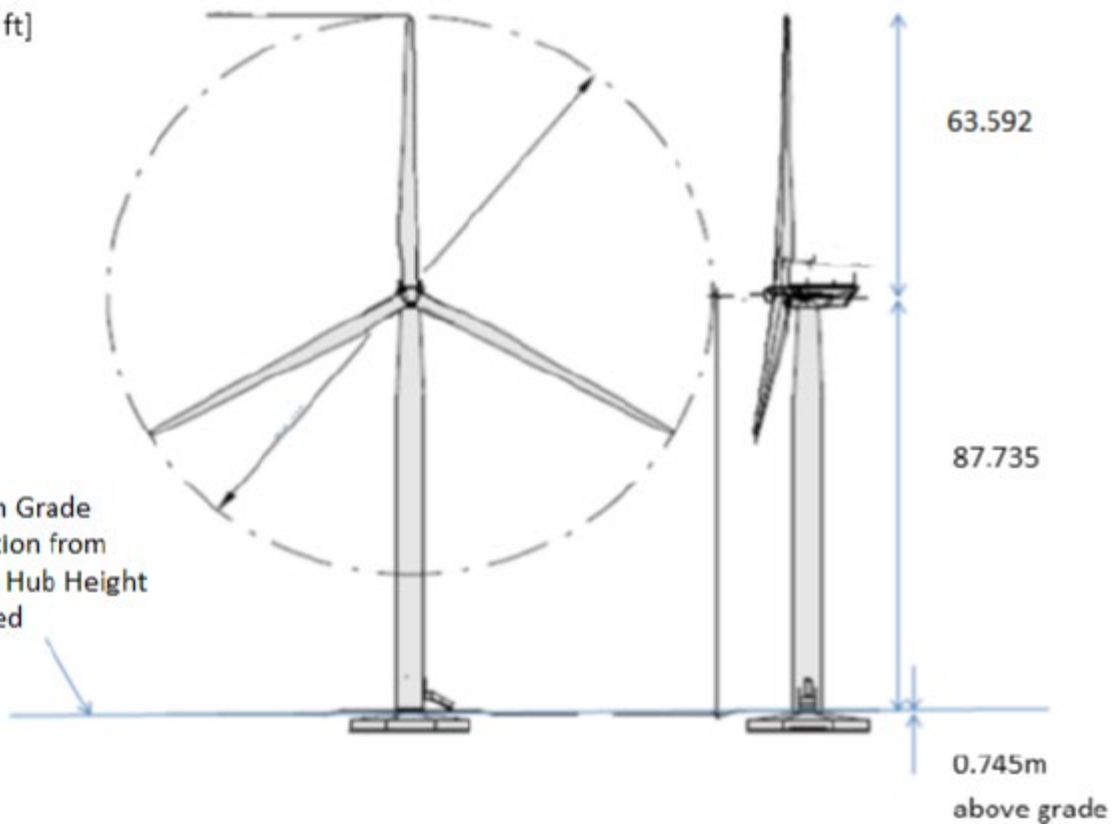


APPENDIX A – WIND TURBINE AND TRANSMISSION FACILITY DIAGRAMS



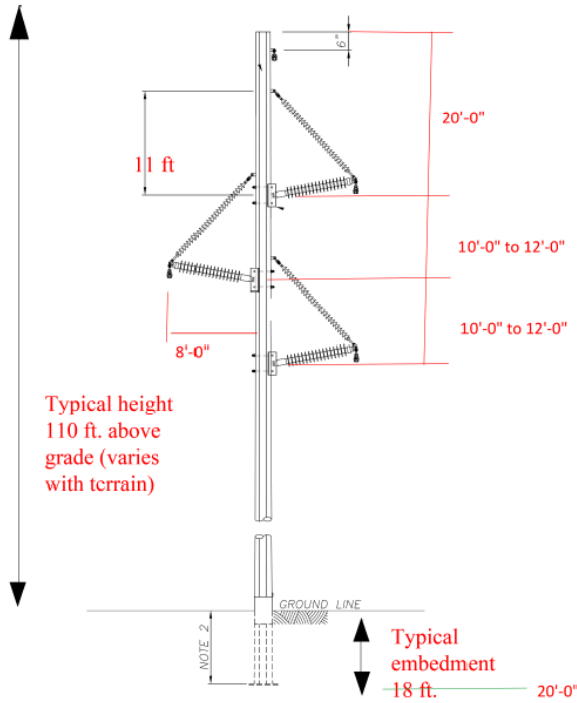
152.072m Tip Height
[498.9 ft]

Datum Grade
Elevation from
which Hub Height
Defined



Source: General Electric, 2019

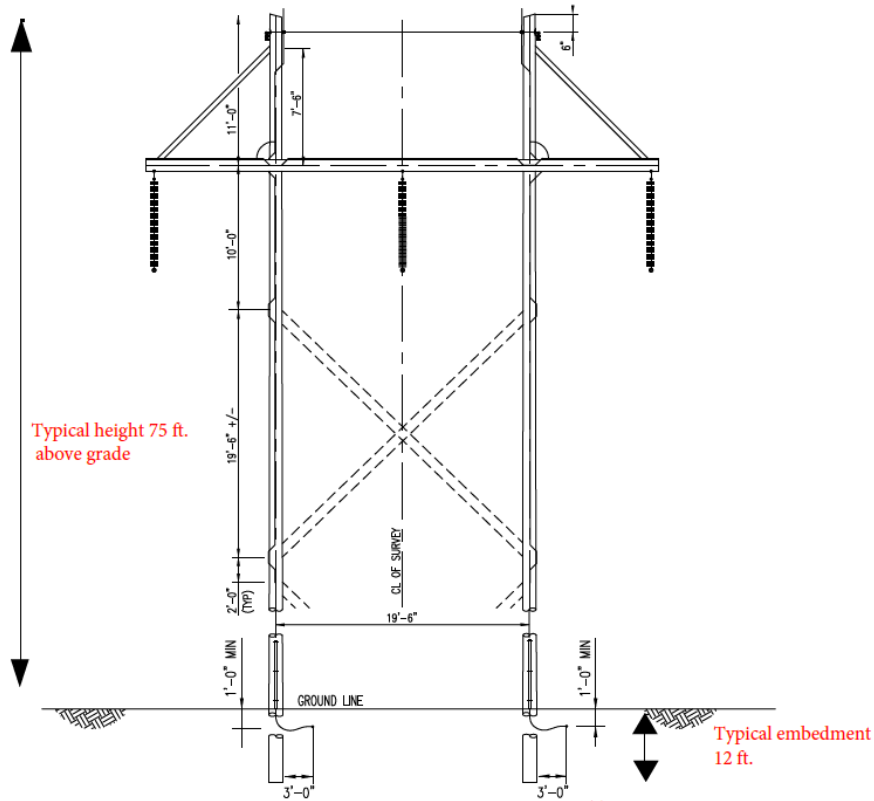
GE 2.82/127 Diagram, 89-Meter Hub
Height Sweetland Wind Farm, LLC
Hand County, South Dakota



230 kv - TYPICAL SINGLE POLE
TANGENT STRUCTURE



THESE DRAWINGS ARE PRELIMINARY AND CONCEPTUAL
ISSUED FOR INFORMATIONAL PURPOSES ONLY



230 kv - TYPICAL H FRAME TANGENT STRUCTURE

THESE DRAWINGS ARE PRELIMINARY AND CONCEPTUAL
ISSUED FOR INFORMATIONAL PURPOSES ONLY

APPENDIX B – WETLAND DELINEATION REPORT



February 26, 2019

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

Re: Sweetland Wind Project Wetland Delineation Report

Dear Mr. Wengierski:

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

INTRODUCTION

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

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

METHODS

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

Mark Wengierski
Sweetland Wind Farm, LLC
February 26, 2019
Page 2

Existing Data Review

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

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

Wetland Delineation Field Survey

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

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

Mark Wengierski
Sweetland Wind Farm, LLC
February 26, 2019
Page 3

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

RESULTS

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

Existing Data Review

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

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

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

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

Wetland Delineation Field Survey

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

Mark Wengierski
 Sweetland Wind Farm, LLC
 February 26, 2019
 Page 4

Vegetation

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

Soils

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

Hydrology

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

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

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

Source: Miller, SD Wetland Climate Tables (WETS)

Delineation Areas

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

Mark Wengierski
Sweetland Wind Farm, LLC
February 26, 2019
Page 5

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

Wetlands

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

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

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

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

Mark Wengierski
 Sweetland Wind Farm, LLC
 February 26, 2019
 Page 6

Table 2: Delineated Wetlands within the Survey Area

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



Mark Wengierski
Sweetland Wind Farm, LLC
February 26, 2019
Page 7

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

Mark Wengierski
 Sweetland Wind Farm, LLC
 February 26, 2019
 Page 8

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

(a) W = wetland

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

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

Mark Wengierski
 Sweetland Wind Farm, LLC
 February 26, 2019
 Page 9

Streams

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

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

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

Table 3: Delineated Streams within the Survey Area

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

Mark Wengierski
 Sweetland Wind Farm, LLC
 February 26, 2019
 Page 10

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

(a) S = stream

Mark Wengierski
Sweetland Wind Farm, LLC
February 26, 2019
Page 11

SUMMARY

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

Sincerely,



Tyler Beemer, PWS
Senior Environmental Scientist

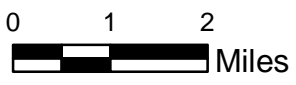
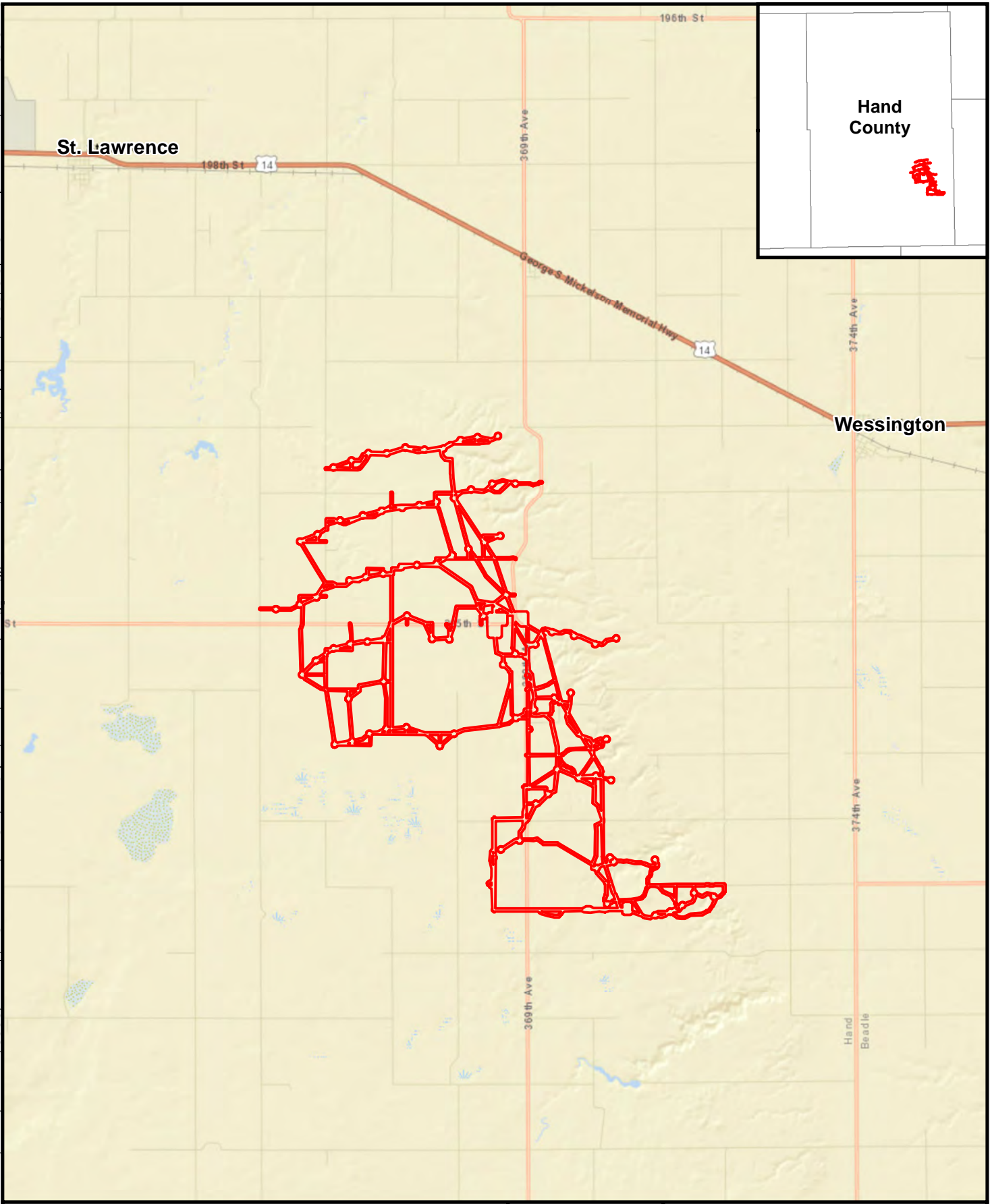
Attachments:

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

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

APPENDIX A -FIGURES

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA1_LocationMap.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community



Legend


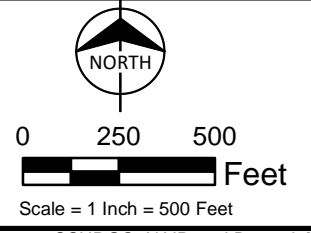
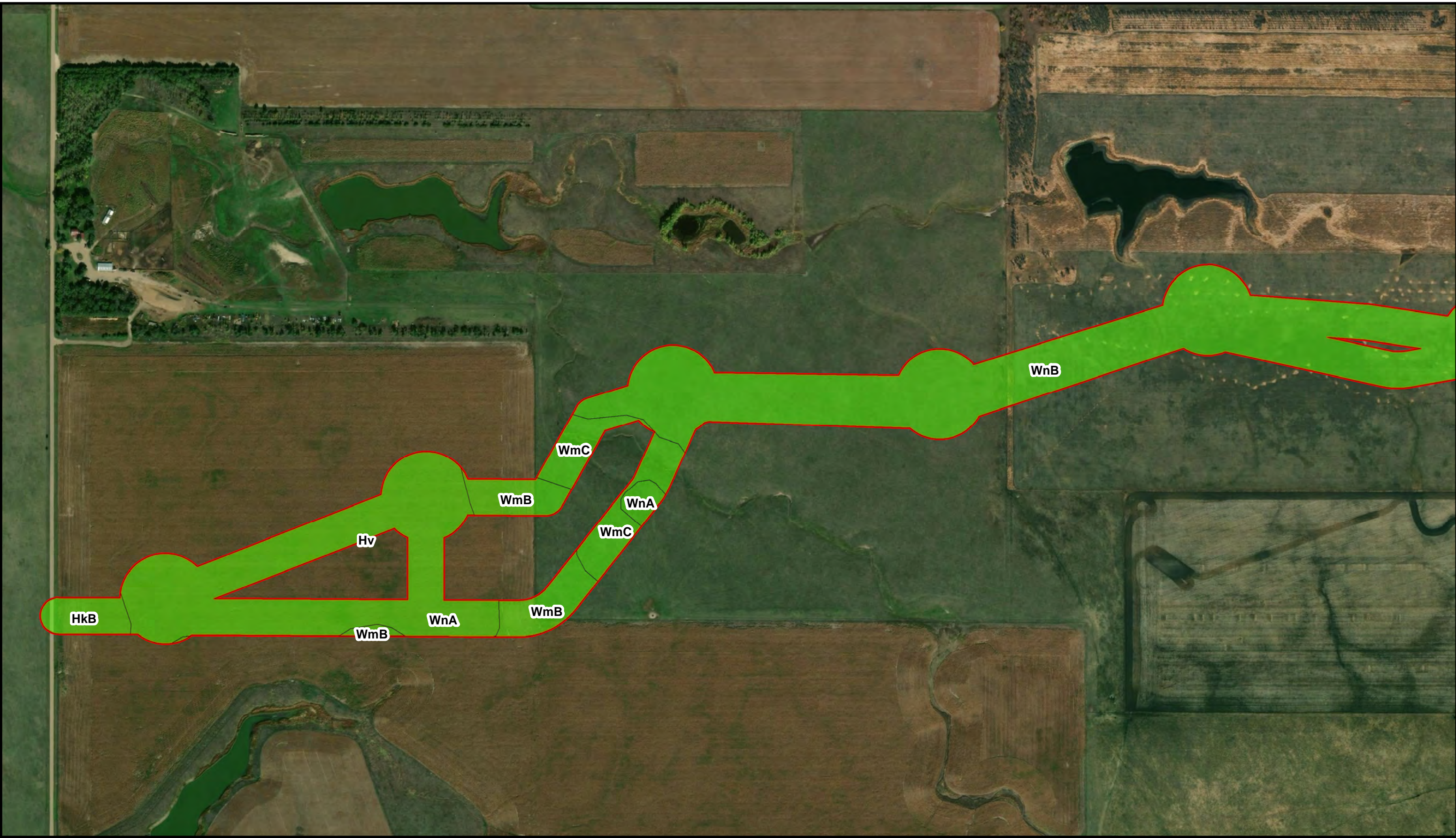
 Survey Area



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

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

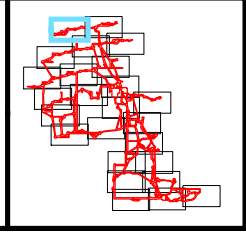
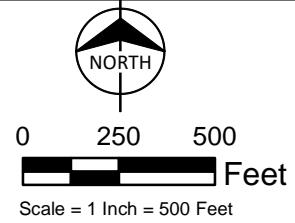
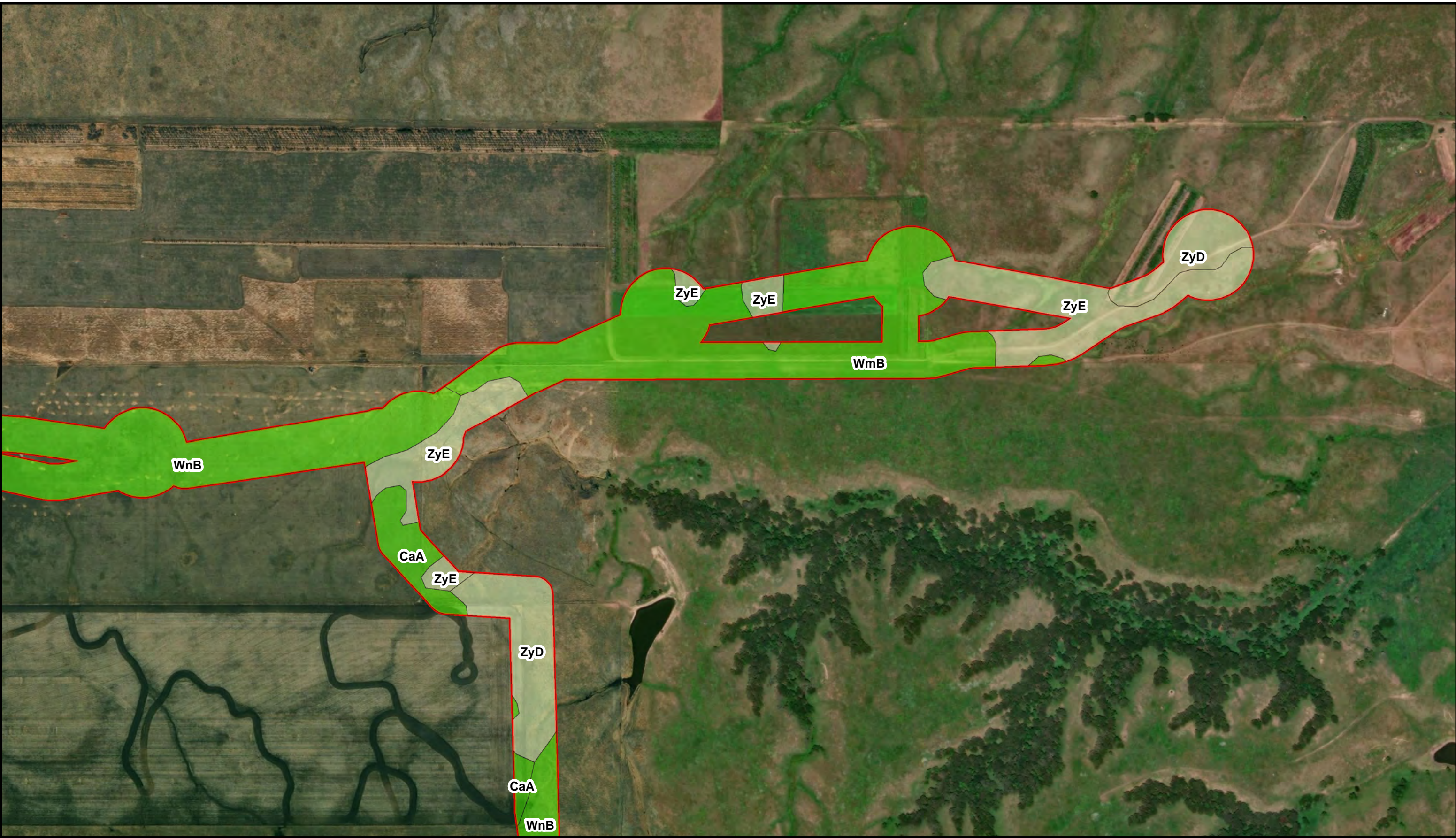







Figure A-2.1
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

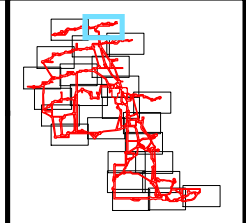
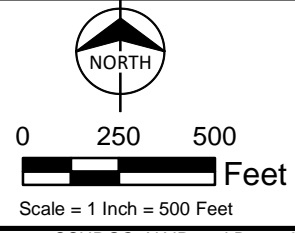
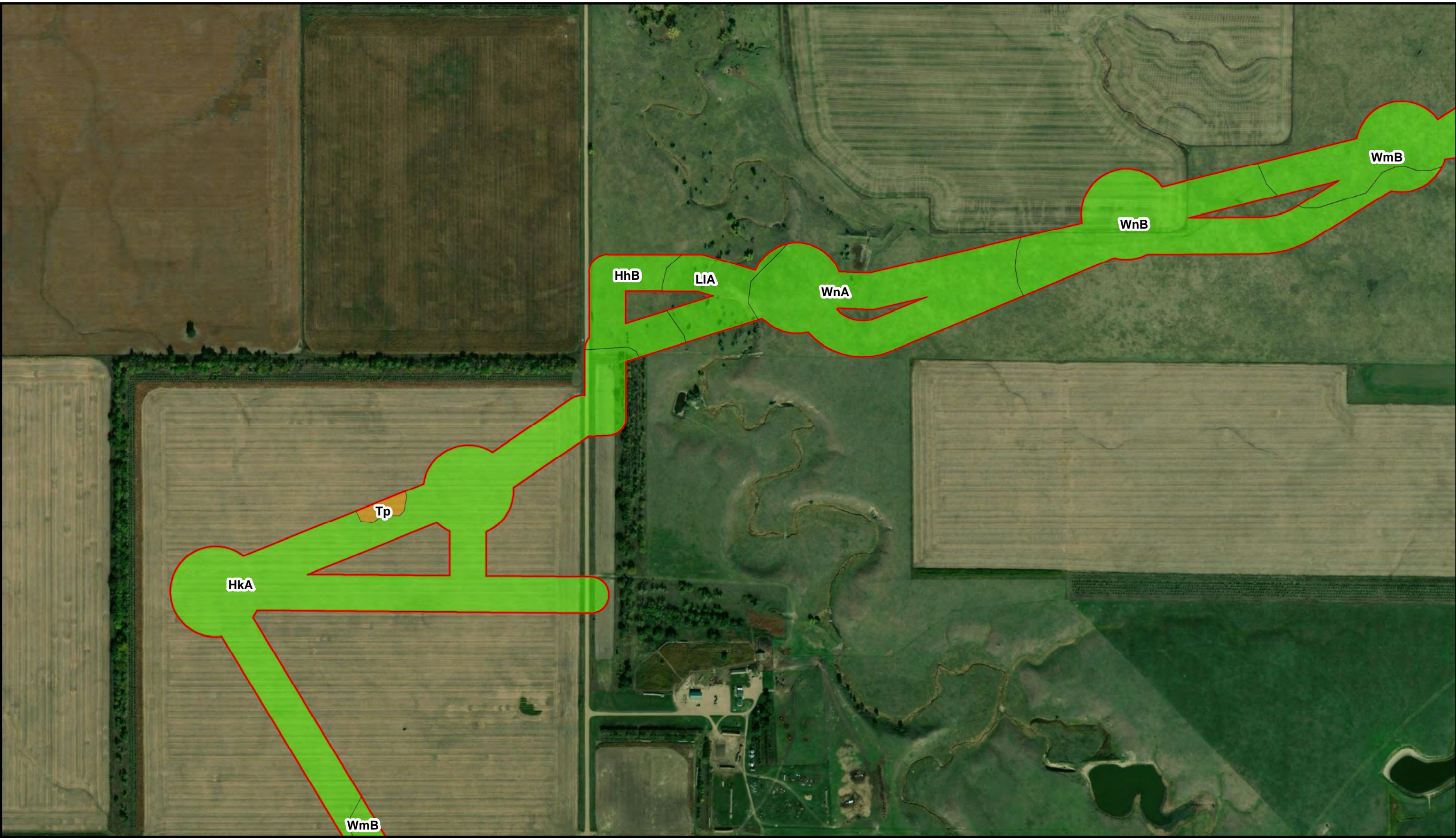







Figure A-2.2
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

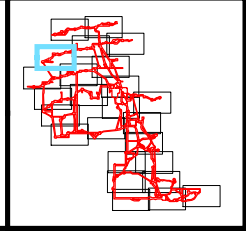
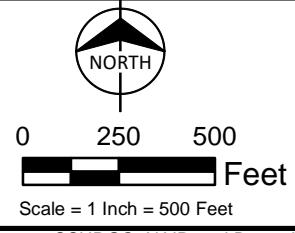
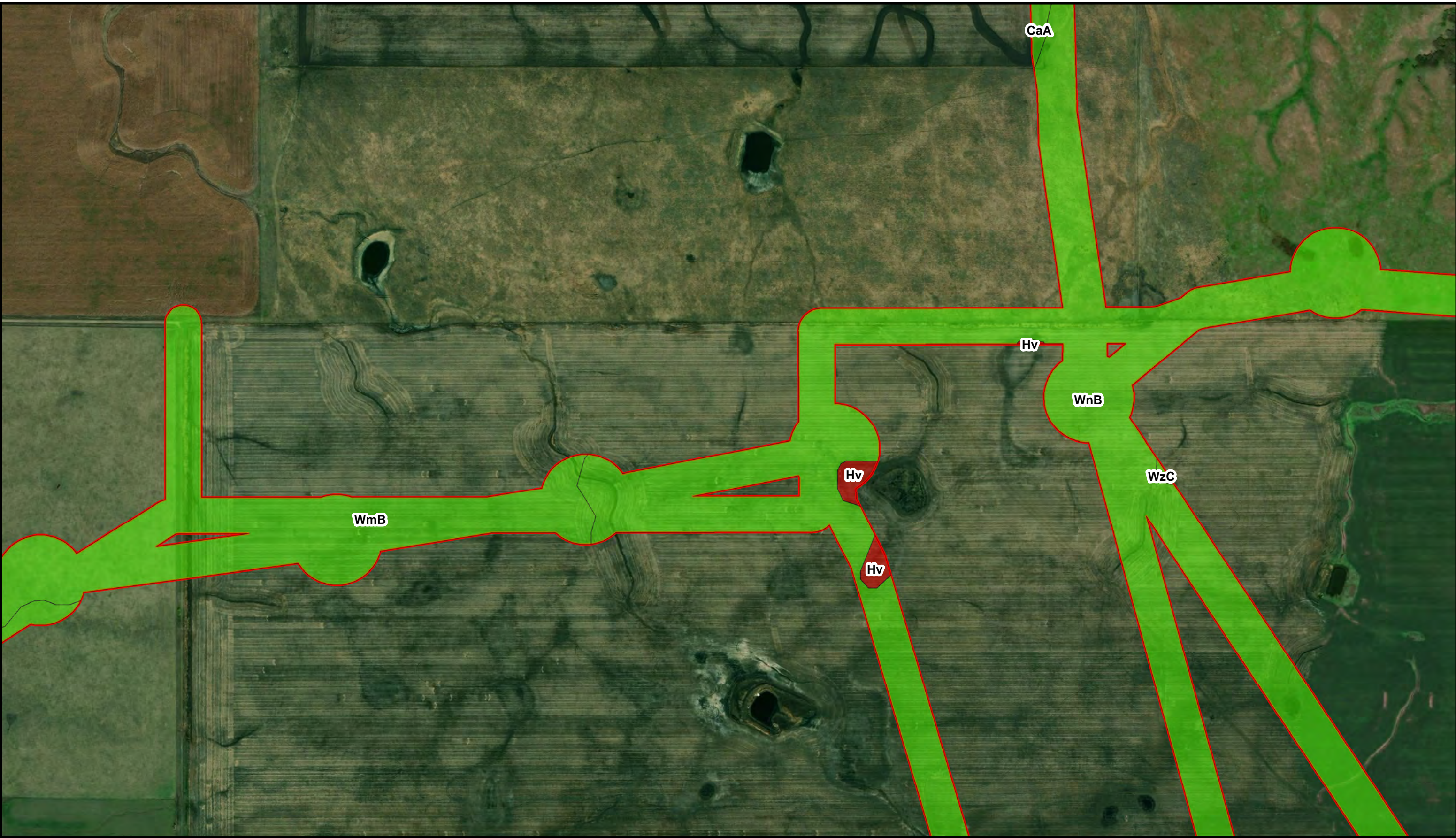


Figure A-2.3
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeamer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

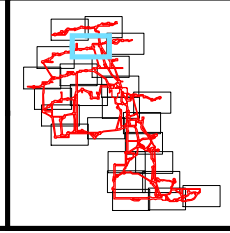
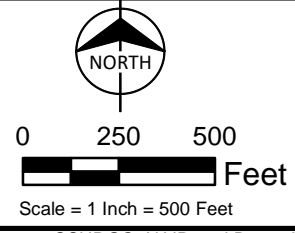
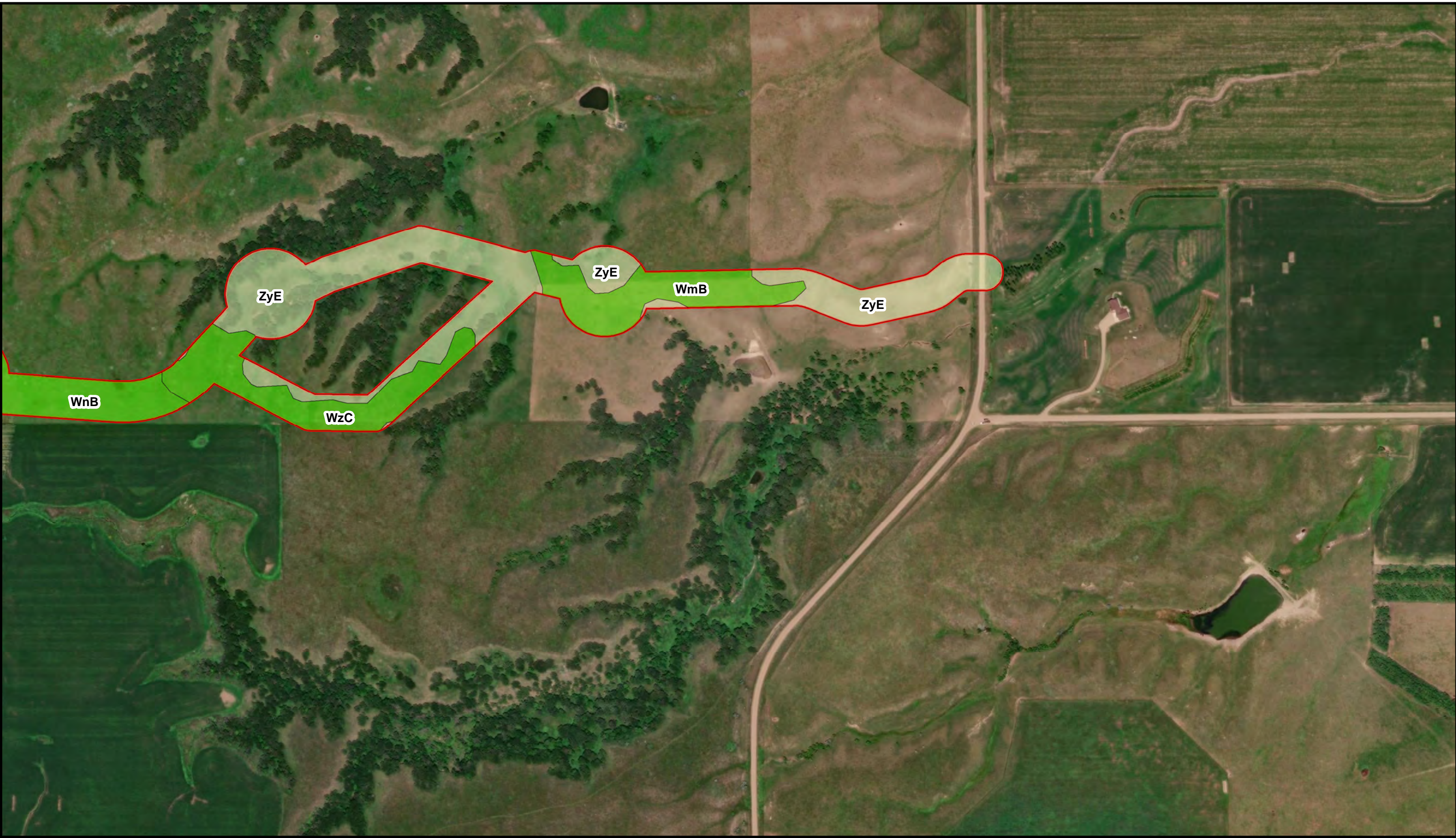







Figure A-2.4
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

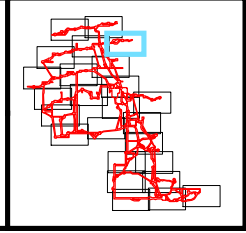
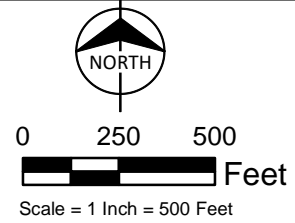
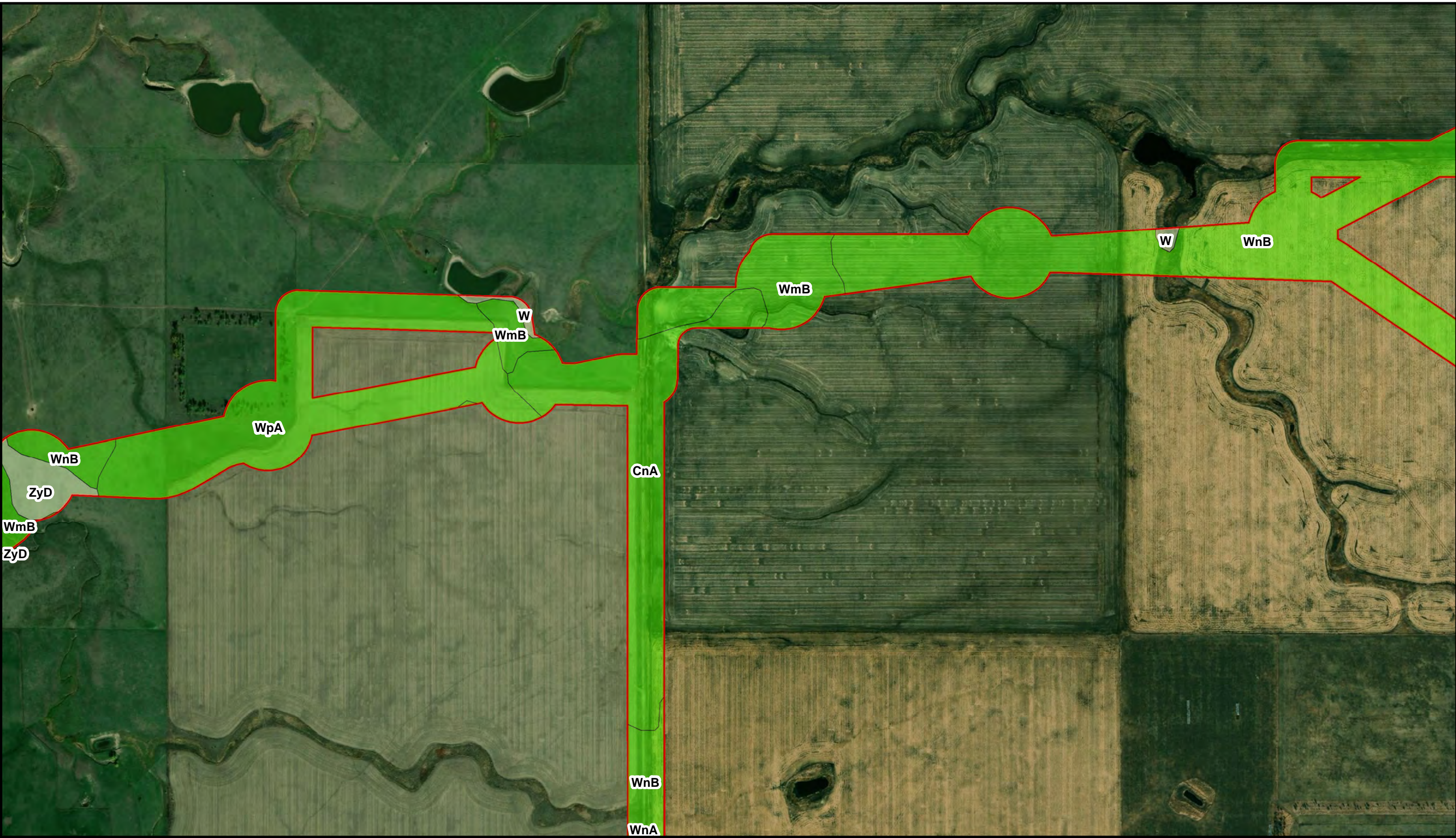







Figure A-2.5
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeamer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

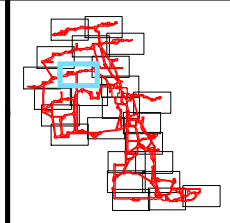
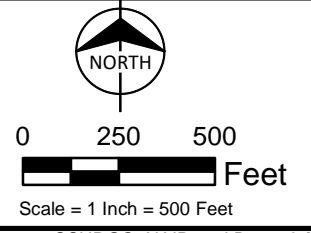
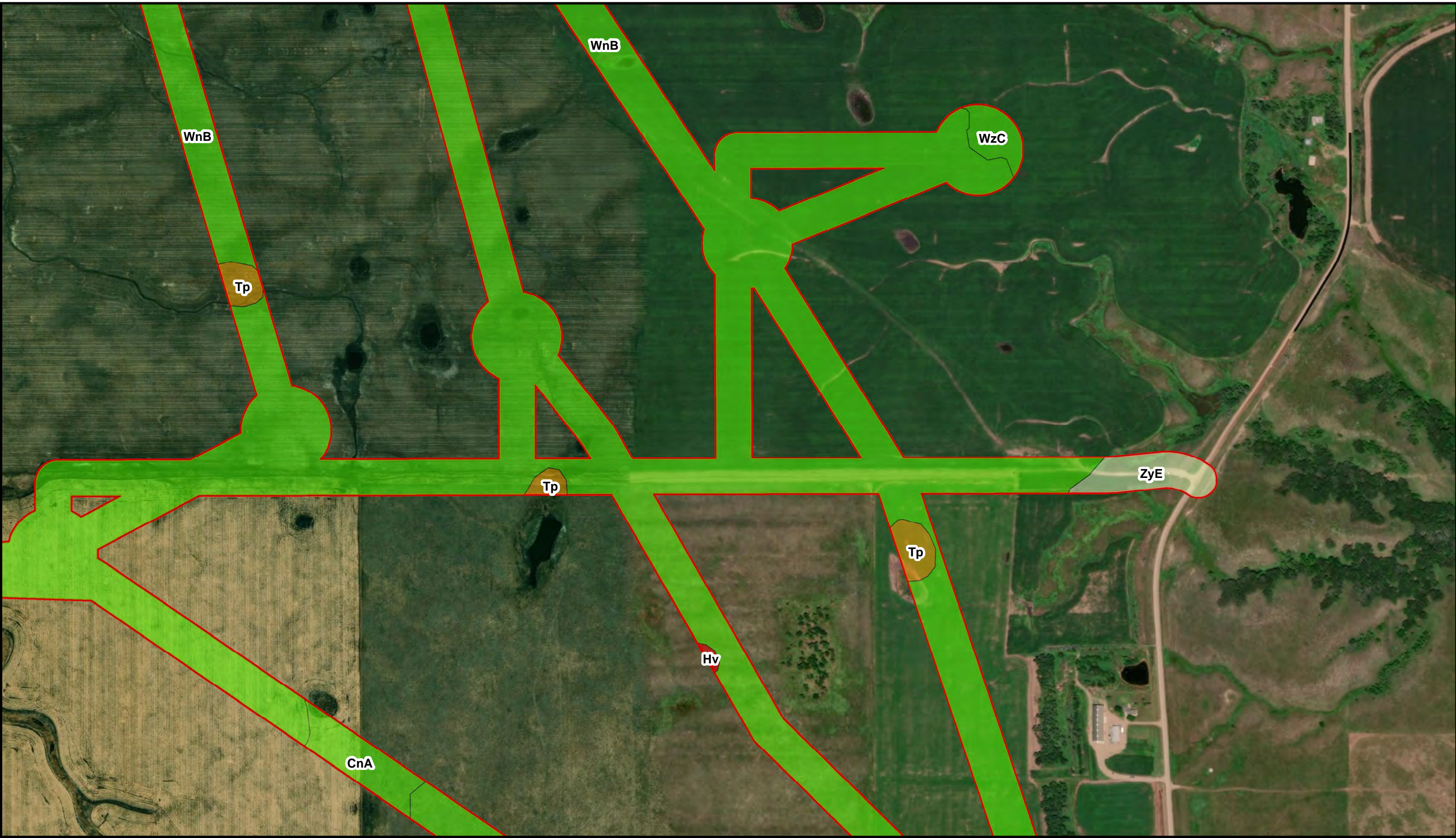


Figure A-2.7
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

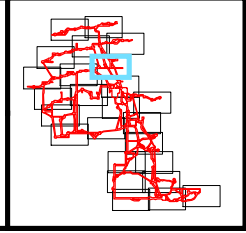
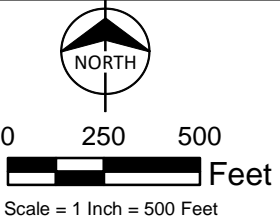
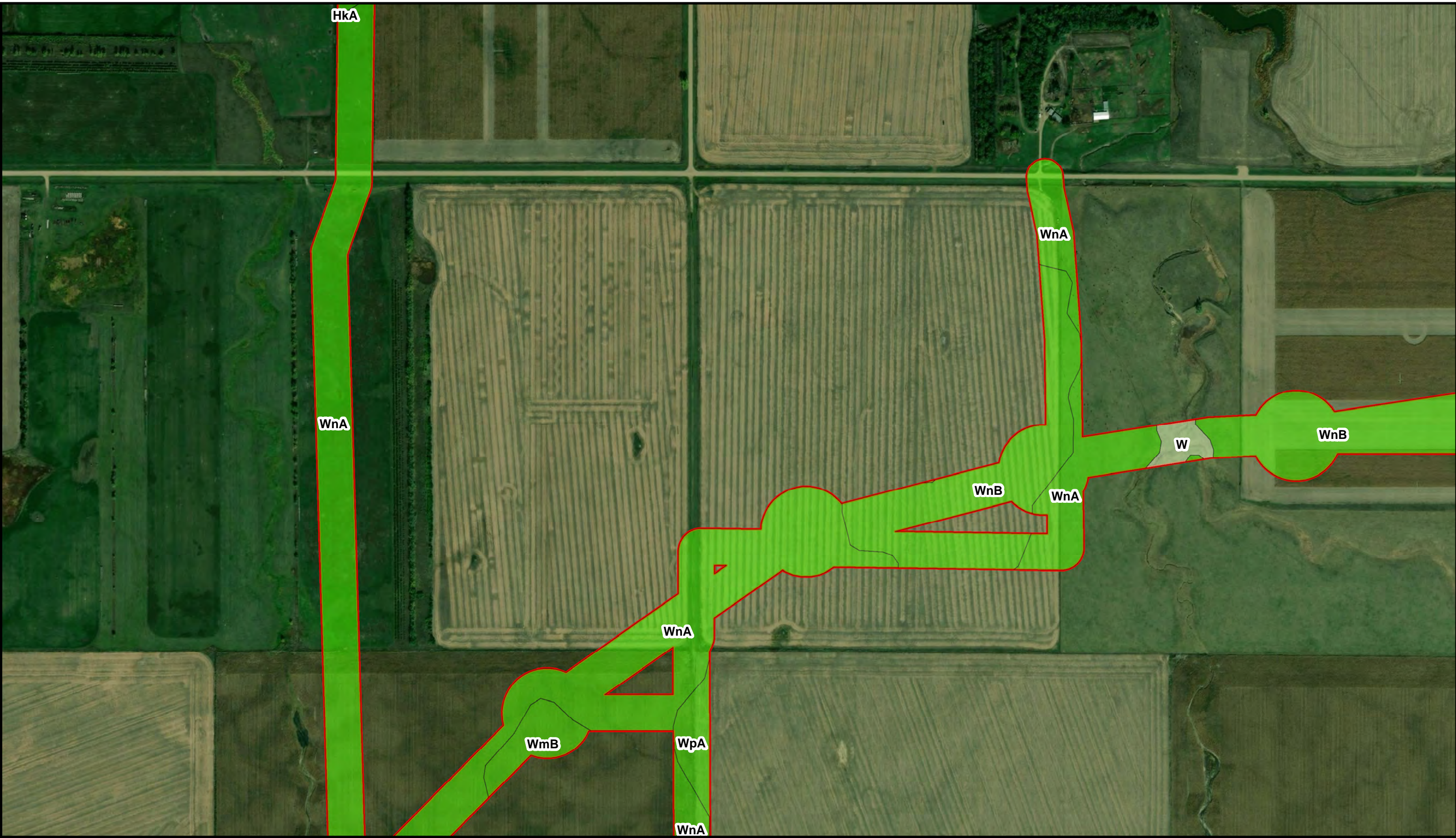







