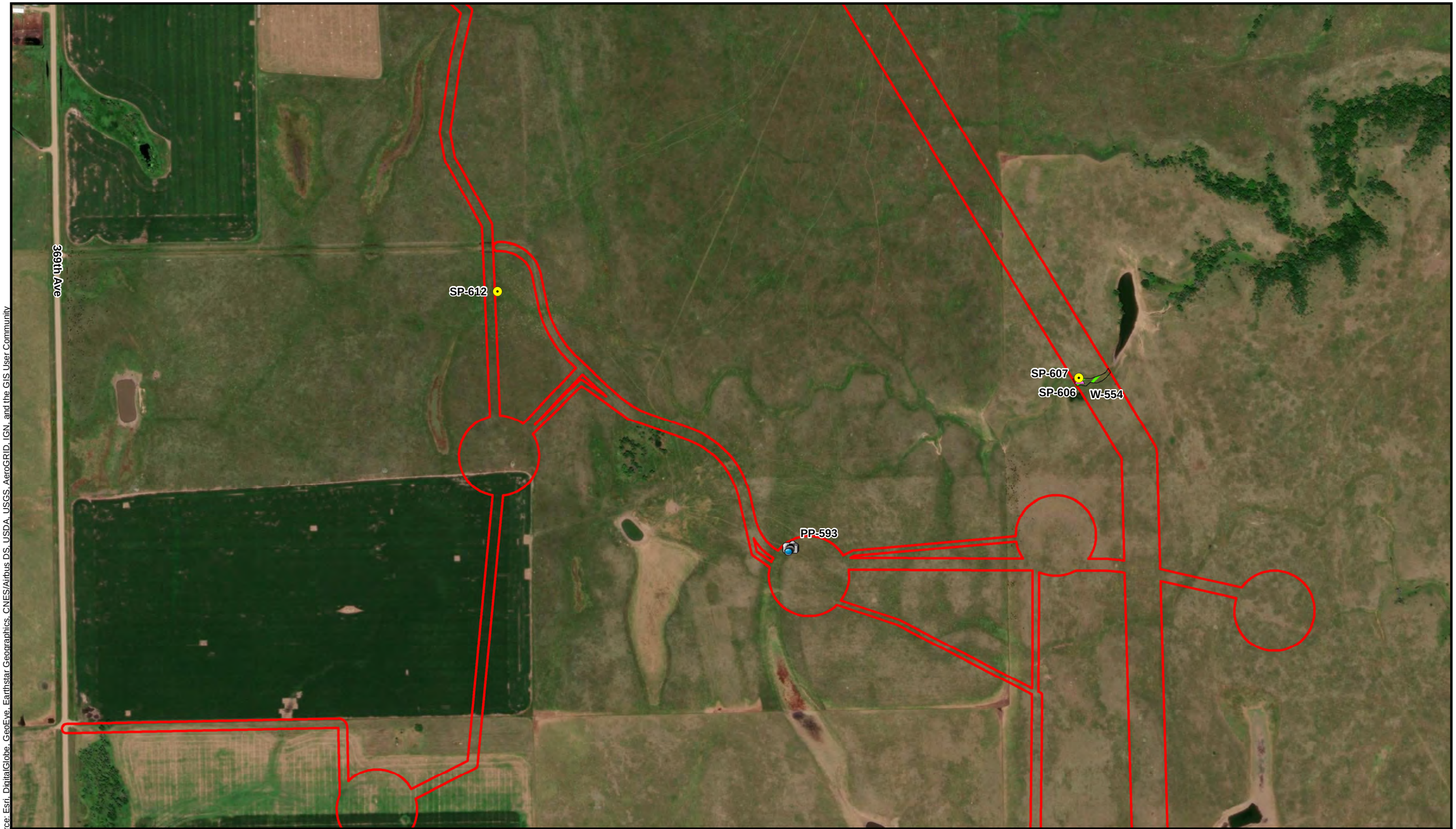
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- 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: 11/12/2019

PP-694
208th St
369th Ave
SP-666
PP-696
SP-669
W-584
SP-667
SP-668
W-580
SP-660
SP-661

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
- Ephemeral Stream
- Intermittent Stream

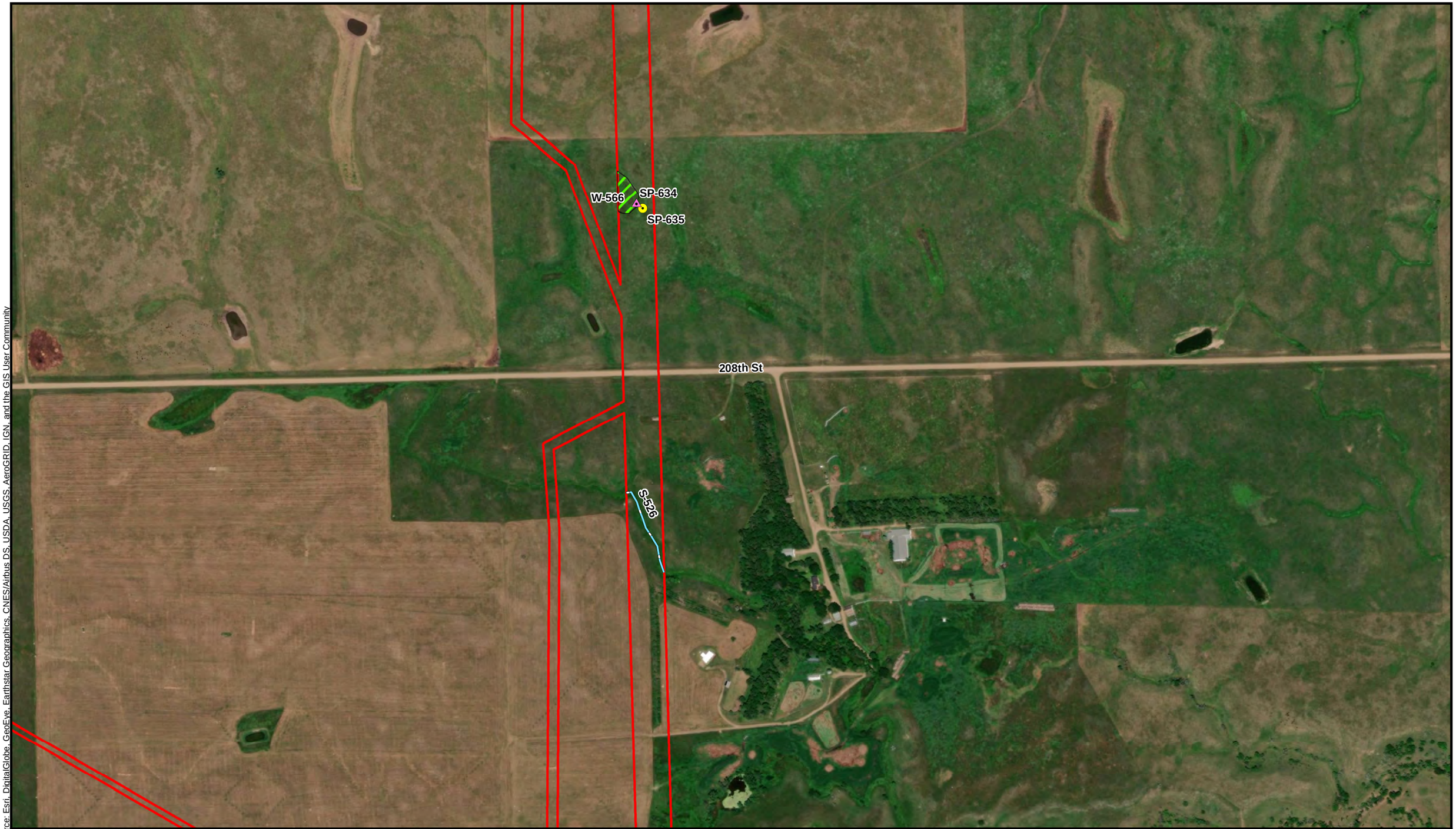
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



