



MEMO

To: Paige Olson, South Dakota State Historical Society

Cc: Karri Springer, USFWS; Meg Vanness, USFWS; Melissa Schmit, Crocker Wind, LLC

From: Adam Holven, Tetra Tech, Inc.

Date: April 13, 2018

Subject: Crocker Wind Farm - Cultural Resources Survey Methods and Preliminary Field Results

Crocker Wind Farm, LLC (Crocker), a subsidiary of Geronimo Energy (Geronimo), proposes to construct the Crocker Wind Farm (the Project), located approximately 13.5 miles (21.7 kilometers) north of Clark in Clark County, South Dakota (see attached Figure 1). The proposed Project includes up to 120 wind turbines, 4 permanent meteorological towers (METs), associated access roads, electrical collection systems and cabling, crane paths, a collection substation, an operation and maintenance (O&M) facility, a temporary staging area, an approximately 6-mile (9.7-kilometer) 345-kilovolt transmission line, and an interconnection substation.

This memo presents the methods and preliminary findings of a cultural resource file search, pedestrian survey, and shovel testing conducted for the Project. The purpose of this memo is to provide background information for the South Dakota State Historical Society (SDSHS) to understand the current status of cultural resource studies undertaken by Crocker for compliance with South Dakota Codified Law 1-19A-11.1 – Preservation of historic property – Procedures. Crocker is also coordinating with the United States Fish and Wildlife Service (USFWS) to assess impacts to historic properties from the Project components located on USFWS grassland easements and in protected basins within USFWS wetland easements.

For this work, survey corridors were established that would encompass temporary and permanent impacts resulting from construction and operation of the Project, and allow room for minor facility shifts during Project development and construction. These survey corridors are based on the December 5, 2017 Project layout (revised crane paths – March 6, 2018 and revised collection lines – March 14, 2018) and include:

- 600-foot (182.9-meter) diameter circle for proposed turbines;
- 75-foot by 75-foot (22.9-meter by 22.9-meter) square centered on the proposed METs;
- 150-foot (45.7-meter) wide corridor for proposed access roads;
- 75-foot (22.9-meter) wide corridor for proposed collection lines;
- 150-foot (45.7-meter) wide corridor for proposed crane paths;
- 9.4 acres (3.8 hectares) for the proposed collection substation;
- 5.5 acres (2.2 hectares) for the proposed O&M facility;
- 12 acres (4.9 hectares) for the proposed temporary staging area;
- 100-foot (30.5-meter) wide corridor for the proposed transmission line; and
- 16.8 acres (6.8 hectares) for the proposed interconnect substation.

The total area of the survey corridor for the aforementioned facilities includes 2,393.5 acres (968.6 hectares). There are 318.7 acres (129.0 hectares) of the survey corridor located on USFWS grassland easements 13.1 acres (5.3 hectares) of the survey corridor located on USFWS wetland easement protected basins. These areas, which encompass 331.8 acres (128.7), fall within the jurisdiction of the USFWS. The remaining 2,061.7 acres (834.3 hectares) of the survey corridor are located on lands not under the jurisdiction of the USFWS (see attached Figure 1).

Additionally, a Historic Structures Review Area was developed through consultation with Ms. Paige Olsen at the SDSHS (under SDCL 1-19A-11.1) to determine the appropriate distance from proposed turbines to assess potential indirect impacts to standing structures and architectural resources. The SDSHS recommended that a 1-mile (1.6-kilometer) radius buffer from proposed turbines be used to assess indirect impacts to standing structures and architectural resources. For the purposes of this assessment, Tetra Tech also included a 1-mile (1.6-kilometer) radius buffer around the proposed permanent METs in the development of the Historic Structures Review Area (see attached Figure 2).

METHODS

All work was conducted in accordance with South Dakota Guidelines for Compliance with the National Historic Preservation Act and South Dakota Codified Law 1-19A-11.1 (South Dakota State Historic Preservation Office 2012) and The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation [48 Federal Register 44716-44740] (National Park Service [NPS] 1983).

Background Research

A Level I cultural resource file search was completed in October 2016 (updated in April 2018) and included a review of previously documented archaeological and architectural resources, and previously conducted investigations within the survey corridor and within 1-mile (1.6 kilometers) of the survey corridor. Tetra Tech reviewed these data and made an avoidance recommendation for archaeological and architectural resources that (1) are potentially eligible for listing on the National Register of Historic Places, (2) may be deemed culturally sensitive, or (3) have not been evaluated for National Register of Historic Places eligibility.

Pedestrian Survey

A systematic pedestrian surface survey was conducted in the survey corridor to determine the presence of cultural resources¹ on the surface in October and November of 2016, August and September of 2017, and November 2017. To date, Tetra Tech has conducted pedestrian survey of approximately 3,639.0 acres (1,472.7 hectares) of land for the Project. This total includes previously proposed facility locations outside of the current survey corridor that are no longer part of the Project (see attached Figure 3). Within the current Project survey corridor, Tetra Tech has surveyed 2,040.1 acres (825.6 hectares), or 85 percent of the Project survey corridor, including all proposed turbines locations.

Of the remaining 353.4 acres (143.0 hectares) within the current survey corridor that have not yet been pedestrian surveyed, approximately 55.2 acres (22.3 hectares) are located on USFWS grassland easements, approximately 2.1 acres (0.9 hectares) are located on USFWS wetland easement protected basins, and approximately 296.1 acres

¹ Cultural resources include archaeological resources (such as isolated finds, artifact scatters, and features) and architectural resources over 50 years old, and can also include modern (less than 50 years old) cultural materials and structures. While not all recorded cultural resources will receive a Smithsonian Institute Trinomial System (SITS) number, recording these resources provides a more comprehensive understanding of human activity in the Project Area.

(119.8 hectares) are located on lands not under the jurisdiction of the USFWS (see attached Figure 3). The pedestrian survey of the remaining areas to be surveyed will be completed in late April or early May of 2018.

Where ground visibility was greater than 30 percent, 15-meter (49.2-foot) interval transects were utilized. Where ground surface visibility was less than 30 percent, and in those areas with high potential² for encountering an archaeological resource, the transect interval was decreased to 5-meters (16.4-feet). A Trimble GeoXH 6000 Series global positioning system (GPS) unit operating ESRI ArcPad was used to navigate the survey corridor. Wide Area Augmentation System (WAAS) was utilized for real-time signal correction during navigation. Navigational accuracy was confirmed through the comparison of land parcels on the GPS and fence lines representing those boundaries during the survey. Land use, ground cover, and surface visibility were also documented during the pedestrian survey.

Shovel Testing

Where pedestrian surveys did not adequately assess the presence or absence of archaeological materials (e.g., in high potential areas with limited surface visibility), Tetra Tech employed shovel testing. These areas were limited to grassland locations that did not appear to be historically disturbed by agricultural activities. Shovel tests were placed at 15-meter (49.2-foot) intervals within the survey corridor. Tetra Tech analyzed the data collected during the pedestrian survey, including surface site location, land use, and landform potential, in conjunction with macro-topographical features, such as prominent elevated landforms and waterbodies, to develop a tiered model for shovel testing. A description of this tiered approach is below:

- High Potential Landform: Includes broad, elevated landforms above large permanent water bodies, level areas immediately adjacent to permanent or seasonal water bodies, and level landforms adjacent to documented surface sites.
- Moderate-High Potential Landform: Includes broad, elevated landforms that are adjacent to seasonal water bodies, or that are not adjacent to a water body.
- Moderate Potential Landform: Includes small knolls and low ridgelines adjacent to seasonal water bodies.

Shovel tests were excavated at approximately 10-centimeter (3.9-inch) levels until sterile soil horizons were encountered. All excavated sediments were passed through 0.25-inch (0.6-centimeter) hardware mesh and examined for cultural materials. If cultural materials were encountered in shovel tests, then radial shovel tests were excavated at 5-meter (16.4-foot) and 10-meter (32.8-foot) intervals in the surrounding areas, where applicable, to determine the presence or absence of additional cultural materials and aid in site delineation.

Artifacts recovered from the pedestrian survey or shovel testing will be cleaned and analyzed, and are temporarily housed in Tetra Tech's office in Bloomington, Minnesota. Site forms will be filled out and filed with the South Dakota Archaeological Research Center in Rapid City. Tetra Tech will work with the USFWS to ensure that all collected archaeological material from USFWS grassland easements and from USFWS wetland easement protected basins is curated in appropriate facilities. All other collected archaeological material will be returned to landowners upon completion of the investigation.

Tetra Tech placed 648 shovel tests at 15 proposed turbine locations on high potential landforms in October 2017. These proposed turbines were located on non-USFWS easement lands (see attached Figure 3). Shovel testing

² On a prominent landform, close to current or past water source, or close to known site or surface archaeological features.

will be completed in summer 2018, which will include the anticipated placement of approximately 2,700 additional shovel tests within the survey corridor. These shovel tests are proposed to be placed within survey corridor locations on high potential and moderate-high potential landforms, and at chipped stone surface find spots identified during the pedestrian survey. A breakdown of the shovel tests planned for completion in summer 2018 is provided below:

- Turbines: Approximately 1,678 shovel tests will be placed at proposed turbines. Of these, approximately 514 shovel tests will be placed on USFWS grassland easements, 3 shovel tests will be placed on USFWS wetland easement protected basins, and 1,161 shovel tests will be placed on non-USFWS easement lands. Shovel testing will be completed at proposed turbine locations prior to starting the shovel testing at other Project facilities, as potential recommendations for shifts to turbine locations can impact the placement of other Project facilities.
- Access Roads: Approximately 358 shovel tests will be placed along proposed access roads. Of these, approximately 36 shovel tests will be placed on USFWS grassland easements and 322 shovel tests will be placed on non-USFWS easement lands.
- Collection Lines: Approximately 237 shovel tests will be placed along proposed collection lines. Of these, approximately 54 shovel tests will be placed on USFWS grassland easements and 183 shovel tests will be placed on non-USFWS easement lands.
- Crane Paths: Approximately 370 shovel tests will be placed along proposed crane paths. Of these, approximately 97 shovel tests will be placed on USFWS grassland easements and 273 shovel tests will be placed on non-USFWS easement lands.
- Chipped Stone Surface Find Spots: Approximately 65 shovel tests will be placed at 13 chipped stone surface find spots. This will include one shovel test placed at the find spot, and four radial shovel tests placed at 5 m (16.4 ft) intervals in the cardinal directions. All chipped stone surface find spots are located on non-USFWS easement lands.
- Lithic Scatters: Five lithic scatters are located within the current survey corridor, all within cultivated cropland on non-USFWS easement lands. Tetra Tech has recommended that proposed Project facilities avoid these lithic scatters. If these sites cannot be avoided, then Tetra Tech has recommended that shovel testing be conducted to determine the presence/absence of subsurface deposits, which will better inform recommendations for National Register of Historic Places eligibility and avoidance.