Figure A-2.8
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

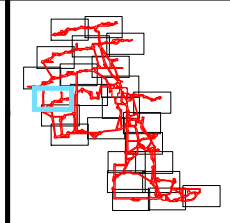
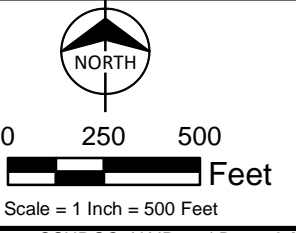
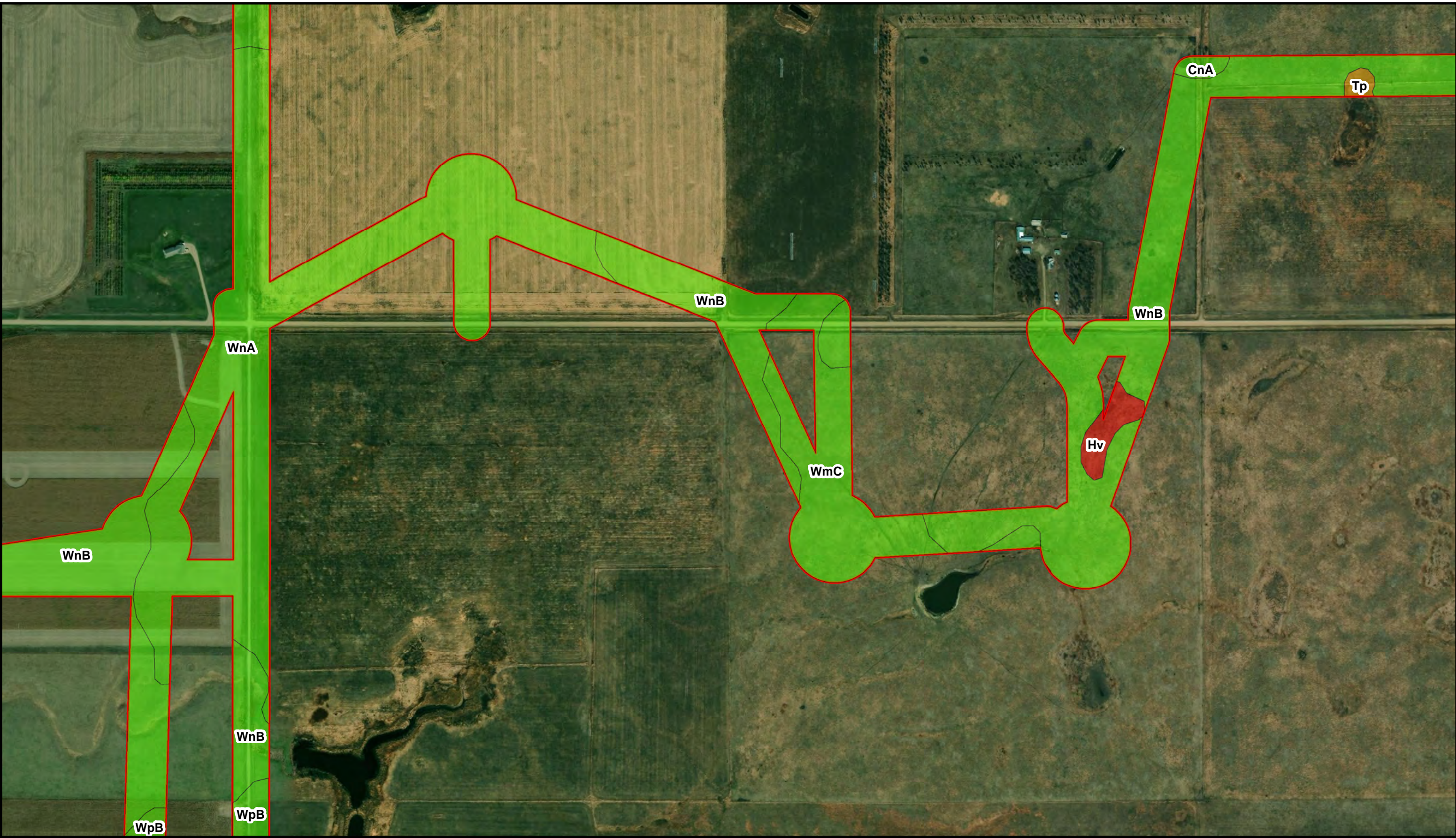







Figure A-2.9
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

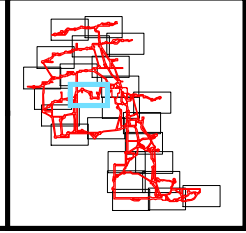
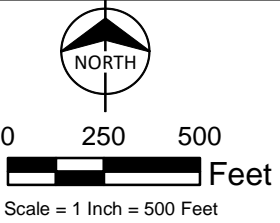
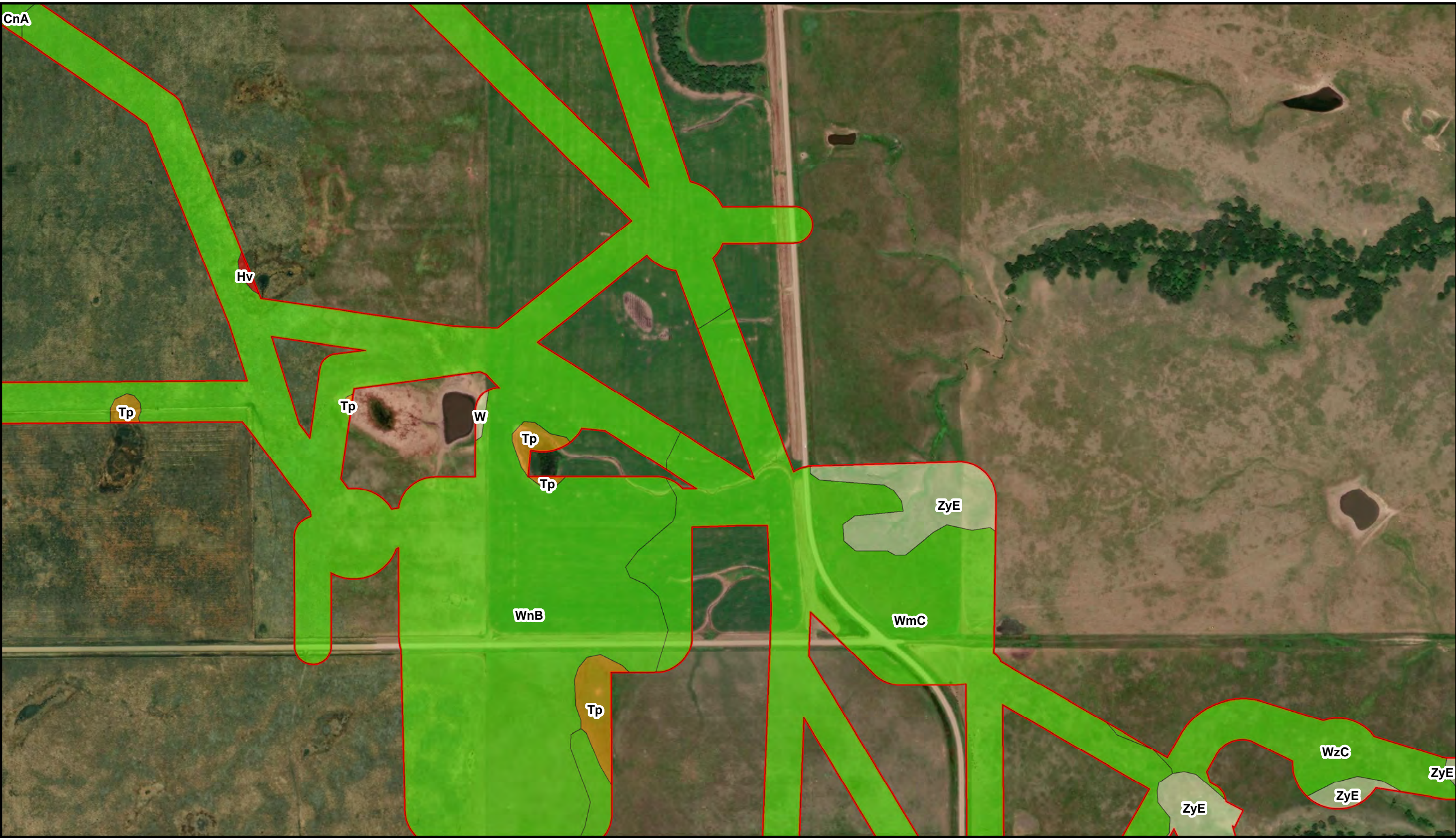


Figure A-2.10
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

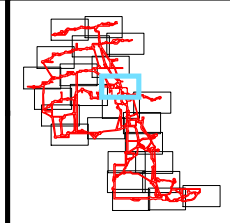
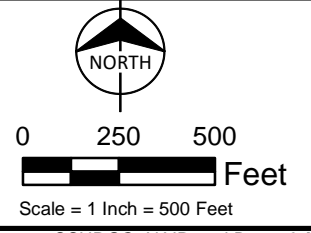
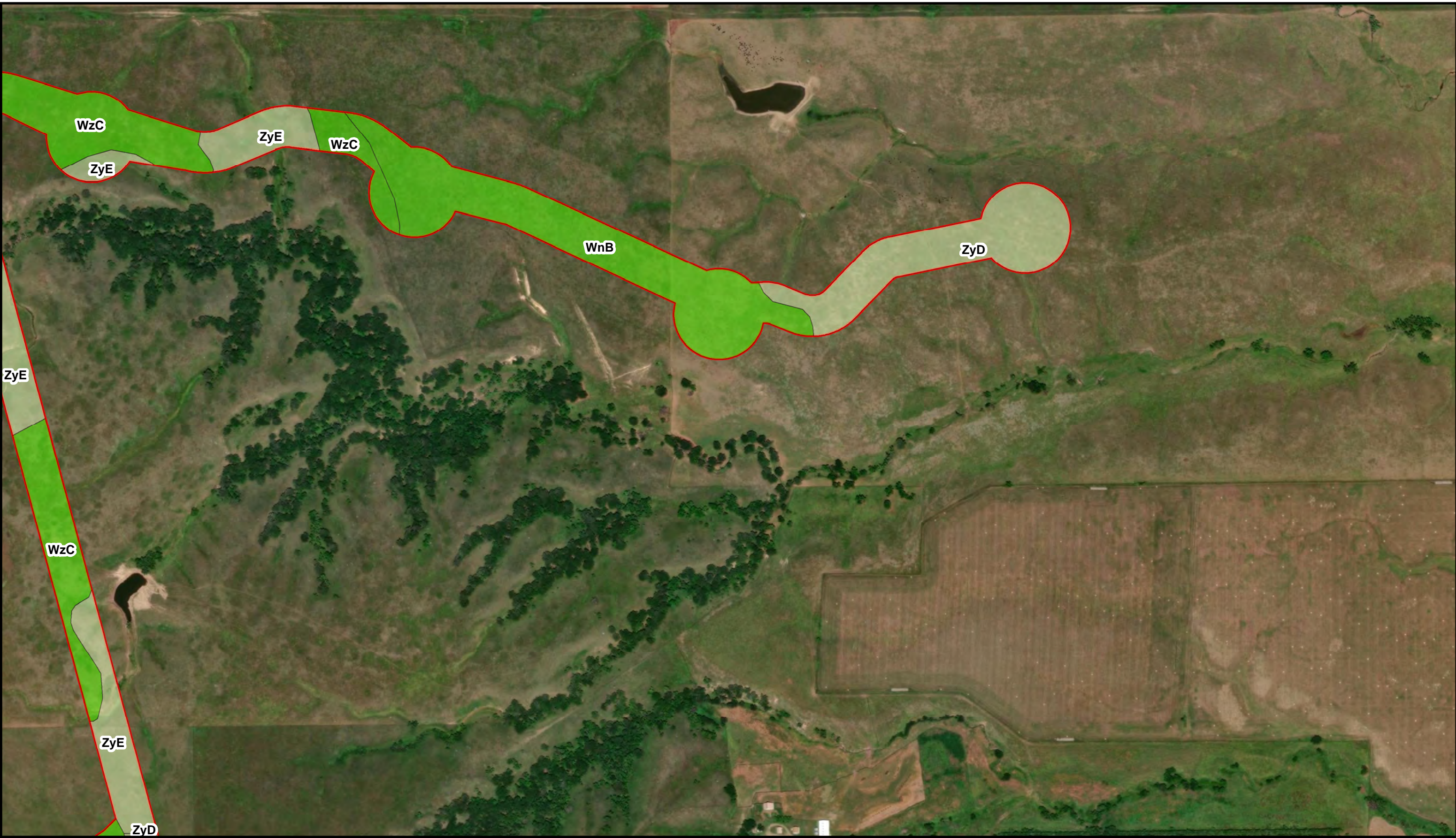







Figure A-2.11
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

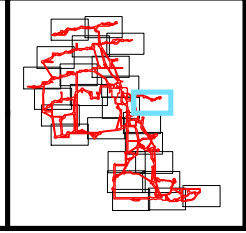
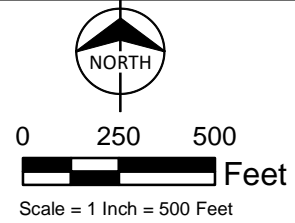
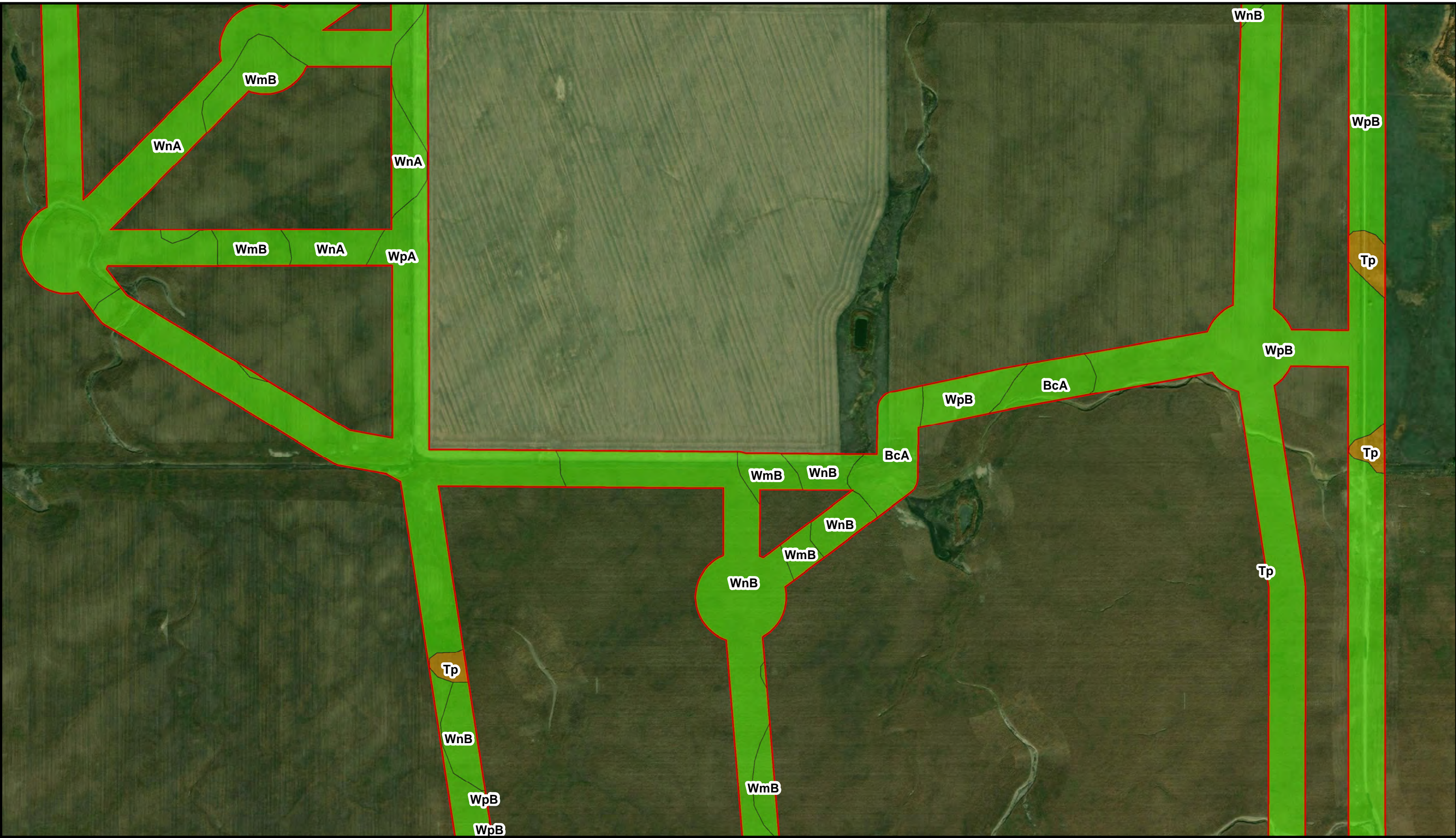







Figure A-2.12
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

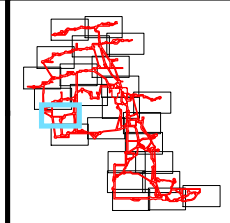
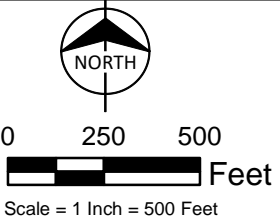
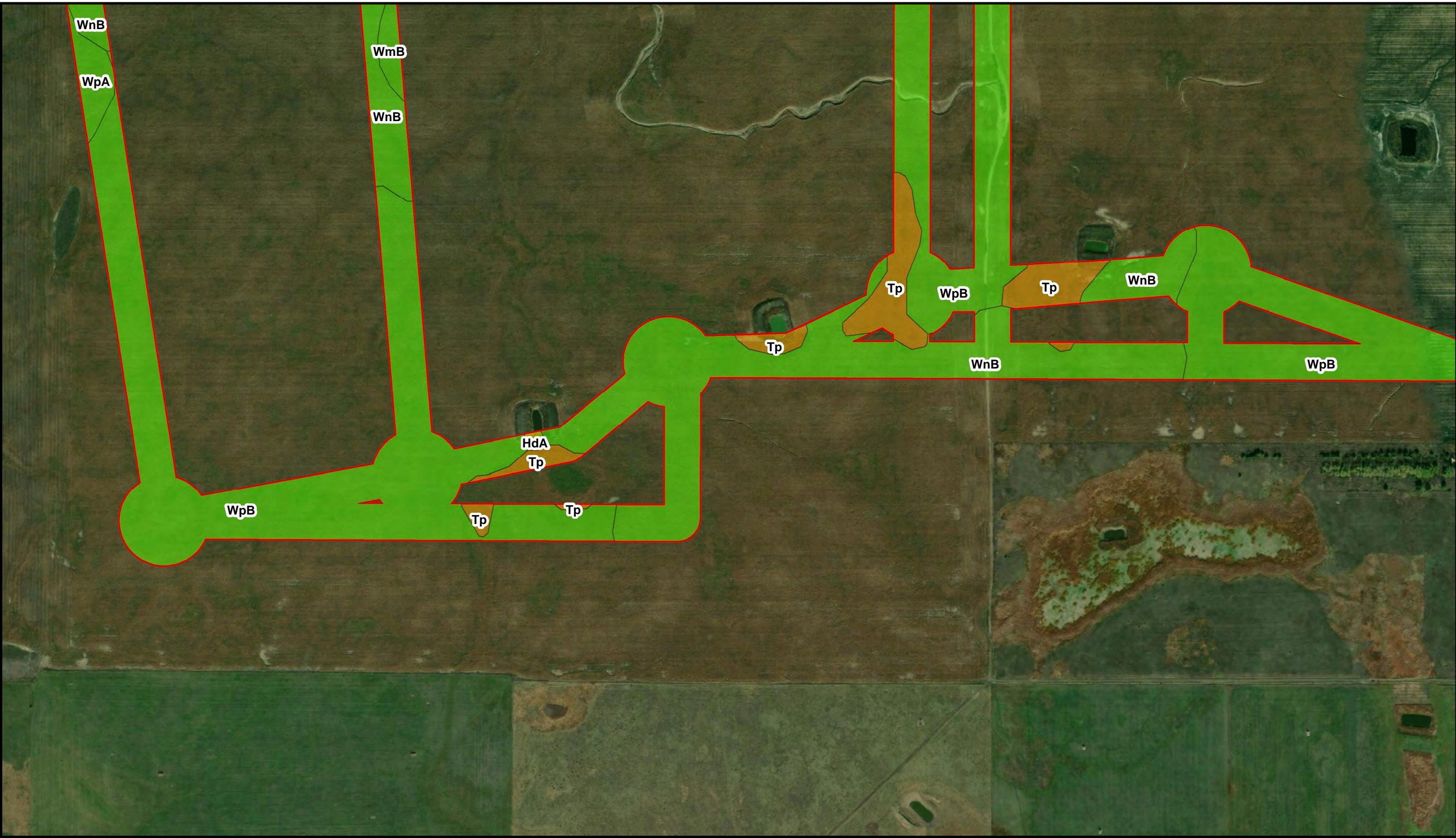


Figure A-2.13
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

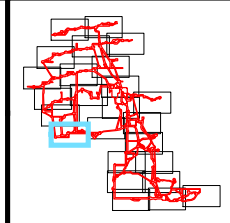
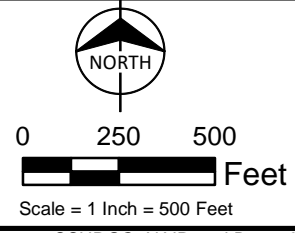







Figure A-2.14
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

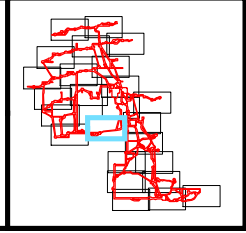
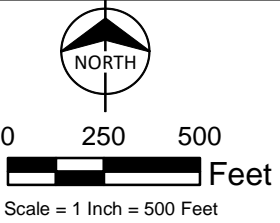
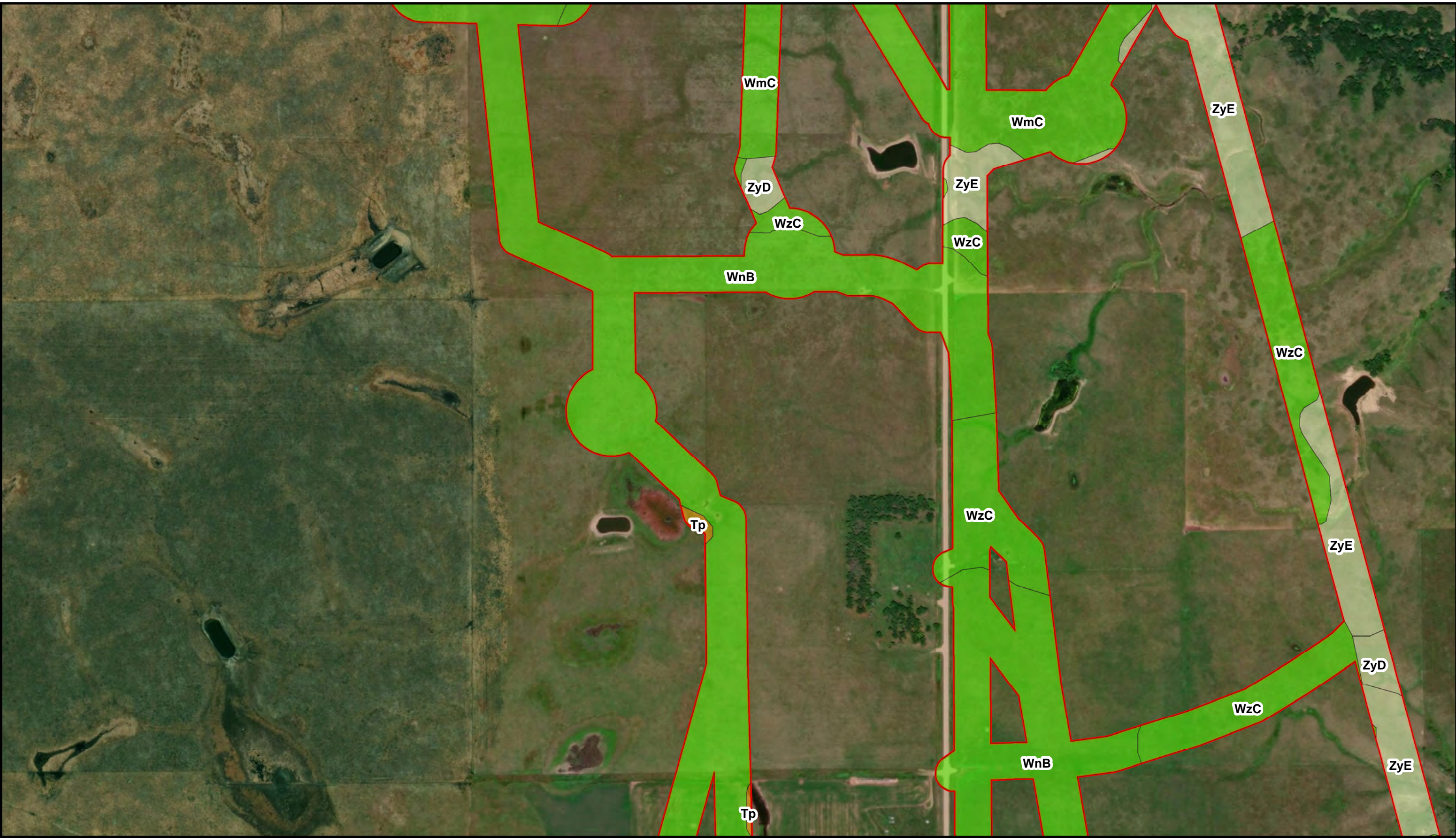







Figure A-2.15
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

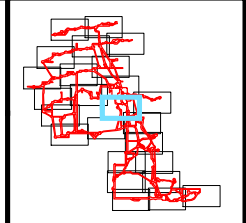
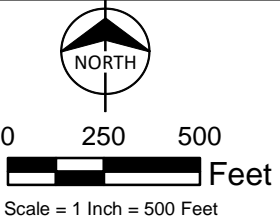
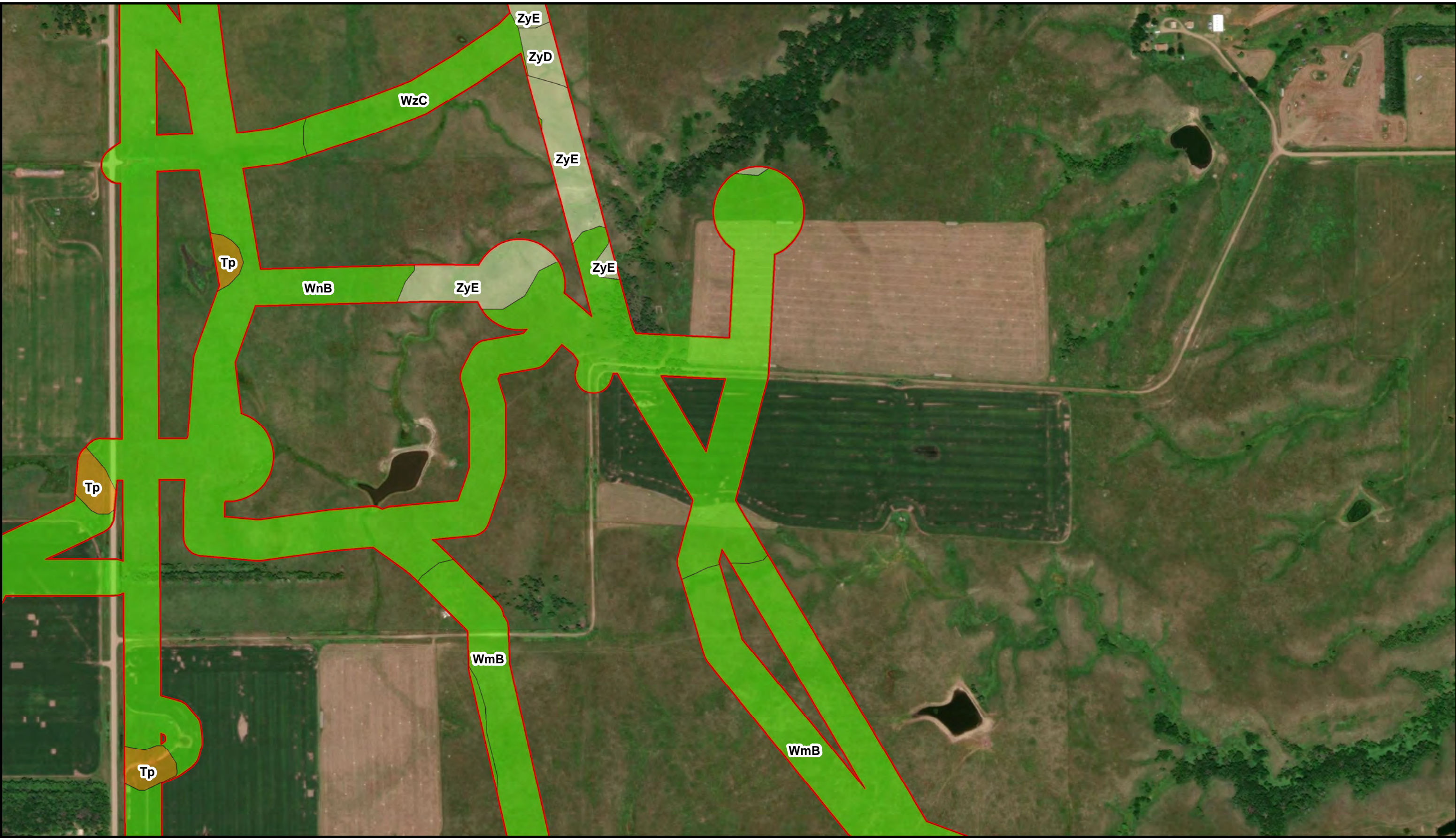


Figure A-2.16
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

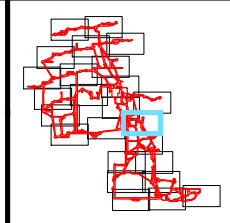
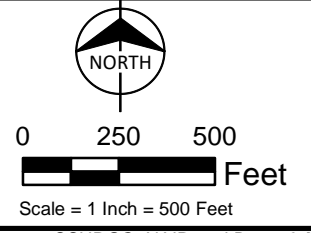
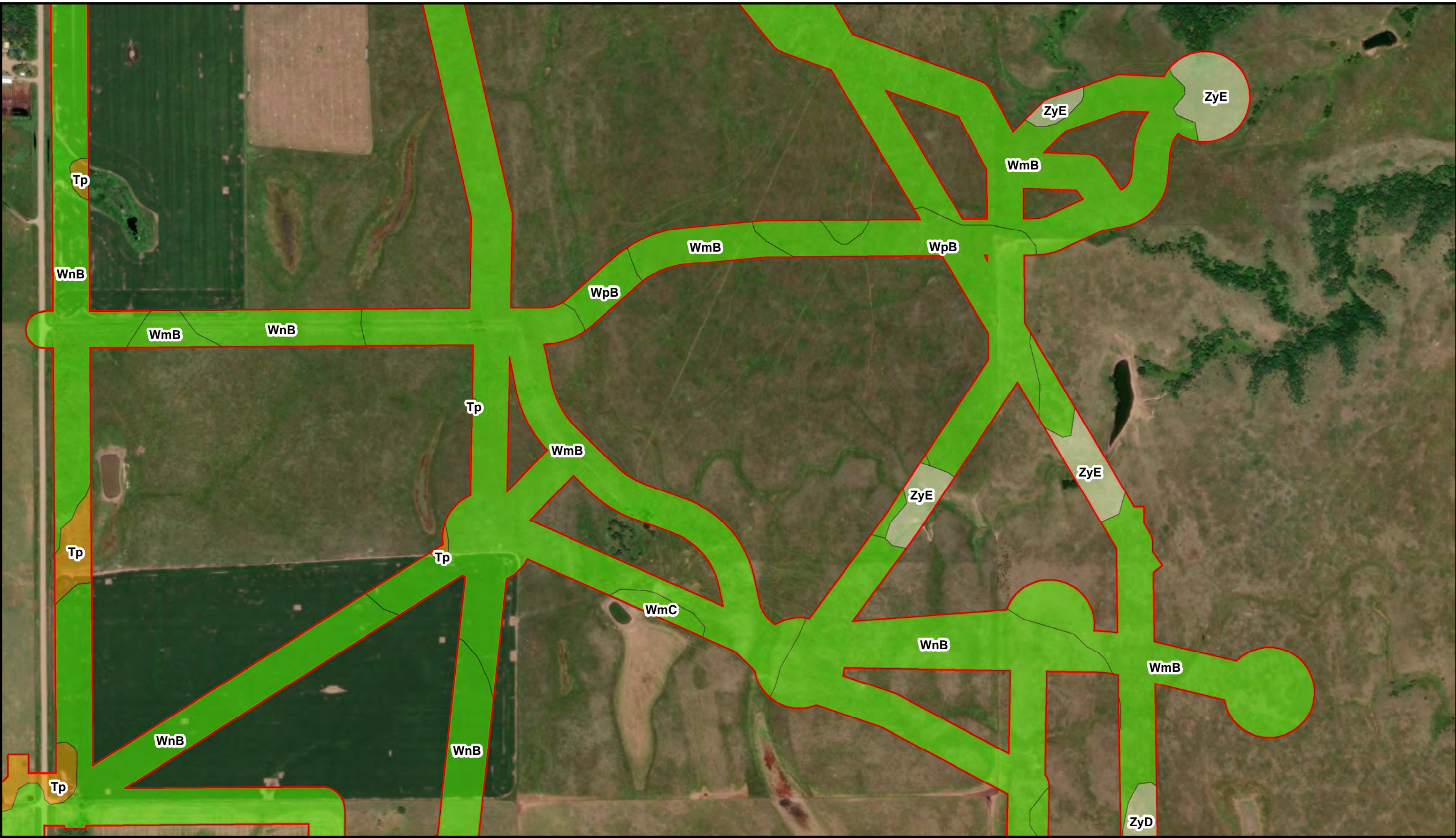







Figure A-2.17
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

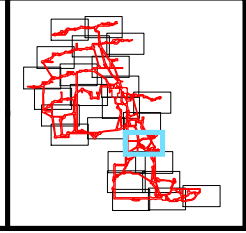
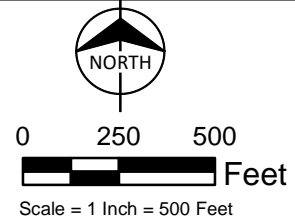
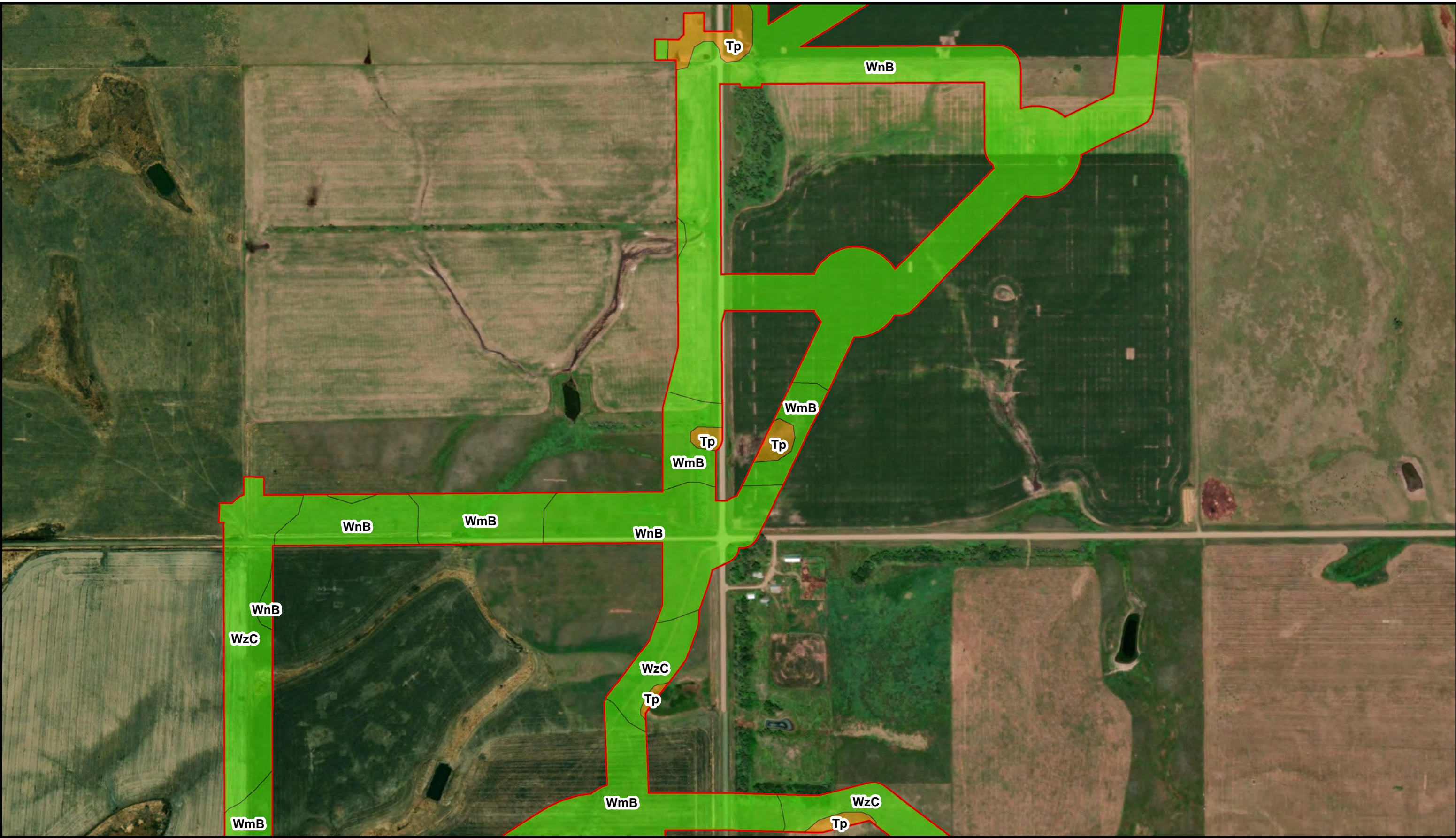


Figure A-2.18
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

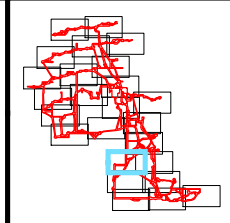
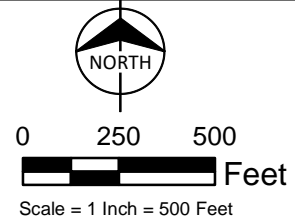
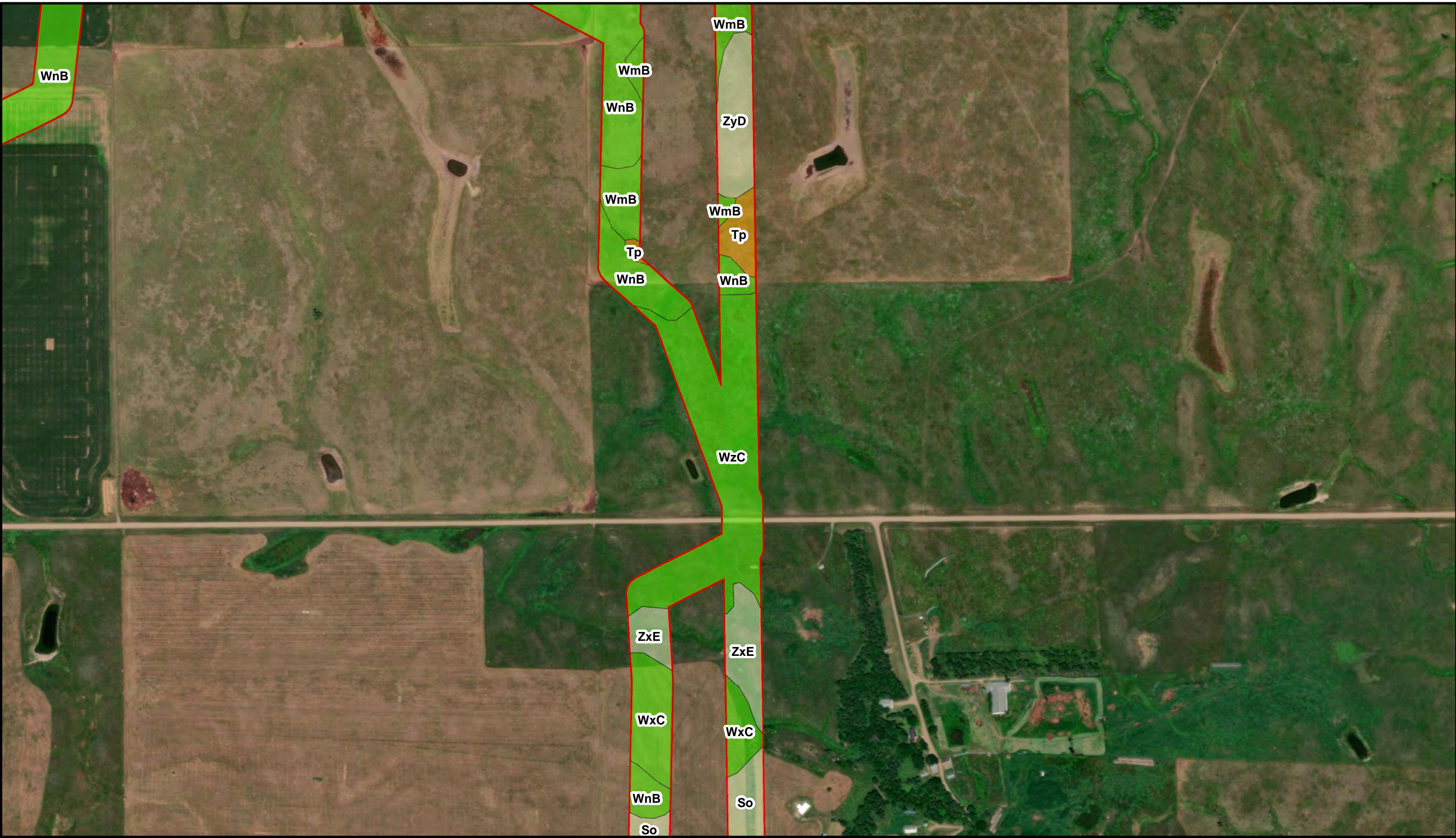


Figure A-2.19
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

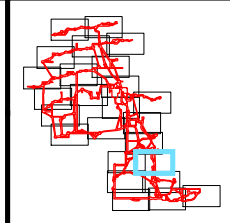
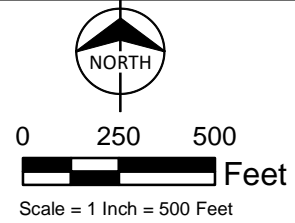


Figure A-2.20
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

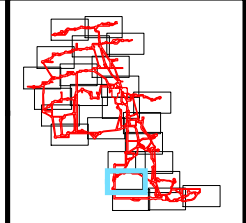
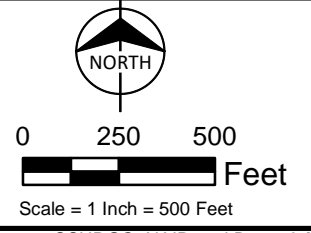
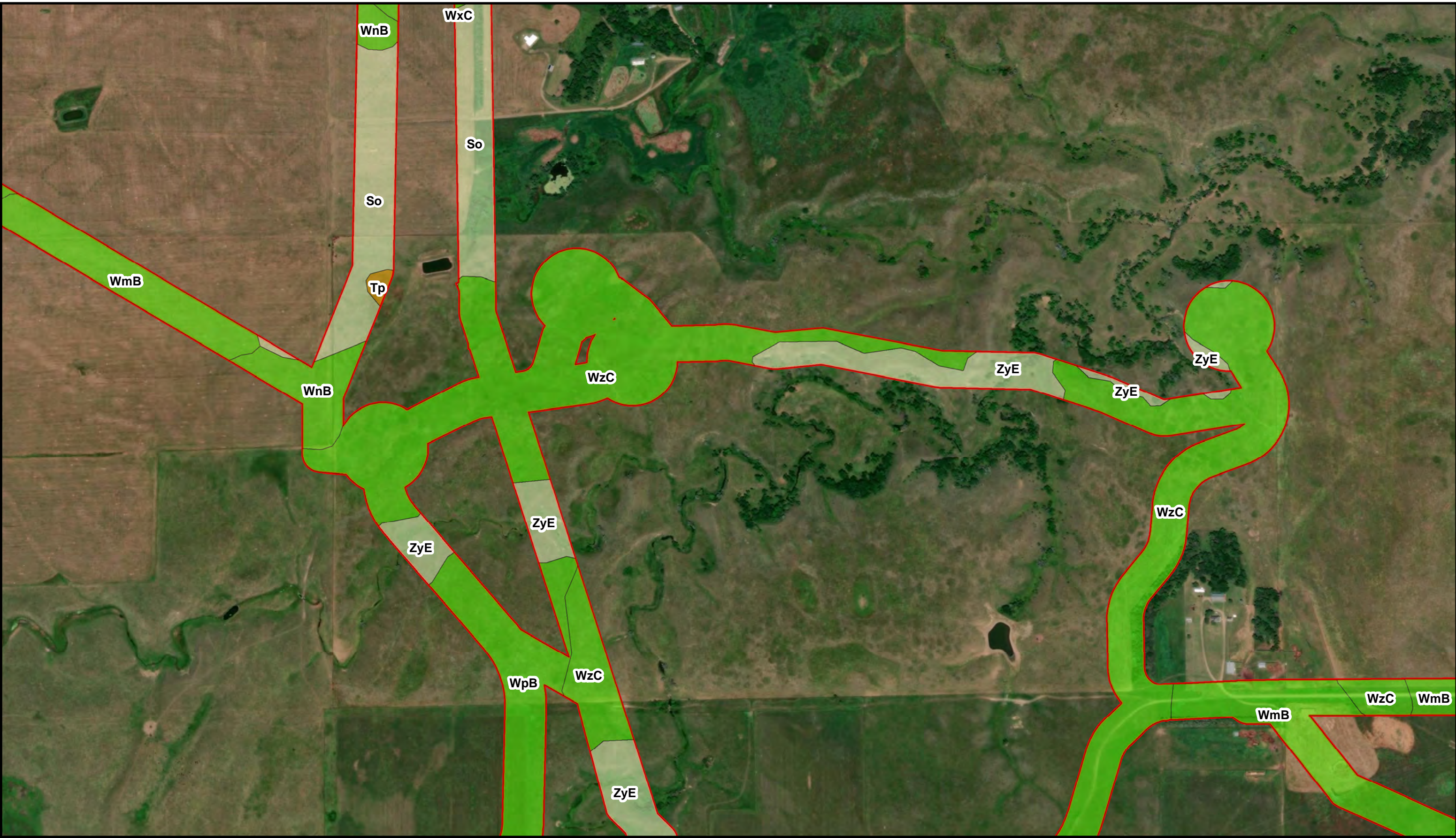