Path: Z:\Resources\Local\Clients\KCMENS\ScoutCleanEn\103828_SweetlandWind\ArcGIS\GeospatialDataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 11/12/2019

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
- Photo Point*
- Wetland Plot
- Upland Plot

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

Delineated Features**

- PEM 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: 11/12/2019

SP-664
SP-663
PP-8
S-003
S-004
S-004
209th St
SP-652
SP-651
W-005
W-611d
W-005
SP-010

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
Ephemeral Stream
Intermittent Stream

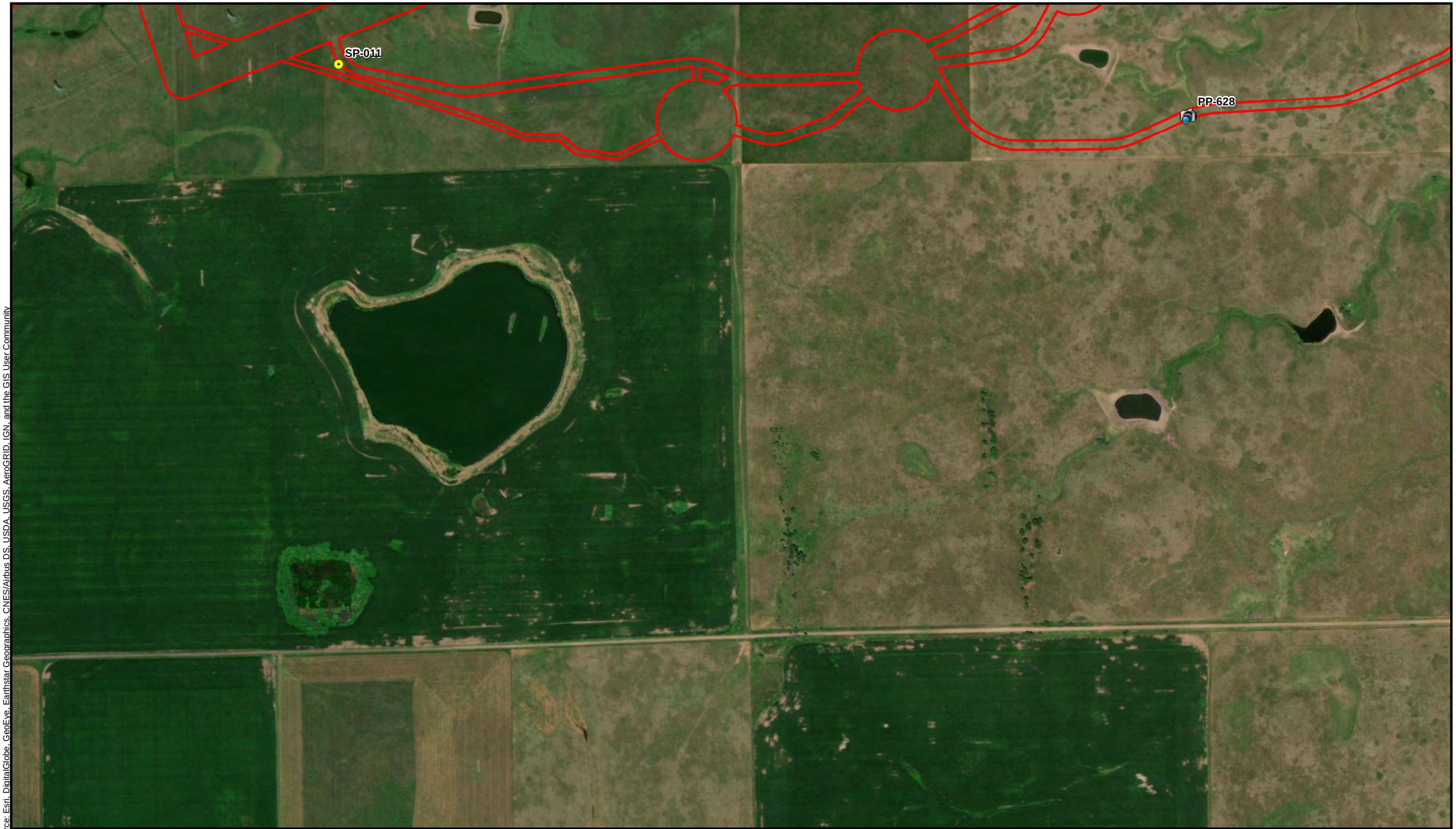
** Features ending with "d" were delineated via desktop methodologies

BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



NORTH

0 250 500 Feet

Scale = 1 Inch = 500 Feet

Legend

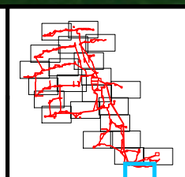
- Survey Area
- Photo Point*
- Wetland Plot
- Upland Plot