A shovel testing model will be presented for approval to the SDSHS and USFWS prior to conducting this work. This model is anticipated to be presented to the SDSHS in mid to late April 2018.

Avoidance Recommendations

As stated above, Tetra Tech made an avoidance recommendation (avoidance recommended or not recommended) for archaeological and architectural resources that (1) are potentially eligible for listing in the National Register of Historic Places, (2) may be deemed culturally sensitive, or (3) have not been evaluated for National Register of Historic Places eligibility. Tetra Tech's avoidance recommendations are designed to not only protect the identified resources (i.e., that portion observed on the surface or through subsurface testing), but also to avoid adjacent areas that may also contain cultural resources. A brief description of the avoidance recommendations for different types of cultural resources is below.

- Known or Suspected Native American Stone Features: This can include, but is not limited to, cairns (intact and disturbed), stone circles, and stone alignments. Tetra Tech's avoidance recommendation includes the stone feature and a 100-foot (30.5 meter) buffer extending from the stone feature. Tetra Tech advises against shovel testing near these features and recommends avoidance of the adjacent areas to protect undocumented cultural resources.
- Artifact and Lithic Scatters: Site boundaries for artifact and lithic scatters (including Euro- and Native American) are established by adding a buffer distance around the documented artifacts or positive shovel tests. Depending on surface visibility or shovel testing intervals, this buffer can range from 16.4 feet (5 meters) to 50 feet (15.2 meters). Therefore, the site boundary is often the same area as the avoidance recommendation buffer and can vary between sites.
- Farmsteads and Homesteads: Avoidance buffers for abandoned farmsteads and homesteads are created with field data in combination with historical records, where possible. Often, only foundations are present and indicators of the full historical-use area around the foundations are not present or obvious in the field. Historical aerial photographs, topographic maps, and plats maps can provide some additional insight into the historical-use area for the farmstead and provide a more encompassing avoidance buffer. In cases where there are no historical records associated with a historical feature, a 50-foot (15.2-meter) avoidance buffer is recommended, and shovel testing may be recommended to determine the presence of adjacent subsurface deposits.
- Euro-American Stone Alignments: These are former agricultural field edges often aligned north-south or east-west. Due to a low potential for additional archaeological material to be present adjacent to the stone alignments, a 3.3-foot (1-meter) avoidance buffer is recommended.
- Euro-American Fieldstone Piles: In general, Tetra Tech does not recommend avoidance of Euro-American fieldstone piles; however, on occasion avoidance is recommended. In these cases, the fieldstone piles are located in topographic locations where a Native American stone feature would be expected. Since the presence of a Native American stone feature under a Euro-American fieldstone pile cannot be assessed, Tetra Tech recommends avoidance of the pile plus a 3.3-foot (1-meter) avoidance buffer.
- Euro-American Dumps: Dumps are typically observed as large surface features, and recommended avoidance includes the feature and a 3.3-foot (1-meter) avoidance buffer.

Tetra Tech submitted avoidance recommendations for resources documented during the pedestrian survey and shovel testing to Crocker on December 5, 2016 and September 26, 2017.

RESULTS

Previously Conducted Surveys

A total of 14 cultural resources surveys have previously been conducted within 1 mile (1.6 kilometers) of the survey corridor (see attached Figure 4; Table 1). Seven previously conducted investigations intersect the survey corridor. The area intersected is minimal (11.2 acres [4.5 hectares]) and was resurveyed during Tetra Tech's 2016 and 2017 pedestrian surveys.

Table 1. Previously Conducted Cultural Resource Surveys within the Survey Corridor and within 1-mile (1.6-kilometers) of the Survey Corridor

Archive No.	Author (Year)	Title	Location
ACK-0013	Wardlow, Roger (1988)	Intensive Cultural Resources Survey of the Proposed Materials Pit Project in Section 12, T119N, R59W, Clark County, South Dakota. SDDOT Project No. F0020(38)350 PCEMS 2696. CIS No. 439	Within 1 mile (1.6 kilometers) of the Survey Corridor
ACK-0021	Winham, R. Peter, and Timothy V. Gillen (1994)	Intensive Cultural Resources Survey of a Proposed Well Field and Portions of Proposed Rural Water Lines in Clark County, South Dakota Within the Prairie Coteau Archeological Region	Survey Corridor (intersects 1.7 acres [0.7 hectares])
ACK-0034	Vaillancourt, Dana R. (2004)	A Level III Cultural Resource Letter Report for a Dam/Pond Construction Project, T119N, R59W, Sections 27 & 34, Clark County, South Dakota. Project No. 04CK46	Within 1 mile (1.6 kilometers) of the Survey Corridor
ACK-0040	Downing, Patricia (2006)	A Cultural Resources Reconnaissance Survey of Electrical Distribution Facilities by Codington Clark Electric in Clark County, South Dakota (LTR 1806h0101)	Survey Corridor (intersects 0.7 acres [0.3 hectares])
ACK-0056	Holst, David (2015)	An Intensive Cultural Resource Survey of SDDOT Project 0020(124)363, PCN 025V, Clark County, South Dakota. CIS No. 2903	Within 1 mile (1.6 kilometers) of the Survey Corridor
ACK-0062	Williams, David (2016)	An Intensive Cultural Resources Survey SDDOT Bridge Replacement Project BRO 8013(13), PCN 02EJ, Clark County, South Dakota. CIS No. 2968	Within 1 mile (1.6 kilometers) of the Survey Corridor
ESD-0094	Apley et al. (1982)	Cultural Resource Investigations of the South Dakota Segment of the Northern Border Pipeline Project	Survey Corridor (intersects 3.1 acres [1.3 hectares])
ESD-0165	Downing, Patricia (1995)	A Reconnaissance Cultural Resource Survey of Proposed Lines for Codington Clark Electrical Cooperative, Project 950411051F in Clark and Codington Counties, South Dakota	Survey Corridor (intersects 1.8 acres [0.7 hectares])
ESD-0196	Downing, Patricia (1996)	A Reconnaissance Cultural Resource Survey of Proposed Underground Lines for Codington Clark Electric Cooperative Project 971124007F in Clark, Codington, and Day Counties, South Dakota	Survey Corridor (intersects 1.2 acres [0.5 hectares])
ESD-0197	Downing, Patricia (1998)	A Reconnaissance Cultural Resource Survey of Proposed Underground Lines for Codington Clark Electric Cooperative Project 980515003F in Clark and Codington Counties, South Dakota	Within 1 mile (1.6 kilometers) of the Survey Corridor
ESD-0286	Downing, Patricia (2002)	A Reconnaissance Cultural Resource Survey of Proposed Underground Lines for Codington Clark Electric Cooperative (LTR 1802h0501) in Clark and Codington Counties, South Dakota	Within 1 mile (1.6 kilometers) of the Survey Corridor
ESD-0369	Downing, Patricia (2006)	An Intensive Cultural Resource Survey for Construction of Electrical Distribution Facilities by Codington Clark Electric Cooperative (Letter 1806h0101) in Clark, Codington, Day and Grant Counties, South Dakota	Survey Corridor (intersects 0.9 acres [0.4 hectares])
ESD-0436	Downing, Patricia (2009)	An Intensive Cultural Resource Survey for Construction of Electrical Distribution Facilities by Codington Clark Electric	Within 1 mile (1.6 kilometers) of the Survey Corridor

Archive No.	Author (Year)	Title	Location
		Cooperative (Letter 1809h0101) in Clark, Codington and Grant Counties, South Dakota	
ESD-0608	Maki et al. (2016)	An Archaeological Survey of Prehistoric Mortuary Sites in Beadle, Spink and Clark Counties, South Dakota. Report of Investigation No. 236	Survey Corridor (intersects 1.9 acres [0.8 hectares])

Previously Documented Sites

A total of 69 previously documented archaeological resources are located within 1 mile (1.6 kilometers) of the survey corridor (see attached Figure 4; Table 2). Of those 69 documented archaeological resources:

- 56 resources were documented by Tetra Tech during field surveys in 2016 and 2017 for the Project;
- 13 sites are located on USFWS grassland easements; and
- 8 sites are located in the current Project survey corridor.

The eight previously documented sites in the current survey corridor include four Native American artifact scatters (39CK0064, 39CK0114, 39CK0115, and 39CK0117), one Native American stone feature site (39CK0077), one Euro-American former farmstead/dump (39CK0048), one Euro-American foundation (39CK0076), and one Euro-American isolated find (39CK0063) (see attached Figure 4; Table 2). These sites are described in detail below.