Figure A-2.21
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

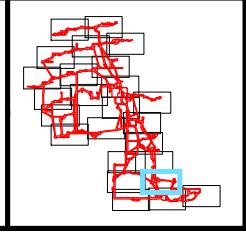
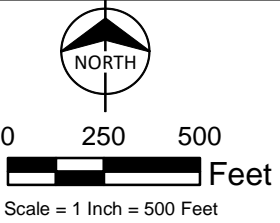
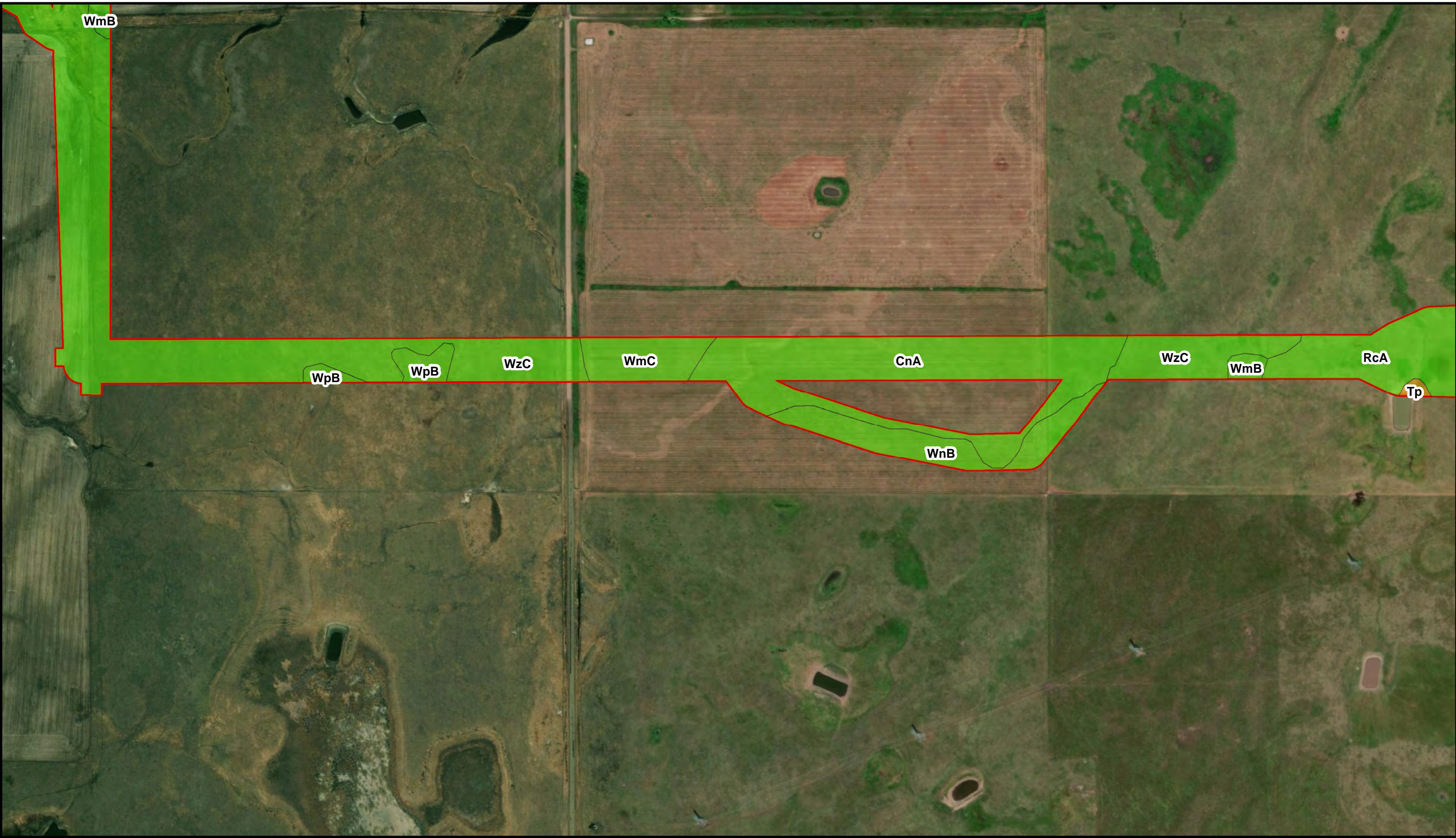







Figure A-2.22
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

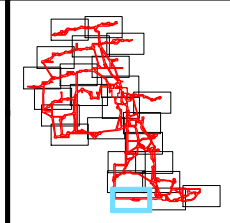
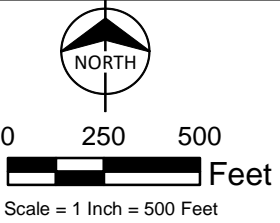
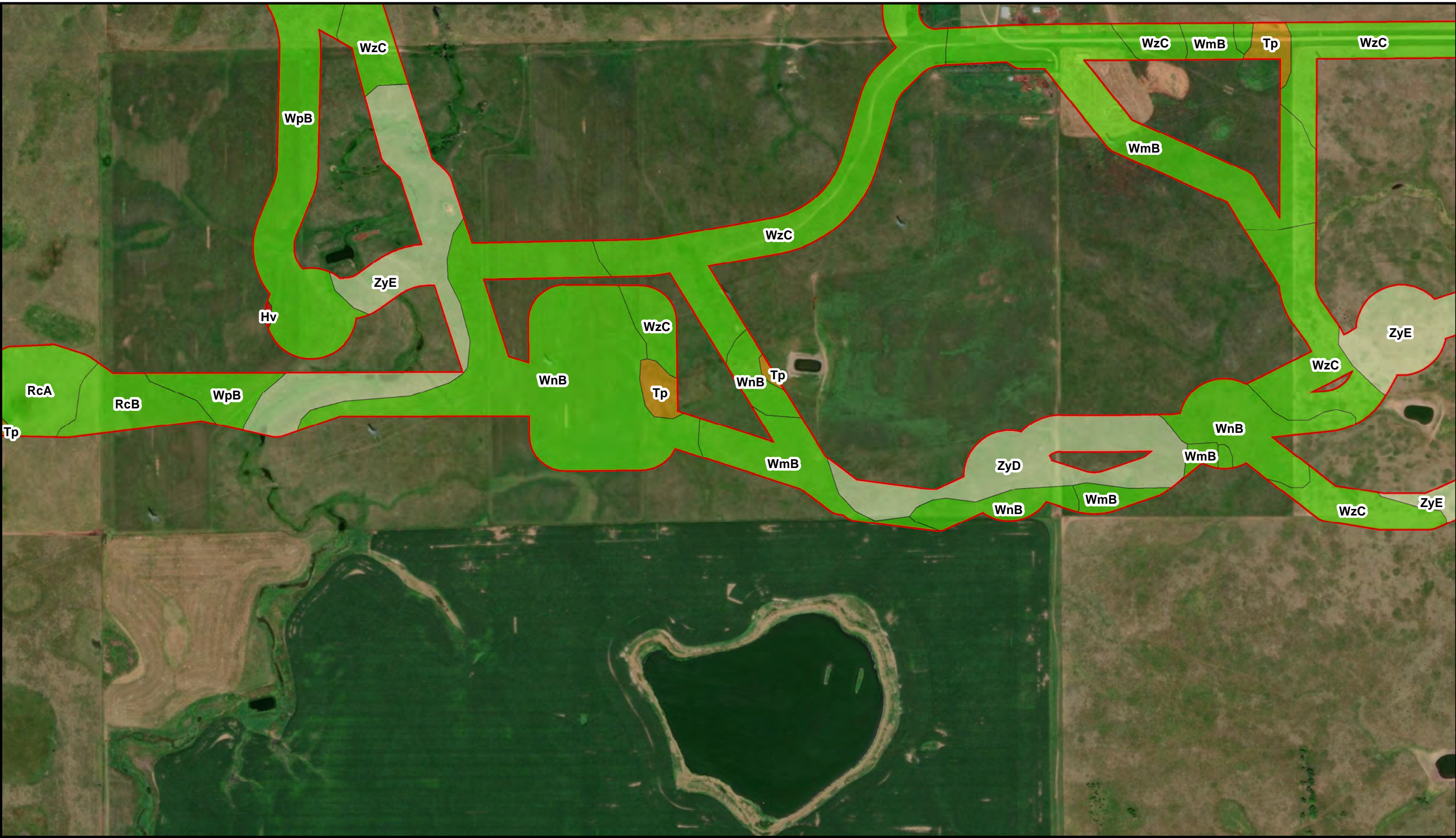







Figure A-2.23
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeamer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

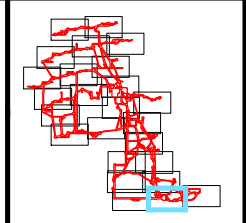
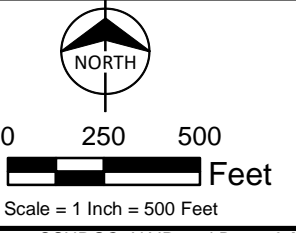
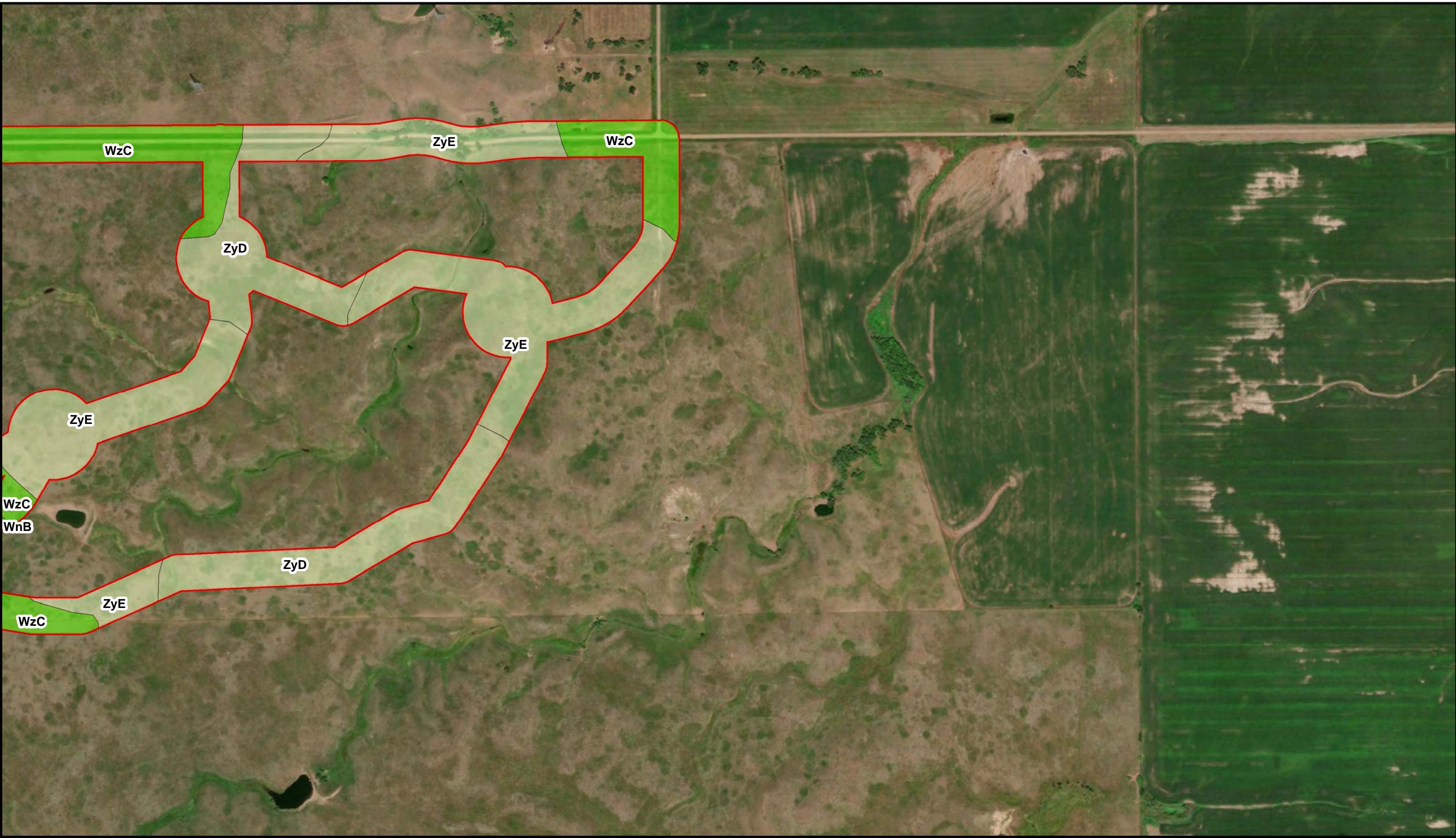







Figure A-2.24
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA2_Soils.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend
 Survey Area

SSURGO Soil Map Unit & Hydric Rating*

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

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

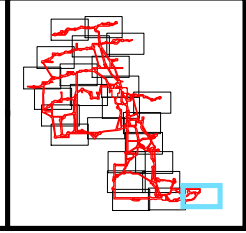


Figure A-2.25
 Hydric Soils & Aerial Imagery
 Sweetland Wind Farm Project
 Hand County, South Dakota

Hydric Rating by Map Unit

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

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

Description

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

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

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

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

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

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

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

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

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

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

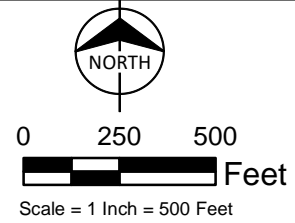
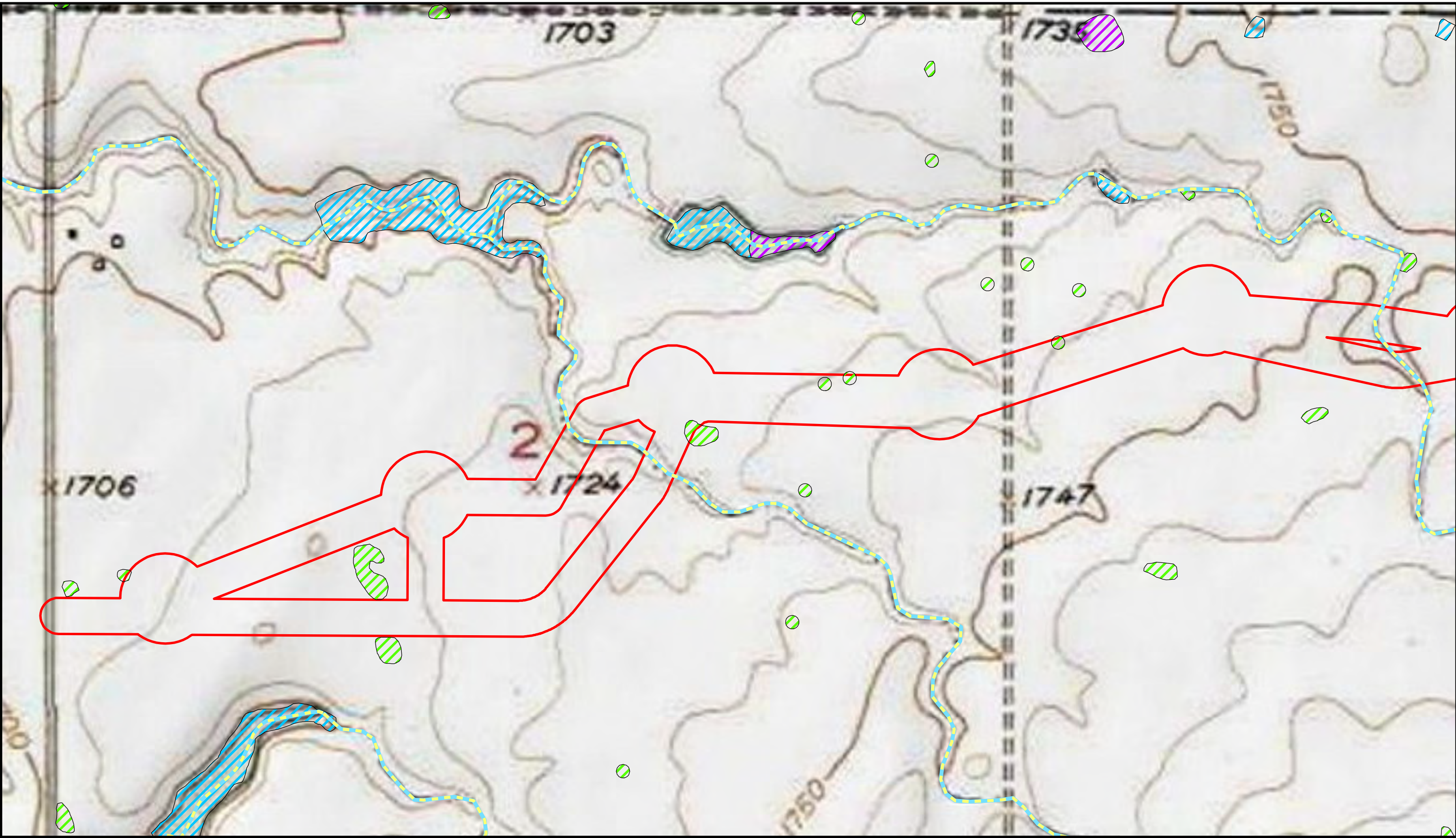
Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



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

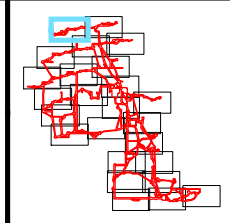
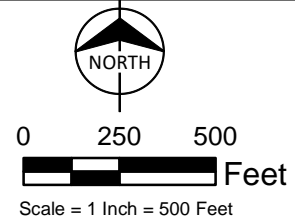
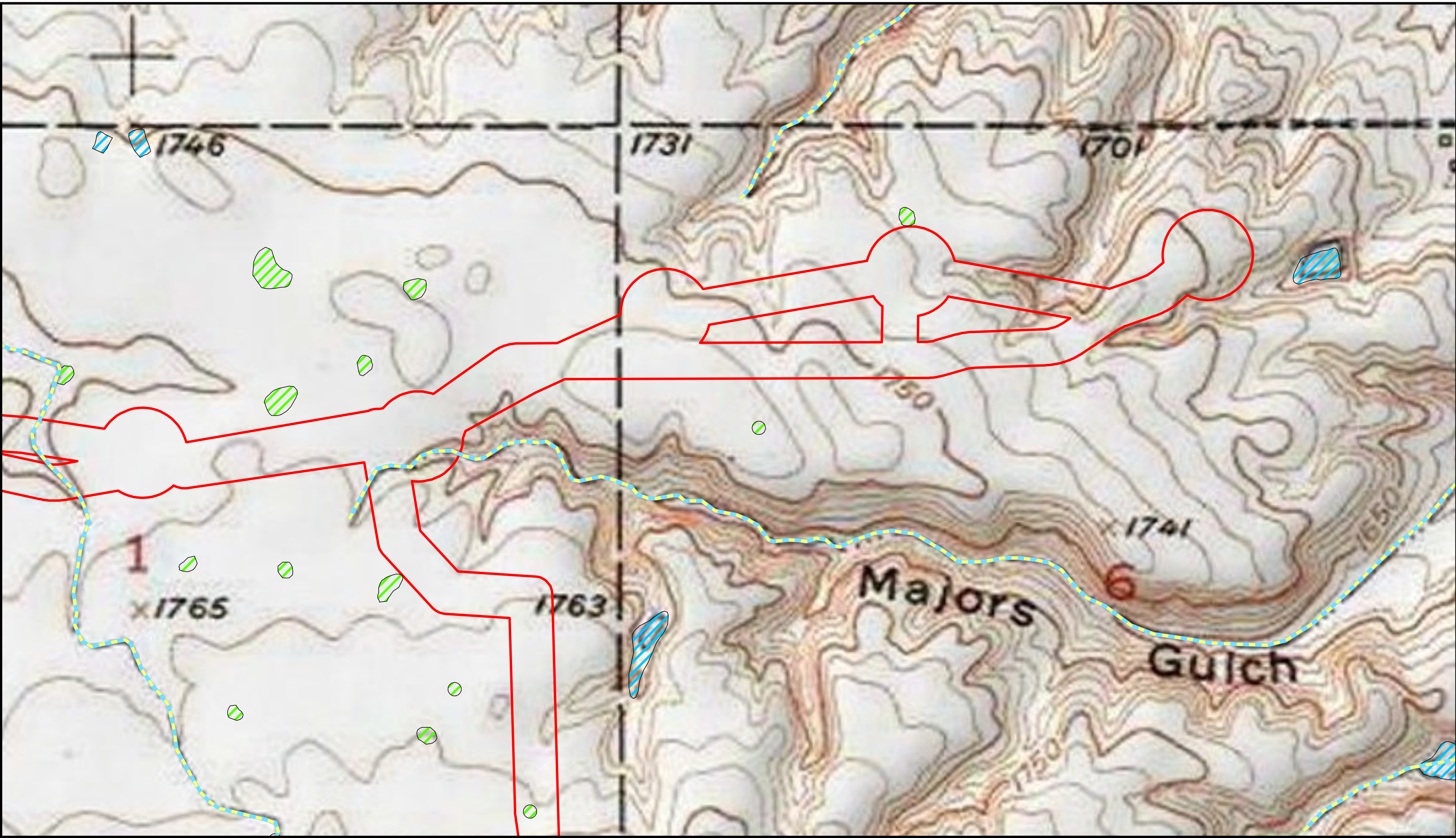




Figure A-3.1
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

-  Pond (PUB)
-  Lake

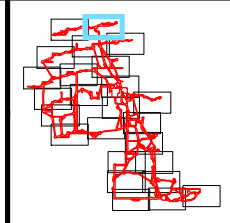
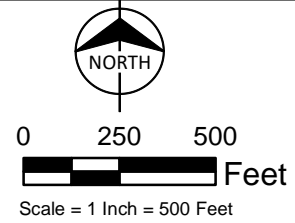
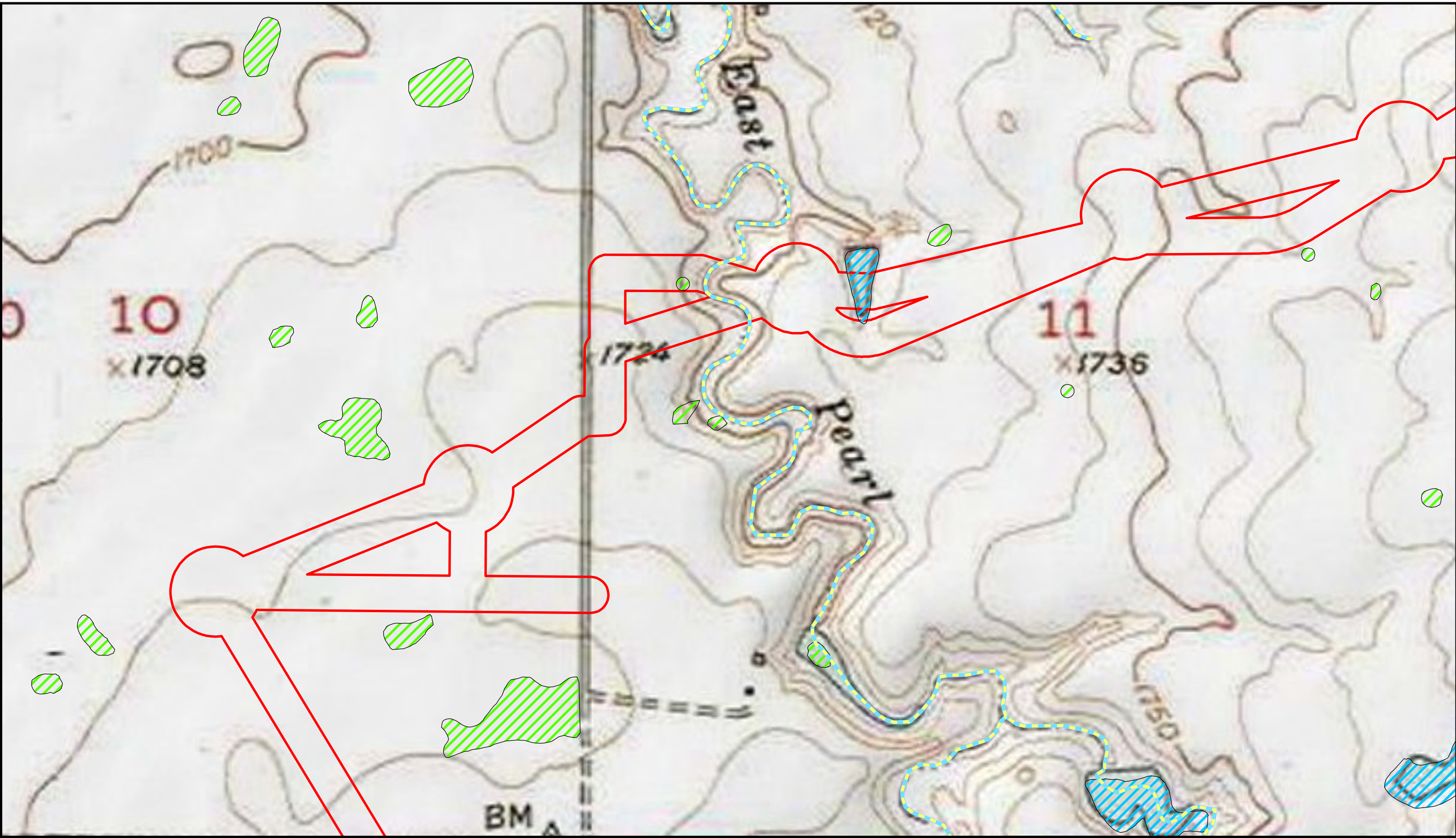


Figure A-3.2
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEMENS\Scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

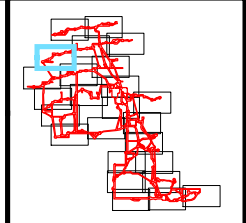
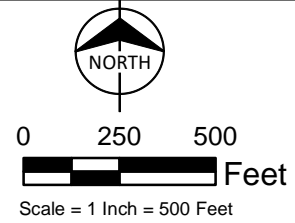
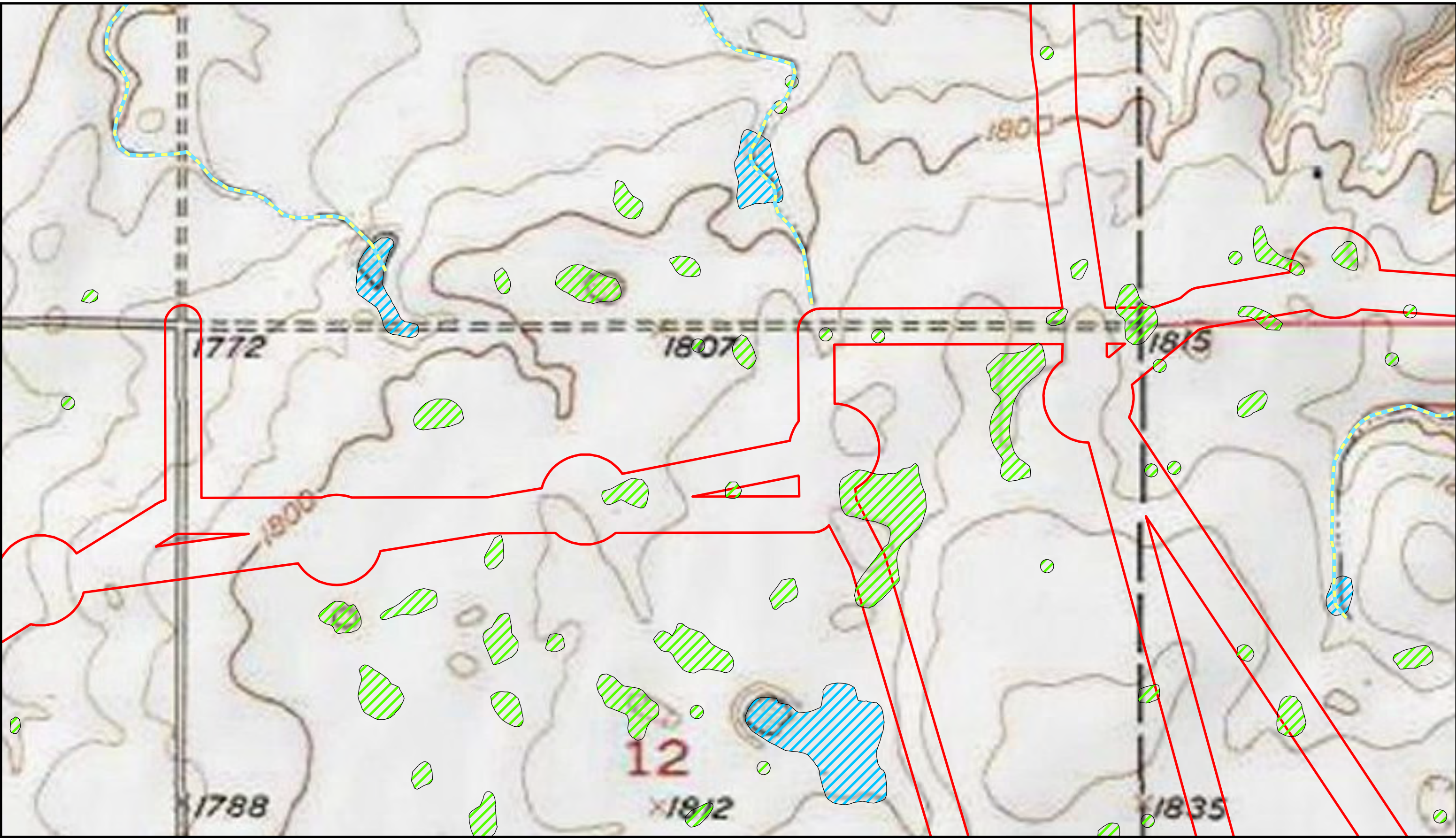




Figure A-3.3
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

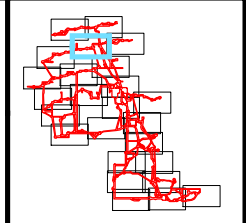
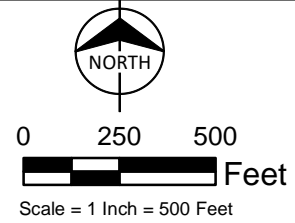
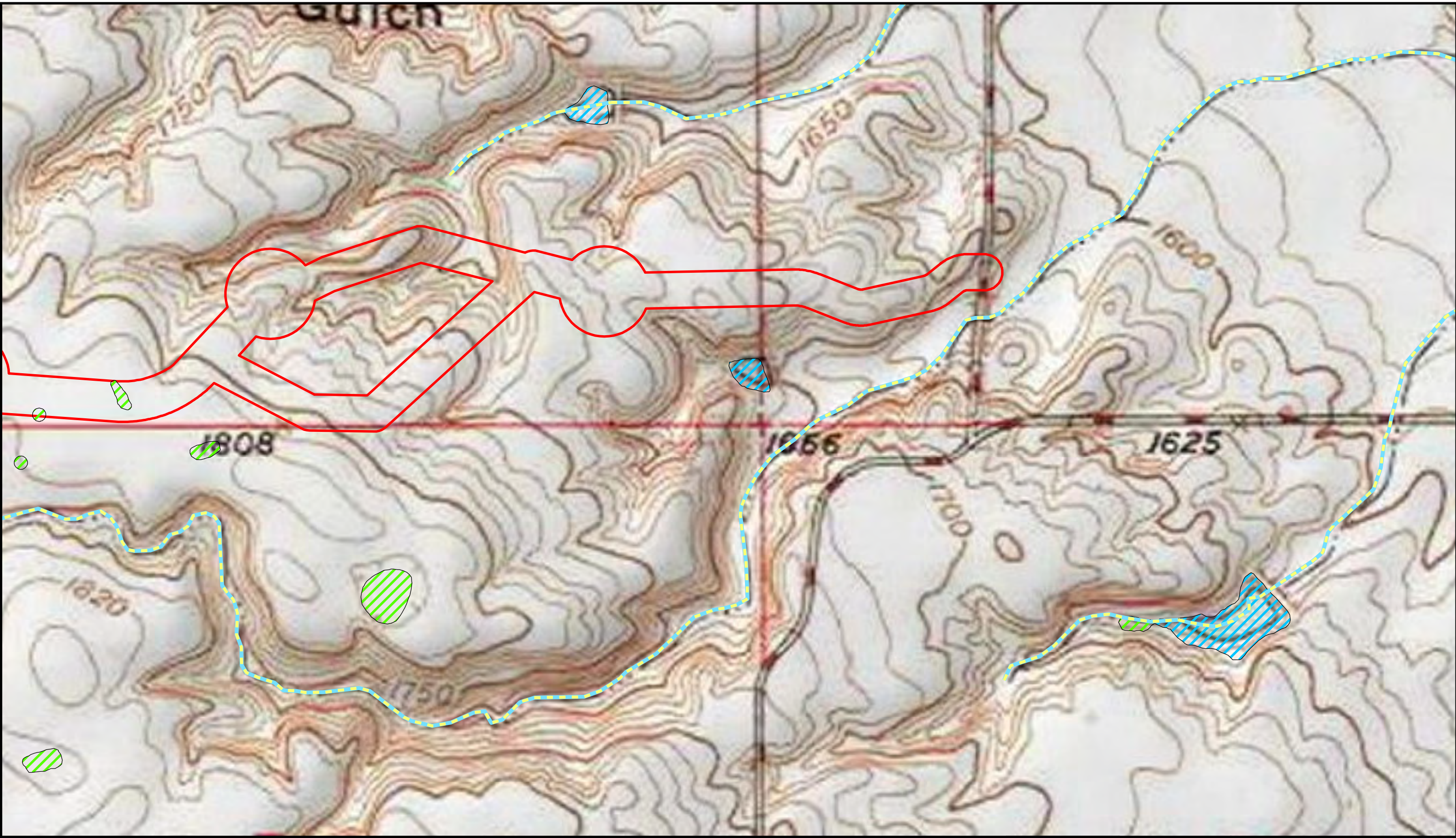




Figure A-3.4
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota


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

Path: Z:\Resources\Local\Clients\KCMEN\S\scour\CleanEn\103828_SweetlandWind\ArcGIS\GIS\MapDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

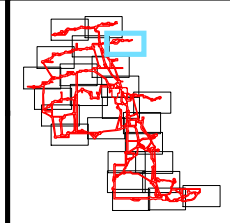
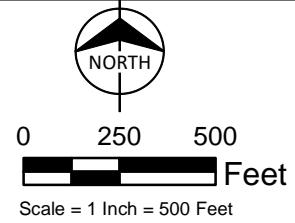
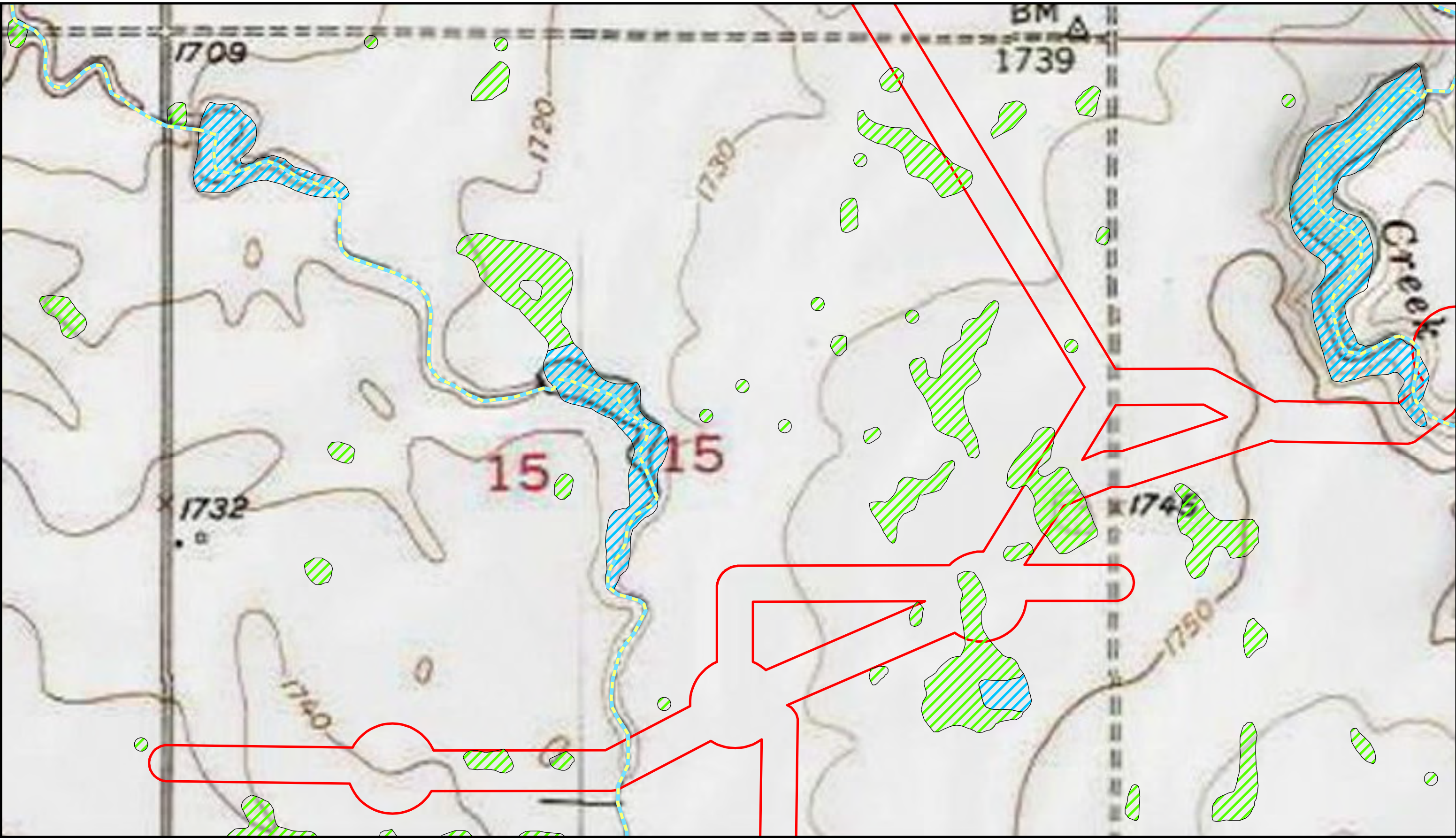




Figure A-3.5
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota


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

Path: Z:\Resources\Local\Clients\KCM\EN\S\scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

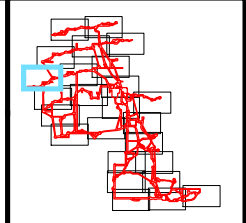
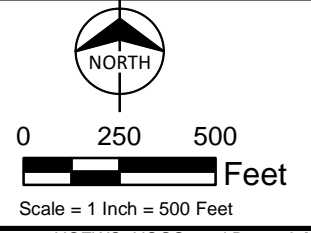
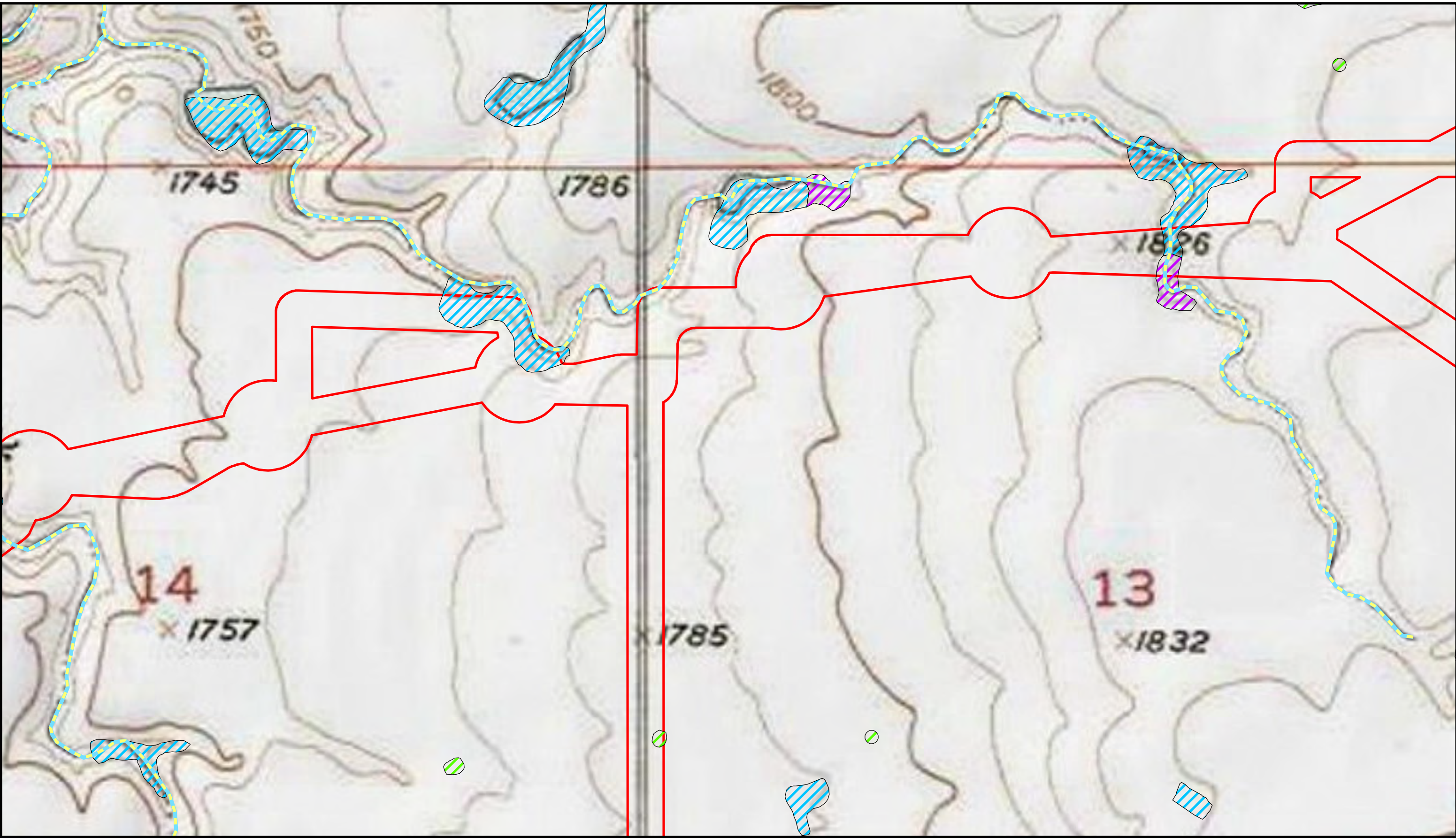




Figure A-3.6
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota


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

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

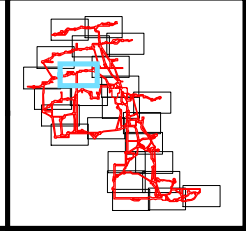
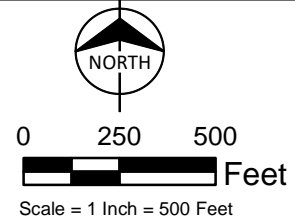
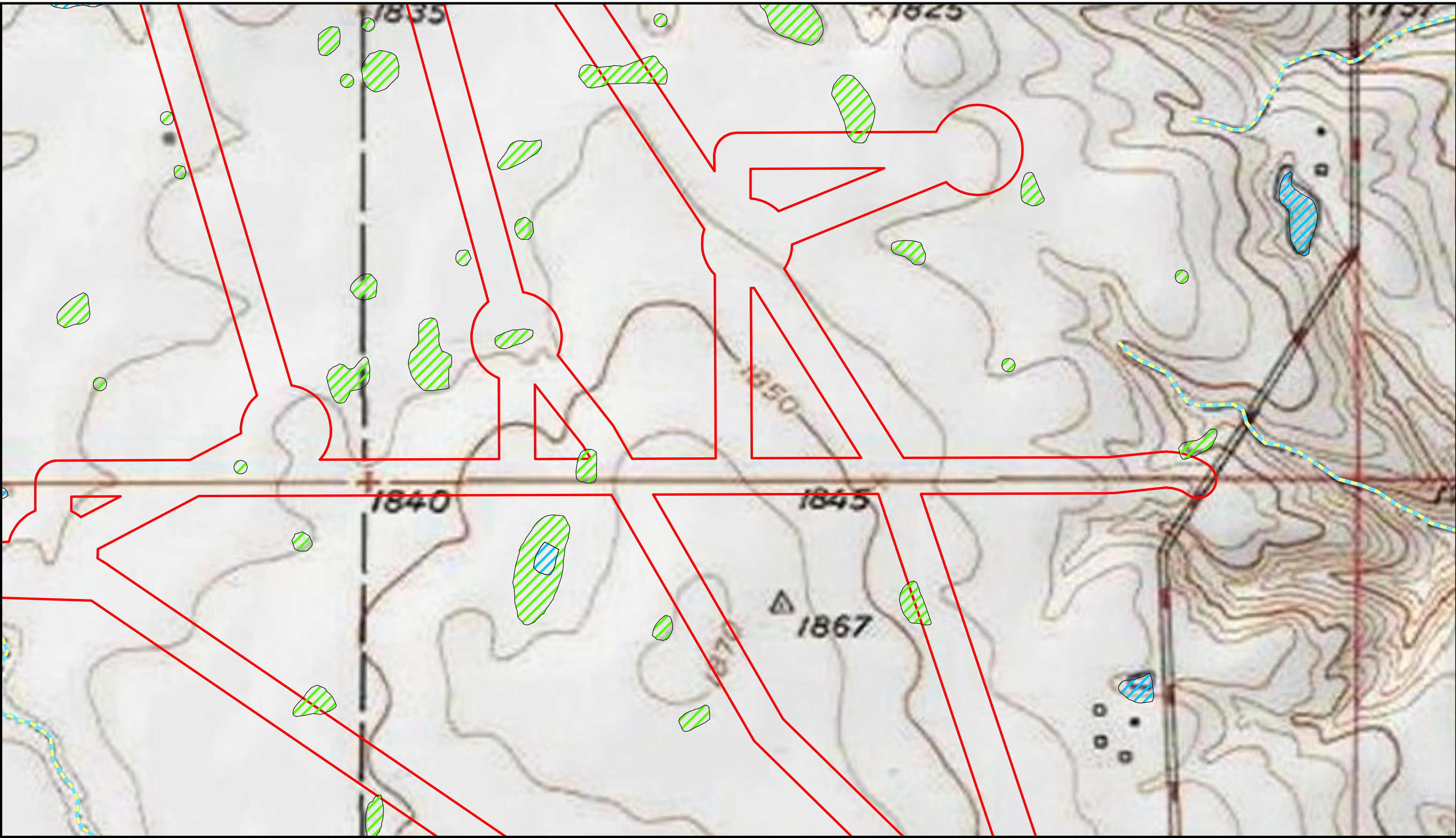