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

Delineated Features**

- PEM Wetland
- Ephemeral Stream
- Intermittent Stream

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

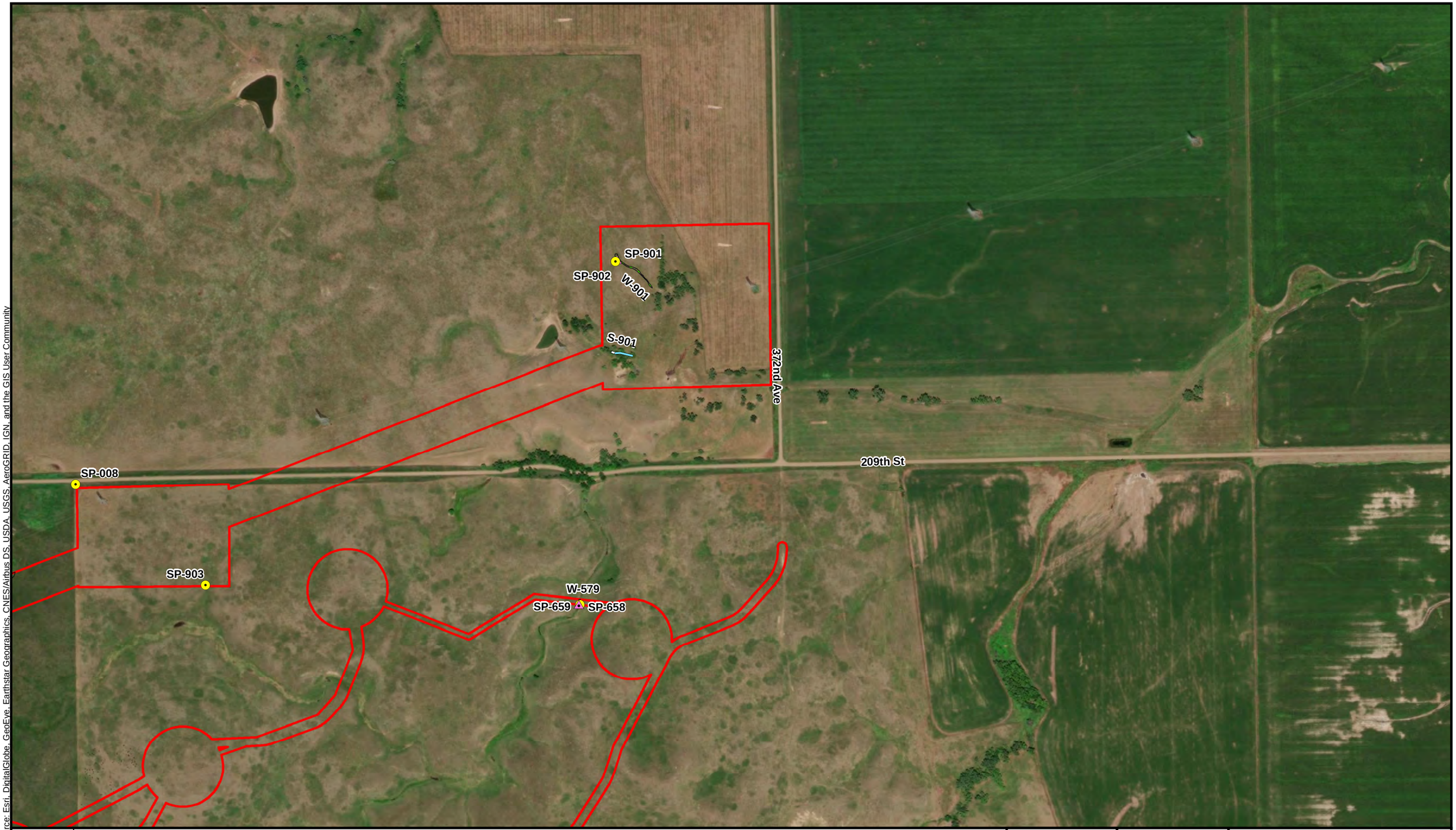


BURNS McDONNELL

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

Source: NAIP and Burns & McDonnell Engineering, Inc.

Issued: 11/12/2019



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
- 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: 11/12/2019

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-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-1.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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: 6/26/2018

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-2.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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

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-3.

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 %	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: 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-4.

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-5.

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-6.

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 %	Redox Features Type[1]	Redox Features 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

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-7.

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

	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. *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-8.

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-9.

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-10.

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 %	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: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-11.

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-12.

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-13.

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-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-14.

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-15.

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-16.

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

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. *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-17.

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-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 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: Hydrophytic vegetation is not present. Photograph C-18.

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 %	Redox Features Type[1]	Redox Features 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-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-19.

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-20.

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-21.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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-22.

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 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-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.

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-23.

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

	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. *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-24.

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 %	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: 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-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-25.

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-26.

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-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.

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.	%		
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-27.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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-28.

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-29.

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-30.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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-31.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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

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-32.

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-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

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-33.

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
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-34.

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
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

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*	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-35.

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-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-36.

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-37.

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-38.

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
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

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*	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-39.

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-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.

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-40.

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-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.

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-41.

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-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-42.

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-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-43.

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		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]		
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-44.

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: 10/16/2018

Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-651

Investigator(s): T. Beemer, W. Hirst 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: 44.354788 Long: -98.775955 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*	25 %	Y	FAC
3. *Hordeum jubatum*	5 %	N	FACW
4. *Rumex crispus*	2 %	N	FAC
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	82 %	= 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-45.

SOIL

Sampling Point: SP-651

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)	☐	☒	
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: 10/16/2018

Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-652

Investigator(s): T. Beemer, W. Hirst 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: 44.354836 Long: -98.775943 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*	20 %	Y	UPL
4. *Cirsium arvense*	%		
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: 3 (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-652

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: 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-47.

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
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

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-48.

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-49.

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 Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
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

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-50.

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-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.

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-51.

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-52.

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-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.

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-53.

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-54.

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-55.

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-56.

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 %	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 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-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 an upland 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*	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-57.

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-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-58.

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-59.

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		Redox Features					
	Color (moist)	%	Color (moist)	%	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-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. 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-60.

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: 10/11/2018

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-61.

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-62.

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-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. 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-63.

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		Redox Features					
	Color (moist)	%	Color (moist)	%	Type[1]	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-64.

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		Redox Features					
	Color (moist)	%	Color (moist)	%	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-65.

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-66.

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		Redox Features					
	Color (moist)	%	Color (moist)	%	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-67.

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.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 9/30/2019

Applicant/Owner: Scout Clean Energy State: SD Sampling Point: SP-901

Investigator(s): W. Hirst Section, Township, Range: S3, T110N, R66W

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

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.359293 Long: -98.745067 Datum: NAD83

Soil Map Unit Name: Java-Glenham loams, hilly 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-901. WETS analysis for this region shows prior 3 month period has been wetter than normal for this time of year.