Site 39CK0064 currently consists of a single chipped stone artifact observed on the surface, and will be shovel tested to confirm the presence or absence of intact buried archaeological materials. Sites 39CK0114, 39CK0115, and 39CK0117 are anticipated to be avoided by the Project; however, if avoidance is not possible, then shovel testing will be conducted to confirm the presence or absence of intact buried archaeological materials. Based on the site form for 39CK0077, which was not documented by Tetra Tech, the site consists of four Native American cairns; however, the site area is roughly 10 acres (4.0 hectares). One cairn is located in the current survey corridor. The remaining three cairns are located approximately 400 to 850 feet (121.9 to 259.1 meters) north of the survey corridor. At this time, Tetra Tech recommends that the cairn located within the current survey corridor be relocated and the cairn be avoided in addition to a 100-foot (30.5-meter) avoidance buffer. The proposed access road and collections lines should be routed to avoid the southernmost documented cairn at Site 39CK0077 and the northern group of cairns at the site. Tetra Tech recommends pedestrian survey and shovel testing within the survey corridor (and with the current Site 39CK0077 boundary) to confirm the presence or absence of additional archaeological materials. If no additional materials are identified, then Tetra Tech recommends that the site boundary be redrawn around the known archaeological features and that proposed facilities be placed in this area, with the condition that they avoid the known features associated with 39CK0077 and recommended avoidance buffers.

Site 39CK0048 is located in the survey corridor for the proposed transmission line. No proposed transmission poles are located in the site boundary, therefore, no direct impacts to the site are anticipated. Site 39CK0076 is small concrete foundation located adjacent to a larger fieldstone pile within the wind farm survey corridor. Avoidance is recommended for the foundation. Site 39CK0063 is the remains of a single wagon within the wind farm survey corridor. It is Tetra Tech's opinion that the wagon should not be considered eligible for listing on the National Register of Historic Places and avoidance is not recommended.

**Table 2. Previously Recorded Archaeological Resources within the Survey Corridor
and within 1-mile (1.6-kilometers) of the Survey Corridor**

SITS No.	Location/USFWS Easement	Description	Determination of Eligibility
39CK0003	Study Area/Lands not under the jurisdiction of the USFWS	Native American stone circle and cairn, Unknown burial	Unevaluated
39CK0008	Study Area/Grassland Easement	Native American artifact scatter	Unevaluated
39CK0010	Study Area/Lands not under the jurisdiction of the USFWS	Native American stone circle and artifact scatter	Unevaluated
39CK0013	Study Area/Lands not under the jurisdiction of the USFWS	Native American depression	Unevaluated
39CK0014	Study Area/Lands not under the jurisdiction of the USFWS	Native American stone circle	Unevaluated
39CK0019	Study Area/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0020	Study Area/Grassland Easement	Euro-American isolated find	Not Eligible
39CK0023	Study Area/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0024	Study Area/Lands not under the jurisdiction of the USFWS	Native American artifact scatter and stone circle	Unevaluated
39CK0030	Study Area/Lands not under the jurisdiction of the USFWS	Unknown stone circle	Unevaluated
39CK0033	Study Area/Lands not under the jurisdiction of the USFWS	Euro-American foundation	Unevaluated
39CK0048	Transmission Line Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American dump and farmstead	Unevaluated
39CK0062*	Beyond Survey Corridor/Grassland Easement	Euro-American well/cistern	Unevaluated
39CK0063*	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American isolated find	Unevaluated
39CK0064*	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0065*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn	Unevaluated
39CK0066*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American dump	Unevaluated
39CK0067*	Beyond Survey Corridor/Grassland Easement and Lands not under the jurisdiction of the USFWS	Euro-American foundation/dump	Unevaluated
39CK0068*	Beyond Survey Corridor/Grassland Easement	Euro-American farmstead/artifact scatter	Unevaluated
39CK0069*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated

SITS No.	Location/USFWS Easement	Description	Determination of Eligibility
39CK0070*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American farmstead/artifact scatter	Unevaluated
39CK0071*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0072*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0073*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0074*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American depression/artifact scatter	Unevaluated
39CK0075*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0076*	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American foundation	Unevaluated
39CK0077	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American Woodland cairn	Unevaluated
39CK0078*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn/depression	Unevaluated
39CK0079*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American dump	Unevaluated
39CK0080*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn	Unevaluated
39CK0081*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn	Unevaluated
39CK0082*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0083*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39C0K084*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0085*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0086*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0087*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn/unknown depression	Unevaluated
39CK0088*	Beyond Survey Corridor/Grassland Easement	Native American cairn	Unevaluated
39CK0089*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American depression	Unevaluated
39CK0090*	Beyond Survey Corridor/Grassland Easement	Euro-American foundation	Unevaluated

SITS No.	Location/USFWS Easement	Description	Determination of Eligibility
39CK0091*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn	Unevaluated
39CK0092*	Beyond Survey Corridor/Grassland Easement	Native American cairn	Unevaluated
39CK0093*	Beyond Survey Corridor/Grassland Easement	Native American stone circle	Unevaluated
39CK0094*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American farmstead	Unevaluated
39CK0095*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American alignment	Unevaluated
39CK0096*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0097*	Beyond Survey Corridor/Grassland Easement	Native American cairn	Unevaluated
39CK0098*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American farmstead	Unevaluated
39CK0099*	Beyond Survey Corridor/Grassland Easement	Euro-American alignment	Unevaluated
39CK0100*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn	Unevaluated
39CK0101*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0102*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American cairn	Unevaluated
39CK0103*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American farmstead	Unevaluated
39CK0104*	Beyond Survey Corridor/Grassland Easement	Euro-American foundation	Unevaluated
39CK0105*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0106*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0107*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0108*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American dump	Unevaluated
39CK0109*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0110*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter/cairn	Unevaluated
39CK0111*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0112*	Beyond Survey Corridor/Grassland Easement	Euro-American alignment	Unevaluated
39CK0113*	Beyond Survey Corridor/Grassland Easement	Euro-American foundation	Unevaluated

SITS No.	Location/USFWS Easement	Description	Determination of Eligibility
39CK0114*	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0115*	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0116*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Euro-American foundation/depression	Unevaluated
39CK0117*	Wind Farm Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated
39CK0118*	Beyond Survey Corridor/Lands not under the jurisdiction of the USFWS	Native American artifact scatter	Unevaluated

Resources documented by Tetra Tech during surveys for Crocker are indicated with an asterisk (*)

Previously Documented Architectural Investigations and Resources

A reconnaissance level survey of Clark County was conducted in 2016 with the purpose of providing a comprehensive record of properties that are potentially eligible for listing on the National Register of Historic Places and to update the record of those properties previously surveyed in the county (Allen 2016). All structures illustrated on 1970s USGS topographic maps, and assumed to be 42 years or older at the time of the survey, were field verified from the public road rights-of-way. If a resource appeared to be eligible for inclusion in the National Register of Historic Places, it was included in the investigation and the relevant property information uploaded to the online SDSHS database.

No previously documented architectural resources were identified in the current Project survey corridor; however, three previously documented architectural resources are documented within the Historic Structures Review Area (see attached Figure 2). The documented resources include the National Register of Historic Places-listed Bradley First Lutheran Church (NPS Reference Number: 00001213; SHPO ID. CK00000007) and Cemetery (SHPO ID. CK00000008), and a bridge (SHPO ID. CK00000045), which is not considered eligible for listing in the National Register of Historic Places. Three additional structures (Gary Hagstrom Barn – SHPO ID. CK00000035, Vacant House – SHPO ID. CK00000087, and Crocker Grain Elevator – SHPO ID. DA00000150) are located immediately beyond the Historic Structures Review Area. Of these, the Crocker Grain Elevator is the only one considered eligible for listing in the National Register of Historic Places.

Through consultation with Ms. Paige Olson, SDSHS, it was determined that the structures within the Historic Structure Review Area for the Project did not need to be reassessed for their National Register of Historic Places eligibility based on the recent date of the county-wide survey. A Findings of Effects Study is recommended to determine potential impacts from the proposed Project to the listed properties, which include the Bradley First Lutheran Church and Cemetery, and the Crocker Grain Elevator, which is located 150 feet (45.7 meters) beyond the Historic Structures Review Area.

Pedestrian Survey

During the pedestrian survey, Tetra Tech documented 103 cultural resource locations³, including 43 Native American resources, 59 Euro-American resources, and 1 Native American/Euro-American resource (see attached

³ 56 of these resources that Tetra Tech previously documented are also presented in Table 2 and shown on Figure 4.

Figures 4 and 5; Tables 2 and 3). The Native American resources include 8 lithic scatters, 13 suspected cairns, 1 stone circle, and 21 chipped stone surface find spots. The 59 Euro-American resources include 13 sites associated with abandoned farmsteads, 18 dumps (11 of which appeared to contain modern debris only, and 6 that also contain fieldstone), 9 field stone lines, 8 farm machinery isolated finds, 6 segments of railroad grade associated with Site 39CK2003⁴, 3 field stone piles, 1 depression containing field stones, and 1 artifact scatter associated with a former airfield. The Native American/Euro-American site is a lithic scatter mixed with an early twentieth century artifact scatter. As mentioned under the pedestrian survey methodology section, modern cultural materials were recorded during the survey, which include the 11 modern dumps and the 3 fieldstone piles; Tetra Tech does not consider these to represent archaeological sites and does not intend to obtain SITS numbers for these resources.

Of the 103 cultural resources recorded, a total of 21⁵ cultural resources are located within grassland easements (Table 3). This includes 17 Euro-American resources and 4 Native American stone features. Only one resource, a Euro-American fieldstone pile (Field No. CR_47) is located within the current survey corridor. Although the fieldstone pile is located within the current survey corridor, Crocker has indicated the resource will be avoided during construction of the Project.

One cultural resource is located within a USFWS wetland easement protected basin and includes a Euro-American dump/artifact scatter (Field No. CR_43) (Table 3). The site is located beyond the current survey corridor.

The remaining 59 cultural resources located on lands not under the jurisdiction of the USFWS (Table 3). These include 30 Native American resources, 28 Euro-American resources, and 1 location with both Native and Euro-American resources (Table 3). Of these, 34 resources are located in the current survey corridor, including 13 Native American chipped stone surface find spots, 4 Native American lithic scatters, 5 abandoned railroad grade segments associated with Site 39CK2003, 5 Euro-American isolated finds, 4 Euro-American modern dumps, 1 Euro-American foundation, 1 Euro-American fieldstone pile, and 1 Native American/Euro-American artifact scatter.