Figure A-3.7
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

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

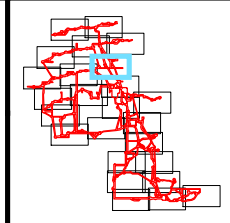
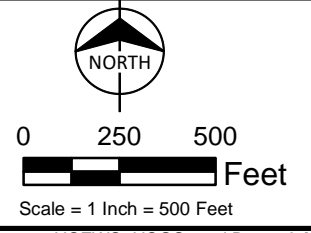
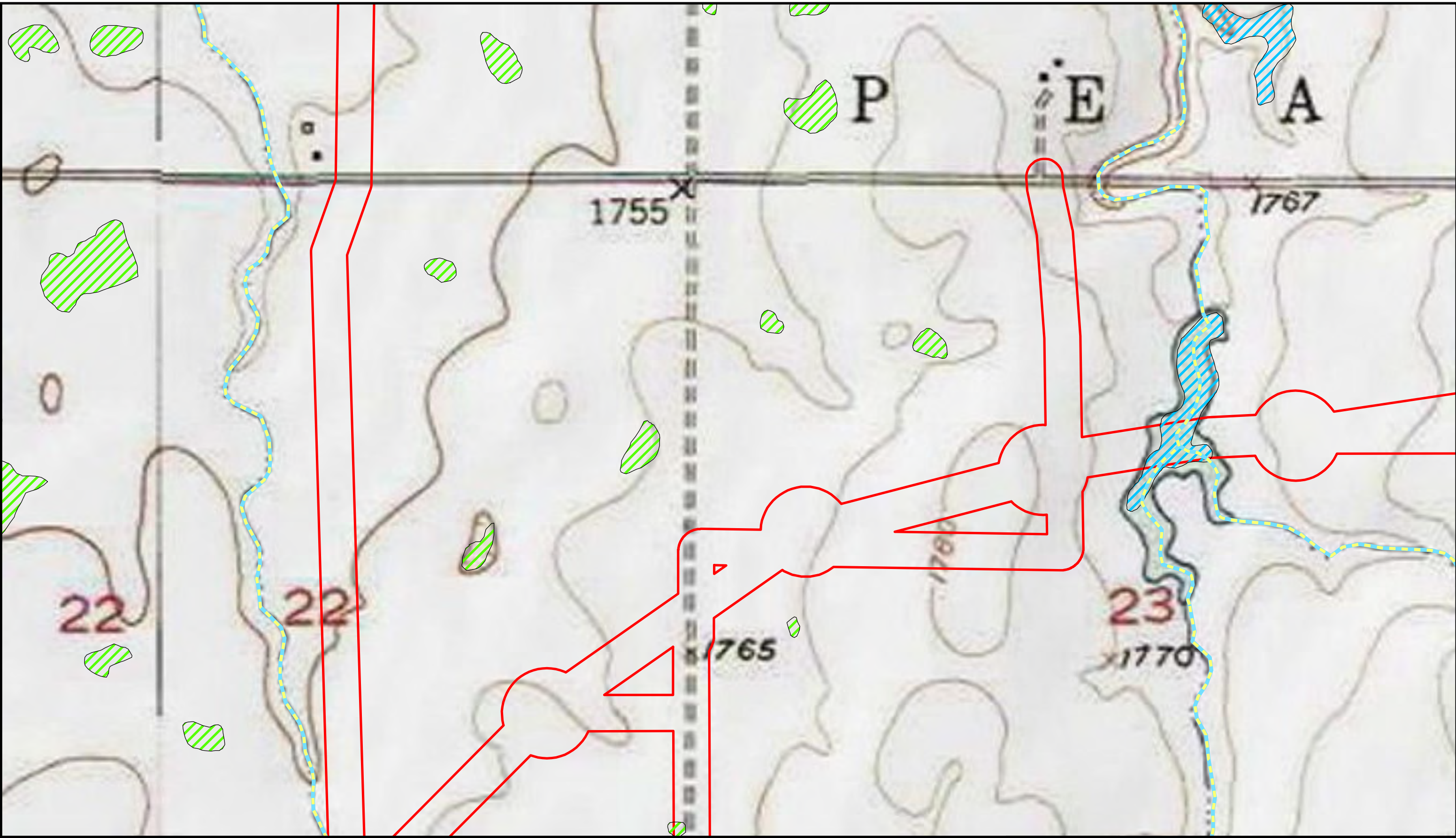





Figure A-3.8
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

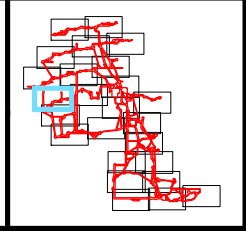
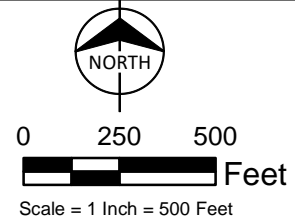
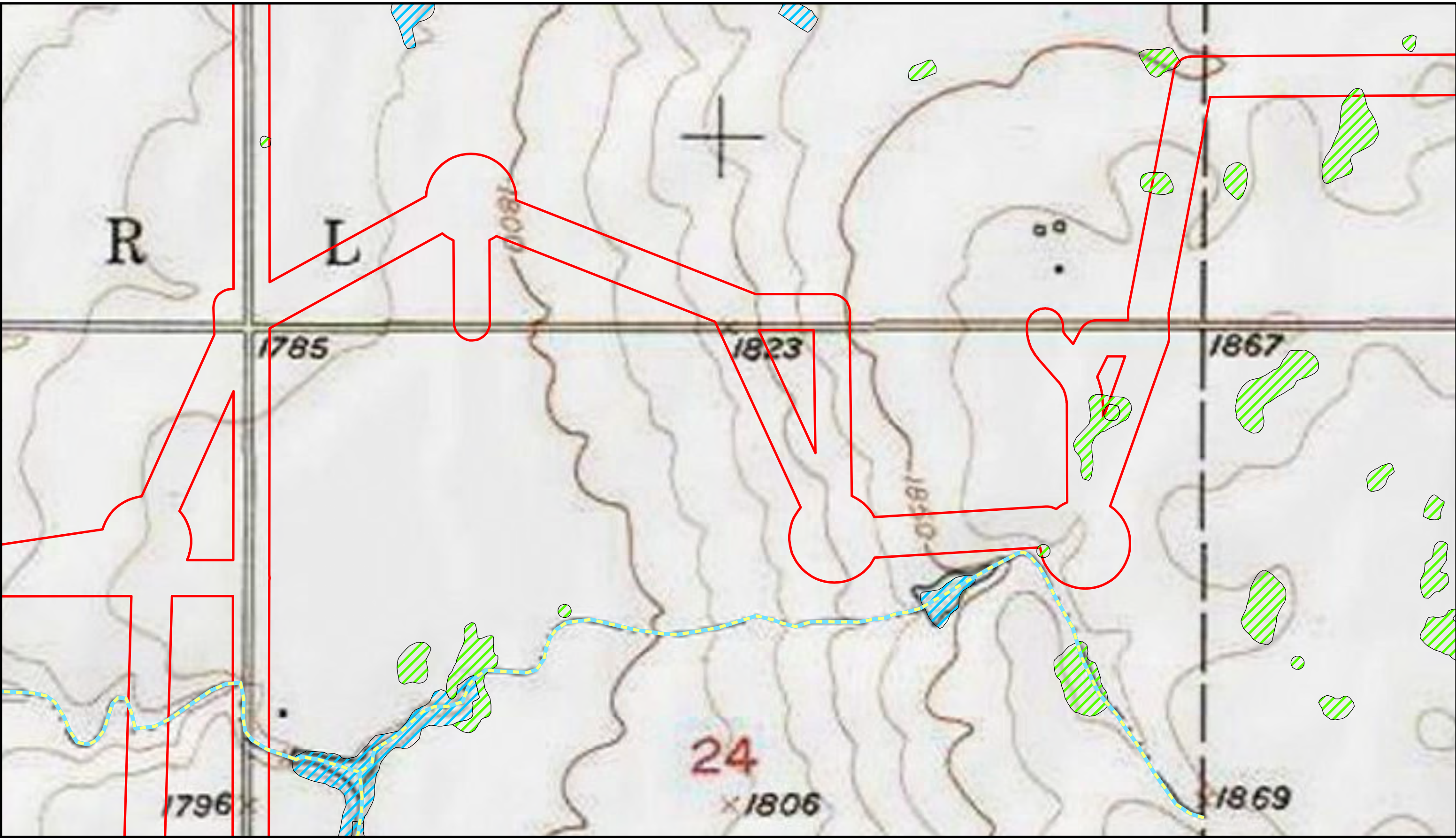


Figure A-3.9
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEMENS\Scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

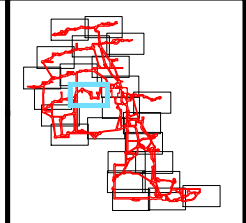
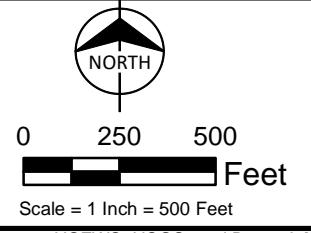
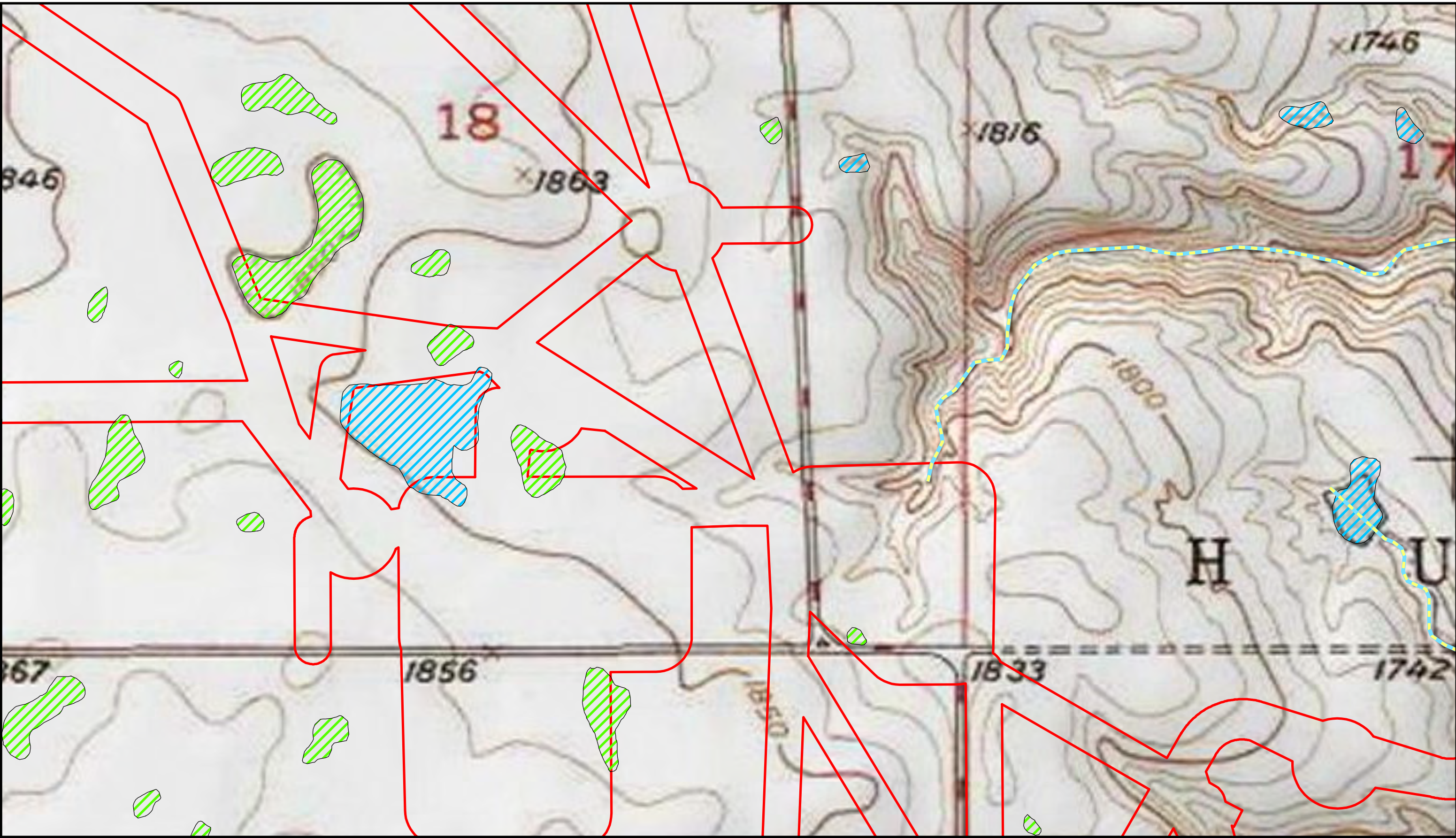


Figure A-3.10
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEMENS\Scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

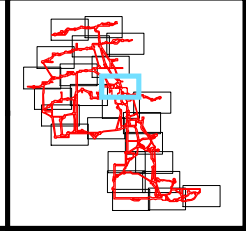
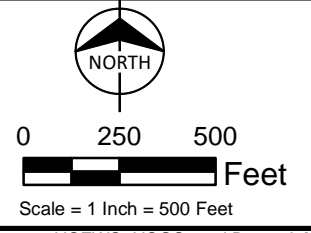
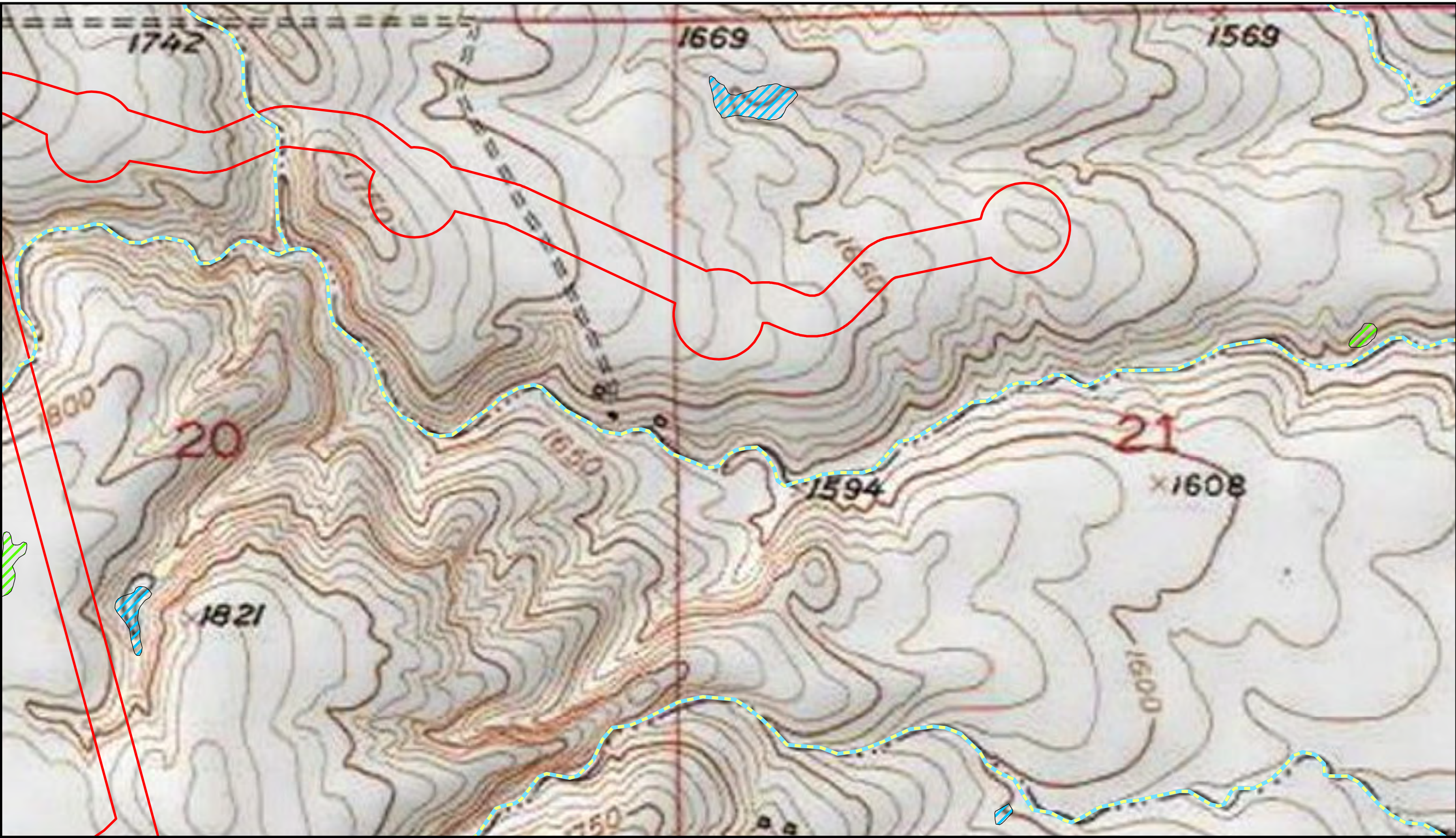




Figure A-3.11
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota


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

Path: Z:\Resources\Local\Clients\KCMEN\S\scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

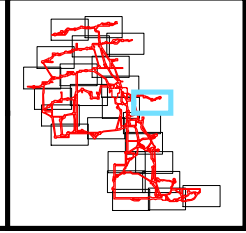
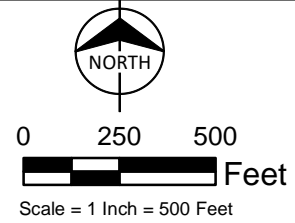
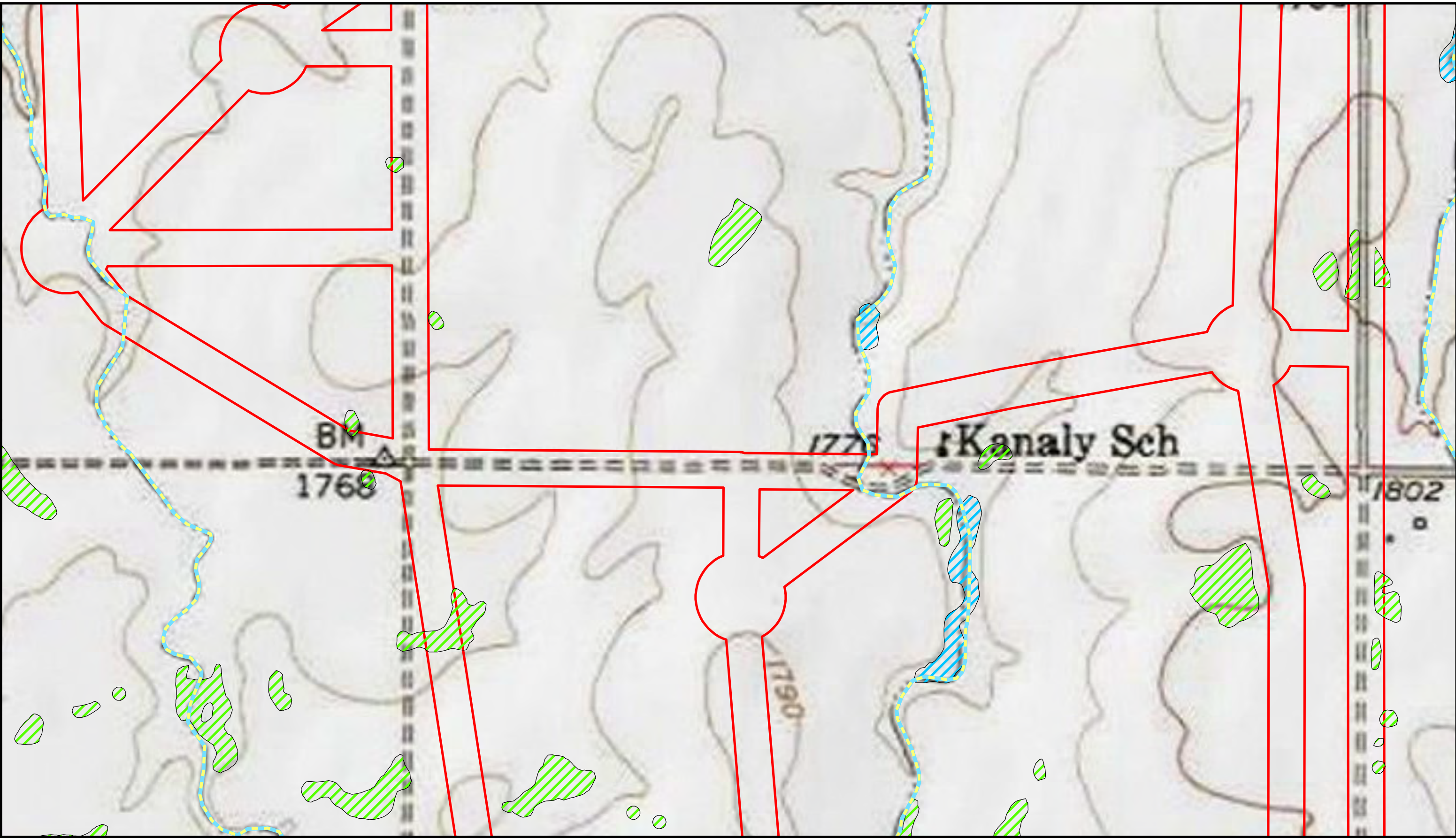


Figure A-3.12
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

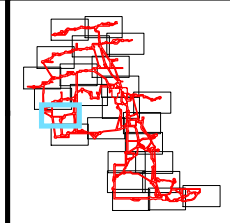
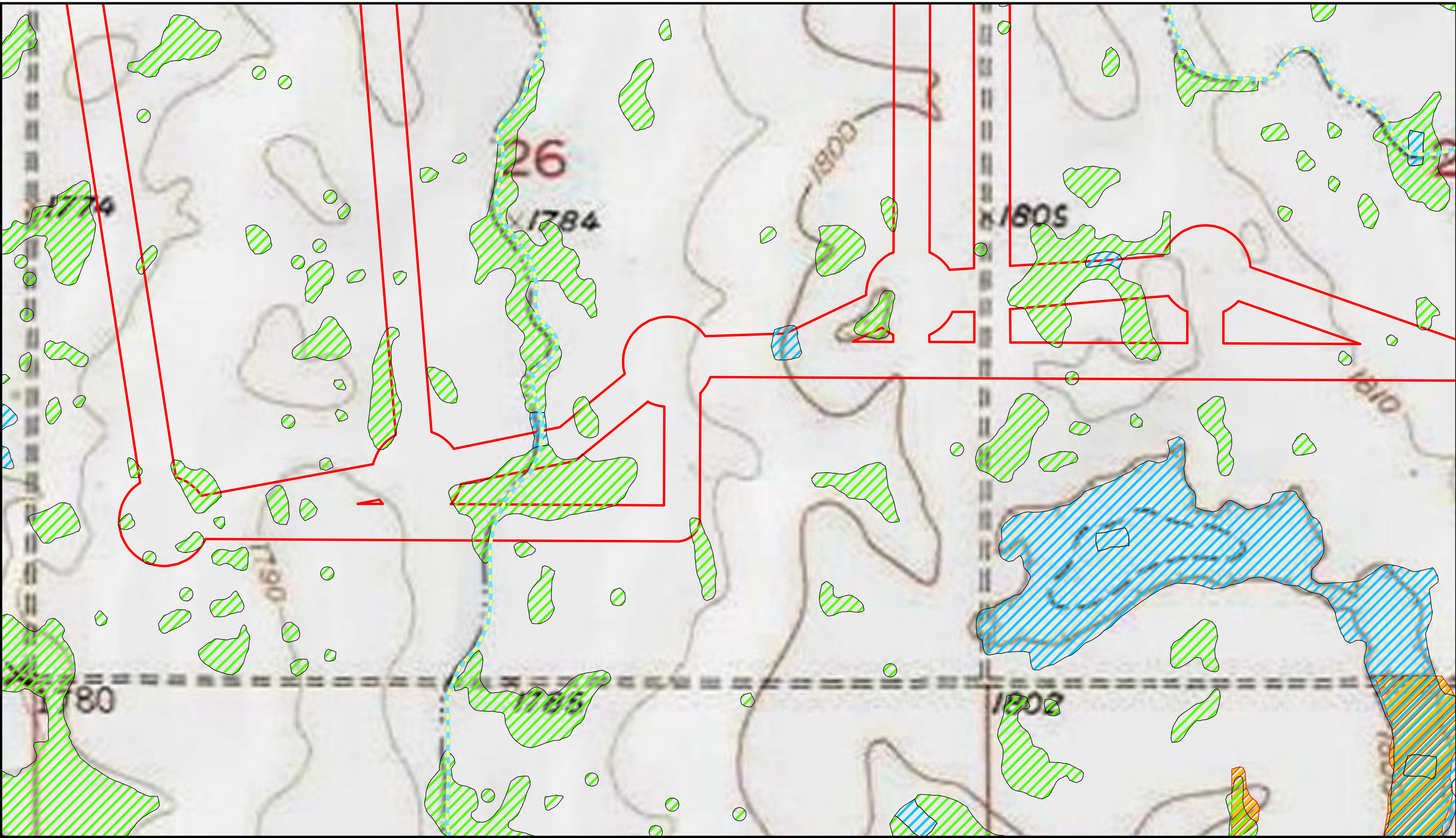



Figure A-3.13
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota



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


Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed








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

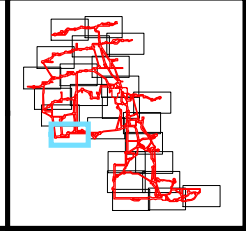
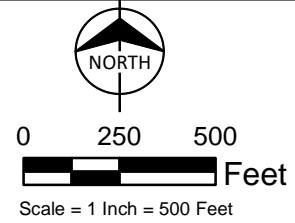
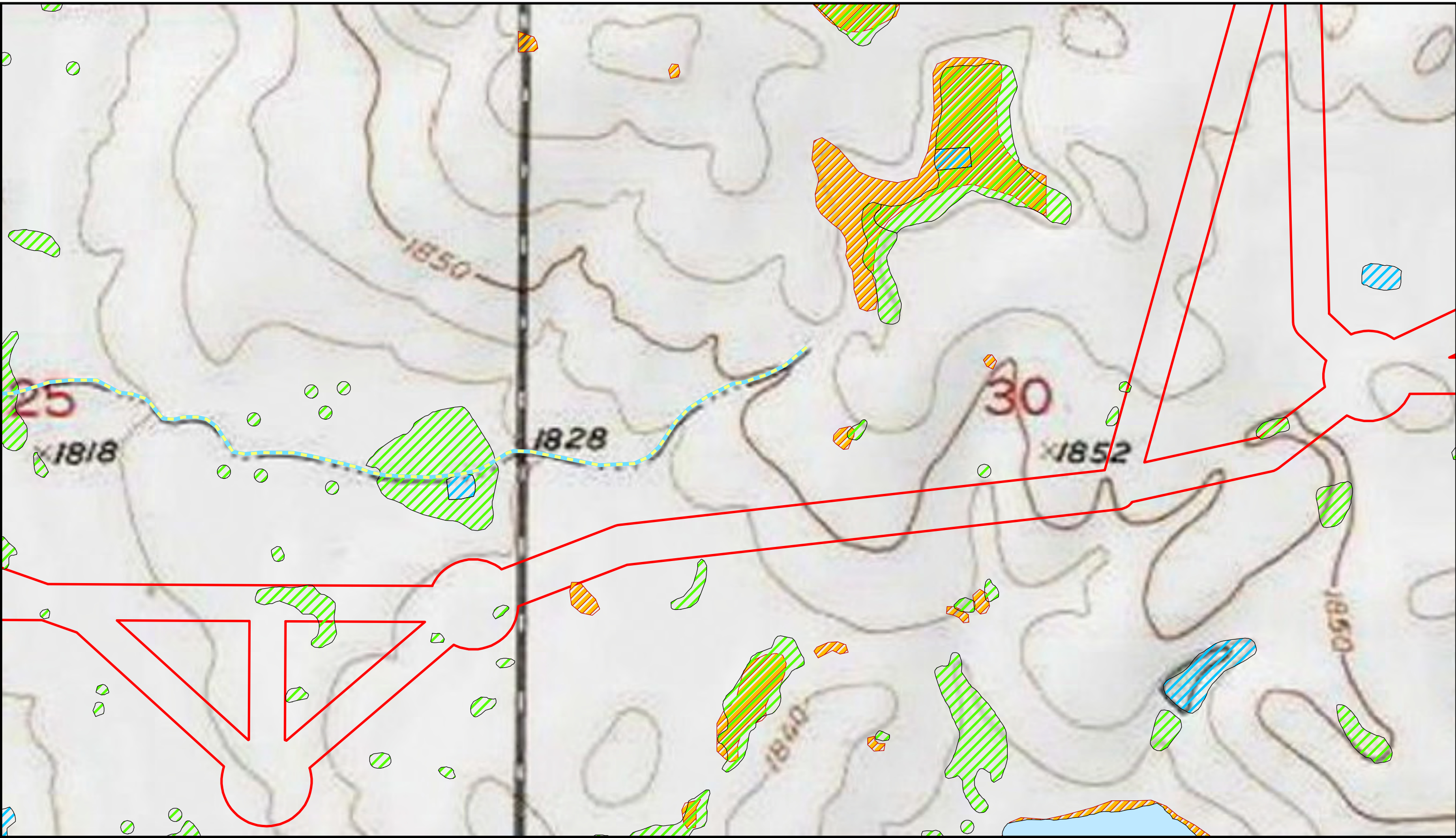


Figure A-3.14
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

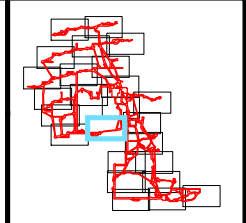
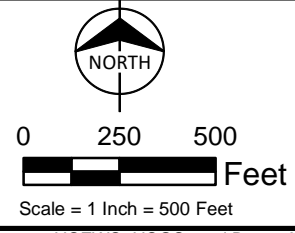
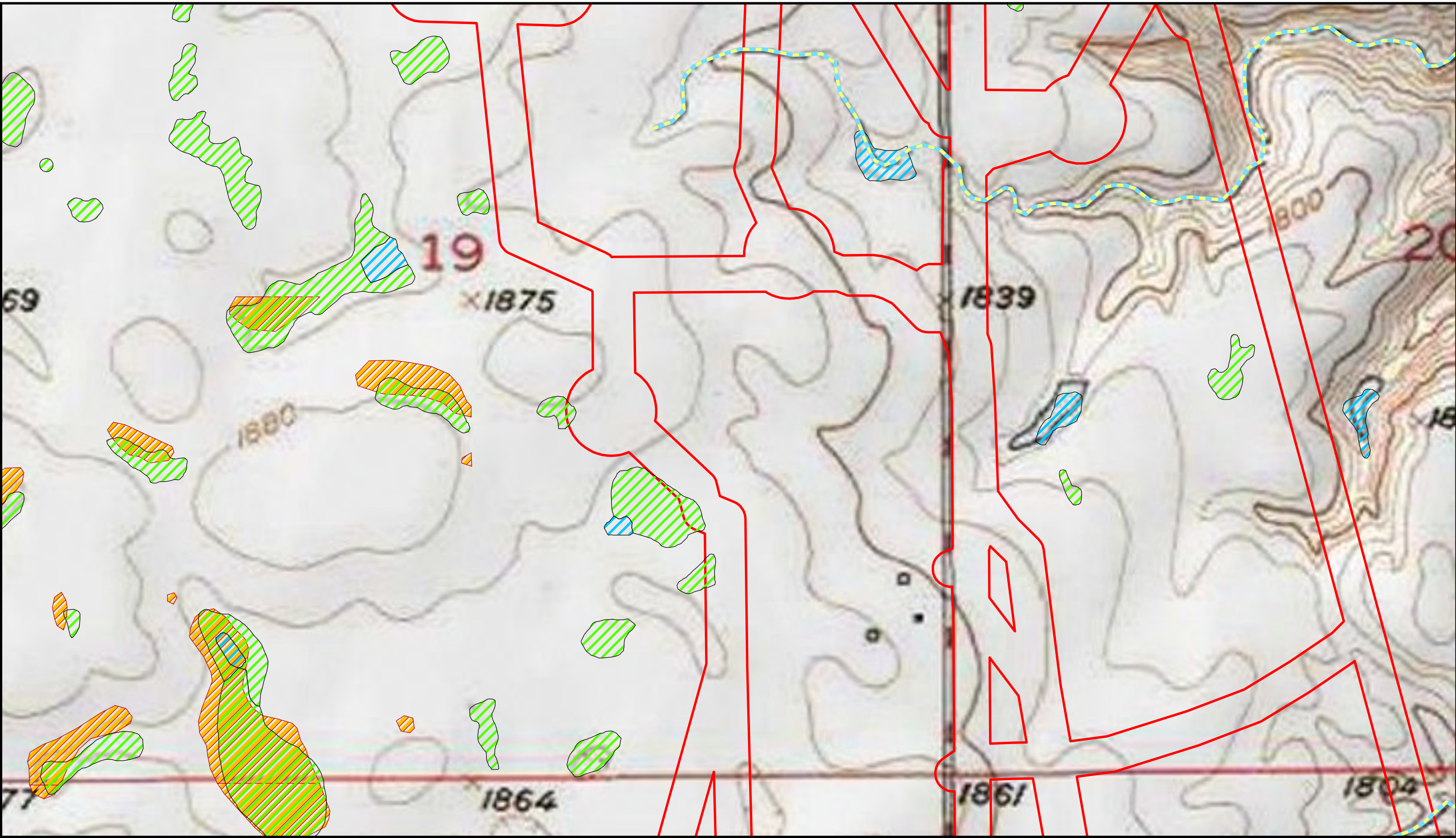


Figure A-3.15
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



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

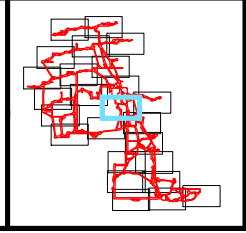
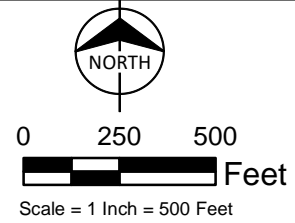
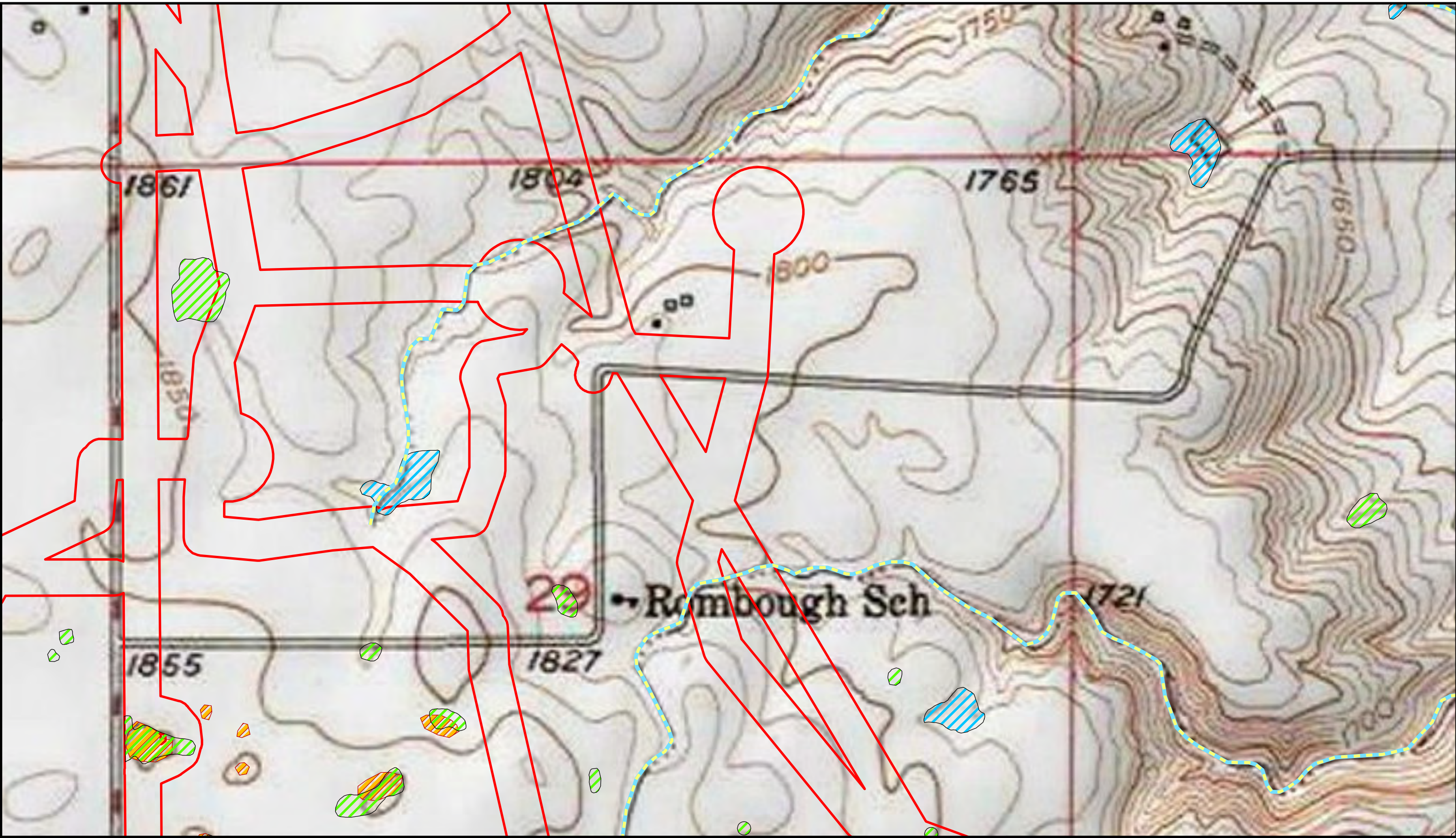





Figure A-3.16
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed







Legend

-  Survey Area
-  NHD Stream/River

-  USFWS Easement Wetland Areas*

NWI Wetland Classification

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

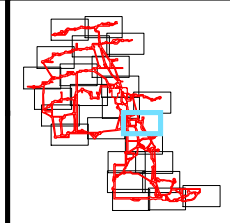
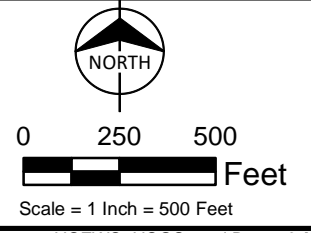
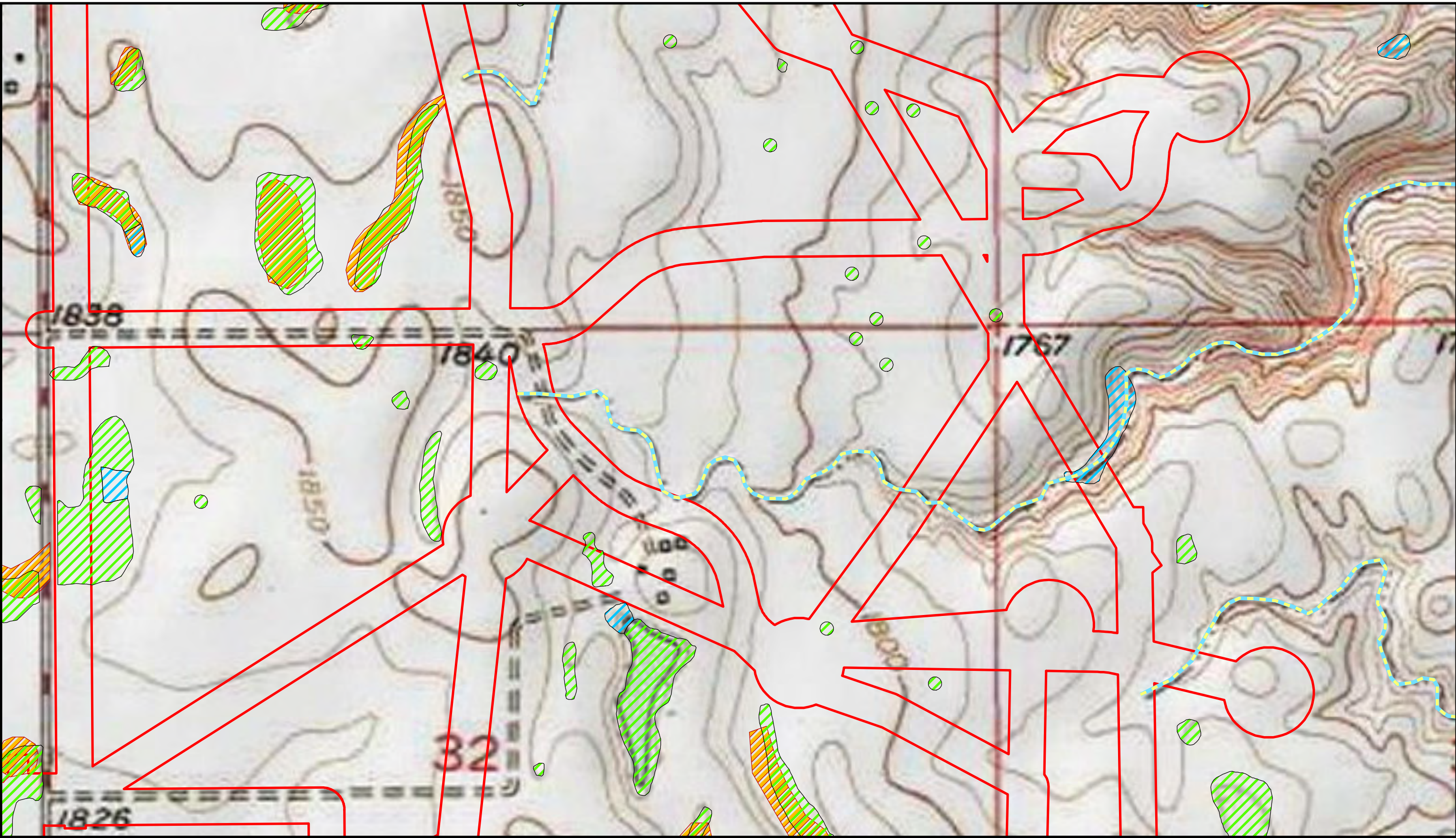


Figure A-3.17
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEMENS\Scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

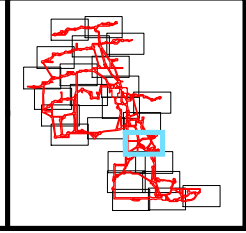
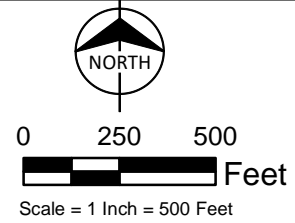
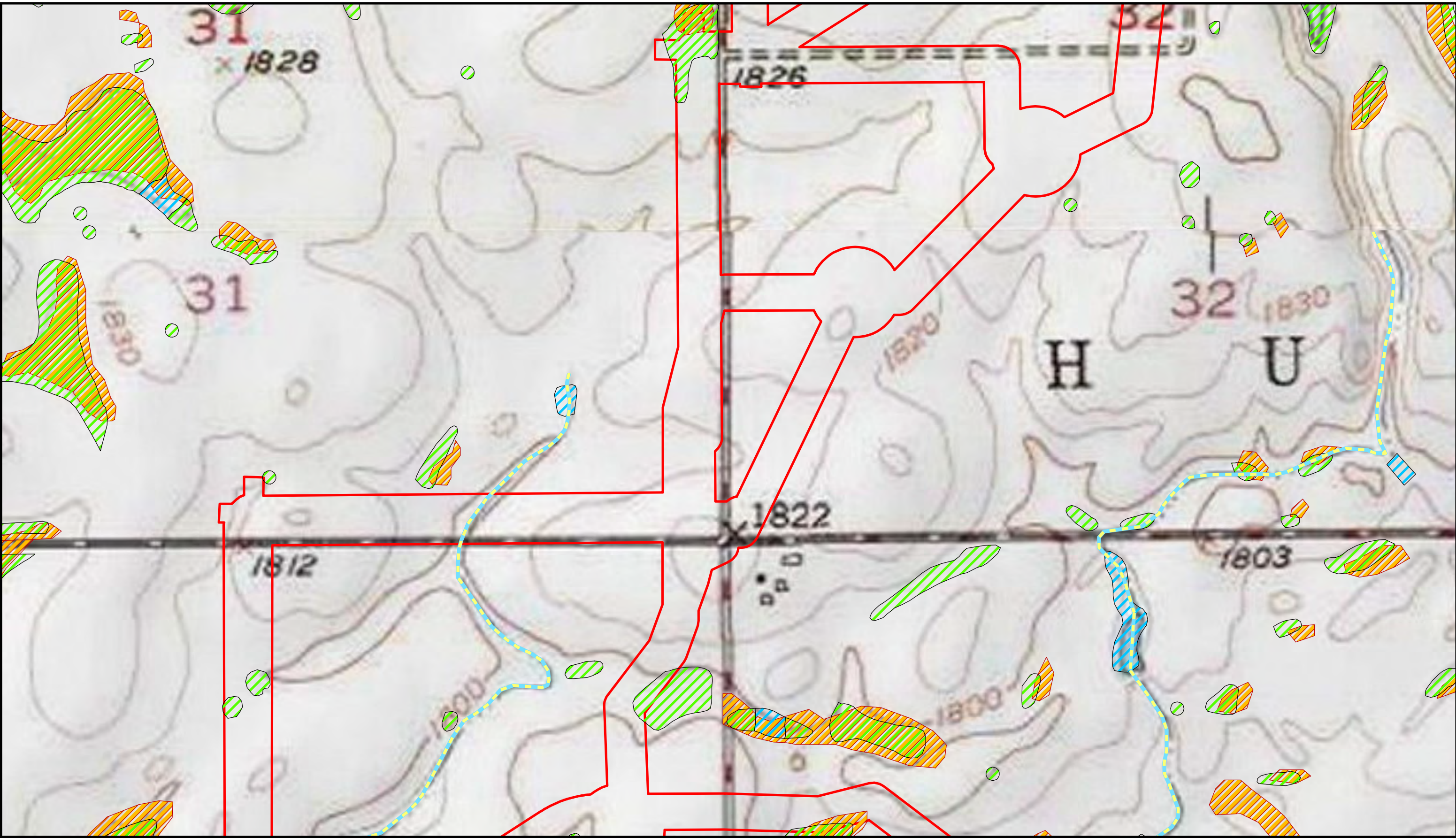