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*	50 %	Y	OBL
2. *Bromus arvensis*	20 %	Y	FACU
3. *Carex sp.*	5 %	N	
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	75 %	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
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-): 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	50 %	x 1 =	50
FACW species	0 %	x 2 =	0
FAC species	0 %	x 3 =	0
FACU species	20 %	x 4 =	80
UPL species	0 %	x 5 =	0
Column Totals:	70 %	(A)	130 (B)

Prevalence Index = B/A = 1.85

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: Prevalence Index for hydrophytic vegetation is met. Photograph C-68.

SOIL

Sampling Point: SP-901

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
0-14	10YR 3/1	90	10YR 3/6	10	C	M	Mucky Clay	
14-24	10YR 3/1	95	10YR 3/6	5	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?	☒	☐	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, and D2 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 9/30/2019
Applicant/Owner: Scout Clean Energy State: SD Sampling Point: SP-902
Investigator(s): W. Hirst Section, Township, Range: S3, T110N, R66W
Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 5 %
Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.359264 Long: -98.745101 Datum: NAD83
Soil Map Unit Name: Java-Glenham loams, hilly 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 located adjacent to PEM W-901. WETS analysis for this region shows prior 3 month period has been wetter than normal for this time of year.

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*	80 %	Y	FACU
2. *Poa pratensis*	20 %	N	FACU
3. *Taraxacum officinale*	5 %	N	FACU
4. *Cirsium arvense*	5 %	N	FACU
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-): 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-902

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
0-14	10YR 3/1	100					Sandy Clay	
14-24	10YR 4/2	100					Gravelly Sandy 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 indicators 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?	☐	☒	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: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 9/30/2019

Applicant/Owner: Scout Clean Energy State: SD Sampling Point: SP-903

Investigator(s): W. Hirst Section, Township, Range: S10, T110N, R66W

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

Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.354380 Long: -98.753991 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. WETS analysis for this region shows prior 3 month period has been wetter than normal for this time of year.

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. *Trifolium repens*	60 %	Y	FACU
2. *Poa pratensis*	50 %	Y	FACU
3. *Cirsium arvense*	5 %	N	FACU
4.	%		
5.	%		
6.	%		
7.	%		
8.	%		
9.	%		
10.	%		
	115 %	= 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-70.

SOIL

Sampling Point: SP-903

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
0-24	10YR 4/2	100					Sandy Clay Loam	

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

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

- ☐ 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 indicators 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?	☐	☒	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: No wetland hydrology indicators are present.

APPENDIX C - PHOTOGRAPH LOG

Photograph C-1: View of upland sample plot (SP-)008, facing east.

Photograph C-2: View of upland SP-011, facing south.

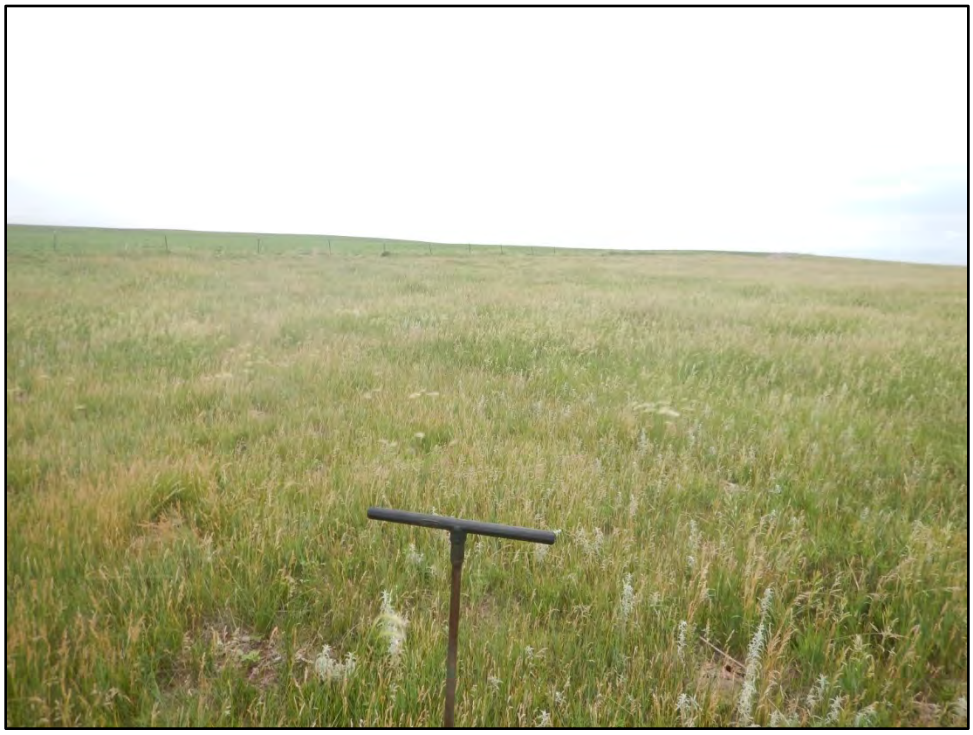
Photograph C-3: View of upland SP-501, facing south.

Photograph C-4: View of upland SP-502, facing north.