Of the 103 cultural resources documented during the pedestrian surveys, 69 resources and their associated avoidance buffer have been avoided and are no longer within the current survey corridor. Of the remaining 34 resources located in the survey corridor, Tetra Tech recommends:

- Avoidance is recommended for the 4 Native American lithic scatters (39CK0073, CR_95, CR_96, and CR_101), and the Native American/Euro-American artifact scatter (CR_16). If avoidance is not possible, then shovel testing is recommended at these sites;
- Avoidance is recommended for the Euro-American foundation (39CK0076), the Euro-American fieldstone pile (CR_47), and one Euro-American isolated find (NS_06);
- Shovel testing is recommended for the 13 Native American chipped stone surface find spots (39CK0064, 39CK0114, 39CK0115, 39CK0117, CR_39, CR_49, CR_53, CR_55, CR_74, CR_76, CR_97, CR_99, and CR_100);
- A determination if the 5 newly recorded abandoned railroad grade segments are contributing elements of the National Register of Historic Places-eligible Site 39CK2003. If they are determined to be contributing elements to Site 39CK2003, then a findings of effect study will be conducted; and

⁴ Site 39CK2003 is a previously recorded National Register of Historic Places-eligible abandoned railroad grade located beyond the 1-mile Archaeological Search Area. Six new segments of 39CK2003 were recorded during the pedestrian survey.

⁵ Site 39CK0067, a former farmstead, is located on lands not under the jurisdiction of the USFWS (foundations and depression associated with former structures); however, the dump associated with the former farmstead is located on a grassland easement. Therefore, the site is included in the total count for resources in are located on lands not under the jurisdiction of the USFWS as well as resources in grassland easements.

- Avoidance is not recommended for the 4 Euro-American isolated finds (39CK0063, CR_24, CR_41, and CR_67) and for the 4 modern dumps (CR_04, CR_40, NS_01, and NS_02).

Table 3. Cultural Resources Identified During the Pedestrian Survey

SITS/Field No.	Map Grid	Location	Description	Recommendation
39CK0062	I4	Beyond Survey Corridor/ Grassland Easement	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0063	I3	Wind Farm Survey Corridor	Euro-American Isolated Find (Farm Machinery)	Avoidance not recommended.
39CK0064	H3	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
39CK0065	H3	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0066	G5	Beyond Survey Corridor	Euro-American Dump	Site and avoidance buffer are located outside the survey corridor.
39CK0067	E4, F4	Beyond Survey Corridor/ Grassland Easement and non-easement land	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0067	E4, F4	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer (former extent of farmstead) are located outside the survey corridor.
39CK0068	C5	Beyond Survey Corridor/ Grassland Easement	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0069	E4	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0070	C7	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer (former extent of farmstead) are located outside the survey corridor.
39CK0071	C7	Beyond Survey Corridor	Native American Lithic Scatter	Site and avoidance buffer are located outside the survey corridor.
39CK0072	D6	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0073	D7, D8	Transmission Line Survey Corridor	Native American Lithic Scatter	Avoid placing transmission line poles in site or working in the site.
39CK0074	D8	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.

SITS/Field No.	Map Grid	Location	Description	Recommendation
39CK0075	H4	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0076	E4	Wind Farm Survey Corridor	Euro-American Foundation/Fieldstone Pile	Avoidance of site and (50 feet [15.2 meters]) avoidance buffer recommended.
39CK0078	L9	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0079	L9	Beyond Survey Corridor	Euro-American Dump/Artifact Scatter	Site and avoidance buffer are located outside the survey corridor.
39CK0080	L9	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0081	L9	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0082	H10	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0083	H10	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0084	H10	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0087	I7	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0088	G8	Beyond Survey Corridor/ Grassland Easement	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0089	I8	Beyond Survey Corridor	Euro-American Depression	Site and avoidance buffer are located outside the survey corridor.
39CK0090	G9	Beyond Survey Corridor/ Grassland Easement	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0091	G9	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0092	G9	Beyond Survey Corridor/ Grassland Easement	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0093	G9	Beyond Survey Corridor/ Grassland Easement	Native American Stone Circle	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.

SITS/Field No.	Map Grid	Location	Description	Recommendation
39CK0094	H7	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0095	H7	Beyond Survey Corridor	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
39CK0096	H10	Beyond Survey Corridor	Native American Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
39CK0097	I4	Beyond Survey Corridor/ Grassland Easement	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0099	I4	Beyond Survey Corridor/ Grassland Easement	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
39CK0098	H5, H6	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0100	H5	Beyond Survey Corridor	Native American Cairn	Site and southern 80 feet (24.4 meters) of the avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor. Portion of avoidance buffer in the survey corridor will be avoided during construction.
39CK0101	D7	Beyond Survey Corridor	Native American Lithic Scatter	Site and avoidance buffer (50 feet [15.2 meters]) are located outside the survey corridor.
39CK0102	G9, H9	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
39CK0103	I7	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0104	I4, I5	Beyond Survey Corridor/ Grassland Easement	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0107	I3	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0108	E3	Beyond Survey Corridor	Euro-American Dump	Site and avoidance buffer are located outside the survey corridor.
39CK0109	F3	Beyond Survey Corridor	Native American Chipped Stone Surface Find Spot	Site has been avoided. No avoidance buffer recommended at this time.
39CK0112	B5	Beyond Survey Corridor/ Grassland Easement	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.

SITS/Field No.	Map Grid	Location	Description	Recommendation
39CK0113	B5	Beyond Survey Corridor/ Grassland Easement	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0114	C8	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
39CK0115	C8	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
39CK0116	C8	Beyond Survey Corridor	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
39CK0117	B7	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
39CK2003	E4, E5, F11, F12	5 segments within the Wind Farm Survey Corridor; 1 segment is located beyond the Survey Corridor	Euro-American Railroad Grade (Abandoned)	Determine eligibility of the segments in the survey corridor.
CR_01	F5	Beyond Survey Corridor	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
CR_04	K8	Wind Farm Survey Corridor	Euro-American Modern Dump/ Fieldstone Pile	Avoidance not recommended.
CR_11	H5	Beyond Survey Corridor	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
CR_15	G9	Beyond Survey Corridor/ Grassland Easement	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
CR_16	H6	Wind Farm Survey Corridor	Native American Lithic Scatter; Euro-American Artifact Scatter	Avoidance of site and (50 feet [15.2 meters]) avoidance buffer recommended. If avoidance is not possible, then shovel testing recommended.
CR_22	G7	Beyond Survey Corridor/ Grassland Easement	Euro-American Isolated Find	Site has been avoided. No avoidance buffer recommended at this time.
CR_24	G3	Wind Farm Survey Corridor	Euro-American Isolated Find (Farm Machinery)	Avoidance not recommended.
CR_32b	C6	Beyond Survey Corridor	Euro-American Fieldstone Pile	Site and avoidance buffer are located outside the survey corridor.
CR_34	C6	Beyond Survey Corridor	Euro-American Fieldstone Pile	Site and avoidance buffer (50 feet [15.2 meters]) are located outside the survey corridor.

SITS/Field No.	Map Grid	Location	Description	Recommendation
CR_39	I3	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_40	C6	Wind Farm Survey Corridor	Euro-American Modern Dump/ Fieldstone Pile	Avoidance not recommended.
CR_41	I3	Wind Farm Survey Corridor	Euro-American Isolated Find (Farm Machinery)	Avoidance not recommended.
CR_42	C6	Beyond Survey Corridor	Euro-American Isolated Find (Farm Machinery)	Site has been avoided. No avoidance buffer recommended at this time.
CR_43	B6	Beyond Survey Corridor/ USFWS Wetland Easement Protected Basin	Euro-American Dump	Site and avoidance buffer are located outside the survey corridor.
CR_47	B5	Wind Farm Survey Corridor/ Grassland Easement	Euro-American Fieldstone Pile	Fieldstone pile will be not be directly impacted during construction.
CR_49	B5	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_53	C8	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_55	C8	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_63	G11	Beyond Survey Corridor	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
CR_67	I7	Wind Farm Survey Corridor	Euro-American Isolated Find (Farm Machinery)	Avoidance not recommended.
CR_71	J3	Beyond Survey Corridor	Euro-American Isolated Find	Site has been avoided.
CR_72	H3	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
CR_73	H3	Beyond Survey Corridor	Native American Cairn	Site and avoidance buffer (100 feet [30.5 meters]) are located outside the survey corridor.
CR_74	D7	Transmission Line Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_75	D5	Beyond Survey Corridor/ Grassland Easement	Euro-American Farmstead (Abandoned)	Site and avoidance buffer are located outside the survey corridor.

SITS/Field No.	Map Grid	Location	Description	Recommendation
CR_76	F5	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_79	B6	Beyond Survey Corridor	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.
CR_80	I3	Beyond Survey Corridor/ Grassland Easement	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
CR_85	E4	Beyond Survey Corridor	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.
CR_93	H5	Beyond Survey Corridor	Artifact Scatter/ Airfield (Abandoned)	Site and avoidance buffer are located outside the survey corridor.
CR_94	D7	Beyond Survey Corridor/ Grassland Easement	Euro-American Stone Line	Site and avoidance buffer are located outside the survey corridor.
CR_95	F11	Wind Farm Survey Corridor	Native American Lithic Scatter	Avoidance of site and (50 feet [15.2 meters]) avoidance buffer recommended. If avoidance is not possible, then shovel testing recommended.
CR_96	L9	Wind Farm Survey Corridor	Native American Lithic Scatter	Avoidance of site and (50 feet [15.2 meters]) avoidance buffer recommended. If avoidance is not possible, then shovel testing recommended.
CR_97	K9	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_98	J8	Beyond Survey Corridor	Native American Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
CR_99	G9	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_100	G5	Wind Farm Survey Corridor	Native American Chipped Stone Surface Find Spot	Shovel test to confirm presence/absence of additional materials.
CR_101	J8	Wind Farm Survey Corridor	Native American Lithic Scatter	Avoidance of site and (50 feet [15.2 meters]) avoidance buffer recommended. If avoidance is not possible, then shovel testing recommended.
NS_01	H4	Wind Farm Survey Corridor	Euro-American Modern Dump/ Fieldstone Pile	Avoidance not recommended.
NS_02	F5	Wind Farm Survey Corridor	Euro-American Modern Dump	Avoidance not recommended.
NS_03	F3	Beyond Survey Corridor	Euro-American Dump/ Fieldstone Pile	Site has been avoided. No avoidance buffer recommended at this time.
NS_04	C5	Beyond Survey Corridor/ Grassland Easement	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.