Figure A-3.18
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

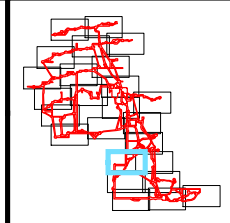
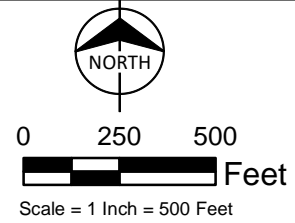
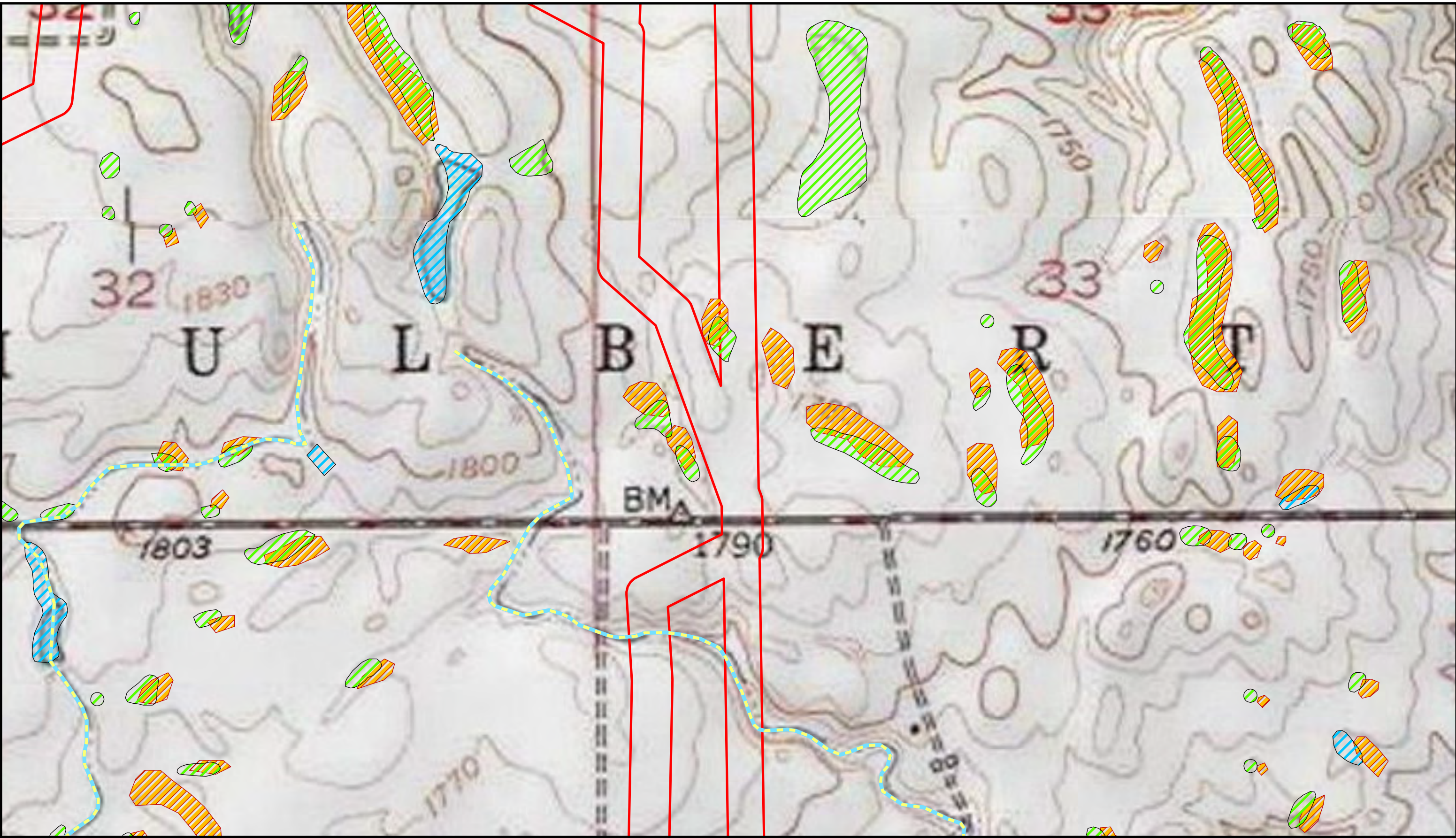


Figure A-3.19
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

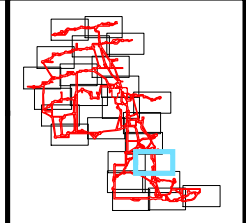
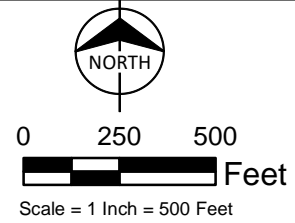
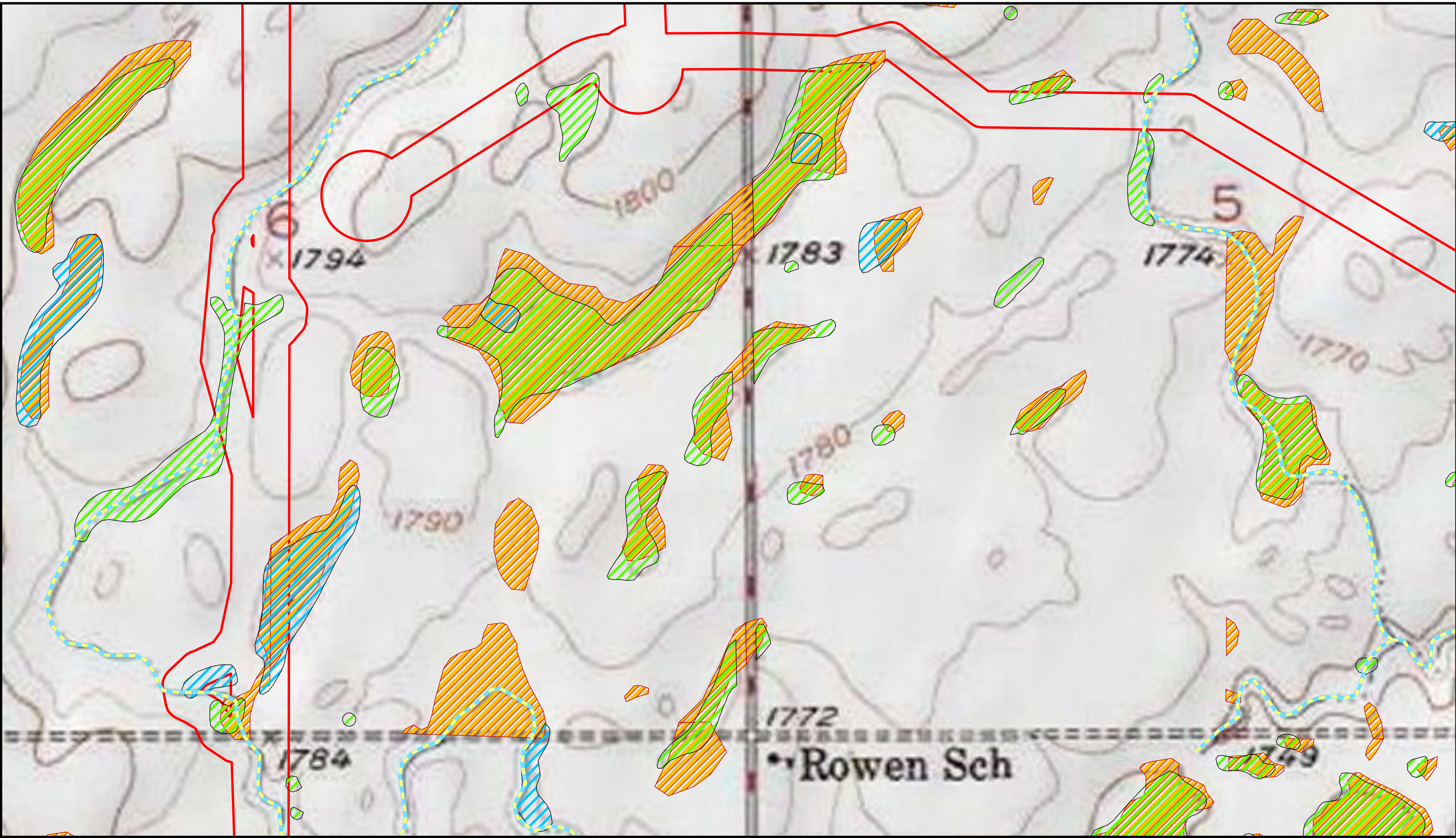


Figure A-3.20
 NWI & Topographical Map
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCM\EN\S\court\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



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

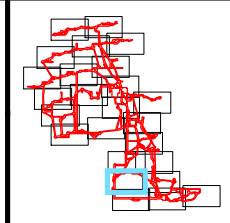
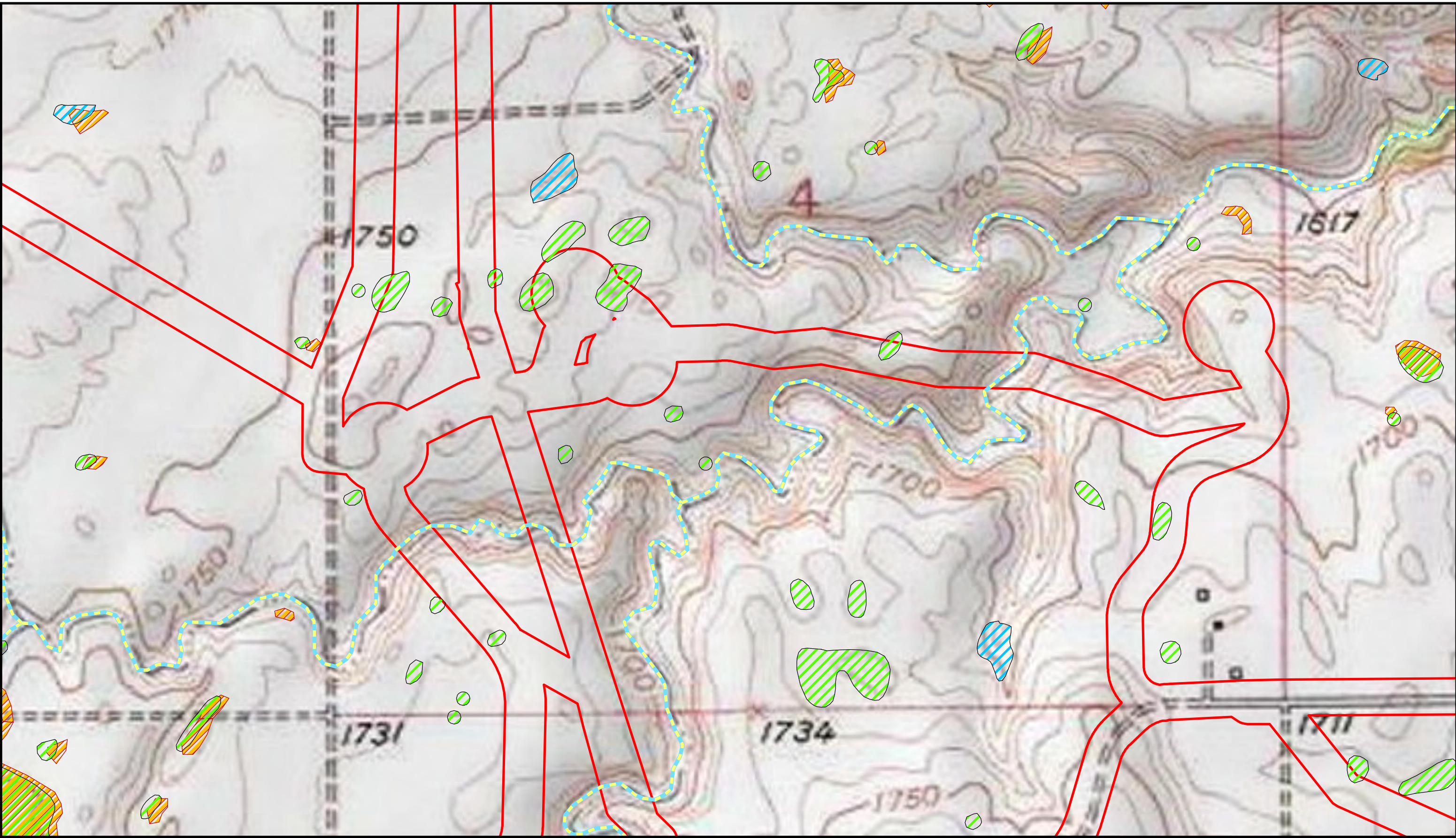


Figure A-3.21
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



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

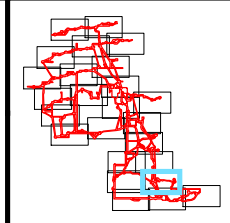
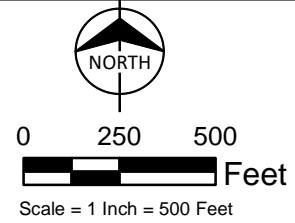
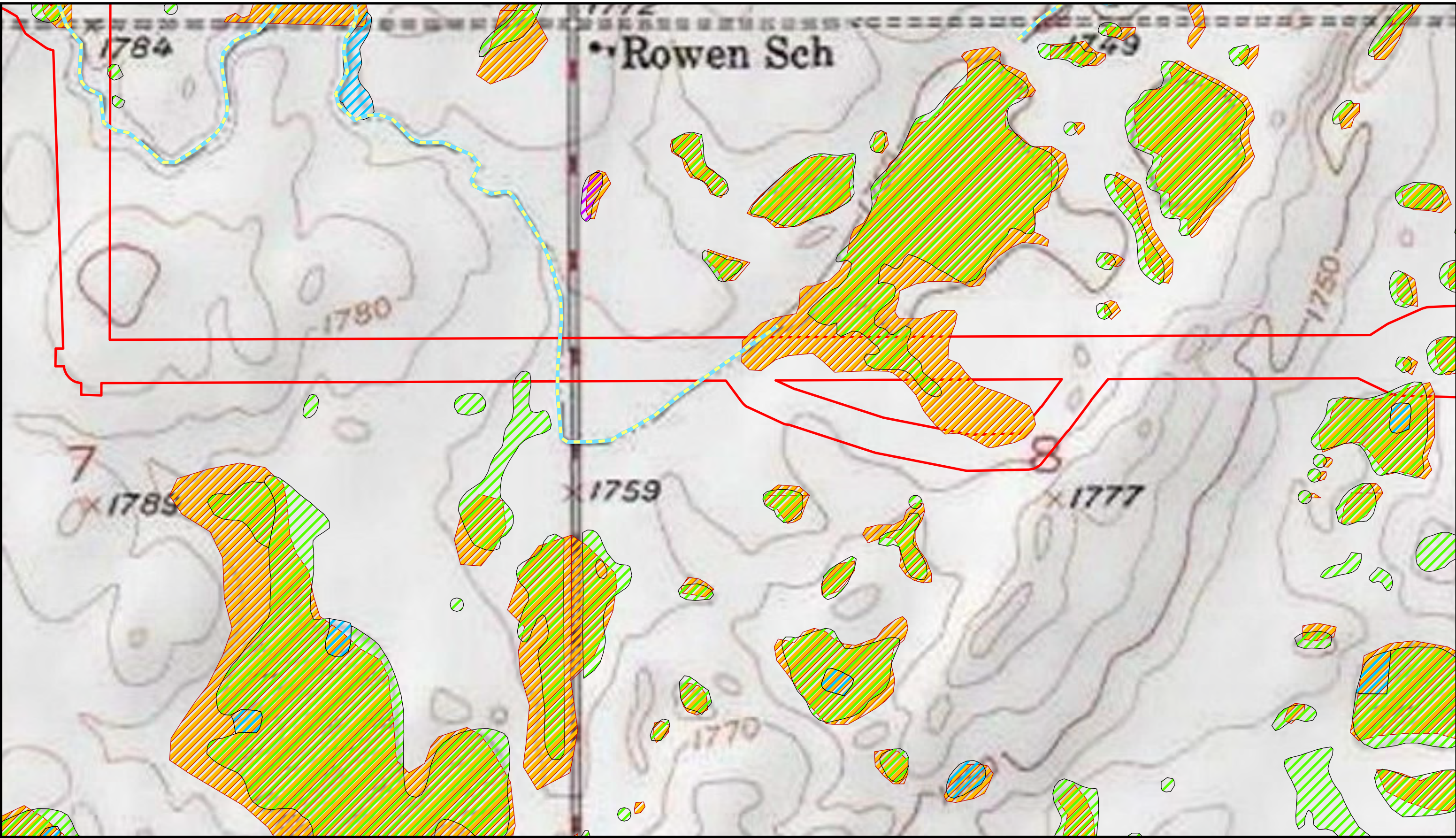


Figure A-3.22
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMEN\S\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

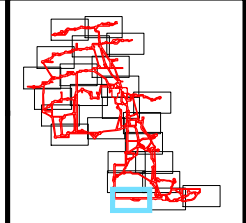
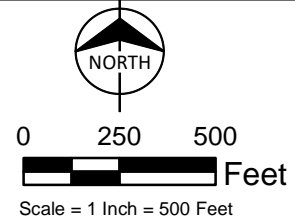
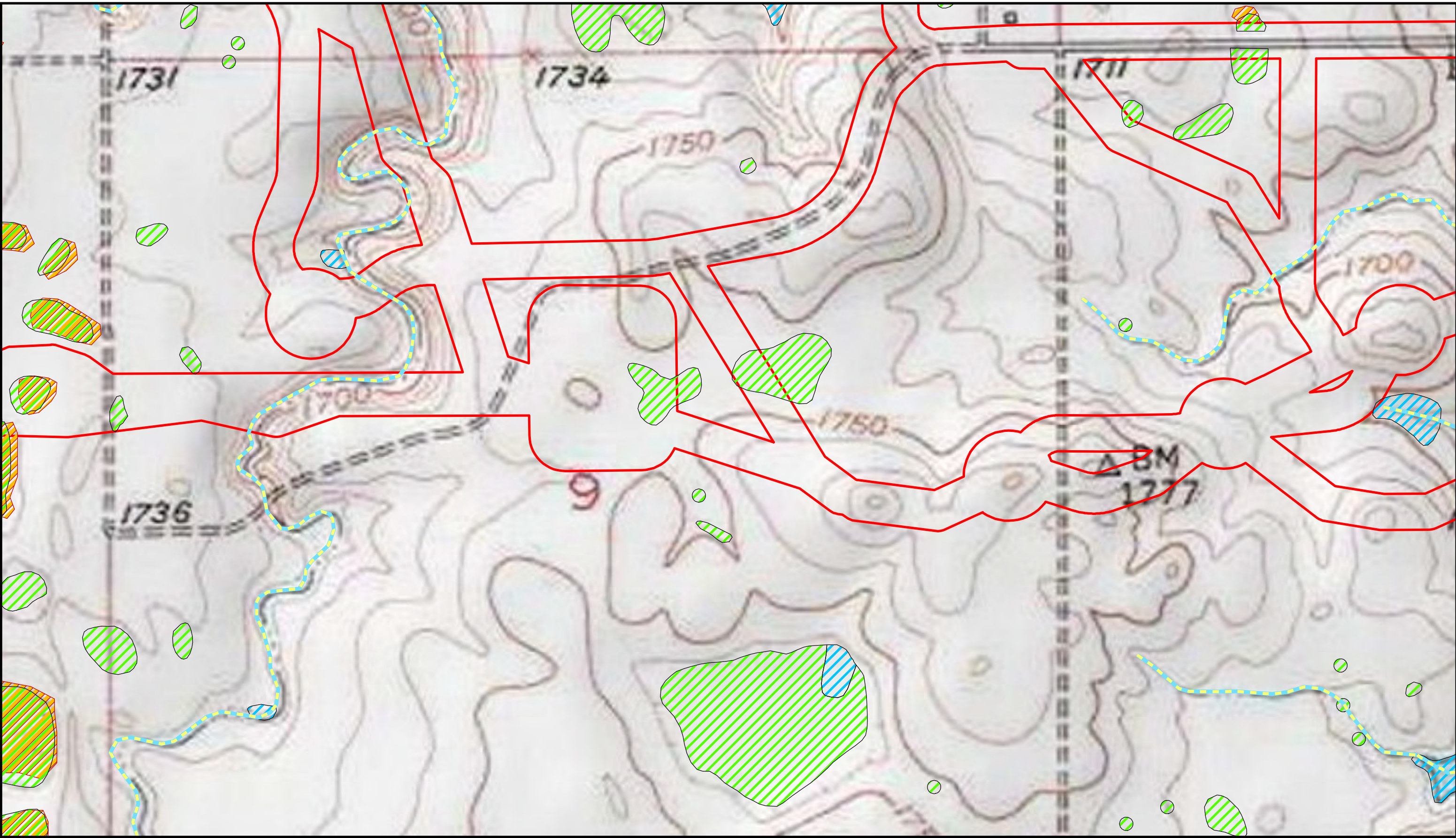


Figure A-3.23
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCM\ENR\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

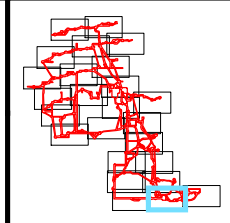
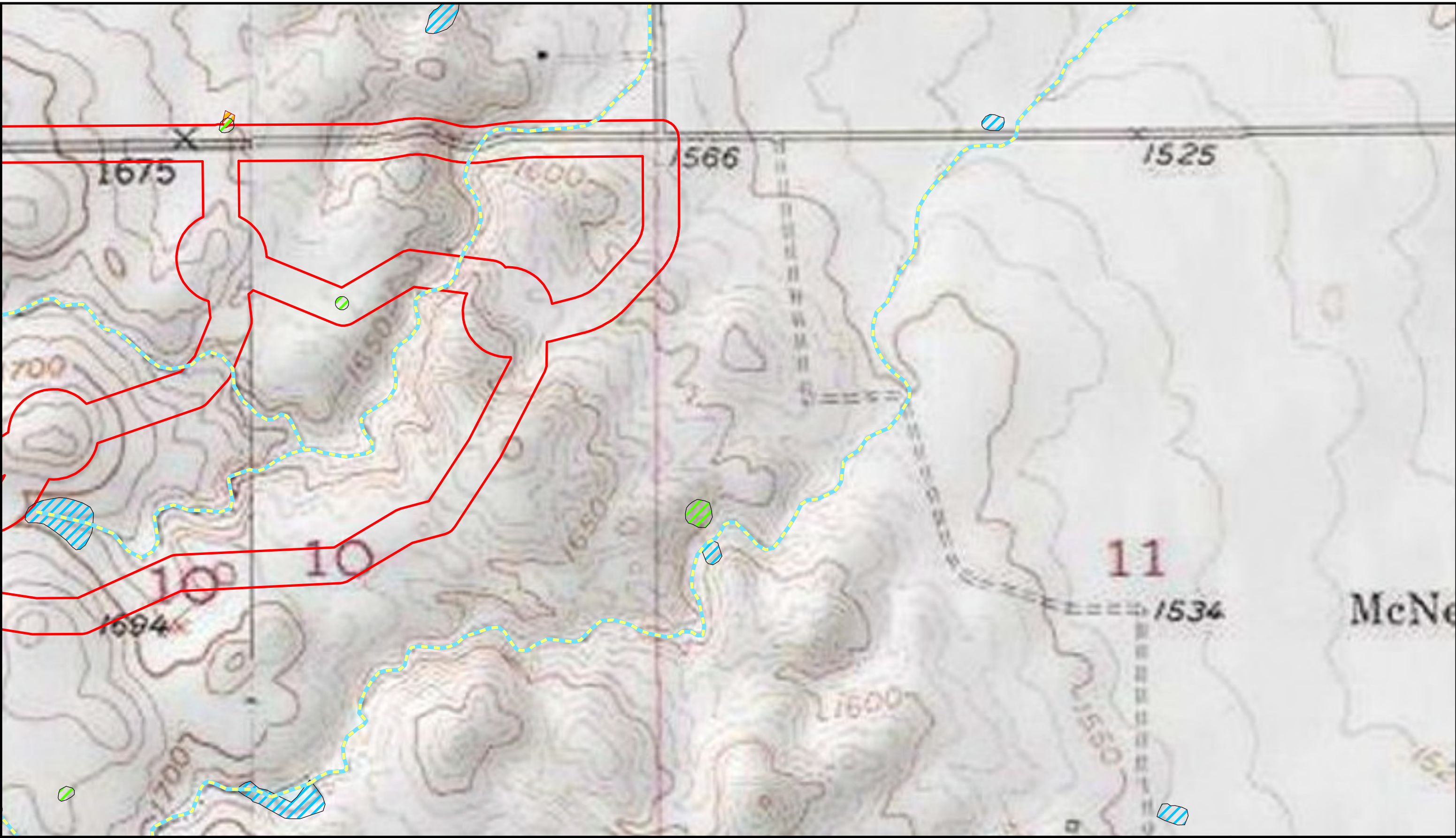


Figure A-3.24
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCMEN\S\scour\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA3_NWI.mxd tbeemer 2/26/2019
COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
Service Layer Credits: Copyright © 2013 National Geographic Society, i-cubed



Legend

- Survey Area
- NHD Stream/River

- USFWS Easement Wetland Areas*

NWI Wetland Classification

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

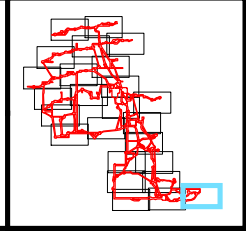
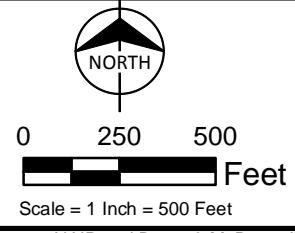
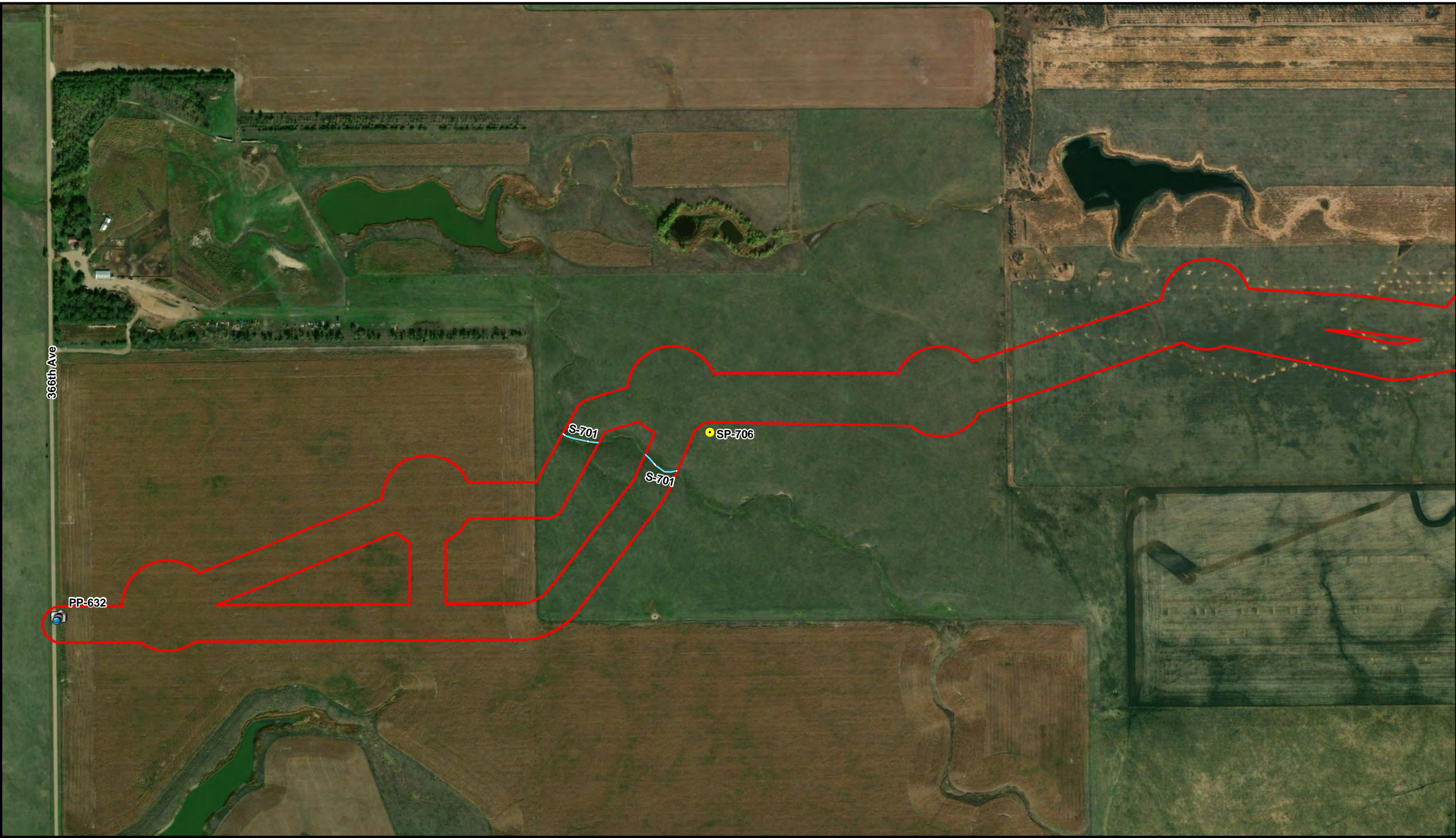


Figure A-3.25
NWI & Topographical Map
Sweetland Wind Farm Project
Hand County, South Dakota

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

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

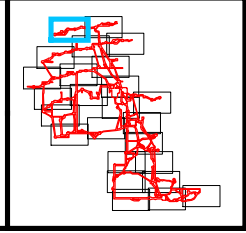
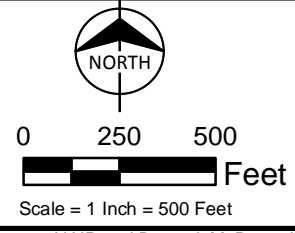
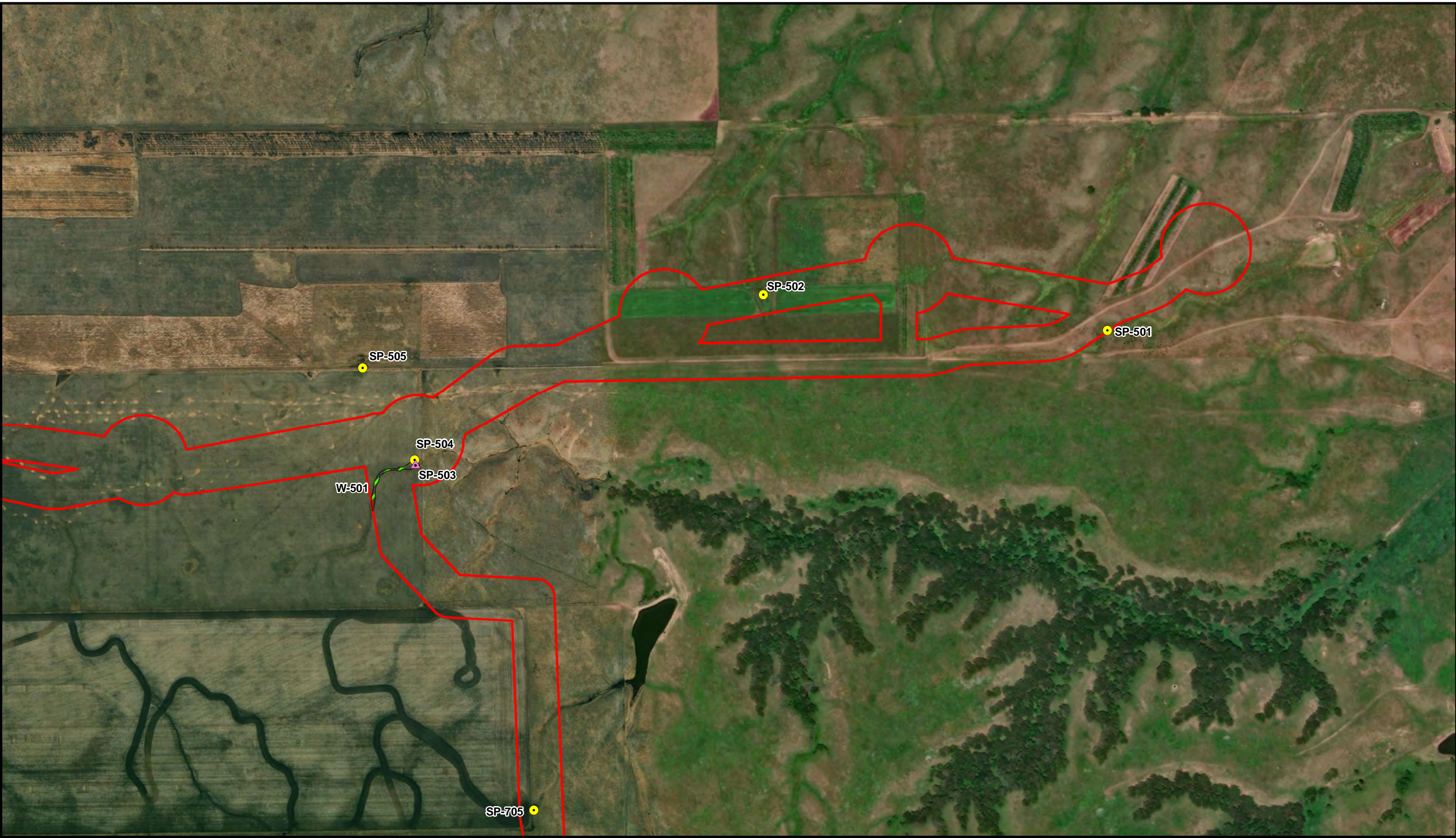


Figure A-4.1
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

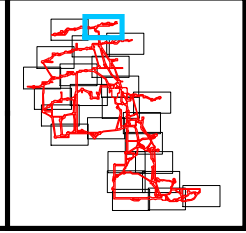
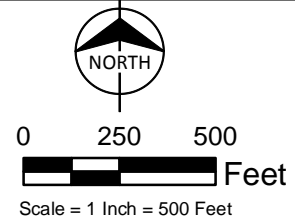
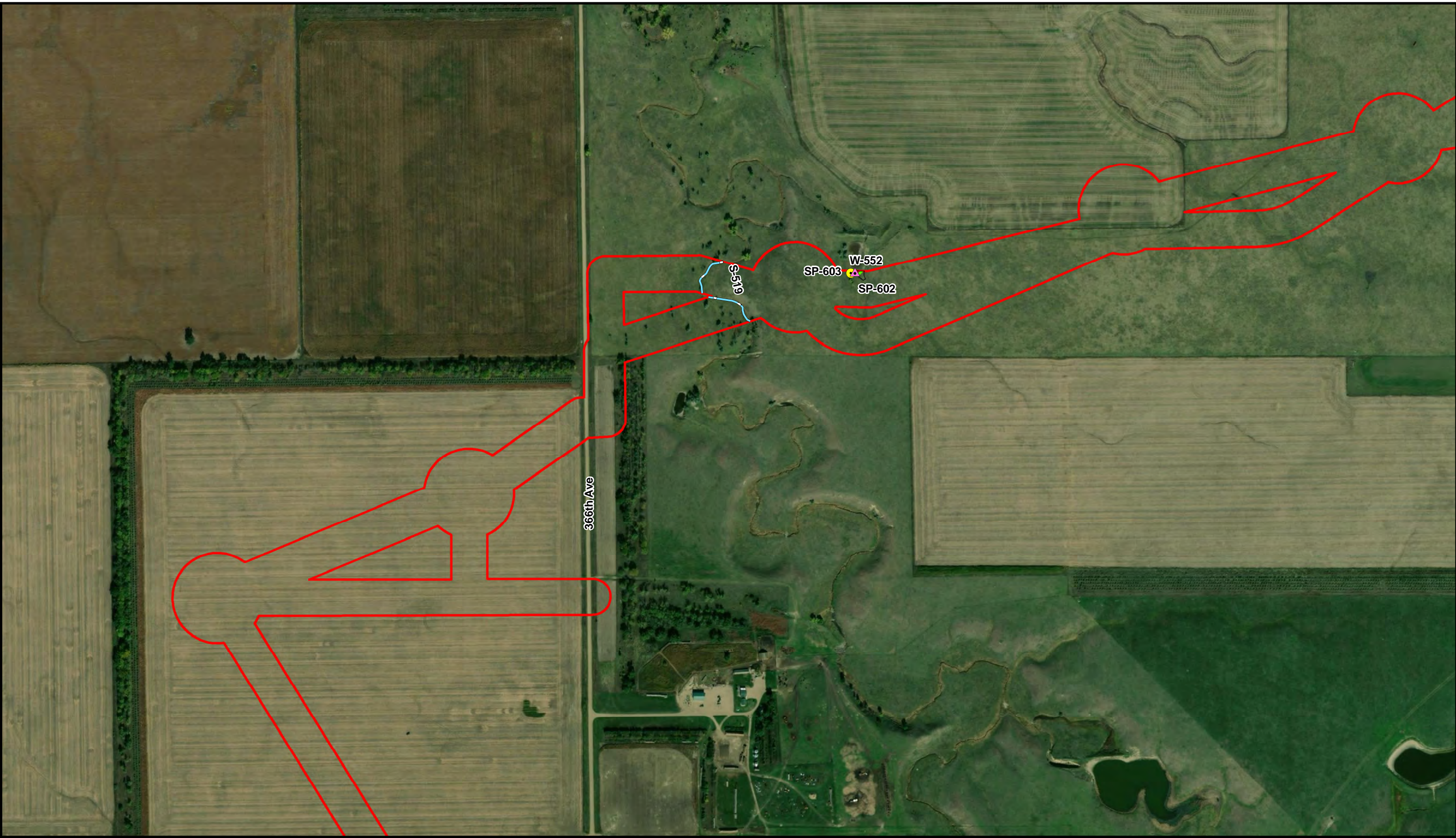


Figure A-4.2
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

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

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

Delineated Features**

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

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

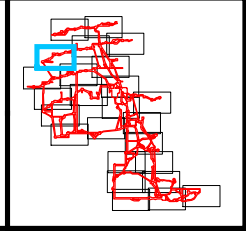
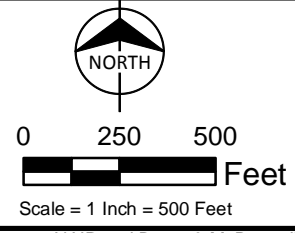


Figure A-4.3
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\GeospatialDataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland

- Ephemeral Stream
- Intermittent Stream

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

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

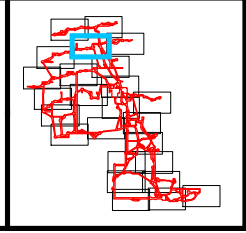
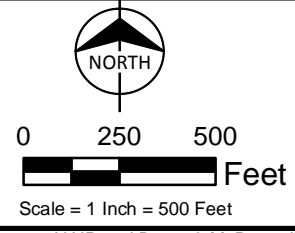
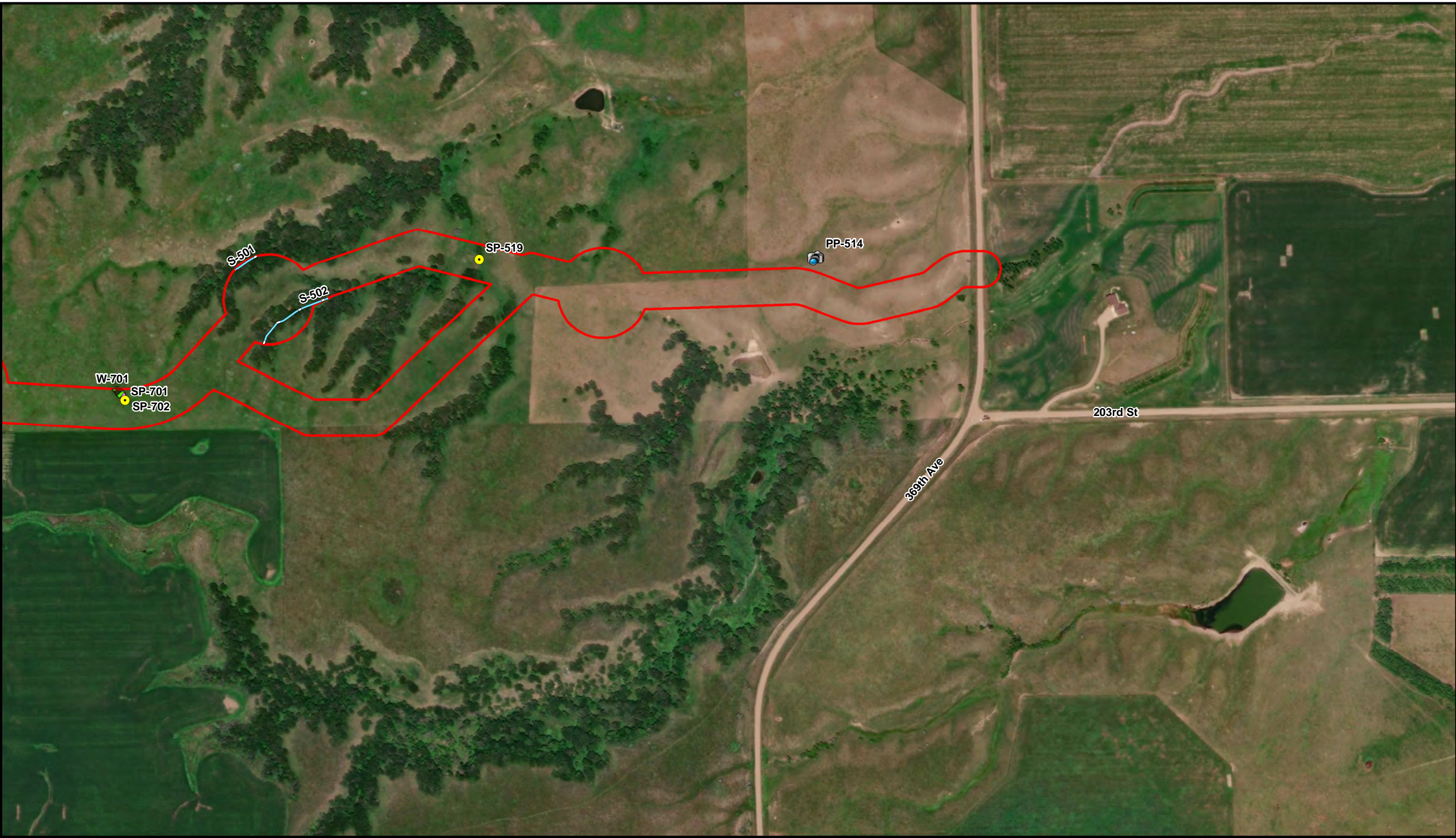


Figure A-4.4
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

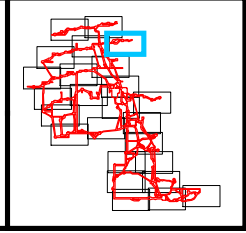
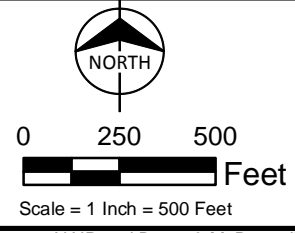
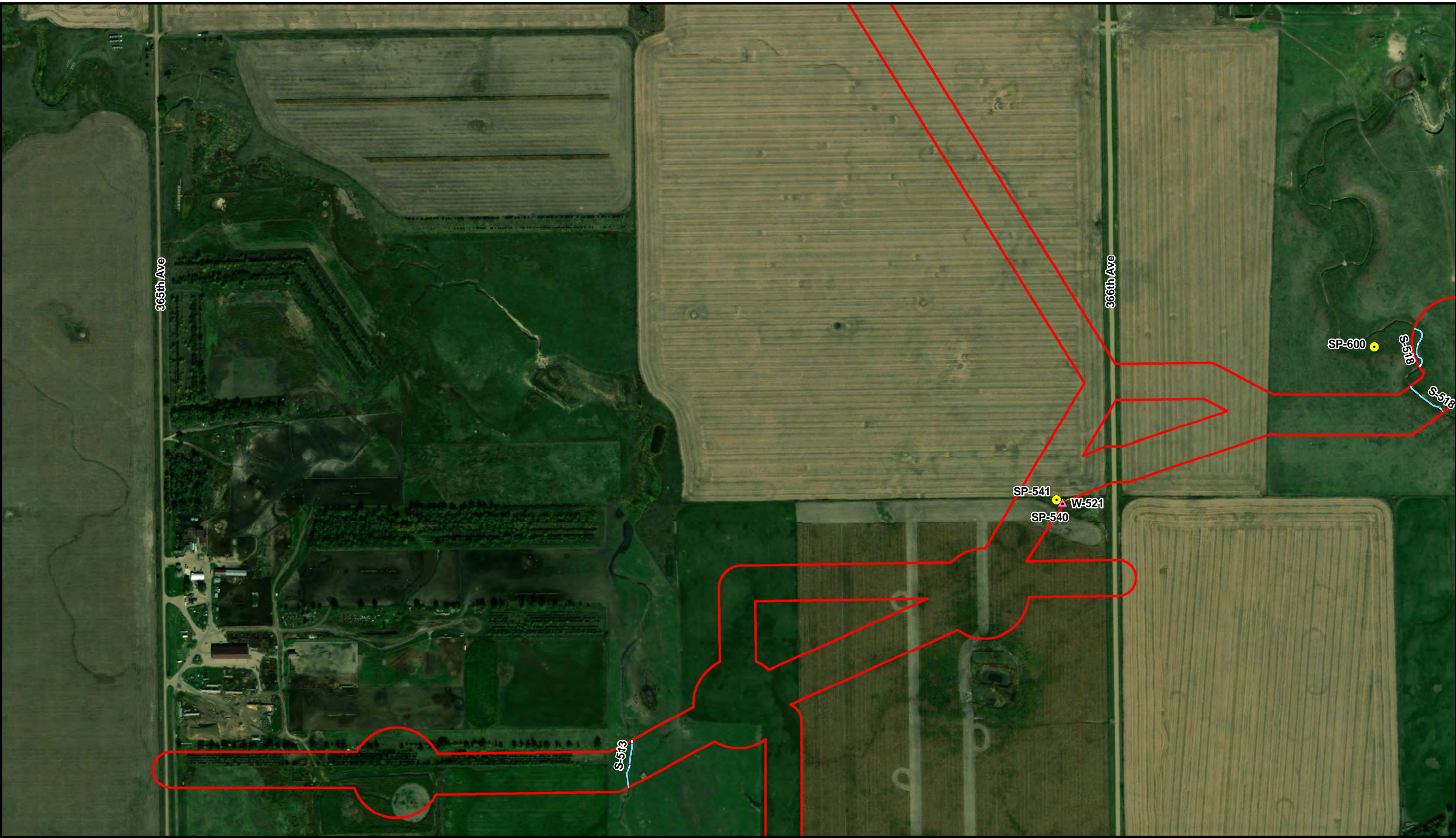


Figure A-4.5
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

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

Delineated Features**

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

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

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

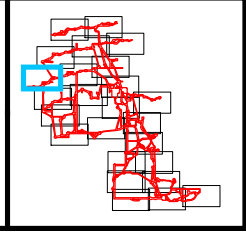
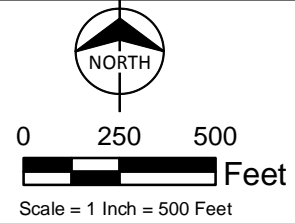