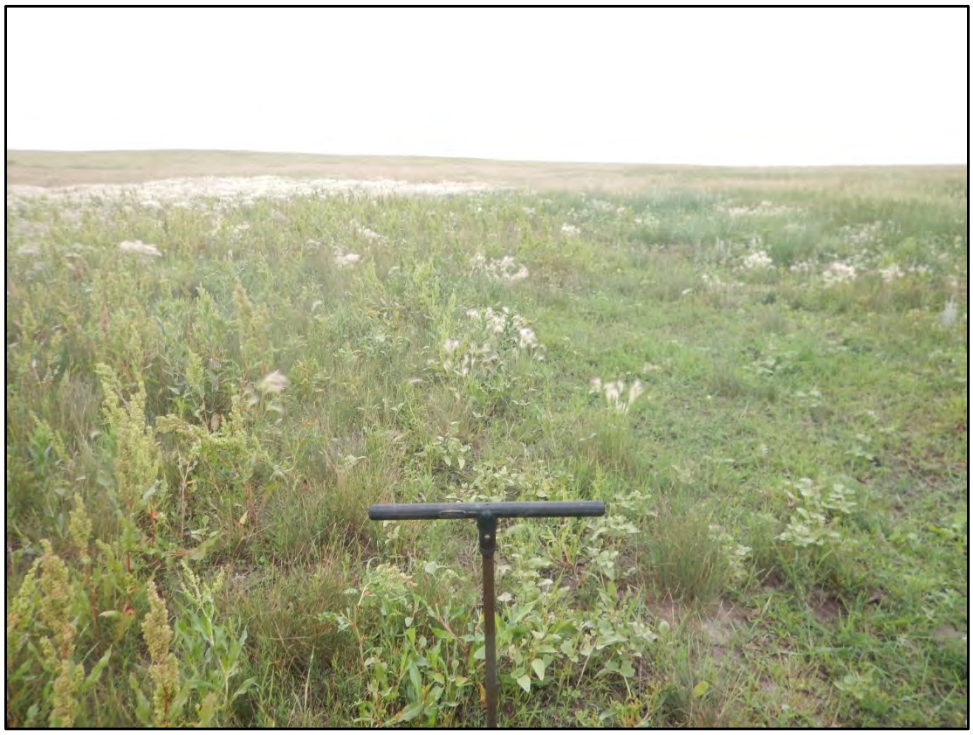
Photograph C-5: View of SP-503 in palustrine emergent (PEM) wetland (W-)501, facing north.

Photograph C-6: View of SP-504, an upland sample plot adjacent to W-501, facing east.

Photograph C-7: View of upland SP-505, facing west.

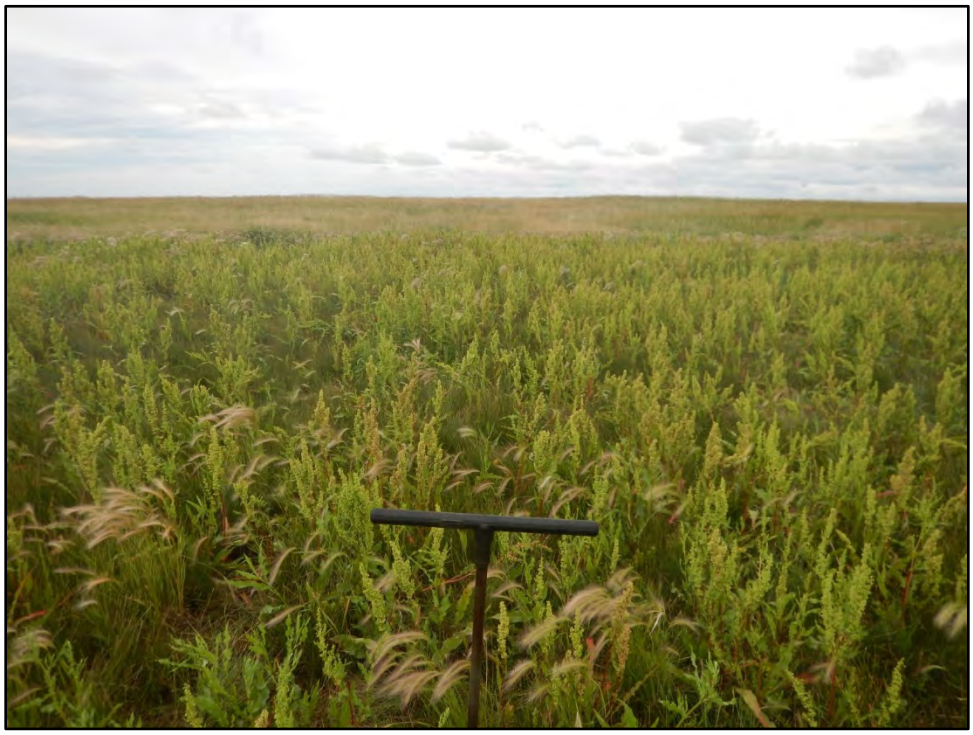


Photograph C-8: View of upland SP-515, facing south.



Photograph C-9: View of SP-516 in PEM W-507, facing north.

Photograph C-10: View of SP-517, an upland sample plot adjacent to W-507 and W-508, facing north.



Photograph C-11: View of SP-518 in PEM W-508, facing north.

Photograph C-12: View of upland SP-519, facing west.

Photograph C-13: View of SP-522 in PEM W-510, facing east.

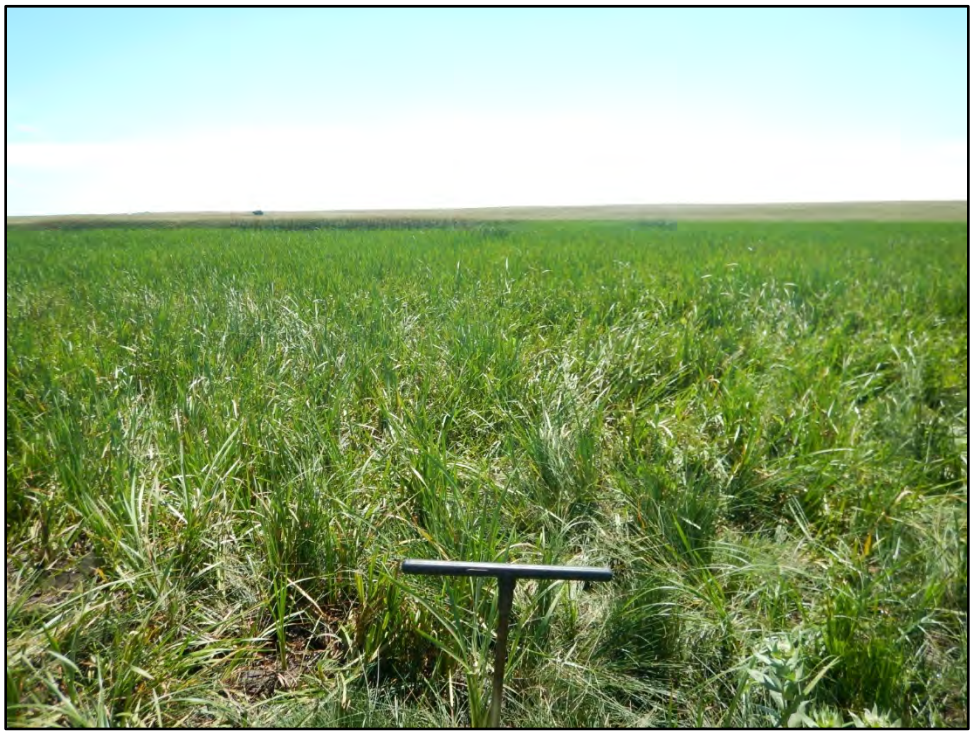
Photograph C-14: View of SP-536 in PEM W-518, facing west.