SITS/Field No.	Map Grid	Location	Description	Recommendation
		Grassland Easement		
NS_05	B5	Beyond Survey Corridor/ Grassland Easement	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.
NS_06	C6	Wind Farm Survey Corridor	Euro-American Isolated Find (Farm Machinery)	Farm machinery will be not be directly impacted during construction.
NS_07	I5	Beyond Survey Corridor/ Grassland Easement	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.
NS_08	B5	Beyond Survey Corridor	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.
NS_09	G11	Beyond Survey Corridor	Euro-American Modern Dump	Site has been avoided. No avoidance buffer recommended at this time.
NS_10	I10	Beyond Survey Corridor	Euro-American Modern Dump	Resource has been avoided. No avoidance buffer recommended at this time.

Shovel Testing

Tetra Tech shovel tested 15 proposed turbine locations in October 2017 within portions of the survey corridor located on non-USFWS easement lands (see attached Figure 3). Subsurface lithic scatters consisting of non-temporally diagnostic materials were documented at 8⁶ of the 15 proposed turbines (see attached Figures 4 and 5; Tables 2 and 4). These 8 turbines have been removed from the Project’s layout, and, as a result, all of the documented sites have been avoided.

Table 4. Archaeological Sites Identified During the Shovel Testing

SITS/Field No.	Map Grid	Project Facility	Description	Recommendation
39CK0085	G10	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
39CK0086	G10	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
39CK0105	D8	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
39CK0106	I8	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.

⁶ 7 of these resources that Tetra Tech previously documented are also presented in Table 2 and shown on Figure 4.

SITS/Field No.	Map Grid	Project Facility	Description	Recommendation
39CK0110	H3	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
39CK0111	H3/H4	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
39CK0118	C8	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.
CR_07	L9	Beyond Survey Corridor	Native American Subsurface Lithic Scatter	Site has been avoided. No avoidance buffer recommended at this time.

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1983 Secretary of the Interior's Standards and Guidelines for Archaeological and Historic Preservation. Electronic document, http://www.cr.nps.gov/local-law/arch_stnds_0.htm, accessed October 6, 2016.

South Dakota State Historic Preservation Office

2012 *South Dakota Guidelines for Compliance with the National Historic Preservation Act and South Dakota Codified Law 1-19A-11.1*. South Dakota State Historical Society, Pierre.

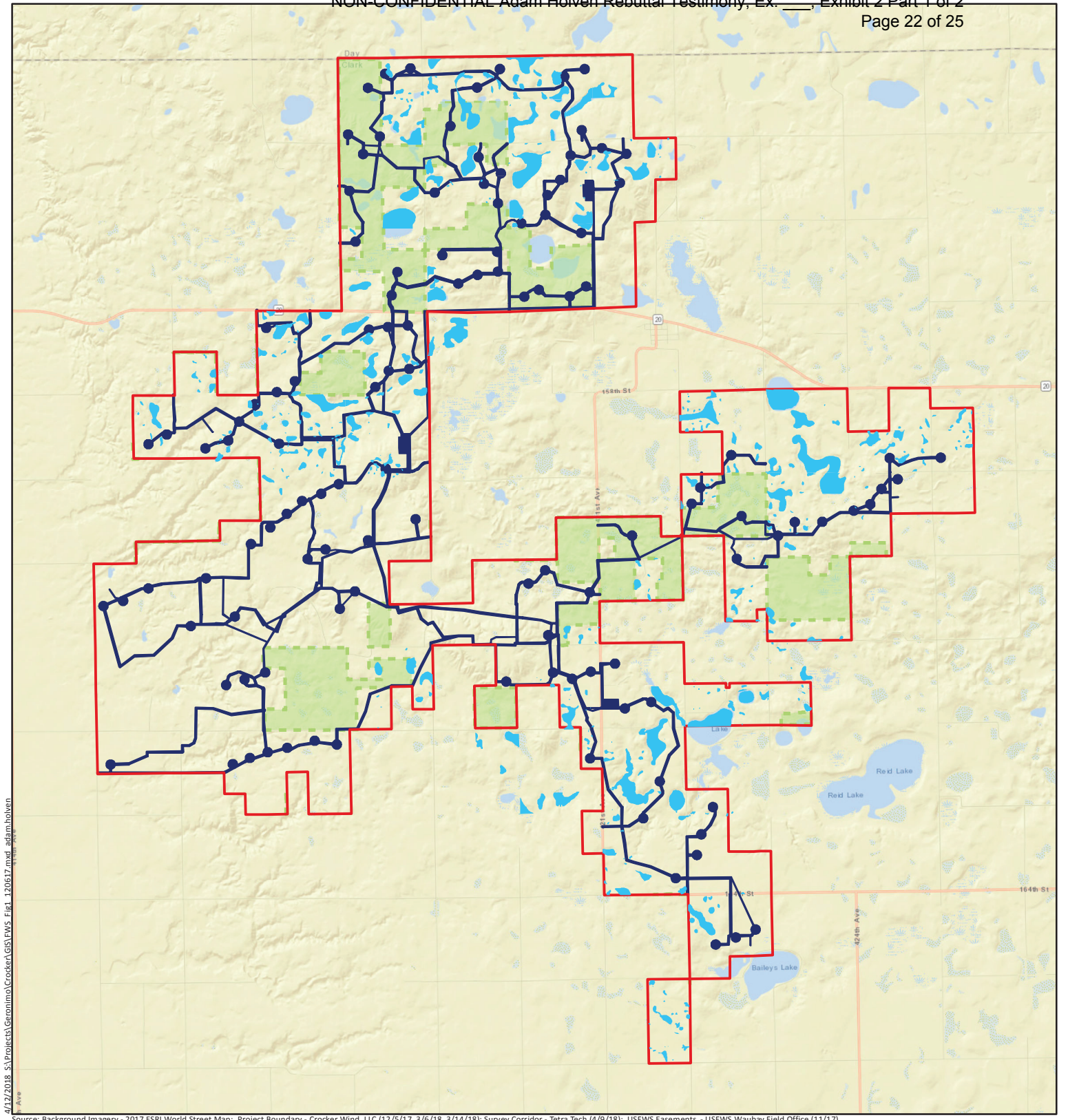
Attachments: Figure 1: Project Area and Survey Corridor Location

Figure 2: Historic Structures Review Area and Previously Recorded Architectural Resources

Figure 3: Crocker Surveyed Areas and Areas to be Surveyed in 2018

Figure 4: Archaeological Review Area and Previously Recorded Archaeological Resources

Figure 5: Cultural Survey Results



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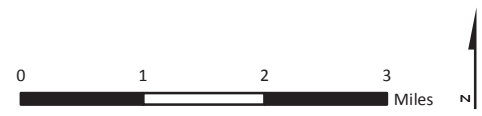
Source: Background Imagery - 2017 ESRI World Street Map; Project Boundary - Crocker Wind, LLC (12/5/17, 3/6/18, 3/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).

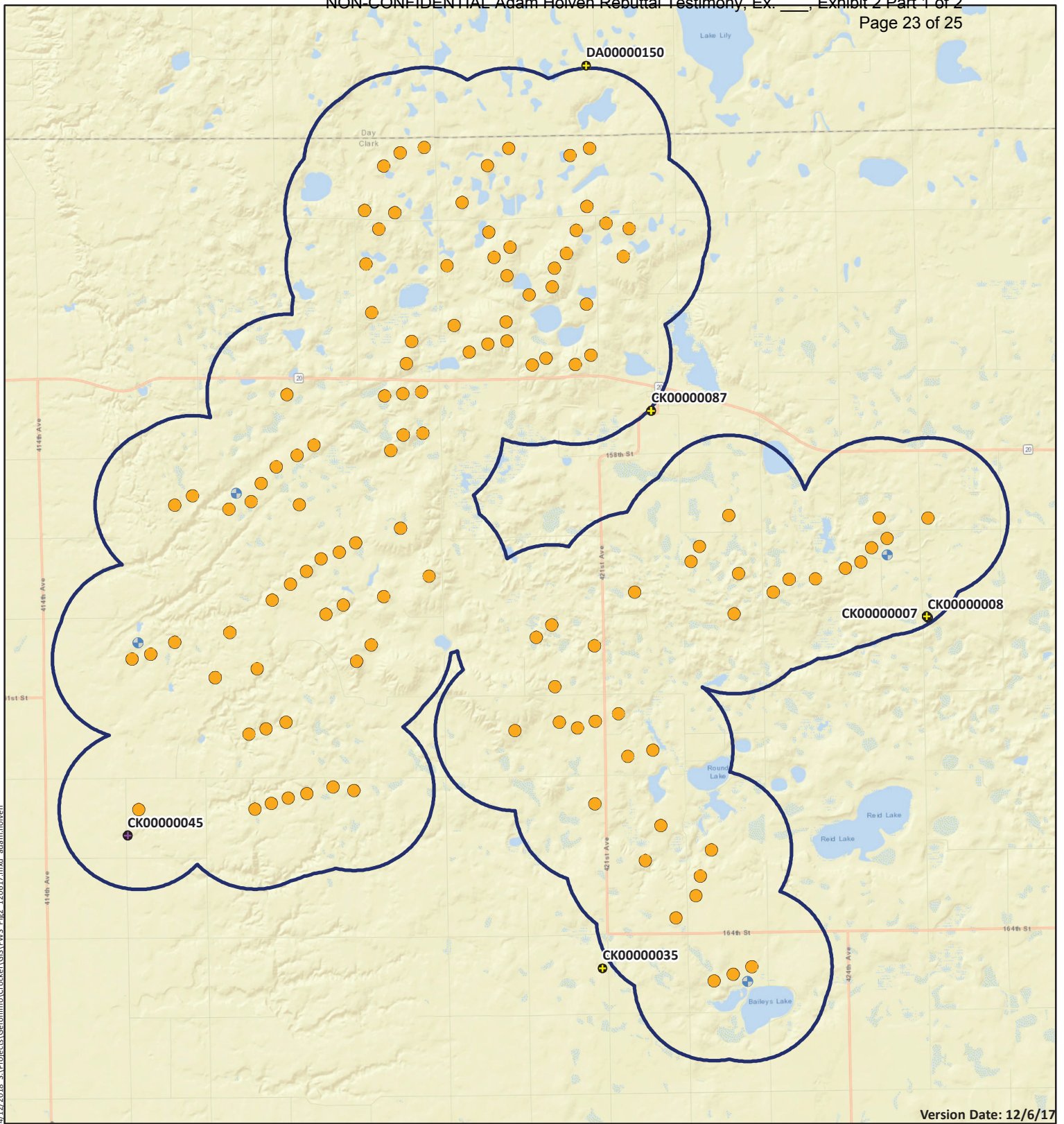


- Project Data**
- Project Area
 - Survey Corridor
- USFWS Easements**
- Grassland
 - Protected Basin