Figure A-4.6
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

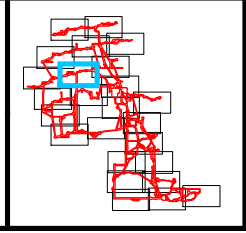
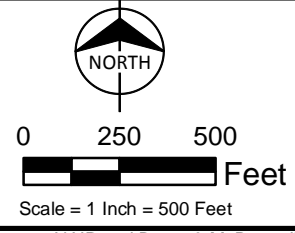
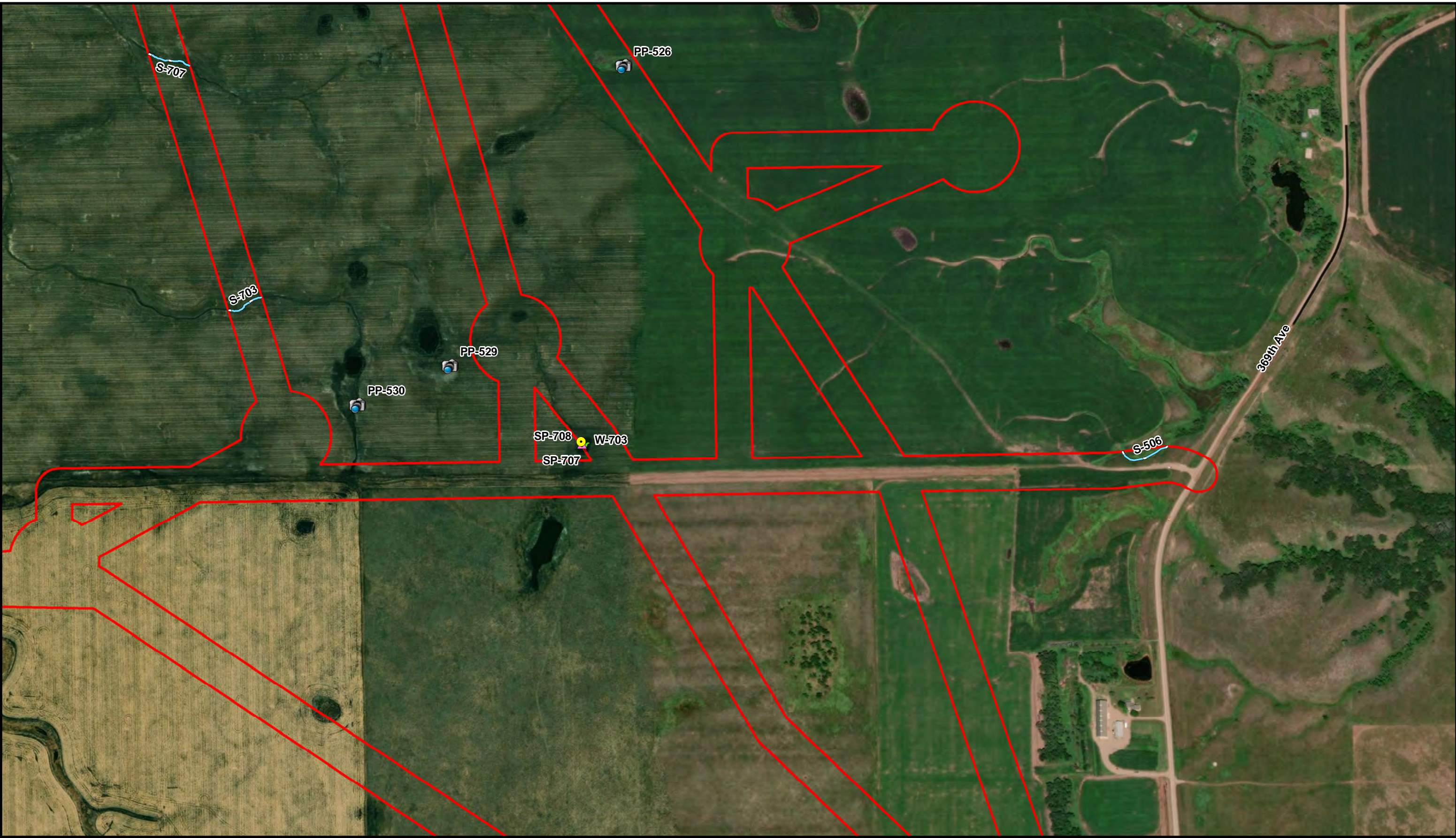


Figure A-4.7
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland

- Ephemeral Stream
- Intermittent Stream

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

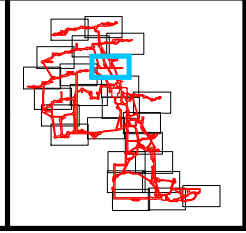
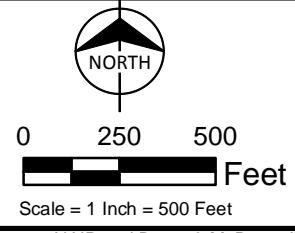
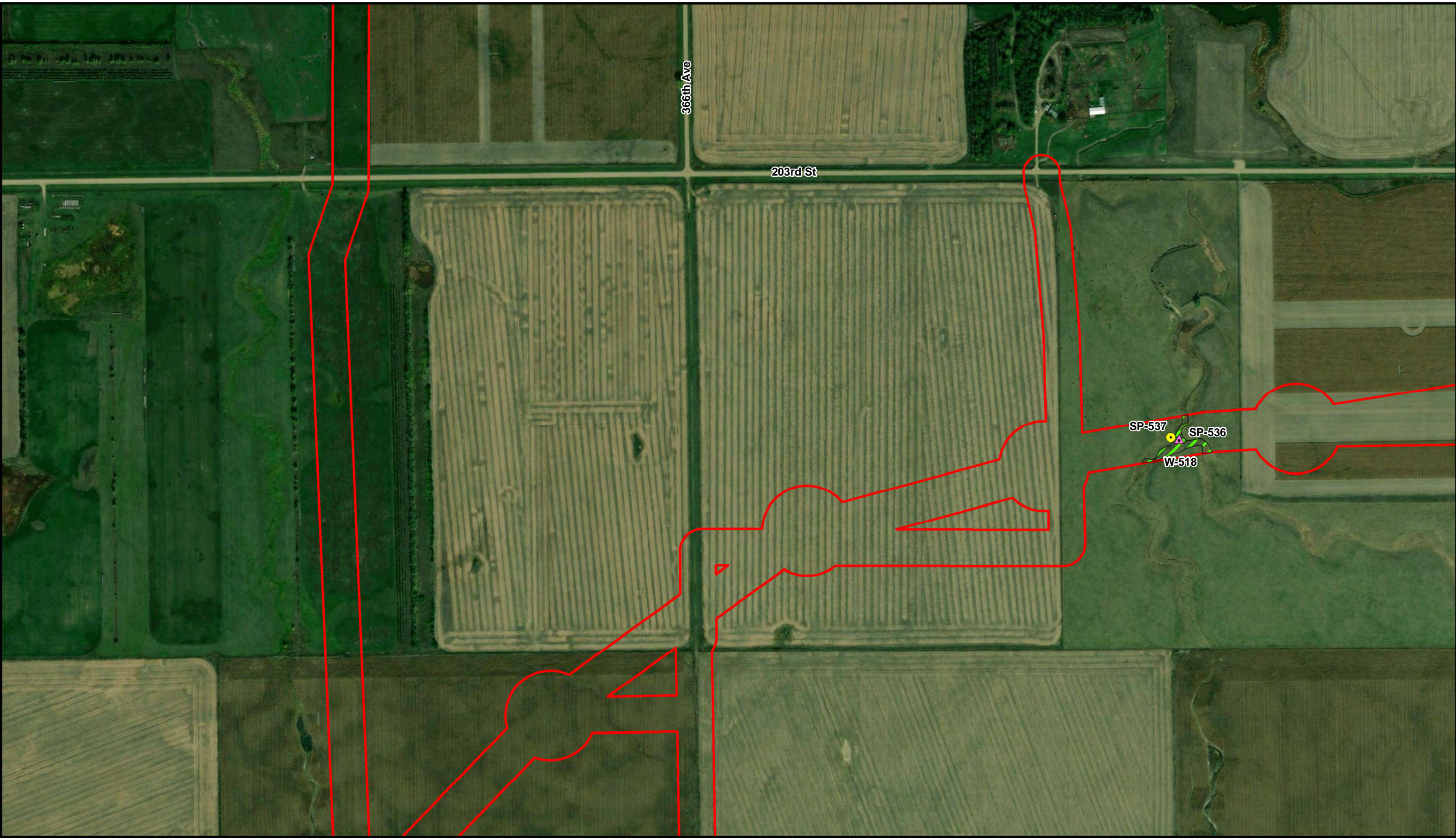


Figure A-4.8
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

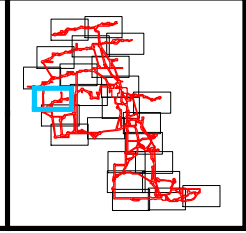
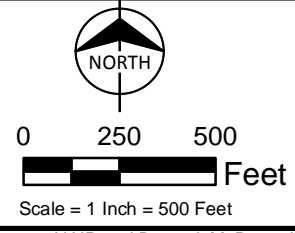
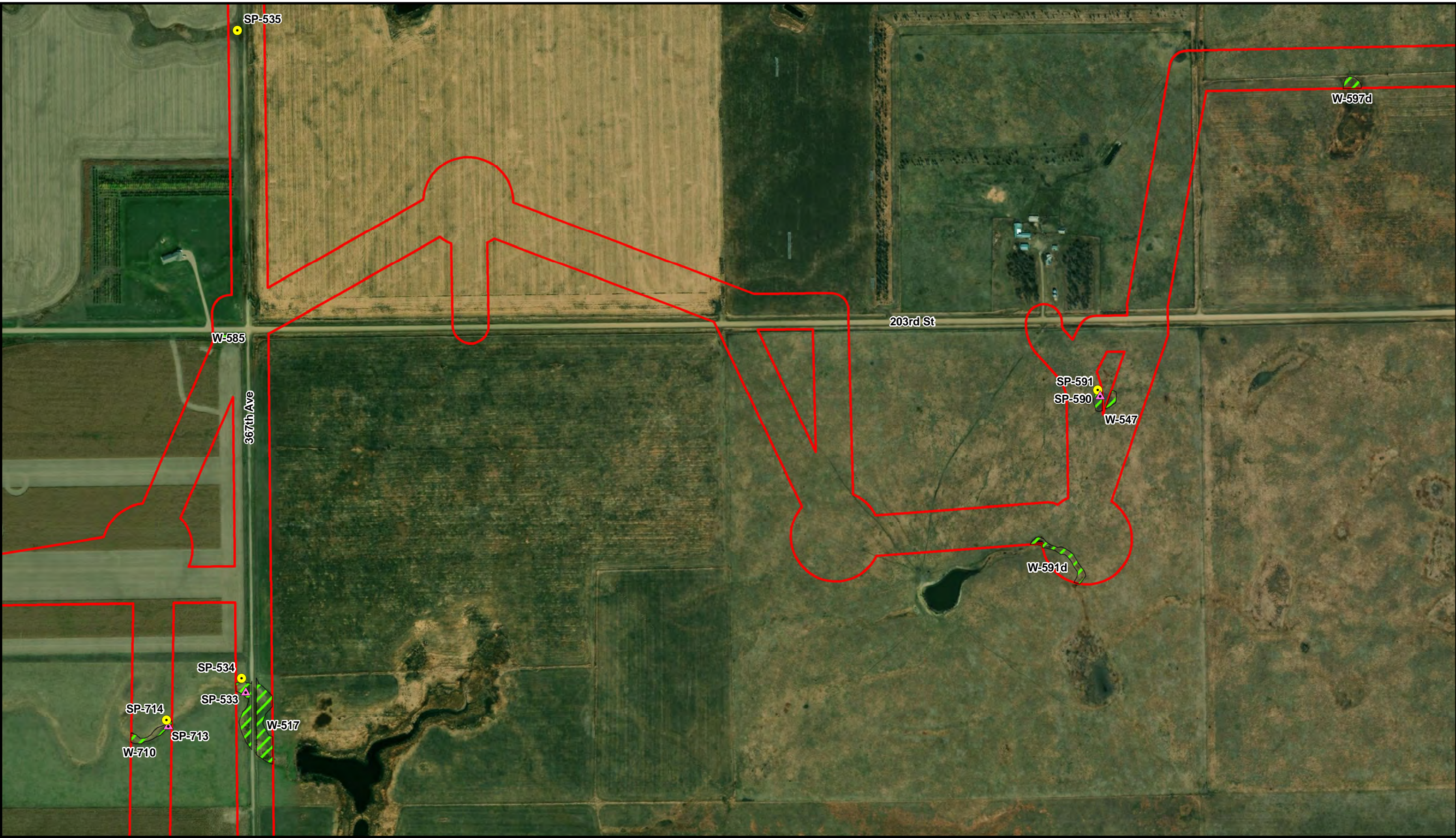


Figure A-4.9
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

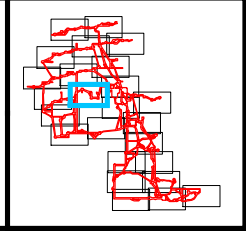
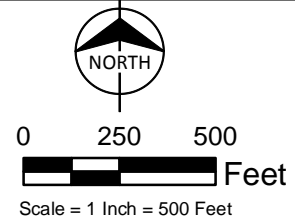
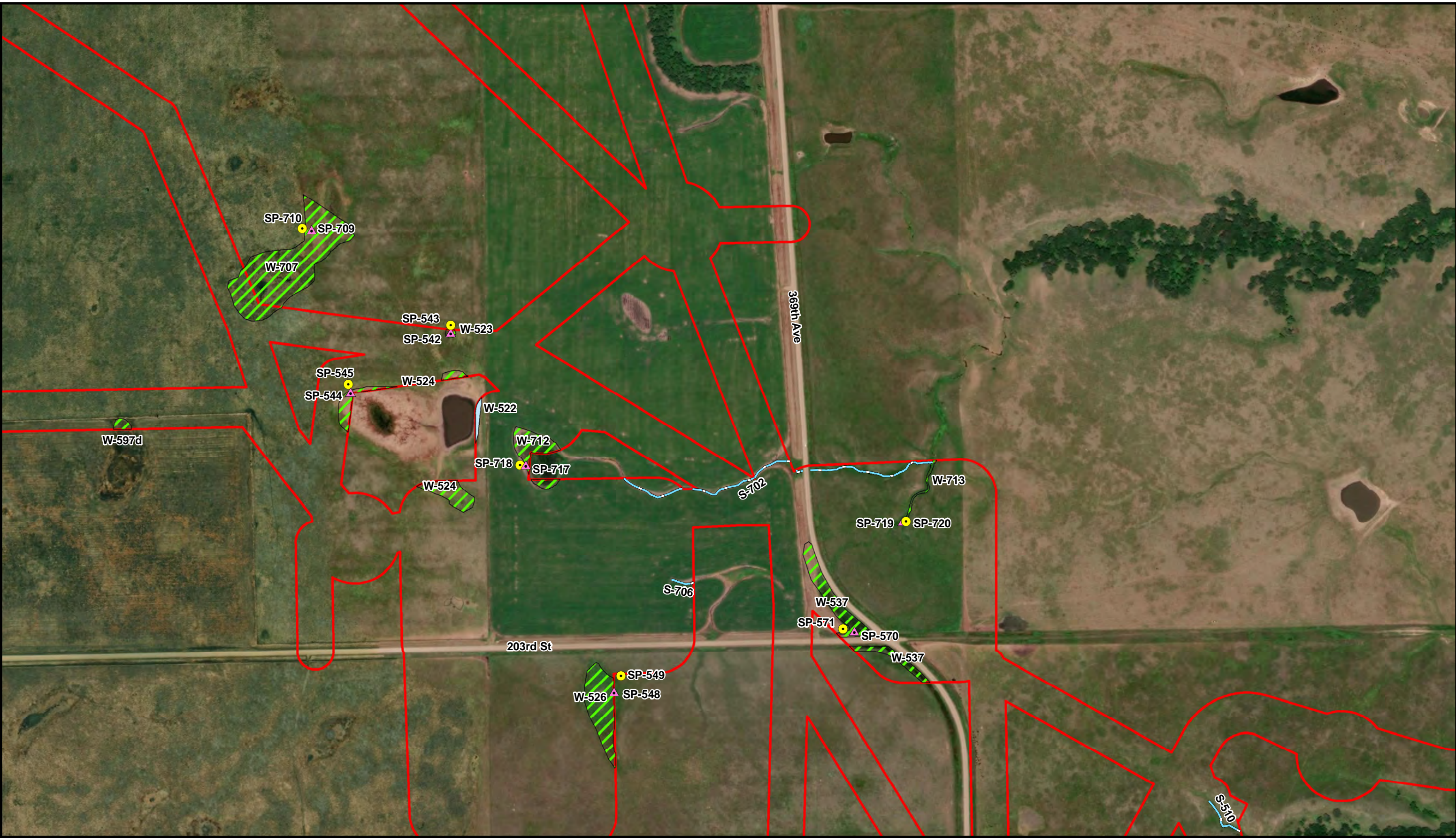


Figure A-4.10
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland

- Ephemeral Stream
- Intermittent Stream

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

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

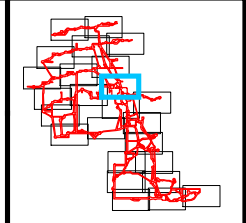
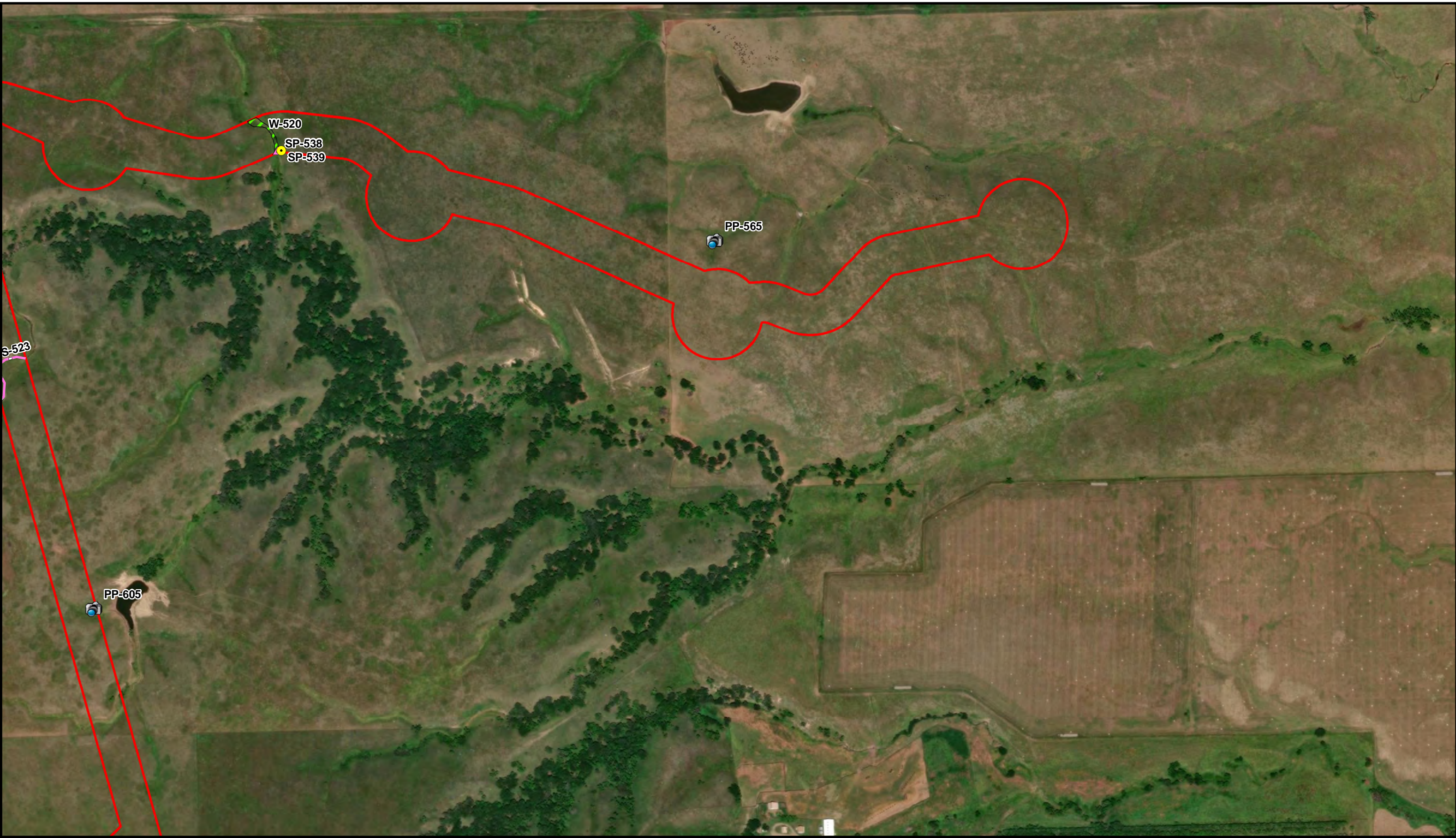






Figure A-4.11
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community








Legend

-  Survey Area
-  Photo Point*

-  Wetland Plot
-  Upland Plot

Delineated Features**

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

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

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

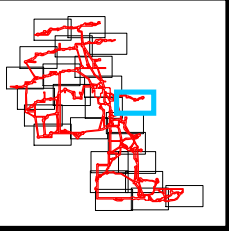
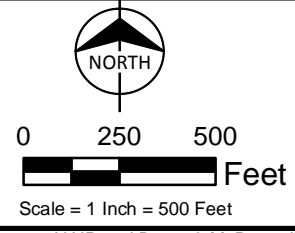


Figure A-4.12
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

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

Delineated Features**

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

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

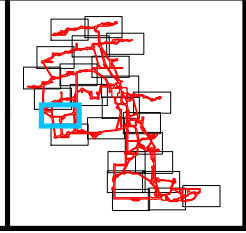
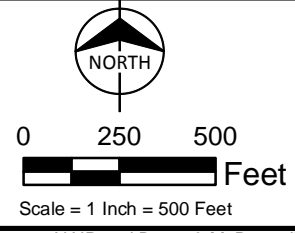
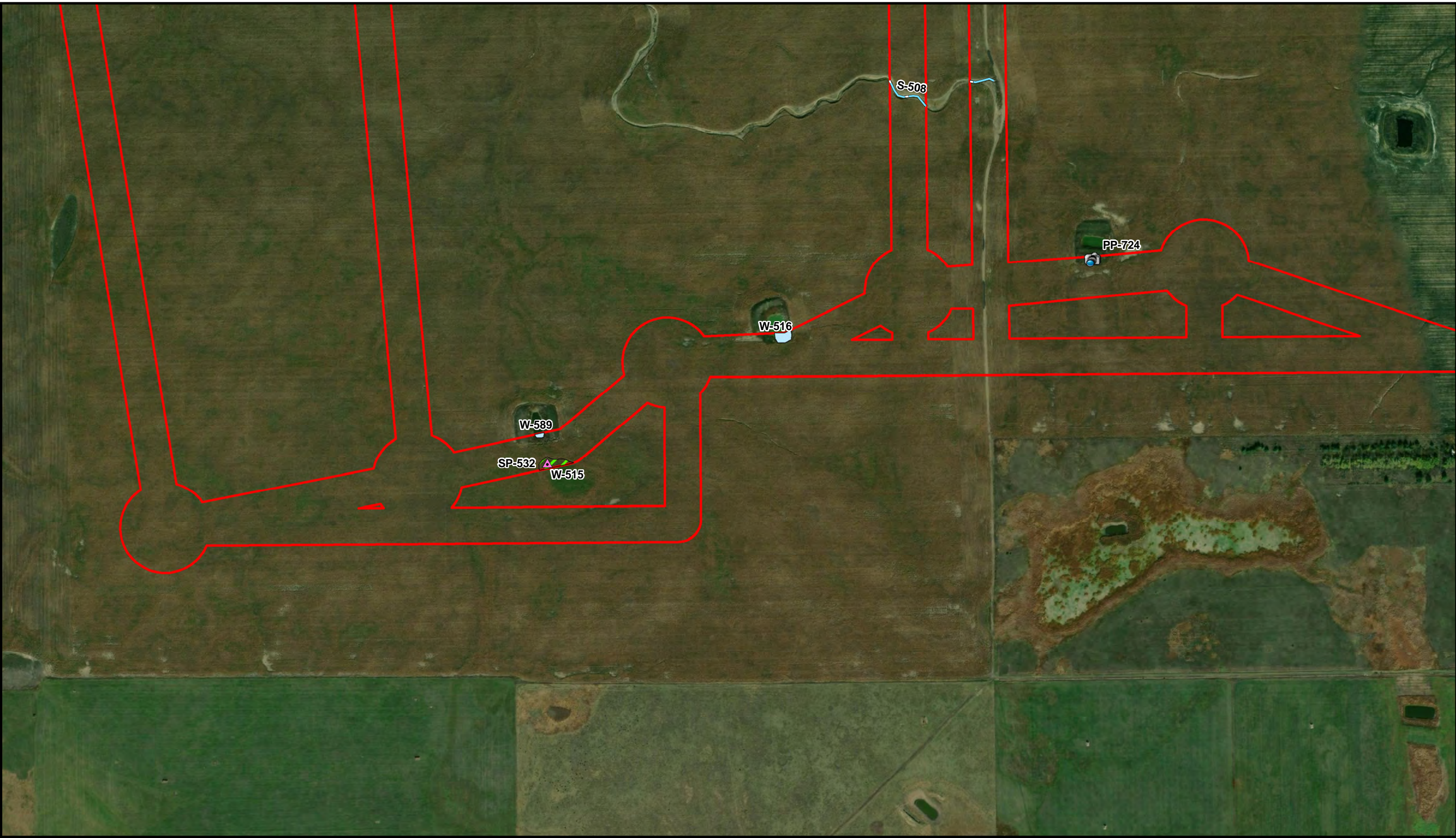


Figure A-4.13
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

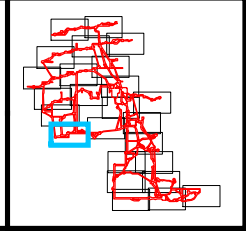
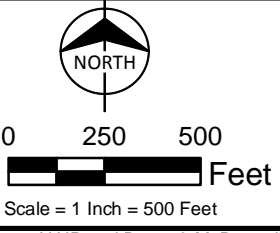


Figure A-4.14
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCMENS\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

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

Delineated Features**

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

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

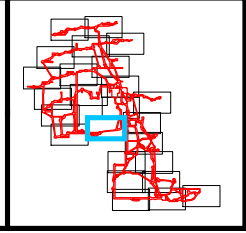
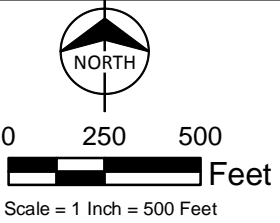
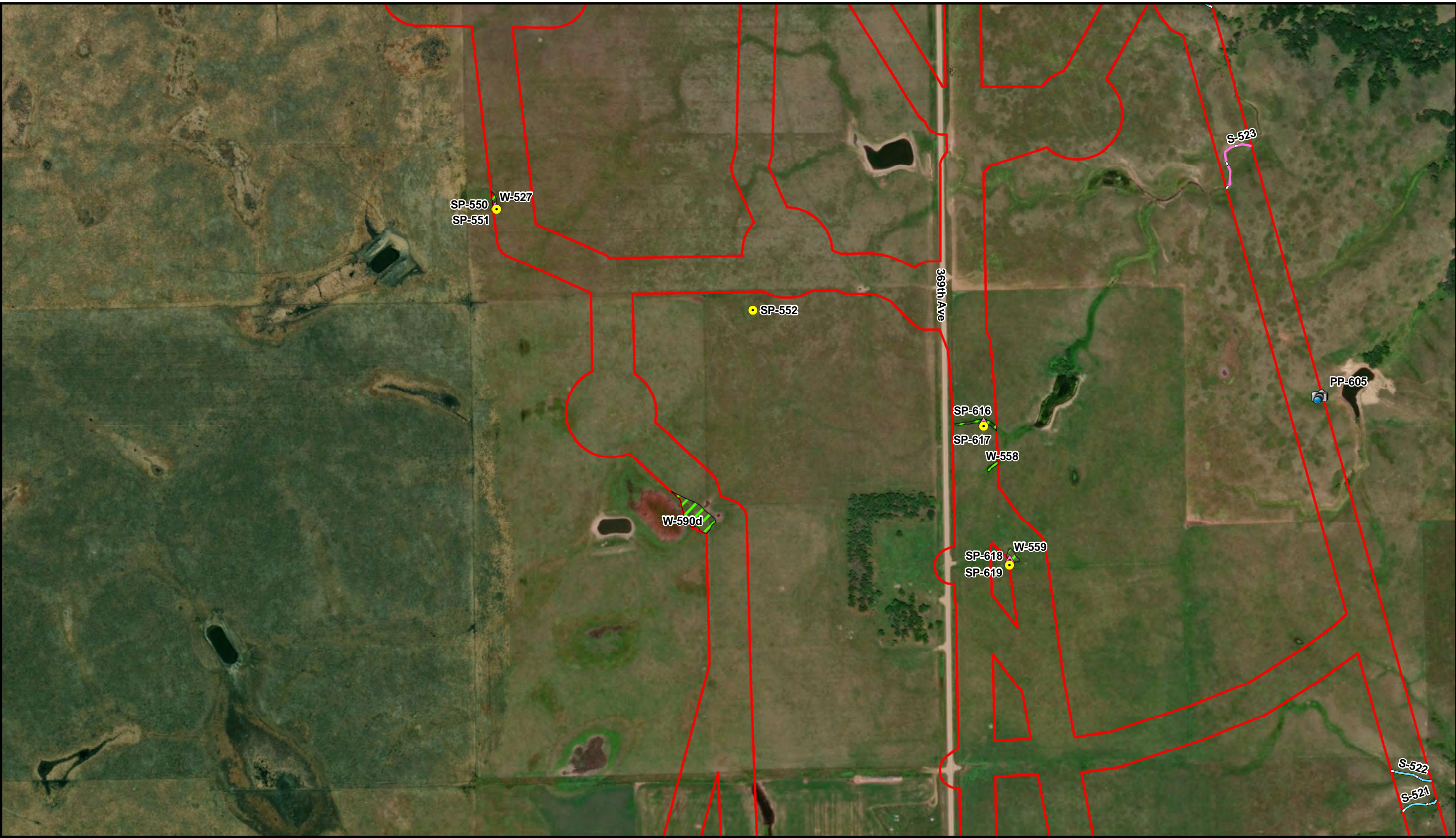


Figure A-4.15
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

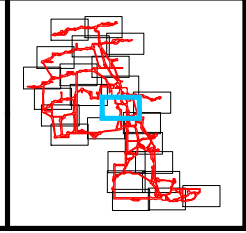
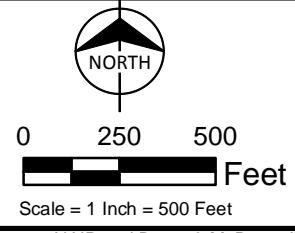
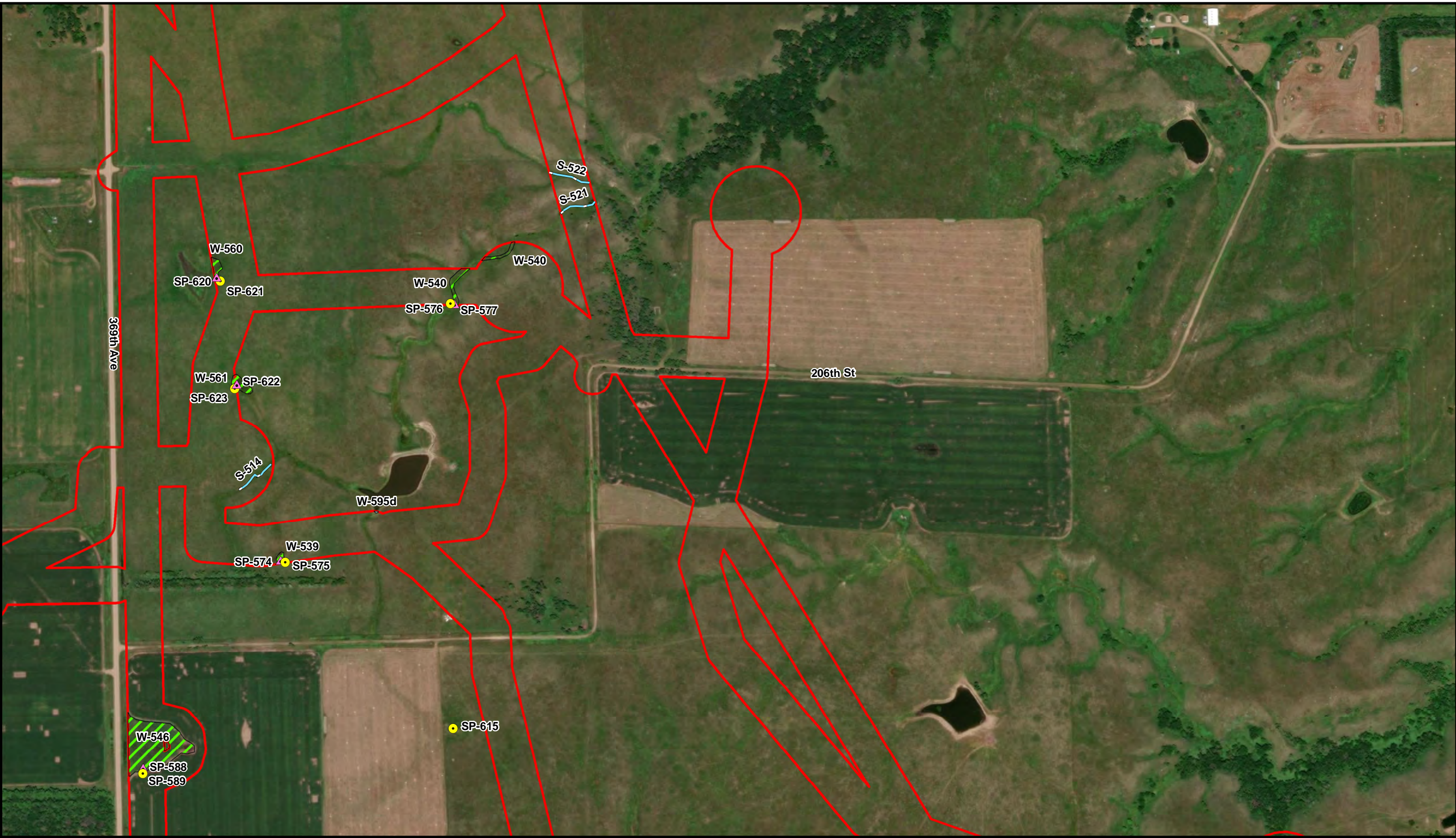


Figure A-4.16
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

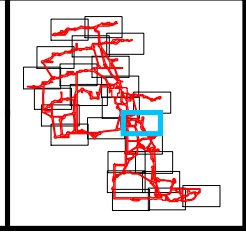
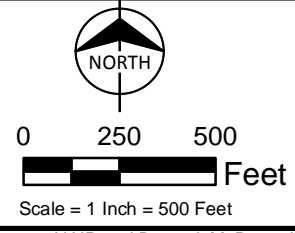
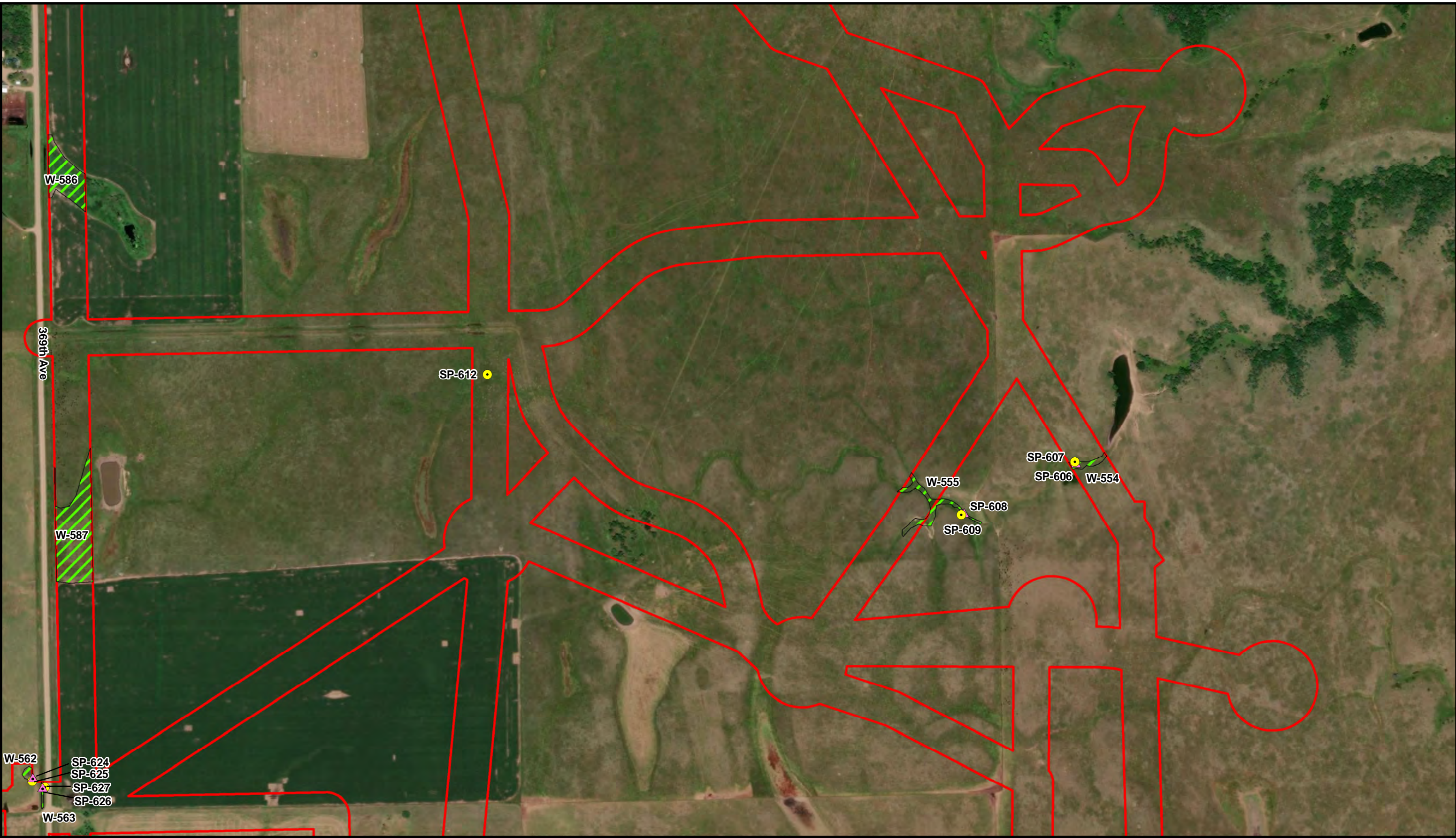


Figure A-4.17
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland

- Ephemeral Stream
- Intermittent Stream

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

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

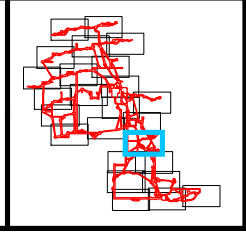
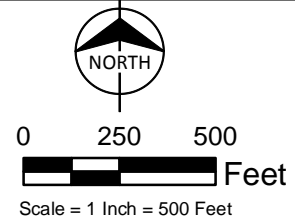
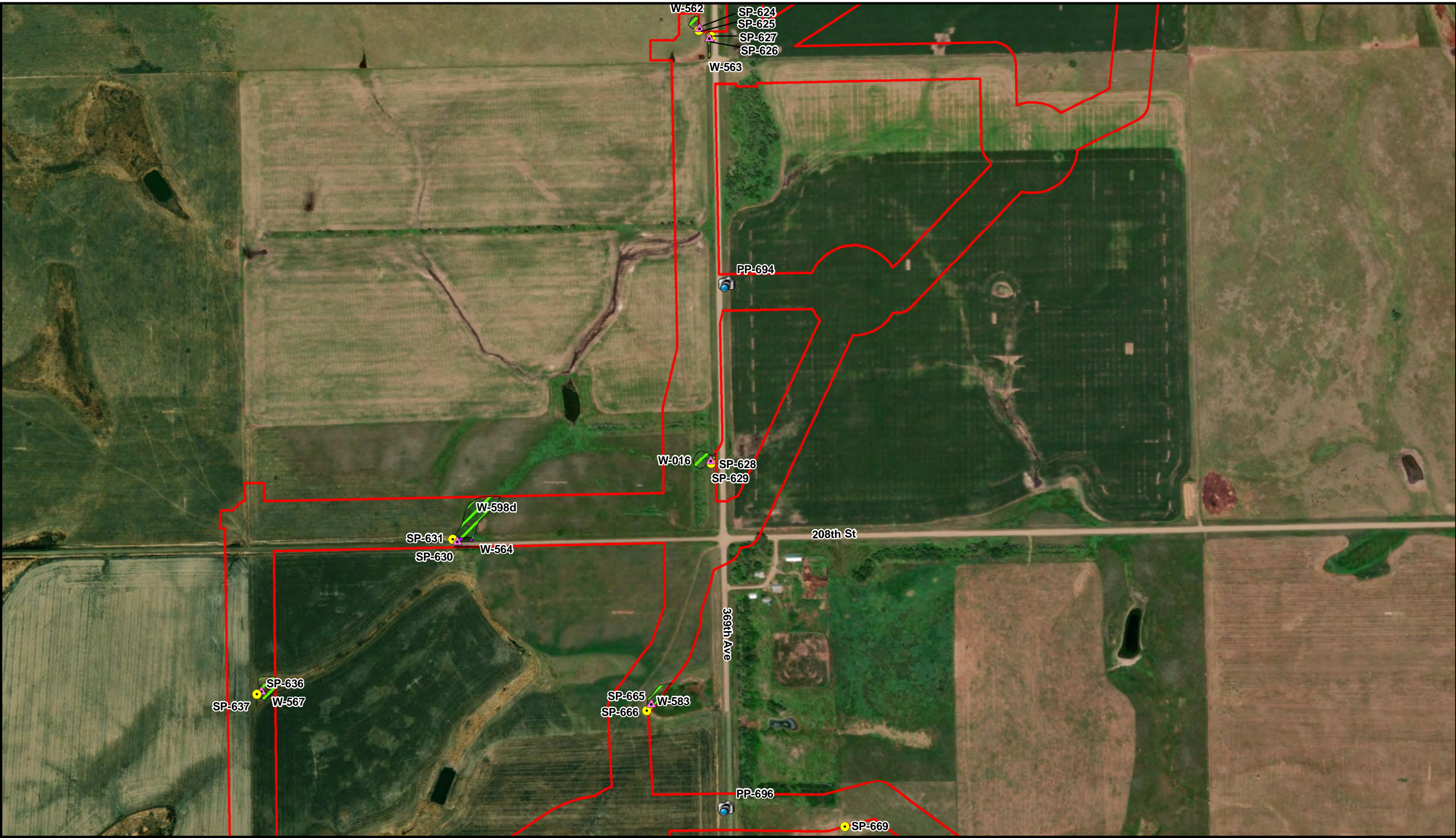


Figure A-4.18
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\GeospatialDataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

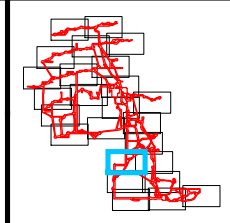
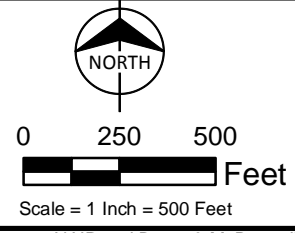
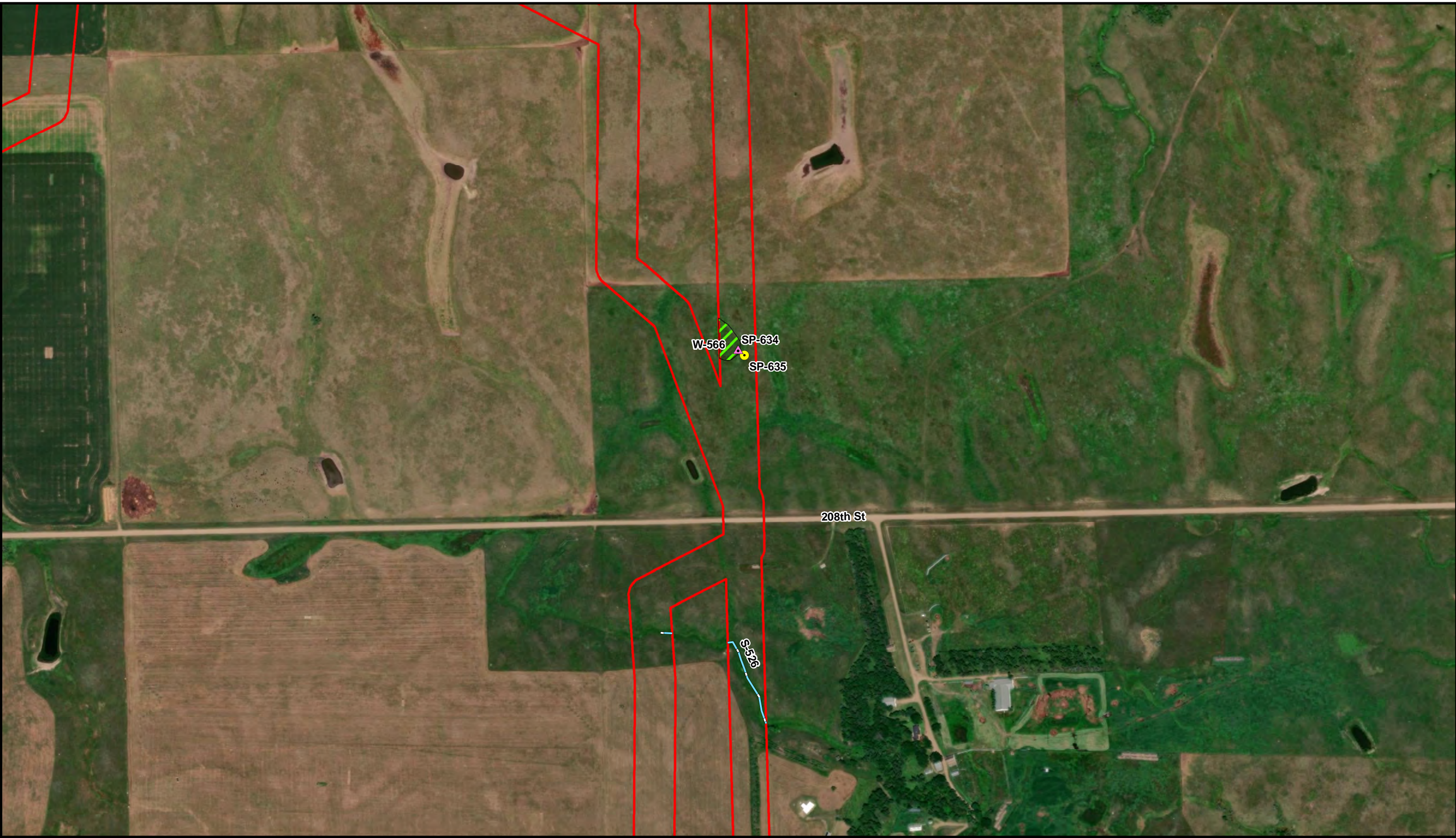