Photograph C-15: View of SP-537, an upland sample plot adjacent to W-518, facing east.

Photograph C-16: View of SP-538 in PEM W-520, facing west.

Photograph C-17: View of SP-539, an upland sample plot adjacent to W-520, facing west.

Photograph C-18: View of upland SP-541, facing west.



Photograph C-19: View of SP-544 in PEM W-524, facing south.

Photograph C-20: View of SP-545, an upland sample plot adjacent to W-524, facing south.

Photograph C-21: View of SP-548 in PEM W-526, facing east.

Photograph C-22: View of SP-549, an upland sample plot adjacent to W-526, facing east.

Photograph C-23: View of upland SP-551, facing north.

Photograph C-24: View of upland SP-552, facing north.

Photograph C-25: View of SP-570 in PEM W-537, facing north.

Photograph C-26: View of SP-571, an upland sample plot adjacent to W-537, facing south.

Photograph C-27: View of upland SP-591, facing south.

Photograph C-28: View of SP-592 in PEM W-548, facing east.

Photograph C-29: View of SP-593, an upland sample plot adjacent to W-548, facing east.

Photograph C-30: View of SP-596 in PEM W-550, facing east.

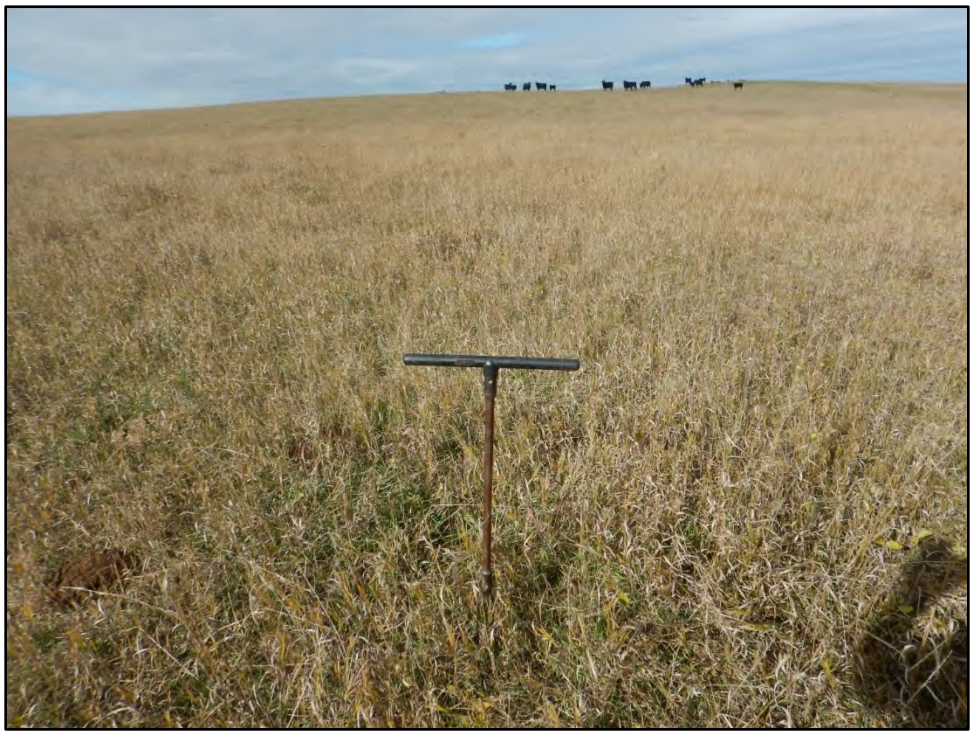
Photograph C-31: View of SP-597, an upland sample plot adjacent to W-550, facing east.

Photograph C-32: View of upland SP-600, facing north.

Photograph C-33: View of upland SP-603, facing east.

Photograph C-34: View of SP-606 in PEM W-554, facing south.

Photograph C-35: View of SP-607, an upland sample plot adjacent to W-554, facing south.



Photograph C-36: View of upland SP-612, facing north.

Photograph C-37: View of upland SP-615, facing south.

Photograph C-38: View of SP-616 in PEM W-558, facing north.

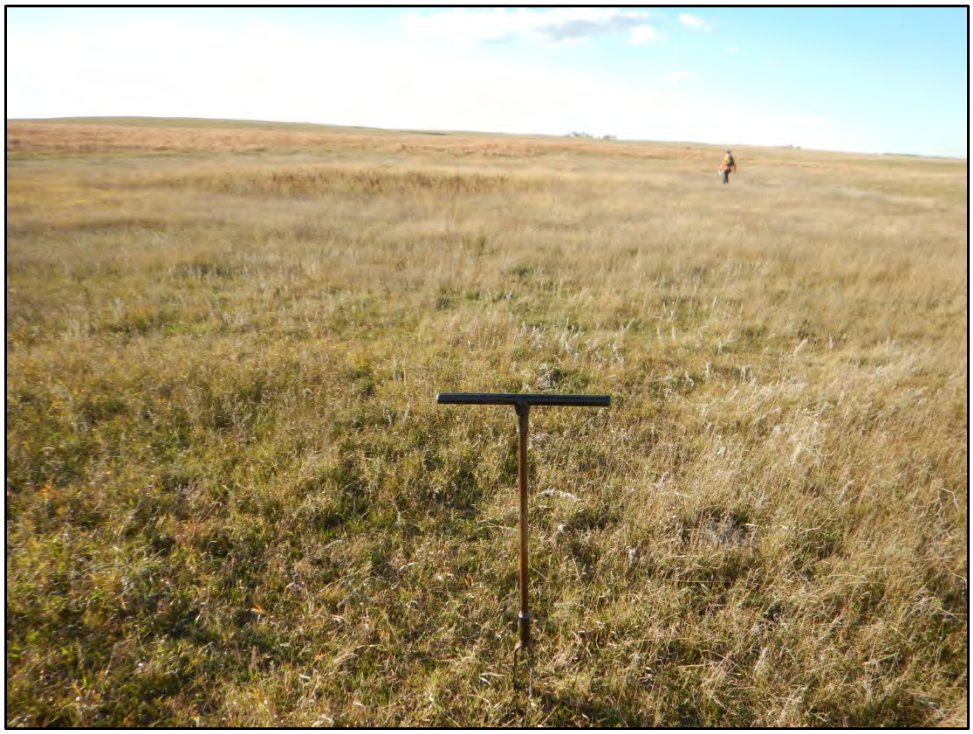
Photograph C-39: View of SP-617, an upland plot adjacent to W-558, facing north.