Figure 1
Project Area and
Survey Corridor Location
Crocker Wind Farm
Clark County, SD

Version Date: 4/13/18





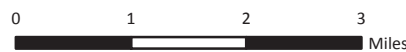
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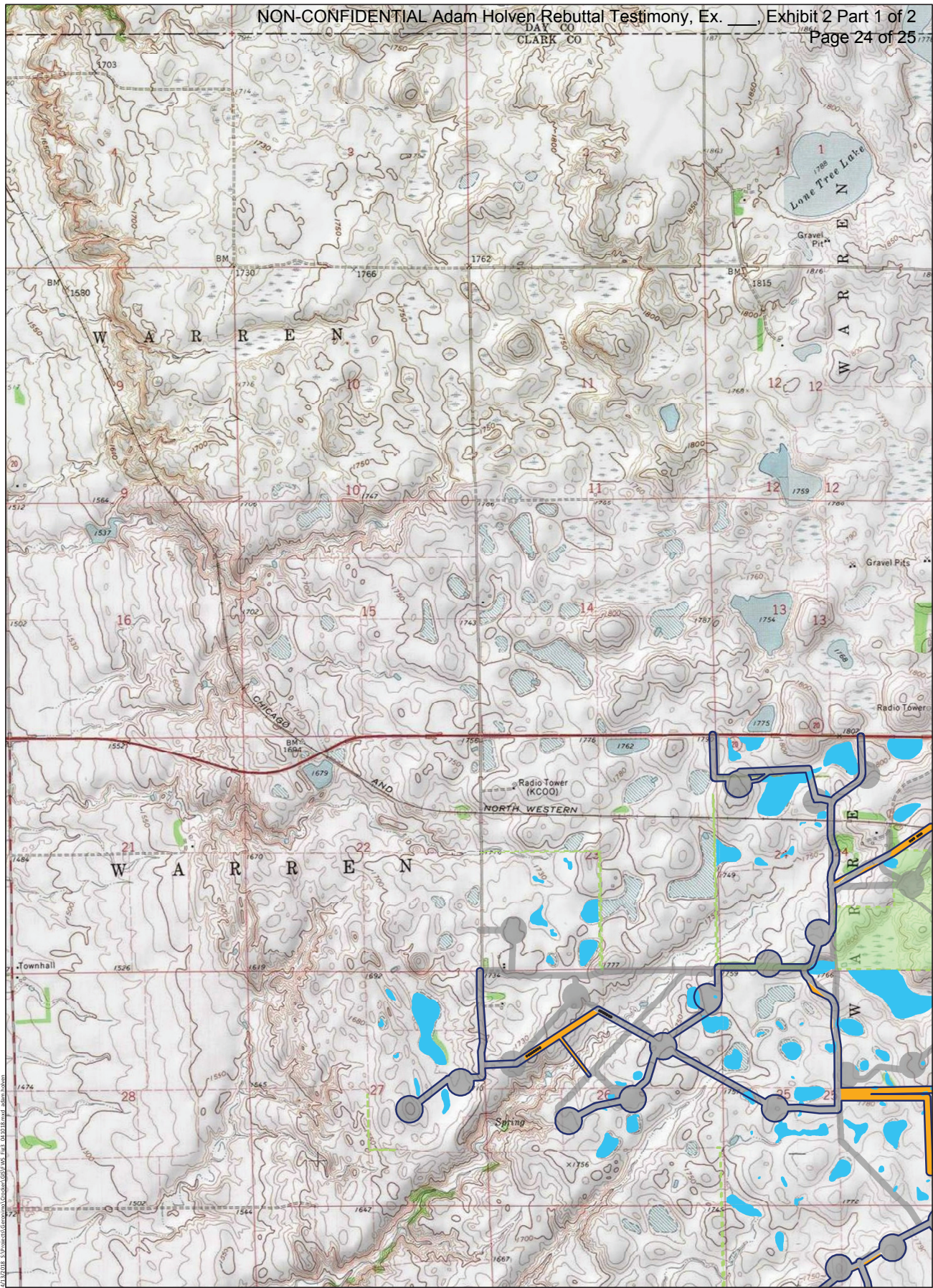
Source: Background Imagery - 2017 ESRI World Street Map; Project Turbines - Crocker Wind, LLC (12/5/17); Historic Structures Review Area - Tetra Tech (12/5/17); Previously Recorded Resources - South Dakota Archaeological Research Center (10/18/16).



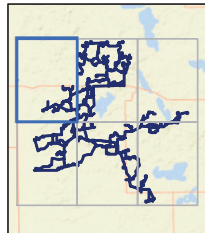
- Proposed Turbine
- ⊕ Proposed Meteorological Tower
- Historic Structures Review Area
- Previously Recorded Resource**
- ⊕ Structure
- ⊕ Bridge
- ⊕ Cemetery

Figure 2
Historic Structures Review Area
and Previously Recorded
Architectural Resources
Crocker Wind Farm
Clark County, SD





Source: Background Imagery - ESRI ArcGIS USA Topo Maps; Project Facilities - Crocker Wind, LLC (12/9/17, 3/6/18, 9/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).

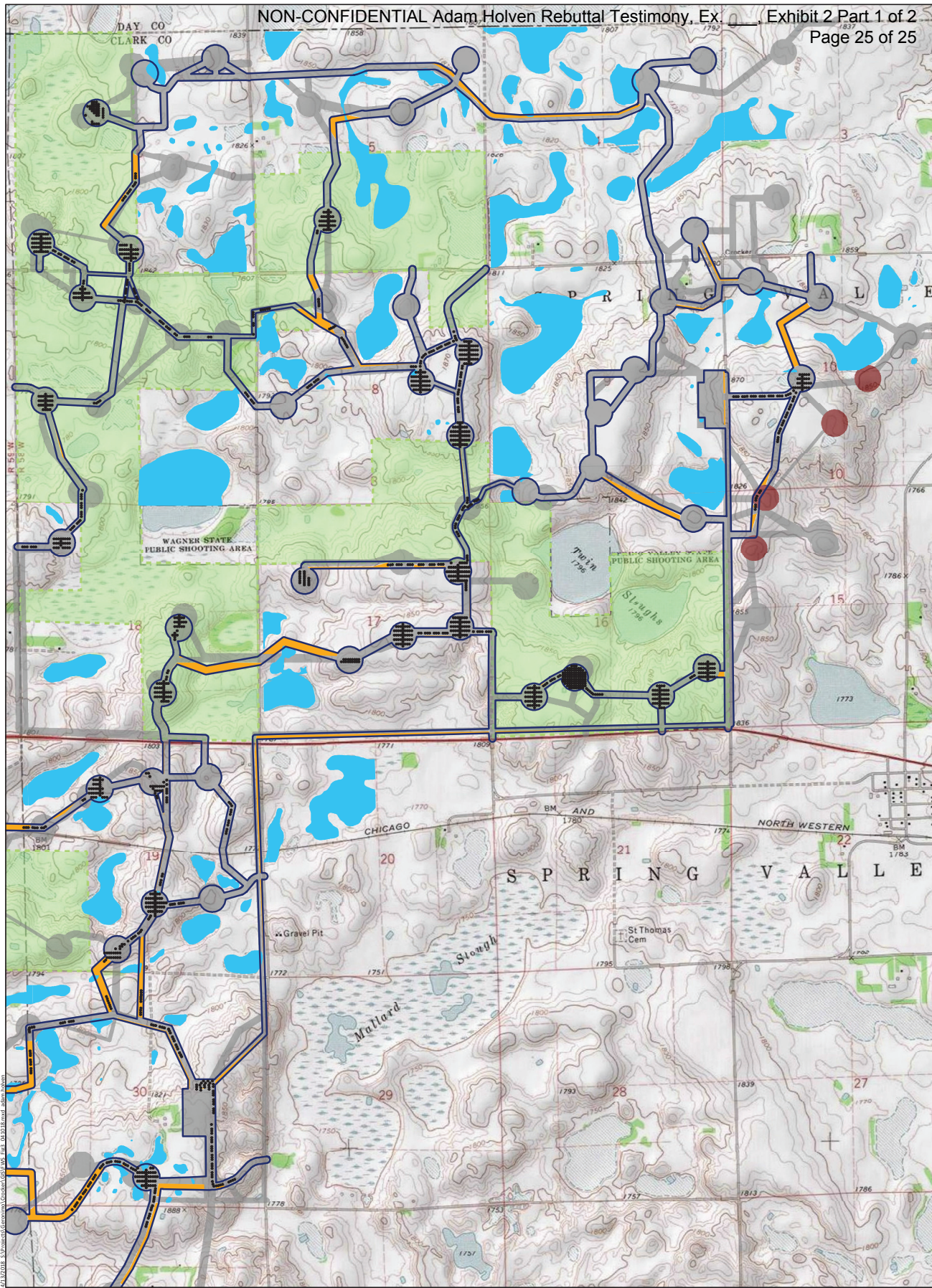


- | | |
|-------------------------------------|-----------------|
| Survey Corridor | USFWS Easements |
| To be Pedestrian Surveyed | Grassland |
| Proposed Shovel Test | Protected Basin |
| Previously Surveyed | |
| Pedestrian Survey Only | |
| Pedestrian Survey and Shovel Tested | |

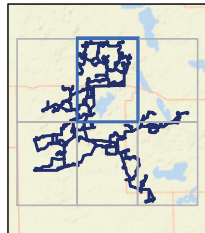


Figure 3 - A1
Crocker Surveyed Areas and
Areas to be Surveyed in 2018
Crocker Wind Farm
Clark County, SD





Source: Background Imagery - ESRI ArcGIS USA Topo Maps; Project Facilities - Crocker Wind, LLC (12/9/17, 3/6/18, 3/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).