Figure A-4.19
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

- PEM Wetland
- PFO Wetland
- PUB Wetland

- Ephemeral Stream
- Intermittent Stream

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

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

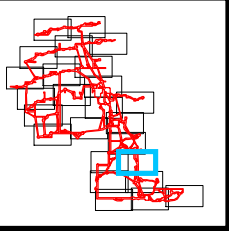
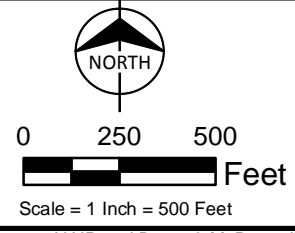


Figure A-4.20
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

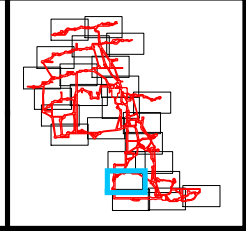
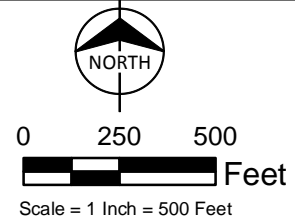
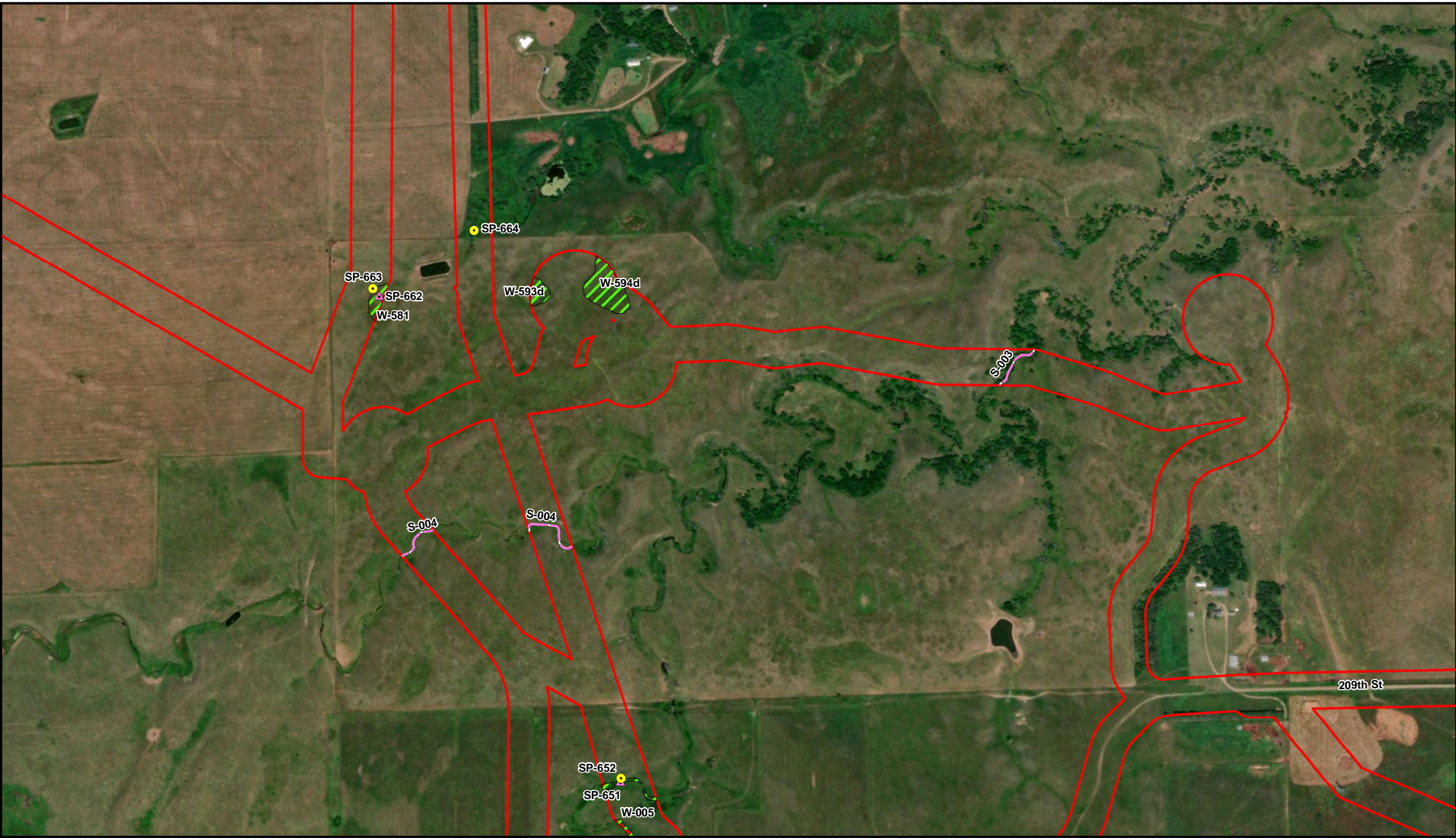


Figure A-4.21
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\Scout\CleanEn\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & MCDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

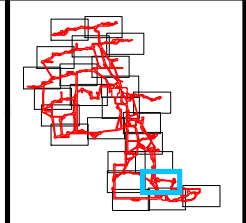
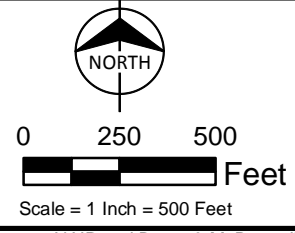
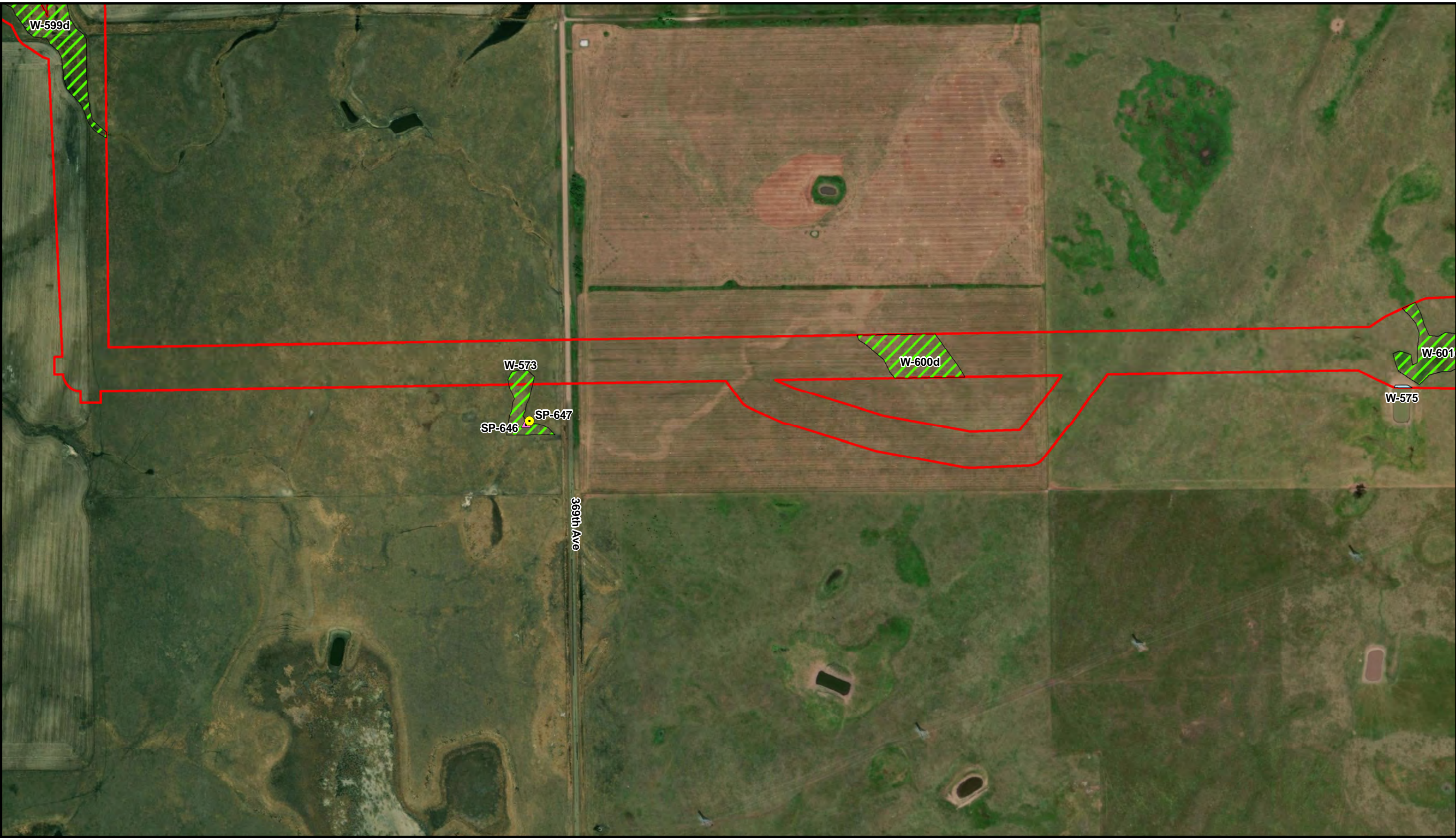


Figure A-4.22
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

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

Delineated Features**

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

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

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

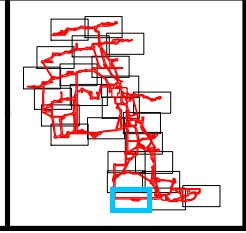
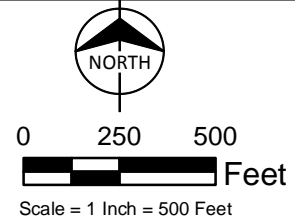
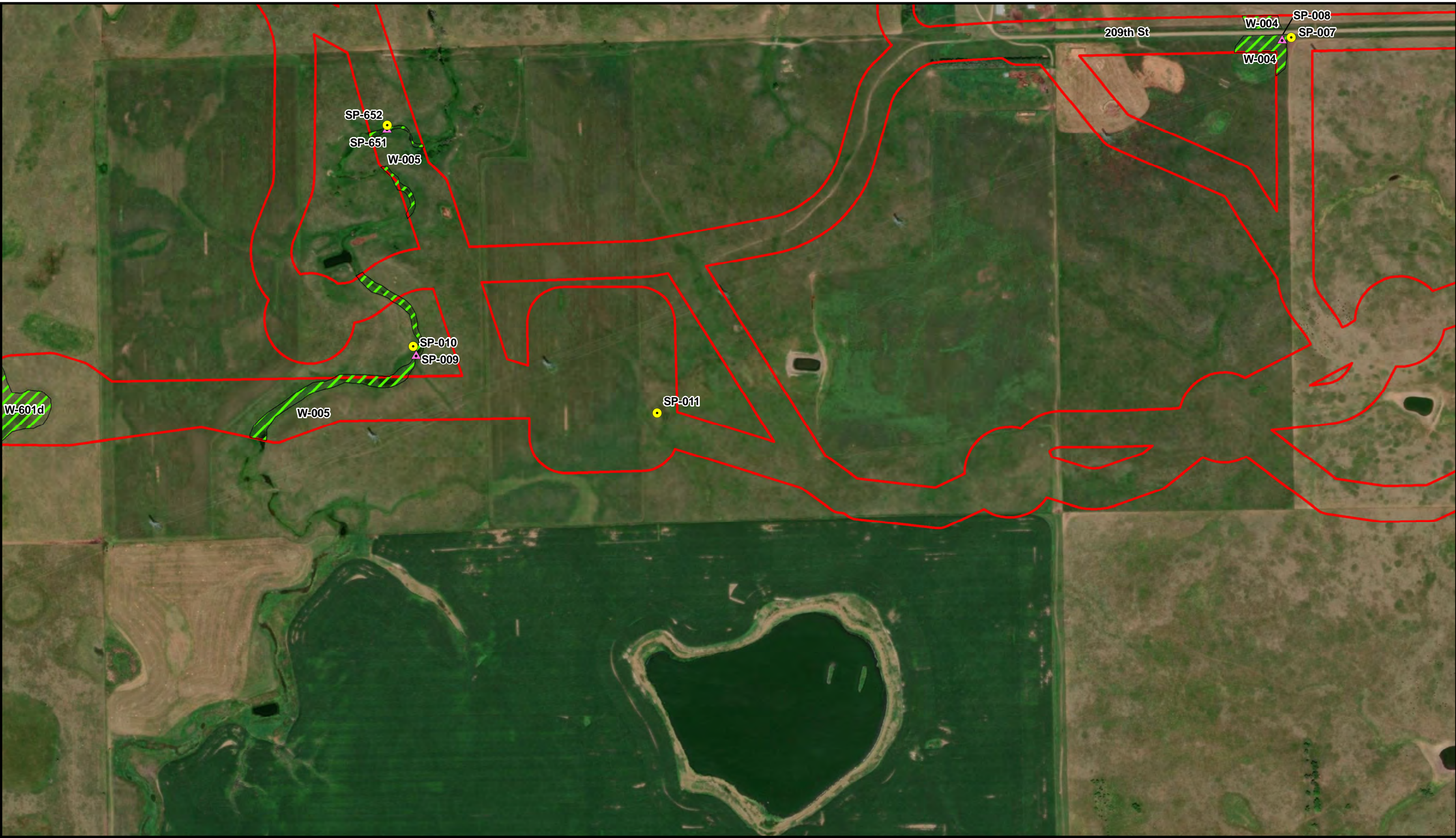


Figure A-4.23
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

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

Delineated Features**

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

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

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

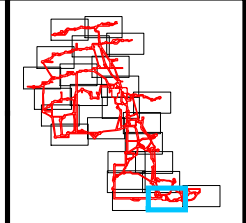
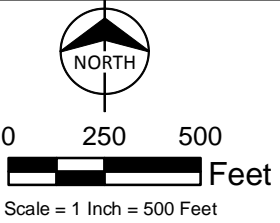
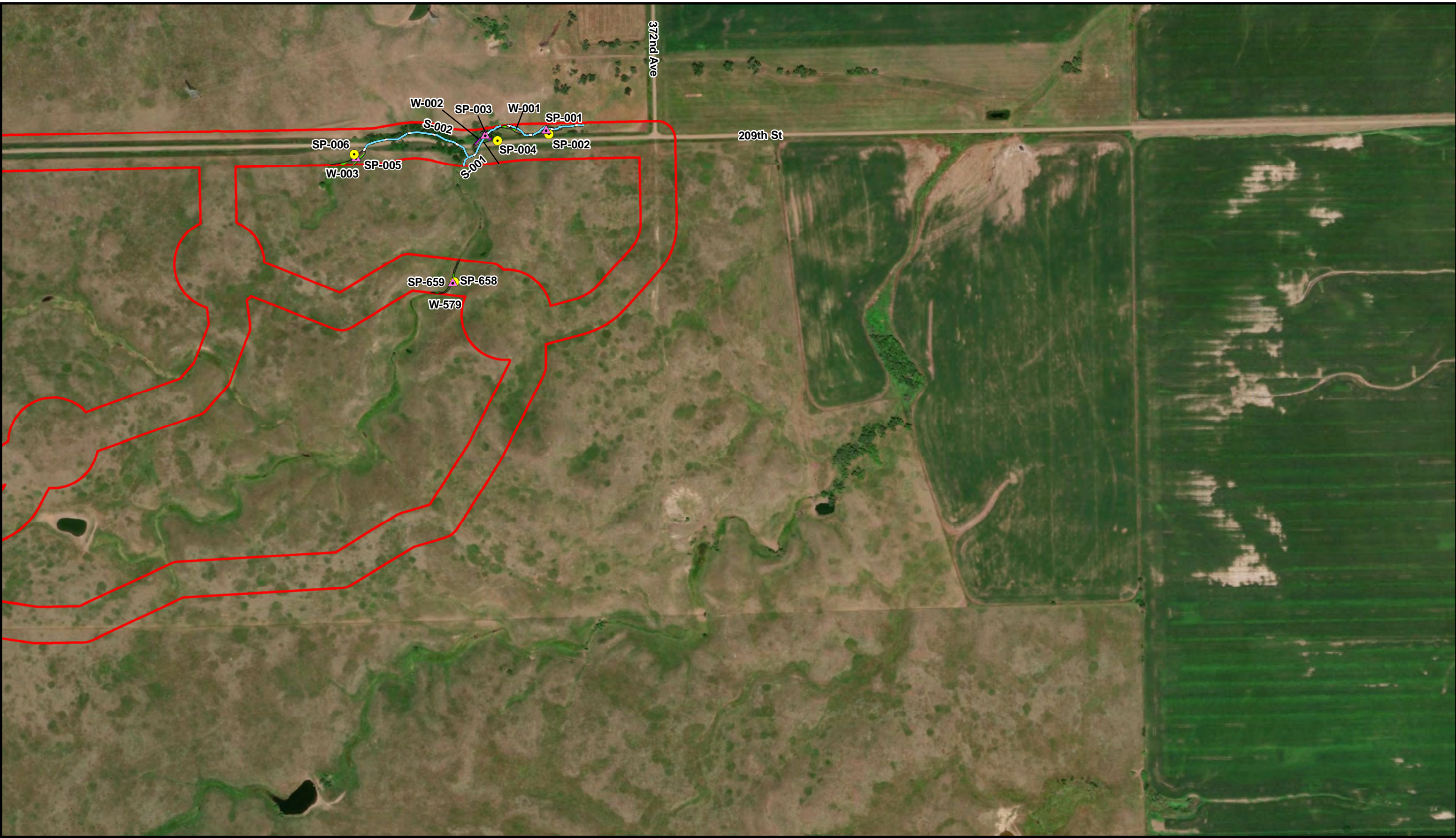


Figure A-4.24
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

Path: Z:\Resources\Local\Clients\KCM\EN\103828_SweetlandWind\ArcGIS\Geospatial\DataFiles\ArcDocs\WDR\FigureA4_Results.mxd tbeemer 2/26/2019
 COPYRIGHT © 2019 BURNS & McDONNELL ENGINEERING COMPANY, INC.
 Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- Survey Area
- Photo Point*

- Wetland Plot
- Upland Plot

Delineated Features**

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

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

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

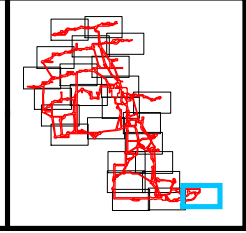


Figure A-4.25
 Delineation Results
 Sweetland Wind Farm Project
 Hand County, South Dakota

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-001
 Investigator(s): R. Williams, A. Woehler Section, Township, Range: S2, T110N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356267 Long: -98.743979 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed?
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wetland sample plot located in emergent (PEM) wetland (W)-001.
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: 30')																		
1. <u>Salix bebbiana</u>	20 %	Y	FACW	Dominance Test Worksheet: Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
	20 %	= Total Cover																
Sapling/Shrub Stratum (Plot size: 15')																		
1. _____	%	_____	_____	Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species _____ %</td> <td>x 1 = _____ 0</td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = _____ 0</td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = _____ 0</td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = _____ 0</td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = _____ 0</td> </tr> <tr> <td>Column Totals: _____ 0 % (A)</td> <td>_____ 0 (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = _____	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)
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)																	
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
	0 %	= Total Cover																
Herb Stratum (Plot size: 5')																		
1. <u>Hordeum jubatum</u>	30 %	Y	FACW	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
2. <u>Eleocharis palustris</u>	20 %	Y	OBL															
3. <u>Phalaris arundinacea</u>	20 %	Y	FACW															
4. <u>Ambrosia artemisiifolia</u>	10 %	N	FACU															
5. <u>Bromus arvensis</u>	10 %	N	FACU															
6. <u>Pascopyrum smithii</u>	10 %	N	FACU															
7. <u>Leersia oryzoides</u>	10 %	N	OBL															
8. <u>Dactylis glomerata</u>	5 %	N	FACU															
9. <u>Xanthium strumarium</u>	5 %	N	FAC															
10. <u>Rumex crispus</u>	5 %	N	FAC															
11. <u>Vernonia fasciculata</u>	5 %	N	FAC															
12. <u>Medicago lupulina</u>	2 %	N	FACU															
	132 %	= Total Cover																
Woody Vine Stratum (Plot size: 30')																		
1. _____	%	_____	_____	Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No														
2. _____	%	_____	_____															
	0 %	= Total Cover																
Bare Ground in Herb Stratum <u>15 %</u>																		

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

SOIL

Sampling Point: SP-001

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: <u>gravel</u> Depth (inches): <u>14</u></p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
---	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>	
<p><u>Other Primary Indicators:</u></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			

<p>Field Observations:</p> <table border="0"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-002
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S9, T110N, R66W
 Landform (hillslope, terrace, etc.) sideslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356196 Long: -98.743919 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: PEM1A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot adjacent to PEM W-001.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
	<u>0</u> %	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> % (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0</u> % (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0</u> % (A)	<u>0</u> (B)																	
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
	<u>0</u> %	= Total Cover																
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Bromus arvensis</u>	60 %	Y	FACU															
2. <u>Bromus inermis</u>	20 %	Y	UPL															
3. <u>Asclepias syriaca</u>	10 %	N	UPL															
4. <u>Cirsium arvense</u>	5 %	N	FACU															
5. <u>Medicago lupulina</u>	2 %	N	FACU															
6. _____	_____ %	_____	_____															
7. _____	_____ %	_____	_____															
8. _____	_____ %	_____	_____															
9. _____	_____ %	_____	_____															
10. _____	_____ %	_____	_____															
	<u>97</u> %	= Total Cover																
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
	<u>0</u> %	= Total Cover																
Bare Ground in Herb Stratum <u>30</u> %																		

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

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: SP-002

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: compact rock Depth (inches): 5

Hydric Soil Present?

Yes No

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No wetland hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-003
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356198 Long: -98.745270 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Sample plot located in forested (PFO) W-002.
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30'</u>)				Dominance Test Worksheet: Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)														
1. <u>Salix bebbiana</u>	<u>60 %</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Populus deltoides</u>	<u>20 %</u>	<u>Y</u>	<u>FAC</u>															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
	<u>80 %</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </tbody> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
	<u>0 %</u>	= Total Cover																
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Phalaris arundinacea</u>	<u>30 %</u>	<u>Y</u>	<u>FACW</u>															
2. <u>Carex sp.*</u>	<u>15 %</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Dactylis glomerata</u>	<u>10 %</u>	<u>N</u>	<u>FACU</u>															
4. <u>Plantago major</u>	<u>10 %</u>	<u>N</u>	<u>FAC</u>															
5. <u>Juncus torreyi</u>	<u>5 %</u>	<u>N</u>	<u>FACW</u>															
6. <u>Hordeum jubatum</u>	<u>5 %</u>	<u>N</u>	<u>FACW</u>															
7. <u>Rumex crispus</u>	<u>2 %</u>	<u>N</u>	<u>FAC</u>															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
10. _____	%	_____	_____															
	<u>77 %</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
	<u>0 %</u>	= Total Cover																
Bare Ground in Herb Stratum <u>50 %</u>																		

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

SOIL

Sampling Point: SP-003

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: gravel Depth (inches): 10

Hydric Soil Present?

Yes No

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>surface</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-004
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 7 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.356105 Long: -98.745013 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: PEM1A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot adjacent to PFO W-002.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
= Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0</u> % (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0</u> % (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0</u> % (A)		<u>0</u> (B)																													
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
= Total Cover																																
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Bromus tectorum</u>	90 %	Y	UPL																													
2. <u>Asclepias asperula</u>	5 %	N	UPL																													
3. <u>Convolvulus arvensis</u>	2 %	N	UPL																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
6. _____	_____ %	_____	_____																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
= Total Cover																																
Woody Vine Stratum (Plot size: <u>30'</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
= Total Cover																																
Bare Ground in Herb Stratum <u>20</u> %																																
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																
Remarks: No test is met. Photograph C-4.																																

SOIL

Sampling Point: SP-004

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: gravel/fill Depth (inches): 6

Hydric Soil Present?

Yes No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No wetland hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-005
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S10, T110N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355893 Long: -98.748020 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Sample plot located in PEM W-003.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
= Total Cover	0 %																	
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ %</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = _____	FACW species _____ %	x 2 = _____	FAC species _____ %	x 3 = _____	FACU species _____ %	x 4 = _____	UPL species _____ %	x 5 = _____	Column Totals: _____ %	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = _____																	
FACW species _____ %	x 2 = _____																	
FAC species _____ %	x 3 = _____																	
FACU species _____ %	x 4 = _____																	
UPL species _____ %	x 5 = _____																	
Column Totals: _____ %	(A) _____ (B) _____																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
= Total Cover	0 %																	
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No														
1. <u>Spartina pectinata</u>	90 %	Y	FACW															
2. <u>Eleocharis palustris</u>	20 %	N	OBL															
3. <u>Juncus sp.*</u>	5 %	N	FAC															
4. <u>Hordeum jubatum</u>	2 %	N	FACW															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
10. _____	%	_____	_____															
= Total Cover	117 %																	
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
= Total Cover	0 %																	
Bare Ground in Herb Stratum <u>5 %</u>																		
Remarks: Dominance test is met. *Juncus species could not be identified past genus. In this region most juncus species have an indicator of FAC or wetter, therefore, an indicator of FAC is assumed. Photograph C-5.																		

SOIL

Sampling Point: SP-005

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

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

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>surface</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>surface</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-006
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S10, T110N, R66W
 Landform (hillslope, terrace, etc.) sideslope Local relief (concave, convex, none): convex Slope (%): 10 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355933 Long: -98.748054 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot adjacent to PEM W-003.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																																			
Tree Stratum	(Plot size: <u>30'</u>)				Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																																			
1.		%																																						
2.		%																																						
3.		%																																						
4.		%																																						
		<u>0</u> %	= Total Cover																																					
Sapling/Shrub Stratum	(Plot size: <u>15'</u>)																																							
1.		%																																						
2.		%																																						
3.		%																																						
4.		%																																						
5.		%																																						
		<u>0</u> %	= Total Cover																																					
Herb Stratum	(Plot size: <u>5'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 10%;"></td> <td style="width: 10%; text-align: center;">Multiply by:</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">%</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">%</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">%</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">%</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">%</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0</u> %</td> <td>(A)</td> <td style="text-align: center;"><u>0</u></td> <td>(B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:		Multiply by:			OBL species	%	x 1 =	<u>0</u>		FACW species	%	x 2 =	<u>0</u>		FAC species	%	x 3 =	<u>0</u>		FACU species	%	x 4 =	<u>0</u>		UPL species	%	x 5 =	<u>0</u>		Column Totals:	<u>0</u> %	(A)	<u>0</u>	(B)
Total % Cover of:		Multiply by:																																						
OBL species	%	x 1 =	<u>0</u>																																					
FACW species	%	x 2 =	<u>0</u>																																					
FAC species	%	x 3 =	<u>0</u>																																					
FACU species	%	x 4 =	<u>0</u>																																					
UPL species	%	x 5 =	<u>0</u>																																					
Column Totals:	<u>0</u> %	(A)	<u>0</u>	(B)																																				
1.	<u><i>Bromus inermis</i></u>	<u>70</u> %	<u>Y</u>	<u>UPL</u>																																				
2.	<u><i>Bromus arvensis</i></u>	<u>20</u> %	<u>Y</u>	<u>FACU</u>																																				
3.	<u><i>Bromus tectorum</i></u>	<u>5</u> %	<u>N</u>	<u>UPL</u>																																				
4.	<u><i>Portulaca pilosa</i></u>	<u>2</u> %	<u>N</u>	<u>FACU</u>																																				
5.		%																																						
6.		%																																						
7.		%																																						
8.		%																																						
9.		%																																						
10.		%																																						
		<u>97</u> %	= Total Cover																																					
Woody Vine Stratum	(Plot size: <u>30'</u>)																																							
1.		%																																						
2.		%																																						
		<u>0</u> %	= Total Cover																																					
Bare Ground in Herb Stratum <u>30</u> %																																								
Remarks: No test is met. Photograph C-6.																																								
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																								

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-007
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): none Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355943 Long: -98.756938 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-004.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)														
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">Total % Cover of:</td> <td style="width: 50%; text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																	
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Phalaris arundinacea</u>	90 %	Y	FACW															
2. <u>Pericaria amphibia</u>	10 %	N	OBL															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
6. _____	_____ %	_____	_____															
7. _____	_____ %	_____	_____															
8. _____	_____ %	_____	_____															
9. _____	_____ %	_____	_____															
10. _____	_____ %	_____	_____															
	<u>100 %</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30'</u>)																		
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Bare Ground in Herb Stratum <u>20 %</u>																		

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

SOIL

Sampling Point: SP-007

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: Hydric soil indicators F6 and F7 are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-008
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S3, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.355968 Long: -98.756745 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot adjacent to PEM W-004.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
<u>0 %</u> = Total Cover				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u></td> <td>(A)</td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u>	(A)	<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u>	(A)	<u>0</u> (B)																													
<u>0 %</u> = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15'</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
<u>0 %</u> = Total Cover																																
Herb Stratum (Plot size: <u>5'</u>)																																
1. <u>Bromus inermis</u>	<u>85 %</u>	<u>Y</u>	<u>UPL</u>																													
2. <u>Persicaria sp. *</u>	<u>5 %</u>	<u>N</u>	<u>FAC</u>																													
3. <u>Bromus arvensis</u>	<u>5 %</u>	<u>N</u>	<u>FACU</u>																													
4. <u>Medicago lupulina</u>	<u>2 %</u>	<u>N</u>	<u>FACU</u>																													
5. _____	_____ %	_____	_____																													
6. _____	_____ %	_____	_____																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
<u>97 %</u> = Total Cover																																
Woody Vine Stratum (Plot size: <u>30'</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
<u>0 %</u> = Total Cover																																
Bare Ground in Herb Stratum <u>20 %</u>																																
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																																
Remarks: Hydrophytic vegetation is not present. * Persicaria species could not be identified past genus. Most of the species in this region have an indicator of FAC or wetter, therefore, an indicator of FAC is assumed. Photograph C-8.																																

SOIL

Sampling Point: SP-008

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

Depth (inches)	Matrix		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	

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No hydrology indicator is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-009
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S9, T110N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.351336 Long: -98.775405 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-005.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>2 (A)</u> Total Number of Dominant Species Across All Strata: <u>2 (B)</u> Percent of Dominant Species that are OBL, FACW, or FAC: <u>100% (A/B)</u>																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u></td> <td>(A)</td> <td style="text-align: center;"><u>0 (B)</u></td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u>	(A)	<u>0 (B)</u>
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u>	(A)	<u>0 (B)</u>																													
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Schoenoplectus fluviatilis</u>	50 %	Y	OBL																													
2. <u>Xanthium strumarium</u>	20 %	Y	FAC																													
3. <u>Hordeum jubatum</u>	5 %	N	FACW																													
4. <u>Rumex crispus</u>	2 %	N	FAC																													
5. <u>Ambrosia artemisiifolia</u>	2 %	N	FACU																													
6. <u>Bromus inermis</u>	2 %	N	UPL																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
	<u>81 %</u>	= Total Cover																														
Woody Vine Stratum (Plot size: <u>30'</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Bare Ground in Herb Stratum <u>70 %</u>																																
Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Remarks: Dominance test is met. Photograph C-9.																																

SOIL

Sampling Point: SP-009

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	surface
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/25/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-010
 Investigator(s): R. Williams; A. Woehler Section, Township, Range: S9, T110N, R66W
 Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.351466 Long: -98.775470 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot adjacent to PEM W-005.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
	<u>0</u> %	= Total Cover																														
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0</u> % (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0</u> % (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0</u> % (A)		<u>0</u> (B)																													
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
	<u>0</u> %	= Total Cover																														
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Bromus arvensis</u>	50 %	Y	FACU																													
2. <u>Schedonorus arundinaceus</u>	30 %	Y	FACU																													
3. <u>Bromus inermis</u>	10 %	N	UPL																													
4. <u>Cirsium arvense</u>	5 %	N	FACU																													
5. <u>Erigeron canadensis</u>	5 %	N	FACU																													
6. <u>Xanthium strumarium</u>	5 %	N	FAC																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
	<u>105</u> %	= Total Cover																														
Woody Vine Stratum (Plot size: <u>30'</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
	<u>0</u> %	= Total Cover																														
Bare Ground in Herb Stratum <u>10</u> %																																

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

SOIL

Sampling Point: SP-010

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF 12) <input type="checkbox"/> Other (Explain in Remarks)
--	--	---

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

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
---	--	--	--

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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)
 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? Vegetation Soil Hydrology
 Naturally Problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
<u>0 %</u> = Total Cover				Total Number of Dominant Species Across All Strata: <u>1</u> (B)																												
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:																												
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u> (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table>	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
<u>0 %</u> = Total Cover				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	<p>Hydrophytic Vegetation Indicators:</p> <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Bromus arvensis</u>	<u>60 %</u>	<u>Y</u>	<u>FACU</u>																													
2. <u>Xanthium strumarium</u>	<u>5 %</u>	<u>N</u>	<u>FAC</u>																													
3. <u>Eleocharis compressa</u>	<u>5 %</u>	<u>N</u>	<u>FACW</u>																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
6. _____	_____ %	_____	_____																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
<u>70 %</u> = Total Cover																																
Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index = B/A = _____																												
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
<u>0 %</u> = Total Cover																																
Bare Ground in Herb Stratum <u>60 %</u>				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																												

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

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				

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

SOIL

Sampling Point: SP-501

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	10 %	Y	FACU	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>90 %</u>				

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

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Sample plot located in PEM W-501.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	90 %	Y	FACW	
2. <u>Carex sp.*</u>	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 <u>0 %</u>				

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

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: An upland plot adjacent to PEM W-501.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	70 %	Y	FACU	
2. <u>Euphorbia sp.*</u>	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 <u>20 %</u>				
Remarks: Hydrophytic vegetation is not present. * Euphorbia species could not be identified past genus, no indicator is given. Photograph C-16.				

SOIL

Sampling Point: SP-504

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	--

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 %				
Remarks: No test is met. Photograph C-17.				

SOIL

Sampling Point: SP-505

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	90 %	Y	FACU	
2. <u>Salvia sp.*</u>	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 <u>5 %</u>				
Remarks: Hydrophytic vegetation is not present. * Salvia species could not be identified beyond genus, therefore, no indicator status is listed. Photograph C-18.				

SOIL

Sampling Point: SP-515

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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-Prospers 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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-507.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 <u>10 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-19.				

SOIL

Sampling Point: SP-516

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: An upland plot adjacent to PEM W-507 and PEM W-508.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

SOIL

Sampling Point: SP-517

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-508.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 <u>10 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-21.

SOIL

Sampling Point: SP-518

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 0 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: 15')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				
1. <u>Poa pratensis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-22.

SOIL

Sampling Point: SP-519

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 3/2	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p>(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p>(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-510. No upland sample plot was recorded for W-510 due to adjacent agricultural fields.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Alisma triviale</u>	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 <u>20 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-23.

SOIL

Sampling Point: SP-522

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>8</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 present. Although saturation was observed at a depth of 8 inches, an accompanying water table was not observed. Therefore, indicator A3 is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/26/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-532
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S26, T111N, R67W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.387995 Long: -98.853210 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-515. No upland sample plot was recorded for W-515 due to adjacent agricultural fields.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-24.

SOIL

Sampling Point: SP-532

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>6</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 are present. Although saturation was observed at 6 inches, an accompanying water table was not observed. Therefore, indicator A3 is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/26/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-533
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S23, T111N, R67W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.408279 Long: -98.843908 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Sample plot located in PEM W-517.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 1 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 100% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:
1. _____	%	_____	_____	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 = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Typha latifolia</u>	100 %	Y	OBL	<input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-26.				

SOIL

Sampling Point: SP-533

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators B10, D2, and D5 present. Although saturation was present, an accompanying water table was not observed. Therefore, indicator A3 is not met.

SOIL

Sampling Point: SP-534

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No hydrology indicators present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/26/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-535
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S14, T111N, R67W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.418335 Long: -98.843885 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland confirmation plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				

Remarks: No test is met. Photograph C-28.

SOIL

Sampling Point: SP-535

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Hydrology indicator B10 and D2 present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/26/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-536
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S23, T111N, R67W
 Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.409783 Long: -98.853713 Datum: NAD83
 Soil Map Unit Name: Water NWI Classification: PABFh
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-518.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Hordeum jubatum</u>	60 %	Y	FACW	
2. <u>Panicum maculosum</u>	30 %	Y	FACW	
3. <u>Phalaris arundinacea</u>	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 <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-29.				

SOIL

Sampling Point: SP-536

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-518.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				
1. <u>Poa pratensis</u>	90 %	Y	FACU	
2. <u>Solidago canadensis</u>	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 %				

Remarks: Hydrophytic vegetation is not present. Photograph C-30.

SOIL

Sampling Point: SP-537

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 3/2	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-520.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				
1. <u>Carex vulpinoidea</u>	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 <u>0 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-31.

SOIL

Sampling Point: SP-538

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>1</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-520.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. <u>Lonicera japonica</u>	20 %	Y	FACU	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
20 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	80 %	Y	FACU	
2. <u>Solidago canadensis</u>	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 <u>10 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-32.				

SOIL

Sampling Point: SP-539

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-540
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S15, T111N, R67W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.421106 Long: -98.864751 Datum: NAD83
 Soil Map Unit Name: Hoven silt loam, 0 to 1 percent slopes NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-521.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-33.

SOIL

Sampling Point: SP-540

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-541
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S15, T111N, R67W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.421129 Long: -98.864577 Datum: NAD83
 Soil Map Unit Name: Houdek-Dudley complex, 0 to 2 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plost adjacent to PEM W-521.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 0 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				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 = _____
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: Hydrophytic vegetation is not present. Photograph C-34.

SOIL

Sampling Point: SP-541

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>	
<p><u>Other Indicators:</u></p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicator D2 is present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-542
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.418413 Long: -98.813270 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Sample plot located in PEM W-523.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-36.

SOIL

Sampling Point: SP-542

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>12</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>6</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-543
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
 Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 10 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.418407 Long: -98.813386 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-523.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:
1. _____	%	_____	_____	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 = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Poa pratensis</u>	100 %	Y	FACU	<input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-37.

SOIL

Sampling Point: SP-543

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-544
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.417732 Long: -98.815380 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PABFh
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-524.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Typha latifolia</u>	50 %	Y	OBL	
2. <u>Carex vulpinoidea</u>	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 <u>10 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-38.				

SOIL

Sampling Point: SP-544

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-524.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
	0 %	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1. _____	%	_____	_____	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 = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
	0 %	= Total Cover		
Herb Stratum (Plot size: 5')				
1. <u>Poa pratensis</u>	95 %	Y	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u>Toxicodendron radicans</u>	5 %	N	FACU	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
	100 %	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. _____	%	_____	_____	
	0 %	= Total Cover		
Bare Ground in Herb Stratum <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-39.

SOIL

Sampling Point: SP-545

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-526.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 %				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-40.				

SOIL

Sampling Point: SP-548

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: Hydric soil indicator F6 is present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-526.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 %				
Remarks: Hydrophytic vegetation is not present. Photograph C-41.				

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-550
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S19, T111N, R66W
 Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.407978 Long: -98.812164 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-527.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:
1. _____	%	_____	_____	Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0% (A) _____ 0 (B) Prevalence Index = B/A = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u><i>Alopecurus pratensis</i></u>	80 %	Y	FACW	<input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
2. <u><i>Carex sp. *</i></u>	10 %	N	FAC	
3. <u><i>Persicaria hydropiperoides</i></u>	5 %	N	OBL	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
95 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>5 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. * Carex species could not be identified beyond genus. Carex species in this region are typically facultative or wetter, therefore, indicator is assumed to be FAC. Photograph C-42.

SOIL

Sampling Point: SP-550

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicator D2 and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-551
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S19, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.407936 Long: -98.812115 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-527.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ <u>1</u> (A) Total Number of Dominant Species Across All Strata: _____ <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ <u>50%</u> (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15'</u>)				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = <u>0</u> FACW species _____ % x 2 = <u>0</u> FAC species _____ % x 3 = <u>0</u> FACU species _____ % x 4 = <u>0</u> UPL species _____ % x 5 = <u>0</u> Column Totals: _____ <u>0</u> % (A) _____ <u>0</u> (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	<u>60</u> %	<u>Y</u>	<u>FACU</u>	
2. <u>Alopecurus pratensis</u>	<u>20</u> %	<u>Y</u>	<u>FACW</u>	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
80 % = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>20</u> %				

Remarks: Hydrophytic vegetation is not present. Photograph C-43.

SOIL

Sampling Point: SP-551

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 1 (A) Total Number of Dominant Species Across All Strata: _____ 2 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 50% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	60 %	Y	FACU	
2. <u>Alopecurus pratensis</u>	20 %	Y	FACW	
3. <u>Salvia sp.*</u>	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 <u>10 %</u>				
Remarks: Hydrophytic vegetation is not present. * Salvia species could not be identified past genus, therefore, no indicator status is listed. Photograph C-44.				

SOIL

Sampling Point: SP-552

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-561
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S30, T111N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.394612 Long: -98.806047 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-533.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Persicaria maculosa</u>	60 %	Y	FACW	
2. <u>Rumex crispus</u>	20 %	Y	FAC	
3. <u>Carex vulpinoidea</u>	10 %	N	FACW	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
90 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>10 %</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks: Dominance test for hydrophytic vegetation is met. Photograph C-45.				

SOIL

Sampling Point: SP-561

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					Silty Loam	
4-18	10YR 3/2	95	10YR 4/6	5	C	M	Silty Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

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

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="0"> <tr> <td></td> <td>Yes</td> <td>No</td> <td>Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-562
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S30, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): _____ Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.394736 Long: -98.806108 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot associated with PEM W-533.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	90 %	Y	FACU	
2. <u>Solidago canadensis</u>	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 <u>5 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-46.				

SOIL

Sampling Point: SP-562

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/27/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-570
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S18, T111N, R66W
 Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.413980 Long: -98.804757 Datum: NAD83
 Soil Map Unit Name: Glenham loam, rolling NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-537.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Typha latifolia</u>	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 <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-47.				

SOIL

Sampling Point: SP-570

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to W-537.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-48.

SOIL

Sampling Point: SP-571

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>	
<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-574
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.393359 Long: -98.798896 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-539.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 1 (A) Total Number of Dominant Species Across All Strata: _____ 2 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 50% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ 10 % x 1 = _____ 10 FACW species _____ 40 % x 2 = _____ 80 FAC species _____ 0 % x 3 = _____ 0 FACU species _____ 70 % x 4 = _____ 280 UPL species _____ 0 % x 5 = _____ 0 Column Totals: _____ 120 % (A) _____ 370 (B) Prevalence Index = B/A = _____ 3.08
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Poa pratensis</u>	70 %	Y	FACU	
2. <u>Alopecurus pratensis</u>	40 %	Y	FACW	
3. <u>Alisma triviale</u>	10 %	N	OBL	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
120 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks: Problematic hydrophytic vegetation is present based upon plot being located within an actively grazed pasture. The positive presence of hydric soil and wetland hydrology indicate that hydrophytic vegetation would be present if grazing activities ceased. Photograph C-49.				

SOIL

Sampling Point: SP-574

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	
8-18	10YR 3/2	80	10YR 5/6	20	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-575
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.393303 Long: -98.798899 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-539.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	80 %	Y	FACU	
2. <u>Salvia sp.*</u>	5 %	N	-	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
85 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>15 %</u>				
Remarks: Hydrophytic vegetation is not present. *Salvia species could not be identified beyond genus, therefore, no indicator status is listed. Photograph C-50.				

SOIL

Sampling Point: SP-575

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-576
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.395699 Long: -98.796411 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-540.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	100 %	Y	FACW	
2. <u>Carex vulpinoidea</u>	10 %	N	FACW	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
110 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-51.				

SOIL

Sampling Point: SP-576

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-577
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 15 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.395702 Long: -98.796500 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed?
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-540.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				
1. <u>Poa pratensis</u>	60 %	Y	FACU	
2. <u>Solidago canadensis</u>	30 %	Y	FACU	
3. <u>Salvia sp.*</u>	5 %	N	-	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
95 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum 5 %				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks: Hydrophytic vegetation is not present. *Salvia species could not be identified beyond genus, therefore, no indicator status is listed. Photograph C-52.				

SOIL

Sampling Point: SP-577

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Compacted Depth (inches): 8

Hydric Soil Present?

Yes No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-588
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.390492 Long: -98.801447 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-546.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 <u>0 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-53.

SOIL

Sampling Point: SP-588

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	90	10YR 4/6	10	C	M	Silty Clay	
4-14	10YR 3/2	85	10YR 5/6	15	C	M	Silty Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Compacted Depth (inches): 14

Hydric Soil Present?

Yes No

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-589
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.390364 Long: -98.801324 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-546.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	100 %	Y	FACU	
2. <u>Asclepias speciosa</u>	5 %	N	FAC	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
105 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum 0 %				
Remarks: Hydrophytic vegetation is not present. Photograph C-54.				

SOIL

Sampling Point: SP-589

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 3/2	100					Silt Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: Compacted Depth (inches): 14

Hydric Soil Present?

Yes No

Remarks: No hydric soil indicator is present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

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

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-590
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S24, T111N, R67W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.412609 Long: -98.825605 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-547.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-55.

SOIL

Sampling Point: SP-590

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 3/2	90	10YR 4/6	10	C	M	Clay Loam	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains						² Location: PL=Pore Lining, M=Matrix		

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	--

<p>Restrictive Layer (if present):</p> <p>Type: <u>Compacted</u> Depth (inches): <u>10</u></p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
---	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>			<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>																						
<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>				Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>		
	Yes	No	Depth (inches)																						
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																						
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																						
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																						
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																							

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-591
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S24, T111N, R67W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.412711 Long: -98.825603 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-547.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>20 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-56.

SOIL

Sampling Point: SP-591

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-548.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Persicaria maculosa</u>	60 %	Y	FACW	
2. <u>Typha latifolia</u>	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 <u>10 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-57.