Photograph C-40: View of upland SP-619, facing north.

Photograph C-41: View of upland SP-621, facing north.

Photograph C-42: View of upland SP-623, facing north.

Photograph C-43: View of SP-634 in PEM W-566, facing west.



Photograph C-44: View of SP-635, an upland plot adjacent to W-566, facing west.

Photograph C-45: View of SP-651 in PEM W-005, facing south.

Photograph C-46: View of SP-652, an upland sample plot adjacent to W-005, facing north.

Photograph C-47: View of SP-658 in PEM W-579, facing west.

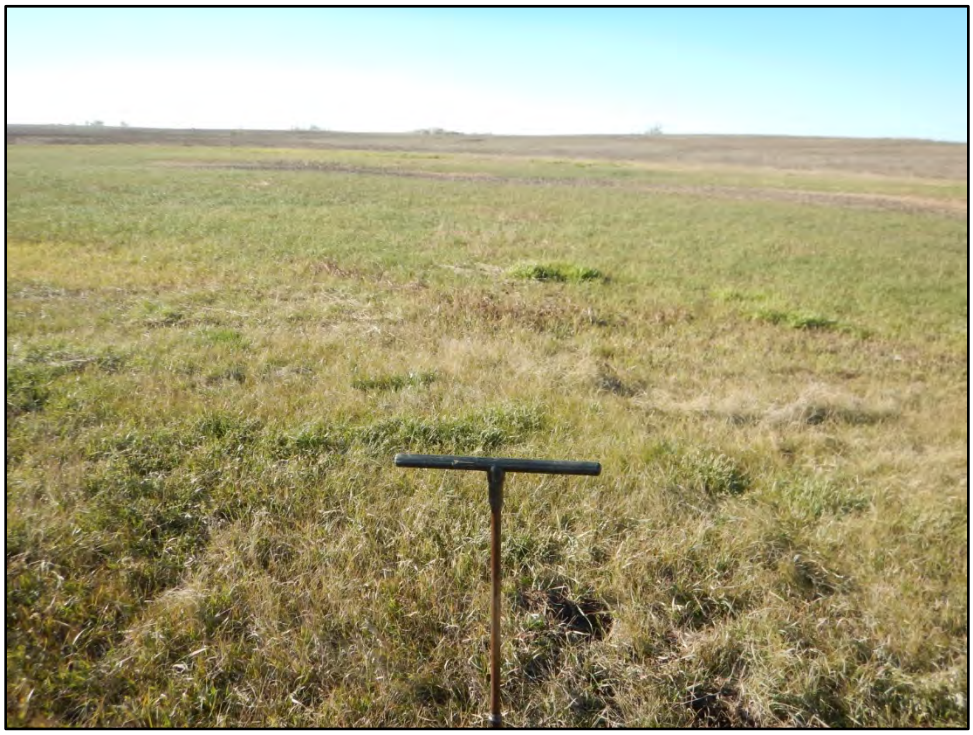
Photograph C-48: View of SP-659, an upland sample plot adjacent to W-579, facing west.

Photograph C-49: View of SP-660 in PEM W-580, facing west.

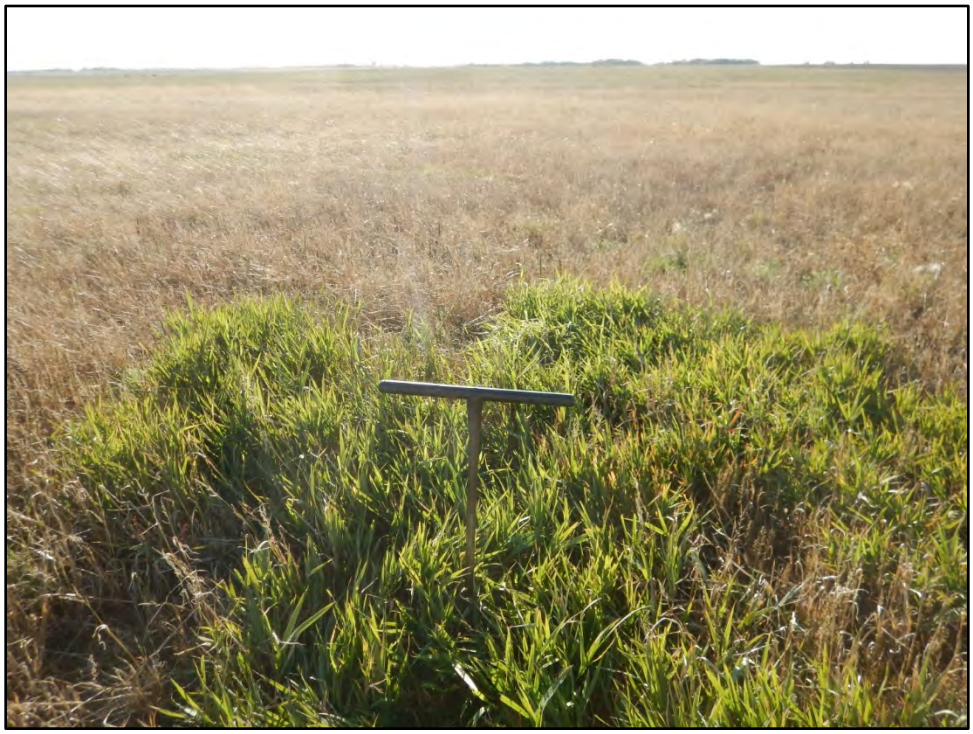
Photograph C-50: View of SP-661, an upland sample plot adjacent to W-580, facing west.

Photograph C-51: View of upland SP-663, facing west.

Photograph C-52: View of upland SP-664, facing west.