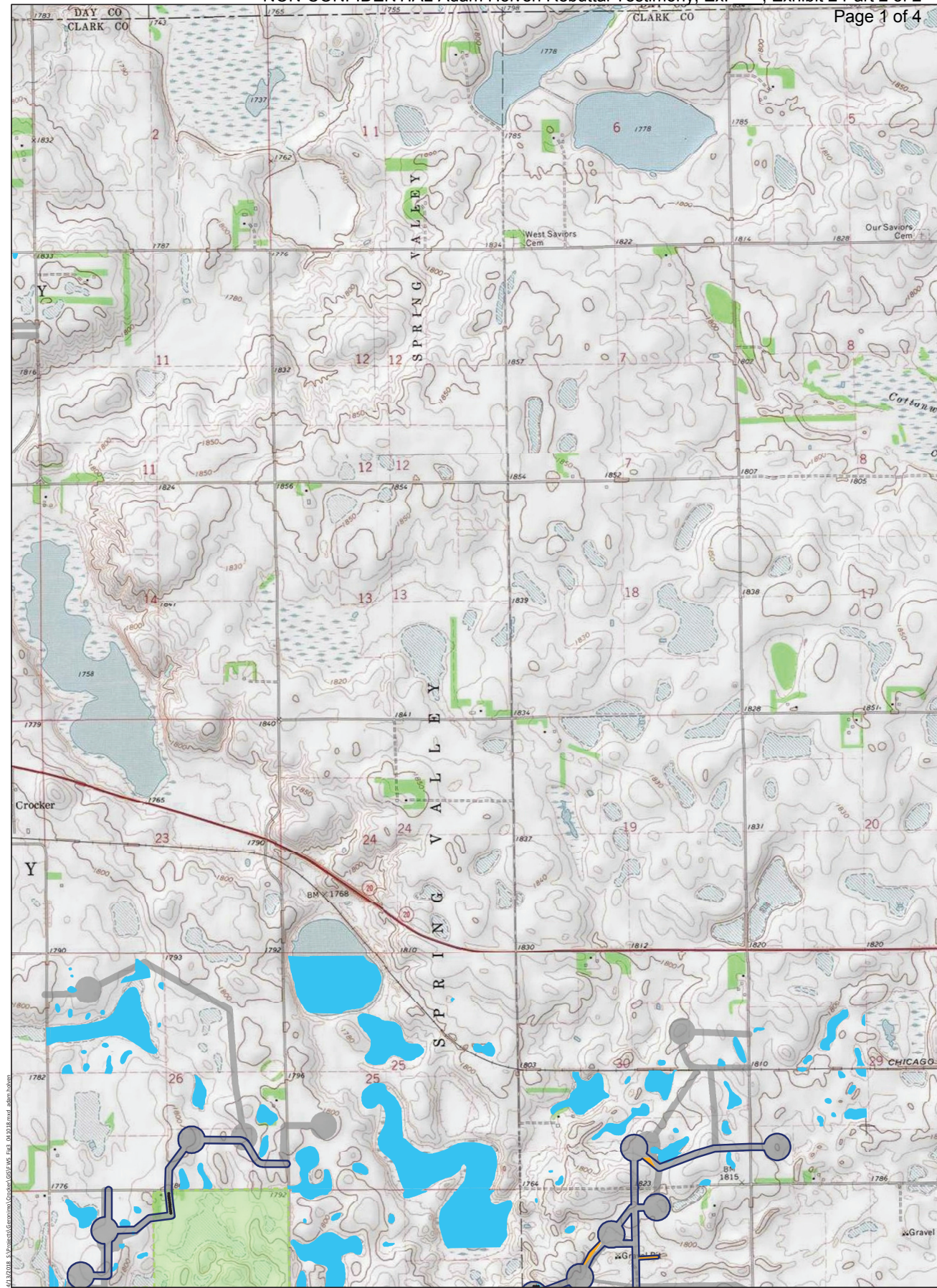


- Survey Corridor
 - To be Pedestrian Surveyed
 - Proposed Shovel Test
 - Previously Surveyed
 - Pedestrian Survey Only
 - Pedestrian Survey and Shovel Tested
- USFWS Easements
 - Grassland
 - Protected Basin

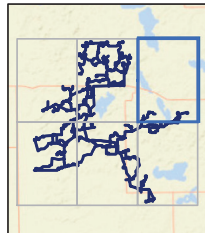


Figure 3 - A2
Crocker Surveyed Areas and
Areas to be Surveyed in 2018
Crocker Wind Farm
Clark County, SD





Source: Background Imagery - ESRI ArcGIS USA Topo Maps; Project Facilities - Crocker Wind, LLC (12/5/17, 3/6/18, 3/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).

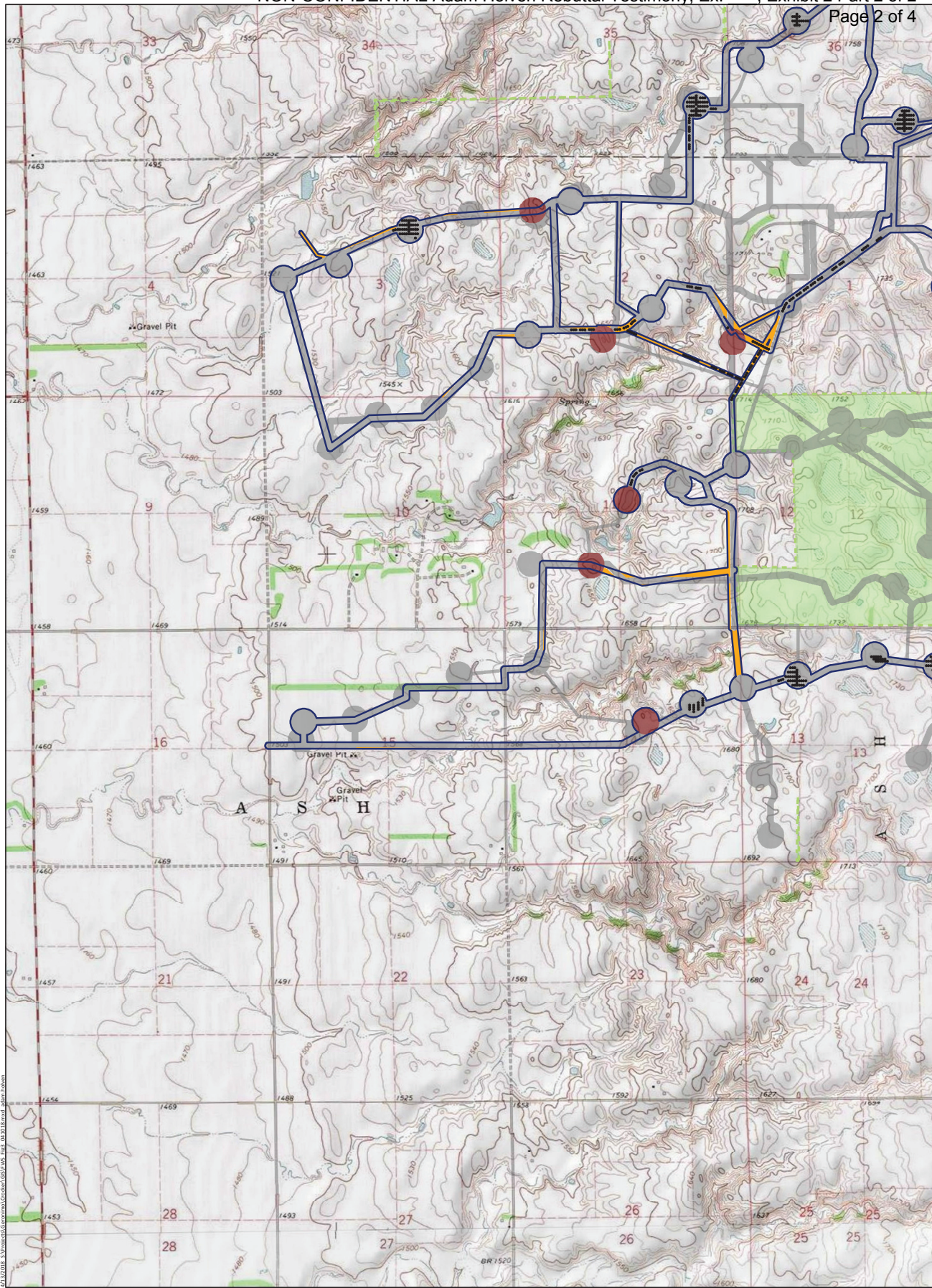


- Survey Corridor
- To be Pedestrian Surveyed
- USFWS Easements
- Grassland
- Protected Basin
- Proposed Shovel Test
- Previously Surveyed
- Pedestrian Survey Only
- Pedestrian Survey and Shovel Tested

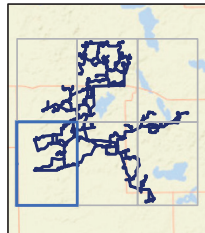


Figure 3 - A3
Crocker Surveyed Areas and
Areas to be Surveyed in 2018
Crocker Wind Farm
Clark County, SD





Source: Background Imagery - ESRI ARC GIS USA Topo Maps; Project Facilities - Crocker Wind, LLC (12/5/17, 3/6/18, 3/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).