SOIL

Sampling Point: SP-592

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>1</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-548.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 1 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 100% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Phalaris arundinacea</u>	90 %	Y	FACW	
2. <u>Solidago canadensis</u>	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 <u>0 %</u>				

Remarks: Dominance test is met. Photograph C-58.

SOIL

Sampling Point: SP-593

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

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

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)		Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF 12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic
---	--	---

Restrictive Layer (if present): Type: <u>Compacted</u> Depth (inches): <u>10</u>	Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	--

Remarks: No hydric soil indicator is present. Naturally problematic soil due to compaction at 10 inches.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (2 or more required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
--	--	---

Field Observations:	Yes No Depth (inches)	Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
Surface Water present?	<input type="checkbox"/> <input checked="" type="checkbox"/> _____	
Water Table present?	<input type="checkbox"/> <input checked="" type="checkbox"/> _____	
Saturation Present? (includes capillary fringe)	<input type="checkbox"/> <input checked="" type="checkbox"/> _____	
Wetland Hydrology Present?	<input type="checkbox"/> <input checked="" type="checkbox"/> _____	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-550.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-59.

SOIL

Sampling Point: SP-596

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-550.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				
1. <u>Poa pratensis</u>	90 %	Y	FACU	
2. <u>Solidago canadensis</u>	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 <u>5 %</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Remarks: Hydrophytic vegetation is not present. Photograph C-60.				

SOIL

Sampling Point: SP-597

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-61.

SOIL

Sampling Point: SP-600

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	100					Silt Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

<p>Restrictive Layer (if present):</p> <p>Type: <u>Compacted</u> Depth (inches): <u>12</u></p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-602
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S11, T111N, R67W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.437189 Long: -98.858378 Datum: NAD83
 Soil Map Unit Name: Glenham-Prospers 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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-552.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Alisma triviale</u>	60 %	Y	OBL	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
60 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>40 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-62.

SOIL

Sampling Point: SP-602

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

Depth (inches)	Matrix		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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>8</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 6/28/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-603
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S11, T111N, R67W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.437162 Long: -98.858469 Datum: NAD83
 Soil Map Unit Name: Glenham-Prospers 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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-552.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-63.				

SOIL

Sampling Point: SP-603

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 3/2	100					Silt Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-554.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	90 %	Y	FACW	
2. <u>Xanthium strumarium</u>	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 <u>5 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-64.

SOIL

Sampling Point: SP-606

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					silty clay loam	
2-8	10YR 2/2	90	10YR 5/4	10	C	M	clay	
8-20	10YR 5/1	60	10YR 2/2	30	C	M	clay	
			10YR 5/4	10	C	M		

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

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

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

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF 12)
<input type="checkbox"/> Other (Explain in Remarks)

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

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

Hydric Soil Present?
 Yes No

Remarks: Hydric soil indicator F3 and F6 are met.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-554.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index Worksheet:
1. _____	%	_____	_____	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 = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Bromus inermis</u>	50 %	Y	UPL	<input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. <u>Poa pratensis</u>	50 %	Y	FACU	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Bare Ground in Herb Stratum
1. _____	%	_____	_____	0 %
2. _____	%	_____	_____	
0 % = Total Cover				

Remarks: Hydrophytic vegetation is not present. Photograph C-65.

SOIL

Sampling Point: SP-607

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	--

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: No wetland hydrology indicators are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-608
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S32, T111N, R66W
 Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.381944 Long: -98.782854 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-555.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Poa palustris</u>	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 <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-66.				

SOIL

Sampling Point: SP-608

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					silty clay loam	
2-8	10YR 2/1	90	10YR 5/4	10	C	M	clay	
8-20	10YR 5/1	60	10YR 2/2	30	C	M	clay	
			10YR 5/4	10	C	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators B10, D2, and D5 are met. Saturation was observed at a depth of 10 inches, however, an accompanying water table was not observed. Therefore, indicator A3 is not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-609
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S32, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): _____ Slope (%): 10 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.381918 Long: -98.782909 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot associated with PEM W-555.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-67.

SOIL

Sampling Point: SP-609

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/3	100					Clay Loam	
8-20	10YR 3/4	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>	
<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>			

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-68.				

SOIL

Sampling Point: SP-612

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/3	100					Clay Loam	
8-20	10YR 3/4	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>10 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-69.				

SOIL

Sampling Point: SP-615

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-558.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 %				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-70.				

SOIL

Sampling Point: SP-616

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 3/2	100					Clay Loam	
6-18	10YR 3/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-558.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	65 %	Y	UPL	
2. <u>Poa pratensis</u>	15 %	N	FACU	
3. <u>Spartina pectinata</u>	10 %	N	FACW	
4. <u>Trifolium repens</u>	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 <u>5 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-71.

SOIL

Sampling Point: SP-617

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	--

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-618
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.402504 Long: -98.801104 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-559.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-72.

SOIL

Sampling Point: SP-618

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-619
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S20, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 7 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.402410 Long: -98.801110 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-559.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-73.

SOIL

Sampling Point: SP-619

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-620
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.397647 Long: -98.800335 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-560.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ <u>3</u> (A) Total Number of Dominant Species Across All Strata: _____ <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ <u>100%</u> (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = <u>0</u> FACW species _____ % x 2 = <u>0</u> FAC species _____ % x 3 = <u>0</u> FACU species _____ % x 4 = <u>0</u> UPL species _____ % x 5 = <u>0</u> Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Hordeum jubatum</u>	50 %	Y	FACW	
2. <u>Xanthium strumarium</u>	30 %	Y	FAC	
3. <u>Persicaria maculosa</u>	20 %	Y	FACW	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0</u> %				

Remarks: Dominance test is met. Photograph C-74.

SOIL

Sampling Point: SP-620

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input checked="" type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	--

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

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	--	---

<p>Field Observations:</p> <table border="0"> <tr> <td></td> <td>Yes</td> <td>No</td> <td>Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-621
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.397585 Long: -98.800258 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-560.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 %				

Remarks: Hydrophytic vegetation is not present. Photograph C-75.

SOIL

Sampling Point: SP-621

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	--

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-622
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.396015 Long: -98.799784 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-561.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 3 (A) Total Number of Dominant Species Across All Strata: _____ 3 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 100% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Hordeum jubatum</u>	50 %	Y	FACW	
2. <u>Xanthium strumarium</u>	30 %	Y	FAC	
3. <u>Persicaria maculosa</u>	20 %	Y	FACW	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				

Remarks: Dominance test is met. Photograph C-76.

SOIL

Sampling Point: SP-622

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF 12) <input type="checkbox"/> Other (Explain in Remarks)

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

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

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: <table border="0"> <tr> <td></td> <td>Yes</td> <td>No</td> <td>Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-623
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S29, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.395976 Long: -98.799820 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-561.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				
1. _____	%	_____	_____	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 = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				
1. <u>Bromus inermis</u>	100 %	Y	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-77.

SOIL

Sampling Point: SP-623

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>	<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-624
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
 Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.378129 Long: -98.802694 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1Cd
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-562.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 3 (A) Total Number of Dominant Species Across All Strata: _____ 3 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 100% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Hordeum jubatum</u>	50 %	Y	FACW	
2. <u>Xanthium strumarium</u>	30 %	Y	FAC	
3. <u>Persicaria maculosa</u>	20 %	Y	FACW	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				

Remarks: Dominance test is met. Photograph C-78.

SOIL

Sampling Point: SP-624

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)		<p>Indicators for Problematic Hydric Soils³:</p> <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF 12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic
--	--	---

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

Remarks: Hydric soil indicator F3 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Water-Stained Leaves (B9)		<p><u>Secondary Indicators (2 or more required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)
--	--	--

<p>Field Observations:</p> <table border="0"> <tr> <td></td> <td>Yes</td> <td>No</td> <td>Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-625
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.378079 Long: -98.802709 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1Cd
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-562.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-79.				

SOIL

Sampling Point: SP-625

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-626
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
 Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.377976 Long: -98.802486 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1Cd
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-563.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	90 %	Y	FACW	
2. <u>Poa pratensis</u>	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 %				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-80.

SOIL

Sampling Point: SP-626

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-627
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
 Landform (hillslope, terrace, etc.) hillslope Local relief (concave, convex, none): convex Slope (%): 10 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.377982 Long: -98.802443 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1Cd
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-563.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 0 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				Percent of Dominant Species that are OBL, FACW, or FAC: _____ 0% (A/B)
Sapling/Shrub Stratum (Plot size: 15')				
1. _____	%	_____	_____	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 = _____
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				
1. <u>Bromus inermis</u>	100 %	Y	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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 <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-81.				

SOIL

Sampling Point: SP-627

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

<p>Restrictive Layer (if present):</p> <p>Type: <u>rock</u> Depth (inches): <u>10</u></p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
---	---

Remarks: No hydric soil indicator is present. Naturally problematic soil due to presence of rock.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p style="text-align: center;">(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	--

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-630
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
 Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.370374 Long: -98.807992 Datum: NAD83
 Soil Map Unit Name: Glenham loam, undulating NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PFO W-564.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. <u>Fraxinus pennsylvanica</u>	40 %	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
40 % = Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = <u>0</u> FACW species _____ % x 2 = <u>0</u> FAC species _____ % x 3 = <u>0</u> FACU species _____ % x 4 = <u>0</u> UPL species _____ % x 5 = <u>0</u> Column Totals: <u>0</u> % (A) <u>0</u> (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Phalaris arundinacea</u>	65 %	Y	FACW	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
65 % = Total Cover				
Woody Vine Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>35 %</u>				

Remarks: Dominance test is met. Photograph C-82.

SOIL

Sampling Point: SP-630

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR 2/1	100					Clay Loam	
6-20	10YR 2/1	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-631
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S31, T111N, R66W
 Landform (hillslope, terrace, etc.) roadside ditch Local relief (concave, convex, none): concave Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.370393 Long: -98.808085 Datum: NAD83
 Soil Map Unit Name: Glenham loam, undulating NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PFO W-564.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. <u>Fraxinus pennsylvanica</u>	10 %	Y	FAC	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
10 % = Total Cover				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = <u>0</u> FACW species _____ % x 2 = <u>0</u> FAC species _____ % x 3 = <u>0</u> FACU species _____ % x 4 = <u>0</u> UPL species _____ % x 5 = <u>0</u> Column Totals: <u>0</u> % (A) <u>0</u> (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: 15')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				
1. <u>Bromus inermis</u>	100 %	Y	UPL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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 <u>0</u> %				

Remarks: Hydrophytic vegetation is not present. Photograph C-83.

SOIL

Sampling Point: SP-631

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

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

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

<p>Restrictive Layer (if present):</p> <p>Type: <u>rock</u> Depth (inches): <u>10</u></p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
---	---

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	--

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicator D2 is met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/16/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-634
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S33, T111N, R66W
 Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.373034 Long: -98.779054 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-566.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0% (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Eleocharis obtusa</u>	35 %	Y	OBL	
2. <u>Spartina pectinata</u>	25 %	Y	FACW	
3. <u>Alisma gramineum</u>	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 <u>35 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-84.				

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-566.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 %				
Remarks: Hydrophytic vegetation is not present. Photograph C-85.				

SOIL

Sampling Point: SP-635

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-636
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T111N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.368141 Long: -98.812193 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: PEM1Cd
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-567.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 <u>10 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-86.

SOIL

Sampling Point: SP-636

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0.5</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-637
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.368079 Long: -98.812289 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: PEM1Cd
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Yes No
 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	Remarks: Upland sample plot adjacent to PEM W-567.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	100 %	Y	UPL	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-87.				

SOIL

Sampling Point: SP-637

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-638
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.363958 Long: -98.812295 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-568.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

SOIL

Sampling Point: SP-638

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators B10 and D2 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-639
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.363883 Long: -98.812218 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-568.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-89.

SOIL

Sampling Point: SP-639

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-640
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362386 Long: -98.812630 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-569.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

SOIL

Sampling Point: SP-640

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-641
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362503 Long: -98.812687 Datum: NAD83
 Soil Map Unit Name: Glenham-Java loams, rolling NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-569.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-91.

SOIL

Sampling Point: SP-641

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-642
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) pothole Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.358548 Long: -98.812210 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PAB/EM1F
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-570.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

SOIL

Sampling Point: SP-642

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100					Clay Loam	
2-20	10YR 6/1	80	10YR 4/1	10	D	M	Clay Loam	
			10YR 4/6	10	C	M		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>1</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-643
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.358708 Long: -98.812227 Datum: NAD83
 Soil Map Unit Name: Glenham loam, undulating NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-570.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-93.				

SOIL

Sampling Point: SP-643

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-646
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S7, T110N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.349727 Long: -98.803170 Datum: NAD83
 Soil Map Unit Name: Glenham-Cavo loams, undulating NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-573.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-94.

SOIL

Sampling Point: SP-646

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 5/2	95	10YR 4/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>6</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

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

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-647
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S7, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.349755 Long: -98.803094 Datum: NAD83
 Soil Map Unit Name: Glenham-Cavo loams, undulating NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-573.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

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

Remarks: Hydrophytic vegetation is not present. Photograph C-95.

SOIL

Sampling Point: SP-647

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p style="text-align: center;">(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-658
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S10, T110N, R66W
 Landform (hillslope, terrace, etc.) drainage Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.353970 Long: -98.746007 Datum: NAD83
 Soil Map Unit Name: Betts-Java loams, steep NWI Classification: PEM1A
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-579.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Hordeum jubatum</u>	50 %	Y	FACW	
2. <u>Spartina pectinata</u>	45 %	Y	FACW	
3. <u>Typha angustifolia</u>	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 <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-97.				

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-579.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Poa pratensis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-98.

SOIL

Sampling Point: SP-659

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-580.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 %				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-99.				

SOIL

Sampling Point: SP-660

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1	100					mucky clay	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input checked="" type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

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

Remarks: Hydric soil indicator F1 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input checked="" type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	--

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-580.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 0 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				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 = _____
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				
0 % = Total Cover				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Remarks: Hydrophytic vegetation is not present. Photograph C-100.

SOIL

Sampling Point: SP-661

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16)</p> <p>(LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	--

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

Remarks: No hydric soil indicator is present.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p>(where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)</p> <p>(where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	---	--

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-662
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S4, T110N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 2 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362234 Long: -98.780918 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-581.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
	0 %	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	80 %	Y	FACW	
2. <u>Solidago gigantea</u>	30 %	Y	FAC	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
10. _____	%	_____	_____	
	110 %	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
	0 %	= Total Cover		
Bare Ground in Herb Stratum <u>0 %</u>				
Remarks: Dominance test is met. Photograph C-101.				

SOIL

Sampling Point: SP-662

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-663
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S4, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 4 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.362340 Long: -98.781045 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-581.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 <u>0 %</u>				

Remarks: Hydrophytic vegetation is not present. Photograph C-102.

SOIL

Sampling Point: SP-663

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 1 (A) Total Number of Dominant Species Across All Strata: _____ 1 (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ 100% (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				
1. <u>Echinochloa crus-galli</u>	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 <u>0 %</u>				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
Remarks: Dominance test is met. Photograph C-103.				

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-665
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 3 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.367786 Long: -98.802841 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: PEM1C
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-583.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Spartina pectinata</u>	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 <u>0 %</u>				
Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-104.				

SOIL

Sampling Point: SP-665

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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

Remarks: Wetland hydrology indicators D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Project City/County: Hand County Sampling Date: 10/17/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-666
 Investigator(s): T. Beemer, W. Hirst Section, Township, Range: S6, T110N, R66W
 Landform (hillslope, terrace, etc.) toeslope Local relief (concave, convex, none): none Slope (%): 5 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.367701 Long: -98.802809 Datum: NAD83
 Soil Map Unit Name: Tetonka silt loam, 0 to 1 percent slopes NWI Classification: NA
 Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-583.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	100 %	Y	UPL	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
6. _____	%	_____	_____	
7. _____	%	_____	_____	
8. _____	%	_____	_____	
9. _____	%	_____	_____	
100 % = Total Cover				
Woody Vine Stratum (Plot size: 30')				
1. _____	%	_____	_____	
2. _____	%	_____	_____	
0 % = Total Cover				
Bare Ground in Herb Stratum <u>0 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-105.				

SOIL

Sampling Point: SP-666

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Wetland sample plot located in PEM W-584.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				Prevalence Index Worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ % x 1 = _____ FACW species _____ % x 2 = _____ FAC species _____ % x 3 = _____ FACU species _____ % x 4 = _____ UPL species _____ % x 5 = _____ Column Totals: _____ 0 % (A) _____ 0 (B) Prevalence Index = B/A = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
5. _____	%	_____	_____	
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
1. <u>Phalaris arundinacea</u>	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 <u>0 %</u>				

Remarks: Rapid test for hydrophytic vegetation is met. Photograph C-106.

SOIL

Sampling Point: SP-667

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

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

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
 - Coast Prairie Redox (A16) (**LRR F, G, H**)
 - Dark Surface (S7) (**LRR G**)
 - High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
 - Reduced Vertic (F18)
 - Red Parent Material (TF2)
 - Very Shallow Dark Surface (TF 12)
 - Other (Explain in Remarks)
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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 Are "Normal Circumstances" present? Yes No
 Significantly Disturbed? (If needed, explain any answers in Remarks.)
 Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot adjacent to PEM W-584.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	20 %	Y	UPL	
2. <u>Setaria pumila</u>	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 <u>60 %</u>				
Remarks: Hydrophytic vegetation is not present. Photograph C-107.				

SOIL

Sampling Point: SP-668

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Clay Loam	
8-20	10YR 3/3	100					Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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.)

Significantly Disturbed? Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No
 Naturally Problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: Upland sample plot.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ 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)
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Sapling/Shrub Stratum (Plot size: 15')				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 = _____
1. _____	%	_____	_____	
2. _____	%	_____	_____	
3. _____	%	_____	_____	
4. _____	%	_____	_____	
0 % = Total Cover				
Herb Stratum (Plot size: 5')				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
1. <u>Bromus inermis</u>	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 %				

Remarks: Hydrophytic vegetation is not present. Photograph C-108.

SOIL

Sampling Point: SP-669

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

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

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

²Location: PL=Pore Lining, M=Matrix

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (**LRR I, J**)
- Coast Prairie Redox (A16) (**LRR F, G, H**)
- Dark Surface (S7) (**LRR G**)
- High Plains Depressions (F16) (**LRR H outside of MLRA 72 & 73**)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

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

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/9/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-701
 Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S6, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 1 %
 Subregion (LRR): Northern Great Plains Spring Wheat Lat: 44.443277 Long: -98.815796 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1A

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

	Vegetation	Soil	Hydrology	Are "Normal Circumstances" present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Significantly Disturbed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Naturally Problematic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Remarks: SP-701 is located within W-701, a PEM wetland. Normal conditions are not present due to recent rainfall and disturbance caused by cattle.
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status																													
1. _____	%	_____	_____	Dominance Test Worksheet: Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)																												
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)																																
1. _____	%	_____	_____	Prevalence Index Worksheet: <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">0 % (A)</td> <td></td> <td style="text-align: center;">0 (B)</td> </tr> </table> Prevalence Index = B/A = _____	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)
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)																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
0 % = Total Cover																																
Herb Stratum (Plot size: <u>5 ft.</u>)																																
1. <u>Eleocharis obtusa</u>	45 %	Y	OBL	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
2. <u>Hordeum jubatum</u>	25 %	Y	FACW																													
3. <u>Rumex crispus</u>	25 %	Y	FAC																													
4. <u>Echinochloa crus-galli</u>	5 %	N	FAC																													
5. <u>Xanthium strumarium</u>	5 %	N	FAC																													
6. <u>Helianthus maximiliani</u>	2 %	N	FACU																													
7. _____	%	_____	_____																													
8. _____	%	_____	_____																													
9. _____	%	_____	_____																													
10. _____	%	_____	_____																													
107 % = Total Cover																																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
0 % = Total Cover																																
Bare Ground in Herb Stratum <u>10 %</u>																																

Remarks: The Dominance Test is met. Photograph C-113.

SOIL

Sampling Point: SP-701

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	97	10YR 4/3	3	C	M	silty clay	
2-8	10YR 2/1	100					clay with fine gravel	

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

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

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

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: compacted soil Depth (inches): 8

Hydric Soil Present?

Yes No

Remarks: Soil has been disturbed by cattle. Redox is present however not of a concentration to meet F8 and not of a thickness to meet F6. If cows were removed, it is likely that soil would meet F6, F8, or both.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)
- Salt Crust (B11)
- Aquatic Invertebrates (B13)
- Hydrogen Sulfide Odor (C1)
- Dry-Season Water Table (C2)
- Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- Presence of Reduced Iron (C4)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)
- Frost-Heave Hummocks (D7) **(LRR F)**

Field Observations:

	Yes	No	Depth (inches)
Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2.5</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:

Remarks: Wetland hydrology indicators A1, A2, A3, D2, and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/9/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-702
 Investigator(s): K. Russo, J. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-702 is located adjacent to W-701, a PEM wetland. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
0 % = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Bromus inermis</u>	95 %	Y	UPL															
2. <u>Helianthus maximiliani</u>	3 %	N	FACU															
3. <u>Symphotrichum pilosum</u>	2 %	N	FACU															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
10. _____	%	_____	_____															
100 % = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
0 % = Total Cover																		
Bare Ground in Herb Stratum <u>0 %</u>																		

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-114.

SOIL

Sampling Point: SP-702

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/1	93	10YR 3/4	7	C	M	silty clay loam	
8-16	10YR 3/1	100					clay	
16-22	10YR 2/1	97	10YR 4/1	3	D	M	clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/9/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-703
 Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S6, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.442897 Long: -98.822982 Datum: NAD83
 Soil Map Unit Name: Glenham-propser loams, 1 to 6 percent slopes NWI Classification: PEM1C

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology	Are "Normal Circumstances" present?
Significantly Disturbed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Naturally Problematic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-703 is located within W-702, a PEM wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil has been disturbed by cattle.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> % (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0</u> % (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0</u> % (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Eleocharis obtusa</u>	40 %	Y	OBL															
2. <u>Echinochloa crus-galli</u>	35 %	Y	FAC															
3. <u>Rorippa sylvestris</u>	3 %	N	FACW															
4. <u>Rumex crispus</u>	2 %	N	FAC															
5. <u>Xanthium strumarium</u>	2 %	N	FAC															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
82 % = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
0 % = Total Cover																		
Bare Ground in Herb Stratum <u>18 %</u>																		

Remarks: The Dominance Test is met. Photograph C-115.

SOIL

Sampling Point: SP-703

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	90	10YR 3/4	10	C	M	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>		

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>2</u></td> </tr> <tr> <td>Water Table present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2</u>	Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>2</u>																		
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators A1, A2, A3, D2, and D5 are present.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/9/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-704
 Investigator(s): K. Russo, J. Kensingler Section, Township, Range: S6, T111N, R66W
 Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.442875 Long: -98.822851 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: N/A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-704 is an upland sample plot located adjacent to W-702. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
0 % = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u> (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)																													
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
0 % = Total Cover																																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Bromus inermis</u>	95 %	Y	UPL																													
2. <u>Setaria pumila</u>	5 %	N	FACU																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
6. _____	_____ %	_____	_____																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
100 % = Total Cover																																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
0 % = Total Cover																																
Bare Ground in Herb Stratum <u>0 %</u>																																

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-116.

SOIL

Sampling Point: SP-704

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	97	10YR 4/6	3	C	M	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-705 is an upland sample plot. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0%</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0%</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0%</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Bromus inermis</u>	50 %	Y	UPL															
2. <u>Ambrosia artemisiifolia</u>	15 %	N	FACU															
3. <u>Xanthium strumarium</u>	10 %	N	FAC															
4. <u>Poa pratensis</u>	10 %	N	FACU															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
85 % = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
0 % = Total Cover																		
Bare Ground in Herb Stratum <u>15 %</u>																		

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-117.

SOIL

Sampling Point: SP-705

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	--

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-706 is an upland sample plot. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
	<u>0</u> %	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0</u> % (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0</u> % (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0</u> % (A)	<u>0</u> (B)																	
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
	<u>0</u> %	= Total Cover																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Poa pratensis</u>	95 %	Y	FACU															
2. <u>Echinochloa crus-galli</u>	3 %	N	FAC															
3. <u>Xanthium strumarium</u>	2 %	N	FAC															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
6. _____	_____ %	_____	_____															
7. _____	_____ %	_____	_____															
8. _____	_____ %	_____	_____															
9. _____	_____ %	_____	_____															
10. _____	_____ %	_____	_____															
	<u>100</u> %	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
	<u>0</u> %	= Total Cover																
Bare Ground in Herb Stratum <u>0</u> %																		

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-118.

SOIL

Sampling Point: SP-706

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR F)**
- 1 cm Muck (A9) **(LRR F, G, H)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:

Remarks: Wetland hydrology indicator A2, A3, and D2 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/9/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-707
 Investigator(s): K. Russo, J. Kensingler Section, Township, Range: S7, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428725 Long: -98.818685 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: PEM1A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology	Are "Normal Circumstances" present?
Significantly Disturbed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Naturally Problematic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-707 is a wetland sample plot located in W-703, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil has been disturbed by agricultural practices.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)																												
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u></td> <td>(A)</td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u>	(A)	<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u>	(A)	<u>0</u> (B)																													
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Xanthium strumarium</u>	<u>40 %</u>	<u>Y</u>	<u>FAC</u>																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
6. _____	%	_____	_____																													
7. _____	%	_____	_____																													
8. _____	%	_____	_____																													
9. _____	%	_____	_____																													
10. _____	%	_____	_____																													
	<u>40 %</u>	= Total Cover																														
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																												
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Bare Ground in Herb Stratum <u>60 %</u>																																

Remarks: The Dominance Test is met. Photograph C-119.

SOIL

Sampling Point: SP-707

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/1	97	10YR 4/4	3	C	M	silty clay loam	
8-16	10YR 4/1	90	10YR 3/3	10	C	M	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) **(LRR F)**
- 1 cm Muck (A9) **(LRR F, G, H)**
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) **(LRR G, H)**
- 5 cm Mucky Peat or Peat (S3) **(LRR F)**
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) **(MLRA 72 & 73 of LRR H)**

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) **(LRR I, J)**
- Coast Prairie Redox (A16) **(LRR F, G, H)**
- Dark Surface (S7) **(LRR G)**
- High Plains Depressions (F16) **(LRR H outside of MLRA 72 & 73)**
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>3</u>
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:

Remarks: Wetland hydrology indicator A1, A2, A3, and D2 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/9/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-708
 Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S7, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428708 Long: -98.818716 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: N/A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-708 is an upland sample plot located adjacent to W-703, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural practices.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0%</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0%</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0%</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
0 % = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
1. <u>Glycine max</u>	<u>75 %</u>	<u>Y</u>	<u>UPL</u>															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
10. _____	%	_____	_____															
75 % = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
0 % = Total Cover																		
Bare Ground in Herb Stratum <u>25 %</u>																		

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation observed was agricultural soybean. Photograph C-120.

SOIL

Sampling Point: SP-708

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/10/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-709
 Investigator(s): K. Russo, J. Kensingler Section, Township, Range: S18, T111N, R66W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428725 Long: -98.818685 Datum: NAD83
 Soil Map Unit Name: Hoven silt loam, 0 to 1 percent slopes NWI Classification: PEM1A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

	Vegetation	Soil	Hydrology	Are "Normal Circumstances" present?
Significantly Disturbed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Naturally Problematic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-709 is a wetland sample plot located in W-707, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Spartina pectinata</u>	100 %	Y	FACW															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
100 % = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
0 % = Total Cover																		
Bare Ground in Herb Stratum <u>0 %</u>																		

Remarks: The Rapid Test is met. Photograph C-122.

SOIL

Sampling Point: SP-709

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	95	10YR 4/4	5	C	PL	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
---	--	---	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0.25</u></td> </tr> <tr> <td>Water Table present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0.25</u>	Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0.25</u>																		
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicator A1, A2, A3, C3, D2 and D5 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/10/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-710
 Investigator(s): K. Russo, J. Kensingler Section, Township, Range: S18, T111N, R66W
 Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.428708 Long: -98.818716 Datum: NAD83
 Soil Map Unit Name: Glenham-Propser loams, 1 to 6 percent slopes NWI Classification: N/A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-710 is an upland sample plot located adjaice to W-707, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u> (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)																													
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
0 % = Total Cover																																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Poa pratensis</u>	50 %	Y	FACU																													
2. <u>Bromus inermis</u>	45 %	Y	UPL																													
3. <u>Artemisia biennis</u>	5 %	N	FACU																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
6. _____	%	_____	_____																													
7. _____	%	_____	_____																													
8. _____	%	_____	_____																													
9. _____	%	_____	_____																													
10. _____	%	_____	_____																													
100 % = Total Cover																																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
0 % = Total Cover																																
Bare Ground in Herb Stratum <u>0 %</u>																																

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-123.

SOIL

Sampling Point: SP-710

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 2/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/11/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-711
 Investigator(s): K. Russo, J. Kensinger Section, Township, Range: S22, T111N, R67W
 Landform (hillslope, terrace, etc.) depression Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.399814 Long: -98.865263 Datum: NAD83
 Soil Map Unit Name: Glenham-Cavo loam, nearly level NWI Classification: PEM1A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-711 is a wetland sample plot located in W-708, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)														
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0 %</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0 %</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>25 %</u></td> <td>x 3 = <u>75</u></td> </tr> <tr> <td>FACU species <u>15 %</u></td> <td>x 4 = <u>60</u></td> </tr> <tr> <td>UPL species <u>0 %</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>40 %</u> (A)</td> <td><u>135</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.38</u>	Total % Cover of:	Multiply by:	OBL species <u>0 %</u>	x 1 = <u>0</u>	FACW species <u>0 %</u>	x 2 = <u>0</u>	FAC species <u>25 %</u>	x 3 = <u>75</u>	FACU species <u>15 %</u>	x 4 = <u>60</u>	UPL species <u>0 %</u>	x 5 = <u>0</u>	Column Totals: <u>40 %</u> (A)	<u>135</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0 %</u>	x 1 = <u>0</u>																	
FACW species <u>0 %</u>	x 2 = <u>0</u>																	
FAC species <u>25 %</u>	x 3 = <u>75</u>																	
FACU species <u>15 %</u>	x 4 = <u>60</u>																	
UPL species <u>0 %</u>	x 5 = <u>0</u>																	
Column Totals: <u>40 %</u> (A)	<u>135</u> (B)																	
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Echinochloa crus-galli</u>	<u>25 %</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Setaria pumila</u>	<u>15 %</u>	<u>Y</u>	<u>FACU</u>															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
6. _____	_____ %	_____	_____															
7. _____	_____ %	_____	_____															
8. _____	_____ %	_____	_____															
9. _____	_____ %	_____	_____															
10. _____	_____ %	_____	_____															
	<u>40 %</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Bare Ground in Herb Stratum <u>60 %</u>																		

Remarks: Vegetation has been disturbed by agricultural activities. It is believed hydrophytic vegetation would be present if agricultural activities ceased. Wetland hydrology and hydric soil is present, therefore, Problematic Hydrophytic Vegetation indicator is met. Photograph C-124.

SOIL

Sampling Point: SP-711

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	95	10YR 4/3	5	C	M	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
---	--	--	--

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>4</u></td> </tr> <tr> <td>Water Table present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>4</u>	Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>4</u>																		
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators A1, A2, A3, and D2 are met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/11/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-712
 Investigator(s): K. Russo, J. Kensingler Section, Township, Range: S22, T111N, R67W
 Landform (hillslope, terrace, etc.) terrace Local relief (concave, convex, none): none Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.399786 Long: -98.865246 Datum: NAD83
 Soil Map Unit Name: Glenham-Cavo loam, nearly level NWI Classification: N/A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Remarks: SP-712 is an upland sample plot located adjacent to W-708, a farmed wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Stratum	Plot size	Absolute % Cover	Dominant Species?	Indicator Status	Worksheet														
Tree Stratum	(Plot size: <u>30 ft.</u>)				Dominance Test Worksheet: Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
1. _____		%	_____	_____															
2. _____		%	_____	_____															
3. _____		%	_____	_____															
		<u>0 %</u>	= Total Cover																
Sapling/Shrub Stratum	(Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																		
OBL species _____ %	x 1 = <u>0</u>																		
FACW species _____ %	x 2 = <u>0</u>																		
FAC species _____ %	x 3 = <u>0</u>																		
FACU species _____ %	x 4 = <u>0</u>																		
UPL species _____ %	x 5 = <u>0</u>																		
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																		
1. _____		%	_____	_____															
2. _____		%	_____	_____															
3. _____		%	_____	_____															
4. _____		%	_____	_____															
		<u>0 %</u>	= Total Cover																
Herb Stratum	(Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Glycine max</u>		<u>90 %</u>	<u>Y</u>	<u>UPL</u>															
2. _____		%	_____	_____															
3. _____		%	_____	_____															
4. _____		%	_____	_____															
5. _____		%	_____	_____															
6. _____		%	_____	_____															
7. _____		%	_____	_____															
8. _____		%	_____	_____															
9. _____		%	_____	_____															
10. _____		%	_____	_____															
		<u>90 %</u>	= Total Cover																
Woody Vine Stratum	(Plot size: <u>30 ft.</u>)				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
1. _____		%	_____	_____															
2. _____		%	_____	_____															
		<u>0 %</u>	= Total Cover																
Bare Ground in Herb Stratum	<u>10 %</u>																		

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation present was agricultural soybean. Photograph C-125.

SOIL

Sampling Point: SP-712

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="0"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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. Kensingler 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	Are "Normal Circumstances" present?
Significantly Disturbed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Naturally Problematic?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	(If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-713 is a wetland sample plot located in W-710, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)																												
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table border="0" style="width: 100%;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">0 %</td> <td>(A)</td> <td style="text-align: center;">0 (B)</td> </tr> </table> Prevalence Index = B/A = _____	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)
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)																													
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u><i>Spartina pectinata</i></u>	95 %	Y	FACW																													
2. <u><i>Helianthus maximiliani</i></u>	5 %	N	FACU																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
6. _____	%	_____	_____																													
7. _____	%	_____	_____																													
8. _____	%	_____	_____																													
9. _____	%	_____	_____																													
10. _____	%	_____	_____																													
100 % = Total Cover																																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																												
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
0 % = Total Cover																																
Bare Ground in Herb Stratum <u>0 %</u>																																

Remarks: The Rapid Test is met. Photograph C-127.

SOIL

Sampling Point: SP-713

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	94	10YR 4/4	6	C	M	silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>0</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>0</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input type="checkbox"/>	_____	Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input type="checkbox"/>	_____																		
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0																		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	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.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
	<u>0 %</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
	<u>0 %</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Bromus inermis</u>	80 %	Y	UPL															
2. <u>Solidago rugosa</u>	10 %	N	FAC															
3. <u>Bouteloua curtipendula</u>	10 %	N	UPL															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
10. _____	%	_____	_____															
	<u>100 %</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)				Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No														
1. _____	%	_____	_____															
2. _____	%	_____	_____															
	<u>0 %</u>	= Total Cover																
Bare Ground in Herb Stratum <u>0 %</u>																		

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-128.

SOIL

Sampling Point: SP-714

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/11/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-715
 Investigator(s): K. Russo, J. Kensingler Section, Township, Range: S26, T111N, R67W
 Landform (hillslope, terrace, etc.) swale Local relief (concave, convex, none): concave Slope (%): 0 %
 Subregion (LRR): Northern Great Plains Spring Wheat Region Lat: 44.398875 Long: -98.853471 Datum: NAD83
 Soil Map Unit Name: Prosper-Stickney loams, nearly level NWI Classification: N/A

Are climate/hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks)

Vegetation Soil Hydrology Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-715 is a wetland sample plot located in W-711, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)														
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0 %</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0 %</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0 %</u> (A)	<u>0</u> (B)																	
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Equisetum hyemale</u>	<u>90 %</u>	<u>Y</u>	<u>FACW</u>															
2. _____	_____ %	_____	_____															
3. _____	_____ %	_____	_____															
4. _____	_____ %	_____	_____															
5. _____	_____ %	_____	_____															
6. _____	_____ %	_____	_____															
7. _____	_____ %	_____	_____															
8. _____	_____ %	_____	_____															
9. _____	_____ %	_____	_____															
10. _____	_____ %	_____	_____															
	<u>90 %</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	_____ %	_____	_____															
2. _____	_____ %	_____	_____															
	<u>0 %</u>	= Total Cover																
Bare Ground in Herb Stratum <u>10 %</u>																		

Remarks: The Rapid Test is met. Photograph C-129.

SOIL

Sampling Point: SP-715

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	90	10YR 5/3	10	C	M	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Water Table present?</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td>0</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

Remarks: Wetland hydrology indicators D2 and D5 are met. Although saturation was observed at the soil surface, an accompanying water table was not observed. Requirements for indicator A3 are not met.

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Sweetland Wind Farm City/County: Hand County Sampling Date: 10/11/2018
 Applicant/Owner: Sweetland Wind Farm, LLC State: SD Sampling Point: SP-716
 Investigator(s): K. Russo, J. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-716 is an upland sample plot located adjacent to W-711, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u> (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)																													
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
0 % = Total Cover																																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Glycine max</u>	<u>40 %</u>	<u>Y</u>	<u>UPL</u>																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
6. _____	%	_____	_____																													
7. _____	%	_____	_____																													
8. _____	%	_____	_____																													
9. _____	%	_____	_____																													
10. _____	%	_____	_____																													
40 % = Total Cover																																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
0 % = Total Cover																																
Bare Ground in Herb Stratum <u>60 %</u>																																

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation present is agricultural soybean. Photograph C-130.

SOIL

Sampling Point: SP-716

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	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.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u></td> <td>(A)</td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u>	(A)	<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u>	(A)	<u>0</u> (B)																													
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Echinochloa crus-galli</u>	<u>80 %</u>	<u>Y</u>	<u>FAC</u>																													
2. <u>Rumex crispus</u>	<u>10 %</u>	<u>N</u>	<u>FAC</u>																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
6. _____	_____ %	_____	_____																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
	<u>90 %</u>	= Total Cover																														
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
	<u>0 %</u>	= Total Cover																														
Bare Ground in Herb Stratum <u>10 %</u>																																

Remarks: The Dominance Test is met. Photograph C-131.

SOIL

Sampling Point: SP-717

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
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		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR F)
- 1 cm Muck (A9) (LRR F, G, H)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- 5 cm Mucky Peat or Peat (S3) (LRR F)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR I, J)
- Coast Prairie Redox (A16) (LRR F, G, H)
- Dark Surface (S7) (LRR G)
- High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Very Shallow Dark Surface (TF 12)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if present):

Type: _____ Depth (inches): _____

Hydric Soil Present?

Yes No

Remarks: 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?	<input type="checkbox"/>	<input type="checkbox"/>	_____
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

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. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-718 is an upland sample plot located adjacent to W-712, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall. Soil and vegetation have been disturbed by agricultural activities.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)																												
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>0 %</u> (A)</td> <td></td> <td style="text-align: center;"><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	_____ %	Multiply by:	_____	OBL species	_____ %	x 1 =	<u>0</u>	FACW species	_____ %	x 2 =	<u>0</u>	FAC species	_____ %	x 3 =	<u>0</u>	FACU species	_____ %	x 4 =	<u>0</u>	UPL species	_____ %	x 5 =	<u>0</u>	Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)
Total % Cover of:	_____ %	Multiply by:	_____																													
OBL species	_____ %	x 1 =	<u>0</u>																													
FACW species	_____ %	x 2 =	<u>0</u>																													
FAC species	_____ %	x 3 =	<u>0</u>																													
FACU species	_____ %	x 4 =	<u>0</u>																													
UPL species	_____ %	x 5 =	<u>0</u>																													
Column Totals:	<u>0 %</u> (A)		<u>0</u> (B)																													
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
0 % = Total Cover																																
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No																												
1. <u>Glycine max</u>	<u>60 %</u>	<u>Y</u>	<u>UPL</u>																													
2. _____	%	_____	_____																													
3. _____	%	_____	_____																													
4. _____	%	_____	_____																													
5. _____	%	_____	_____																													
6. _____	%	_____	_____																													
7. _____	%	_____	_____																													
8. _____	%	_____	_____																													
9. _____	%	_____	_____																													
60 % = Total Cover																																
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	%	_____	_____																													
2. _____	%	_____	_____																													
0 % = Total Cover																																
Bare Ground in Herb Stratum <u>40 %</u>																																

Remarks: Hydrophytic vegetation indicators are not met. The only vegetation present is agricultural soybean. Photograph C-132.

SOIL

Sampling Point: SP-718

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

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. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	Remarks: SP-719 is a wetland sample plot located in W-713, an emergent wetland. Normal hydrologic conditions are not present due to recent rainfall.
Hydrophytic Vegetation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Hydric Soil Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:																												
1. _____	_____ %	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species that are OBL, FACW, or FAC: _____ (A/B)																												
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
	0 %	= Total Cover																														
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">_____ %</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">_____ %</td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">_____ %</td> <td>x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">_____ %</td> <td>x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">_____ %</td> <td>x 4 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">_____ %</td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">0 %</td> <td>(A)</td> <td style="text-align: center;">0 (B)</td> </tr> </table> Prevalence Index = B/A = _____	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)
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)																													
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
	0 %	= Total Cover																														
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic																												
1. <u>Spartina pectinata</u>	95 %	Y	FACW																													
2. _____	_____ %	_____	_____																													
3. _____	_____ %	_____	_____																													
4. _____	_____ %	_____	_____																													
5. _____	_____ %	_____	_____																													
6. _____	_____ %	_____	_____																													
7. _____	_____ %	_____	_____																													
8. _____	_____ %	_____	_____																													
9. _____	_____ %	_____	_____																													
10. _____	_____ %	_____	_____																													
	95 %	= Total Cover																														
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																																
1. _____	_____ %	_____	_____																													
2. _____	_____ %	_____	_____																													
	0 %	= Total Cover																														
Bare Ground in Herb Stratum <u>5 %</u>																																

Remarks: The Rapid Test is met. Photograph C-133.

SOIL

Sampling Point: SP-719

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	96	10YR 3/3	4	C	M	silty clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input checked="" type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	---	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicator F6 is met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input checked="" type="checkbox"/> Surface Water (A1)</p> <p><input checked="" type="checkbox"/> High Water Table (A2)</p> <p><input checked="" type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input checked="" type="checkbox"/> Geomorphic Position (D2)</p> <p><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
---	--	--	---

<p>Field Observations:</p> <table border="1"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> <th>Depth (inches)</th> </tr> </thead> <tbody> <tr> <td>Surface Water present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0.5</u></td> </tr> <tr> <td>Water Table present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><u>0</u></td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td></td> </tr> </tbody> </table>		Yes	No	Depth (inches)	Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0.5</u>	Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>	Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0.5</u>																		
Water Table present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Saturation Present? (includes capillary fringe)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>0</u>																		
Wetland Hydrology Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>																			

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. Kensingler 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 Are "Normal Circumstances" present? Yes No

Significantly Disturbed? (If needed, explain any answers in Remarks)

Naturally Problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

	Yes	No	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.
Hydrophytic Vegetation Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Hydric Soil Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is the Sampled Area within a Wetland?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30 ft.</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:														
1. _____	%	_____	_____	Number of Dominant Species that are OBL, FACW, or FAC (excluding FAC-): <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)														
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
0 % = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft.</u>)				Prevalence Index Worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: right;">Total % Cover of:</td> <td style="width: 50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species _____ %</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species _____ %</td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species _____ %</td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species _____ %</td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species _____ %</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>0%</u> (A)</td> <td><u>0</u> (B)</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____ %	x 1 = <u>0</u>	FACW species _____ %	x 2 = <u>0</u>	FAC species _____ %	x 3 = <u>0</u>	FACU species _____ %	x 4 = <u>0</u>	UPL species _____ %	x 5 = <u>0</u>	Column Totals: <u>0%</u> (A)	<u>0</u> (B)
Total % Cover of:	Multiply by:																	
OBL species _____ %	x 1 = <u>0</u>																	
FACW species _____ %	x 2 = <u>0</u>																	
FAC species _____ %	x 3 = <u>0</u>																	
FACU species _____ %	x 4 = <u>0</u>																	
UPL species _____ %	x 5 = <u>0</u>																	
Column Totals: <u>0%</u> (A)	<u>0</u> (B)																	
1. _____	%	_____	_____															
2. _____	%	_____	_____															
3. _____	%	_____	_____															
4. _____	%	_____	_____															
5. _____	%	_____	_____															
0 % = Total Cover																		
Herb Stratum (Plot size: <u>5 ft.</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 Dominance Test is >50% <input type="checkbox"/> 3 Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic														
1. <u>Schedonorus arundinaceus</u>	50 %	Y	FACU															
2. <u>Bromus inermis</u>	20 %	Y	UPL															
3. <u>Poa pratensis</u>	15 %	N	FACU															
4. <u>Solidago rugosa</u>	5 %	N	FAC															
5. _____	%	_____	_____															
6. _____	%	_____	_____															
7. _____	%	_____	_____															
8. _____	%	_____	_____															
9. _____	%	_____	_____															
10. _____	%	_____	_____															
90 % = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft.</u>)																		
1. _____	%	_____	_____															
2. _____	%	_____	_____															
0 % = Total Cover																		
Bare Ground in Herb Stratum <u>10 %</u>																		

Remarks: Hydrophytic vegetation indicators are not met. Photograph C-134.

SOIL

Sampling Point: SP-720

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/2	100					silty clay loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining, M=Matrix

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Stratified Layers (A5) (LRR F)</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)</p> <p><input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)</p>	<p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p> <p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 & 73 of LRR H)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)</p> <p><input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)</p> <p><input type="checkbox"/> Dark Surface (S7) (LRR G)</p> <p><input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 & 73)</p> <p><input type="checkbox"/> Reduced Vertic (F18)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF 12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic</p>
---	--	---

<p>Restrictive Layer (if present):</p> <p>Type: _____ Depth (inches): _____</p>	<p>Hydric Soil Present?</p> <p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
--	---

Remarks: Hydric soil indicators are not met.

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Water-Stained Leaves (B9)</p>		<p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Dry-Season Water Table (C2)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Thin Muck Surface (C7)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>	<p><u>Secondary Indicators (2 or more required)</u></p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p> <p><input type="checkbox"/> Drainage Patterns (B10)</p> <p><input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled)</p> <p><input type="checkbox"/> Crayfish Burrows (C8)</p> <p><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</p> <p><input type="checkbox"/> Geomorphic Position (D2)</p> <p><input type="checkbox"/> FAC-Neutral Test (D5)</p> <p><input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)</p>
--	--	--	---

<p>Field Observations:</p> <table style="width: 100%;"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> <td style="text-align: center;">Depth (inches)</td> </tr> <tr> <td>Surface Water present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Water Table present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Saturation Present? (includes capillary fringe)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;">_____</td> </tr> <tr> <td>Wetland Hydrology Present?</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td></td> </tr> </table>		Yes	No	Depth (inches)	Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____	Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<p>Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections, etc.), if available:</p>
	Yes	No	Depth (inches)																		
Surface Water present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Water Table present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Saturation Present? (includes capillary fringe)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	_____																		
Wetland Hydrology Present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>																			

Remarks: Wetland hydrology indicators are not met.