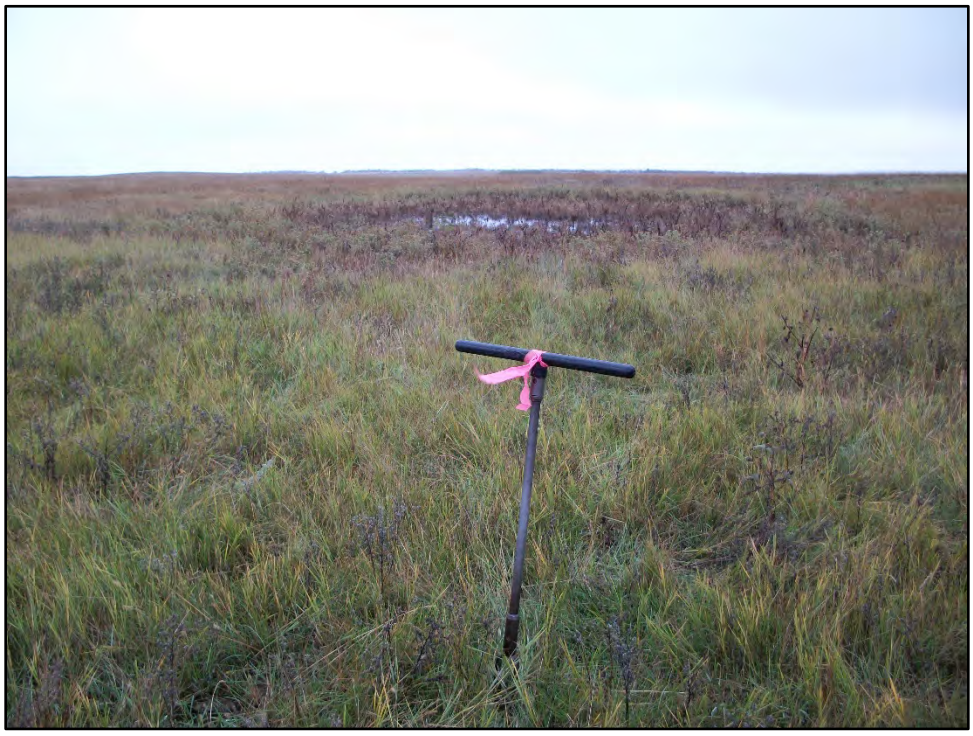
Photograph C-53: View of upland SP-666, facing north.



Photograph C-54: View of SP-667 in PEM W-584, facing west.

Photograph C-55: View of SP-668, an upland sample plot adjacent to W-584, facing west.

Photograph C-56: View of upland SP-669, facing north.



Photograph C-57: View of upland SP-702, facing northwest.

Photograph C-58: View of upland SP-705, facing north.

Photograph C-59: View of upland SP-706, facing southeast.

Photograph C-60: View of upland SP-708, facing west.

Photograph C-61: View of SP-713 in PEM W-710, facing south.

Photograph C-62: View of SP-714, an upland plot adjacent to W-710, facing northwest.

Photograph C-63: View of upland SP-716, facing west.

Photograph C-64: View of SP-717 in PEM W-712, facing east.

Photograph C-65: View of SP-718, an upland plot adjacent to W-712, facing northeast.

Photograph C-66: View of SP-719 in PEM W-713, facing northeast.

Photograph C-67: View of SP-720, an upland plot adjacent to W-713, facing north.

Photograph C-68: View of SP-901 in PEM W-901, facing southeast.

Photograph C-69: View of SP-902, an upland plot adjacent to W-901, facing southeast.

Photograph C-70: View of upland SP-903, facing southeast.

Photograph C-71: View of intermittent stream (S-)003, facing downstream.

Photograph C-72: View of intermittent S-004, facing upstream.

Photograph C-73: View of ephemeral S-502, facing downstream.

Photograph C-74: View of ephemeral S-504, facing downstream.

Photograph C-75: View of ephemeral S-508, facing downstream.

Photograph C-76: View of ephemeral S-510, facing upstream.

Photograph C-77: View of ephemeral S-513, facing upstream.

Photograph C-78: View of ephemeral S-514, facing across.

Photograph C-79: View of ephemeral S-516, facing upstream.

Photograph C-80: View of ephemeral S-517, facing upstream.

Photograph C-81: View of ephemeral S-518, facing downstream.

Photograph C-82: View of ephemeral S-519, facing upstream.

Photograph C-83: View of ephemeral S-521, facing downstream.

Photograph C-84: View of ephemeral S-522, facing downstream.

Photograph C-85: View of intermittent S-523, facing downstream.

Photograph C-86: View of ephemeral S-526, facing downstream.

Photograph C-87: View of ephemeral S-701, facing downstream.

Photograph C-88: View of ephemeral S-702, facing downstream.

Photograph C-89: View of ephemeral S-703, facing upstream.

Photograph C-90: View of ephemeral S-704, facing downstream.

Photograph C-91: View of ephemeral S-705, facing downstream.

Photograph C-92: View of ephemeral S-707, facing downstream.

Photograph C-93: View of ephemeral S-708, facing downstream.

Photograph C-94: View of ephemeral S-901, facing downstream.

Photograph C-95: View of Photo Point (PP-)008 in Project Area representative of upland pasture, facing west.

Photograph C-96: View of PP-503 in Project Area representative upland pasture, facing west.

Photograph C-97: View of PP-505 in Project Area representative upland pasture, facing east.

Photograph C-98: View of PP-512 in Project Area representative upland swale, facing north.

Photograph C-99: View of PP-514 in Project Area representative upland swale, facing west.

Photograph C-100: View of PP-526 in Project Area representative upland area that has hydric soil or NWI data, facing north.

Photograph C-101: View of PP-529 in Project Area representative upland area that has hydric soil or NWI data, facing west.

Photograph C-102: View of PP-530 in Project Area representative upland area that has hydric soil or NWI data, facing west.

Photograph C-103: View of PP-533 in Project Area representative upland area that has hydric soil or NWI data, facing east.

Photograph C-104: View of PP-537 in Project Area representative upland area that has hydric soil or NWI data, facing south.

Photograph C-105: View of PP-551 in Project Area representative upland area that has hydric soil or NWI data, facing west.

Photograph C-106: View of PP-565 in Project Area representative upland swale, facing east.

Photograph C-107: View of PP-577 in Project Area representative upland area that has hydric soil or NWI data, facing west.

Photograph C-108: View of PP-593 in Project Area representative upland pasture, facing west.

Photograph C-109: View of PP-599 in Project Area representative upland swale, facing south.

Photograph C-110: View of PP-605 in Project Area representative upland swale, facing west.

Photograph C-111: View of PP-628 in Project Area representative upland pasture, facing north.

Photograph C-112: View of PP-632 in Project Area representative roadside drainage, facing south.

Photograph C-113: View of PP-694 in Project Area representative roadside drainage, facing south.

Photograph C-114: View of PP-696 in Project Area representative roadside drainage, facing south.

Photograph C-115: View of PP-701 in Project Area representative upland pasture, facing north.

Photograph C-116: View of PP-724 in Project Area representative upland area with a spoil pile adjacent to an excavated pond, facing east.

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