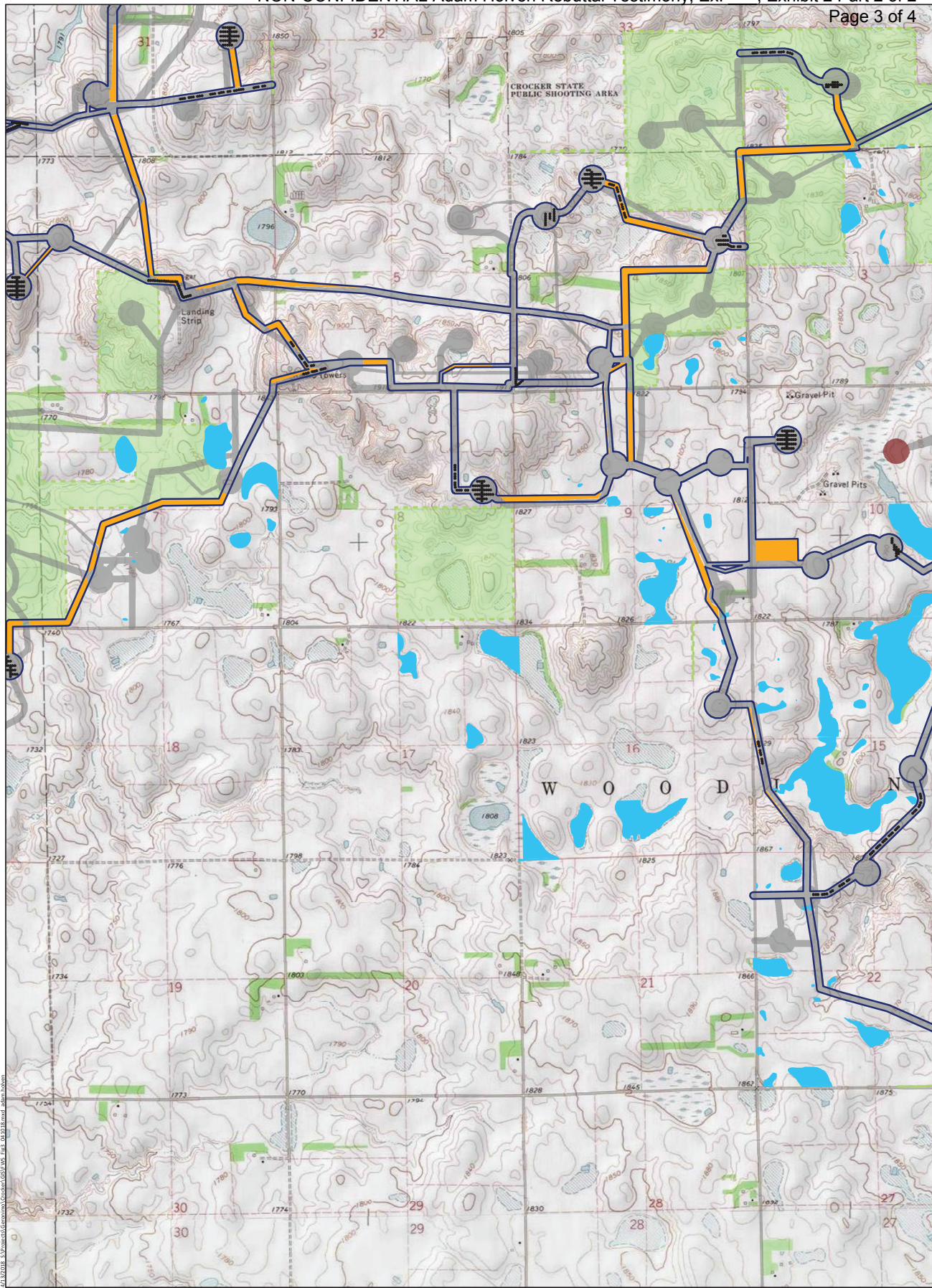


- Survey Corridor
- To be Pedestrian Surveyed
- Proposed Shovel Test
- Previously Surveyed
- Pedestrian Survey Only
- Pedestrian Survey and Shovel Tested
- USFWS Easements
- Grassland
- Protected Basin

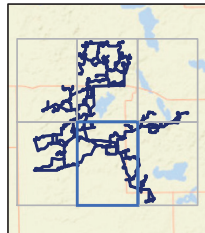


Figure 3 - B1
Crocker Surveyed Areas and
Areas to be Surveyed in 2018
Crocker Wind Farm
Clark County, SD





Source: Background Imagery - ESRI ArcGIS USA Topo Maps; Project Facilities - Crocker Wind, LLC (12/5/17, 3/6/18, 3/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).

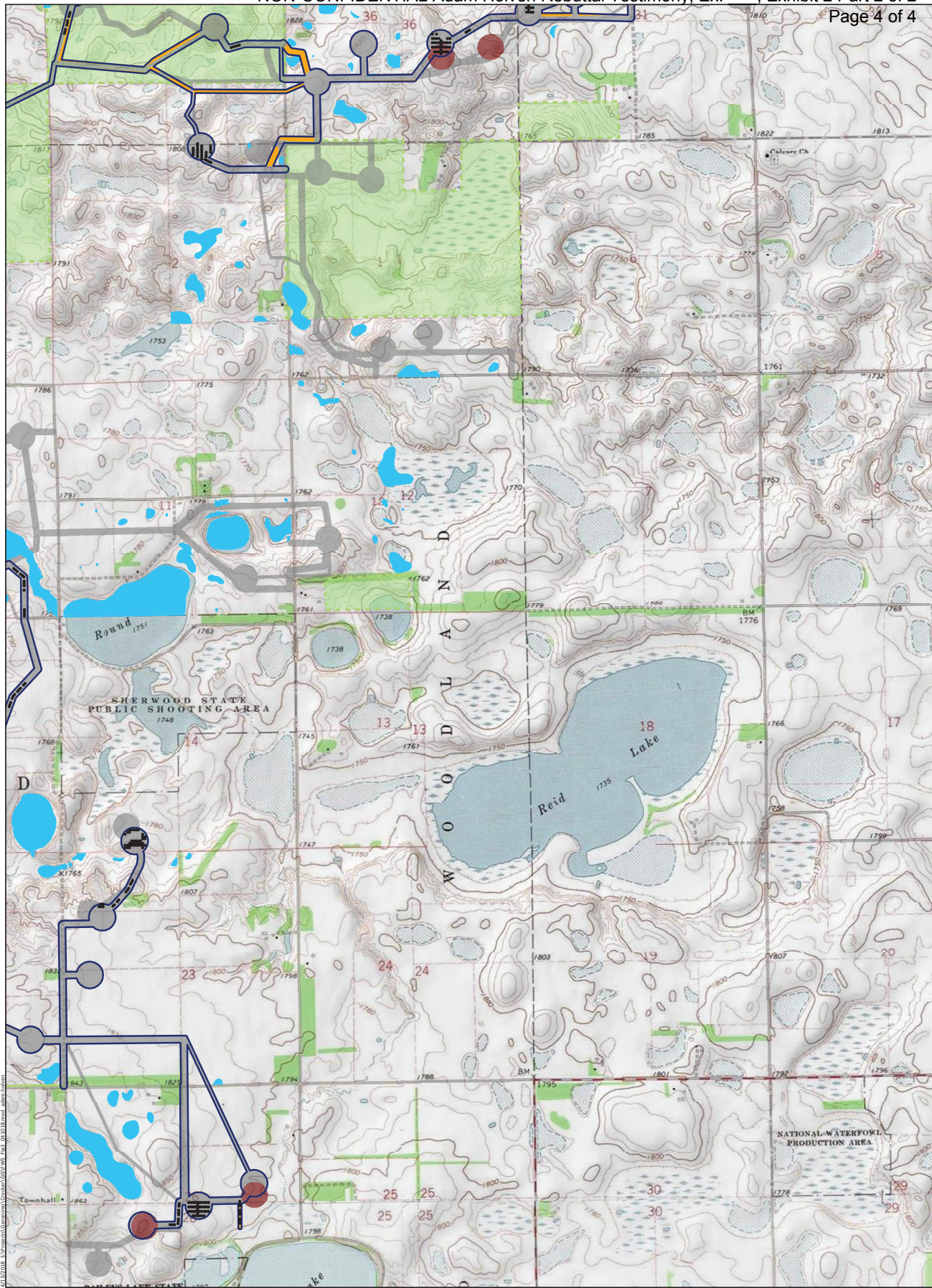


- Survey Corridor
- To be Pedestrian Surveyed
- Previously Surveyed
- Pedestrian Survey and Shovel Tested
- USFWS Easements
- Grassland
- Protected Basin
- Proposed Shovel Test

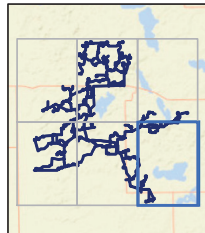


Figure 3 - B2
Crocker Surveyed Areas and
Areas to be Surveyed in 2018
Crocker Wind Farm
Clark County, SD





Source: Background Imagery - ESRI ArcGIS USA Topo Maps; Project Facilities - Crocker Wind, LLC (12/5/17, 3/6/18, 3/14/18); Survey Corridor - Tetra Tech (4/9/18); USFWS Easements - USFWS Waubay Field Office (11/17).



- | | |
|-------------------------------------|-----------------|
| Survey Corridor | USFWS Easements |
| To be Pedestrian Surveyed | Grassland |
| Proposed Shovel Test | Protected Basin |
| Previously Surveyed | |
| Pedestrian Survey Only | |
| Pedestrian Survey and Shovel Tested | |



Figure 3 - B3
Crocker Surveyed Areas and
Areas to be Surveyed in 2018
Crocker Wind Farm
Clark County, SD

