

**Antelope Hills Windfarm:  
A Class III Intensive Cultural Resource Inventory in  
Mercer County, North Dakota**

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COUNTY	TWP	R	SEC	SU
Mercer	146N	90W	21-28, 33-36	GA
	146N	89W	28-36	GA
	145N	90W	2	KN
	145N	89W	1-16	KN
	145N	88W	6, 7, 13-18	KN

## **Abstract**

Antelope Hills Wind Project, LLC contracted Beaver Creek Archaeology, Inc. (BCA) to complete a Class III Cultural Resource Inventory for the proposed Antelope Hills Windfarm in Mercer County, North Dakota. The Antelope Hills Windfarm consists of up to 86 wind turbine locations with 38 alternate locations and a substation. A total of 124 wind turbine locations were inventoried. Each wind turbine location was centered on a 5-acre pad, while the collector lines and access roads were inventoried at a 250-foot corridor. There are a total of 164 miles of associated collector lines and access roads and 10 miles of general tie lines. Some of the linear project features are located directly adjacent to each other (see maps in Appendix B). The Survey Area showing in Map 1, Appendix C has combined the separate lines into one wider area. The project covers approximately 3,829 acres. In August and October 2014, BCA conducted the Class III Inventory in the sections for proposed project location.

The Survey Area consists of pastureland, some of which is native prairie, and agricultural fields. The Class III proposed project locations were identified using topographic and aerial maps as well as Global Positioning System (GPS) hardware. Survey methods included intensive pedestrian survey.

During the field inventory, BCA archaeologists identified 28 previously unrecorded cultural resources and 17 previously recorded cultural resources. Cultural Resources included 15 Native American stone feature sites (32ME507, 32ME802, 32ME1278, 32ME1279, 32ME2220, 32ME2521, 32ME2525, 32ME2568, 32ME2569, 32ME2570, 32ME2575, 32ME2577, 32ME2578, 32ME2583, and 32ME2586); one Native American mound site (32ME2572); five Native American cultural material (CM) scatter sites (32ME510, 32ME1267, 32ME2576, 32ME2579, and 32ME2585); one Native American stone feature and CM scatter site (32ME1444); one Native American/Historic Archaeological site (32ME1280); seven Native American Isolated Finds (32MEx759, 32MEx760, 32MEx761, 32MEx762, 32MEx763, 32MEx764, 32MEX765); one Native American Site Lead (32MEx766); five Historic Archaeological sites (32ME1293, 32ME2498, 32ME2524, 32ME2571, and 32ME2573); five Architectural sites (32ME1595, 32ME1596, 32ME2567, 32ME2574, and 32ME2582); and four Historic Archaeological/Architectural sites (32ME2217, 32ME2580, 32ME2581, and 32ME2584).

The 15 Native American stone feature sites, the mound site, four CM Scatter sites, the stone feature/CM scatter site, the Native American/Historic Archaeological, one Historic Archaeological site (32ME1293), and the Site Lead have been recommended unevaluated/potentially eligible to the National Register of Historic Places (NRHP) by BCA, and are recommended to be avoided during construction. One CM Scatter site (32ME2583), the seven Isolated Finds, four Historic Archaeological, the five Architectural, and the four Historic Archaeological/Architectural sites have been recommended not eligible for the NRHP and as such, no avoidance is recommended for these sites for this project. Tribal Avoidance Areas, located on the map in Appendix B as black hashed areas, must be avoided during project construction.

An architectural visual impact inventory will be included as an addendum to this report. Further survey will need to be conducted for any project changes that fall outside the currently surveyed Survey Area.

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## Introduction

Antelope Hills Wind Project, LLC contacted Beaver Creek Archaeology, Inc. (BCA) to complete a Class III Cultural Resource Inventory of the Antelope Hills Windfarm in Mercer County, North Dakota (Figure 1 and Appendix B: Maps). The project consists of up to 86 5-acre turbine locations, a substation, and 250-foot wide, 164-mile long corridor of collector lines and access roads as well as 10 miles of general tie lines. Several of these lines are located adjacent to each other and when mapped show up as one wide survey corridor (see maps in Appendix B). With 38 alternate turbine locations, a total of 124 wind turbine locations were inventoried. The Antelope Hill Windfarm, when completed, will generate up to 172 megawatts (MW) of electricity. There are three proposed arrays in which this survey covered. Options 1 and 2 would consist of up to 86 wind turbine generators using a V-100 or V-110 generator. Option 3 would consist of up to 75 wind turbine generators using a Siemens 108 generator. The total project area is approximately 3,829 acres in size; however, 102 acres have been previously inventoried, so only 3,727 acres were inventoried in the Survey Area.

The locations of the proposed project are presented in Table 1, below, in a tabular format as depicted on the USGS 7.5' Golden Valley NW, Golden Valley NE, Beulah NW, Beulah, and Zap quadrangle maps.

**Table 1.** Surveyed Proposed Project Location

Township	Range	Sections	USGS Quad. Map
146N	90W	21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36	Golden Valley NW & Golden Valley NE
146N	89W	28, 29, 30, 31, 32, 33, 34, 35, 36	Golden Valley NE & Beulah NW
145N	90W	2	Golden Valley NE
145N	89W	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	Golden Valley NE, Beulah NW, & Zap
145N	88W	6, 7, 13, 14, 15, 16, 17, 18	Beulah NW, Zap, & Beulah

In August and October 2014, BCA conducted a Class III inventory of the proposed project area. The turbine locations, substation, and the corridor of collector lines, access roads, and general tie lines were inventoried for cultural resources. There are 13 5-acre alternate turbine locations that are not connected to the rest of the project. If any of these alternate turbine pads are used, additional survey will be needed for access roads and collector lines. No O&M location or crane paths were inventoried. If construction takes place within the current survey area, no further work is necessary.

During the field inventory, BCA archaeologists identified 28 previously unrecorded cultural resources and 17 previously recorded cultural resources. Cultural Resources included 15 Native American stone feature sites (32ME507, 32ME802, 32ME1278, 32ME1279, 32ME2220, 32ME2521, 32ME2525, 32ME2568, 32ME2569, 32ME2570, 32ME2575, 32ME2577, 32ME2578, 32ME2583, and 32ME2586); one Native American mound site (32ME2572); five Native American cultural material (CM) scatter sites (32ME510, 32ME1267, 32ME2576,

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The 15 Native American stone feature sites, the mound site, four CM Scatter sites, the stone feature/CM scatter site, the Native American/Historic Archaeological, one Historic Archaeological site (32ME1293), and the Site Lead have been recommended unevaluated/potentially eligible to the National Register of Historic Places (NRHP) by BCA, and are recommended to be avoided during construction. One CM Scatter site (32ME2583), the seven Isolated Finds, four Historic Archaeological, the five Architectural, and the four Historic Archaeological/Architectural sites have been recommended not eligible for the NRHP and as such, no avoidance is recommended for these sites for this project. Tribal Avoidance Areas, located on the map in Appendix B as black hashed areas, must be avoided during project construction.

Land use throughout the Survey Area consisted of pastureland, of which some is native prairie, and agricultural lands. Ground visibility in these areas did not go below 30 percent, so no shovel probes were excavated.

The proposed project location was identified using Trimble Juno Global Positioning System (GPS), topographic maps, and aerial photos georeferenced in ESRI ArcView Geographic Information System (GIS).

## **Project Background and Inventory Methodology**

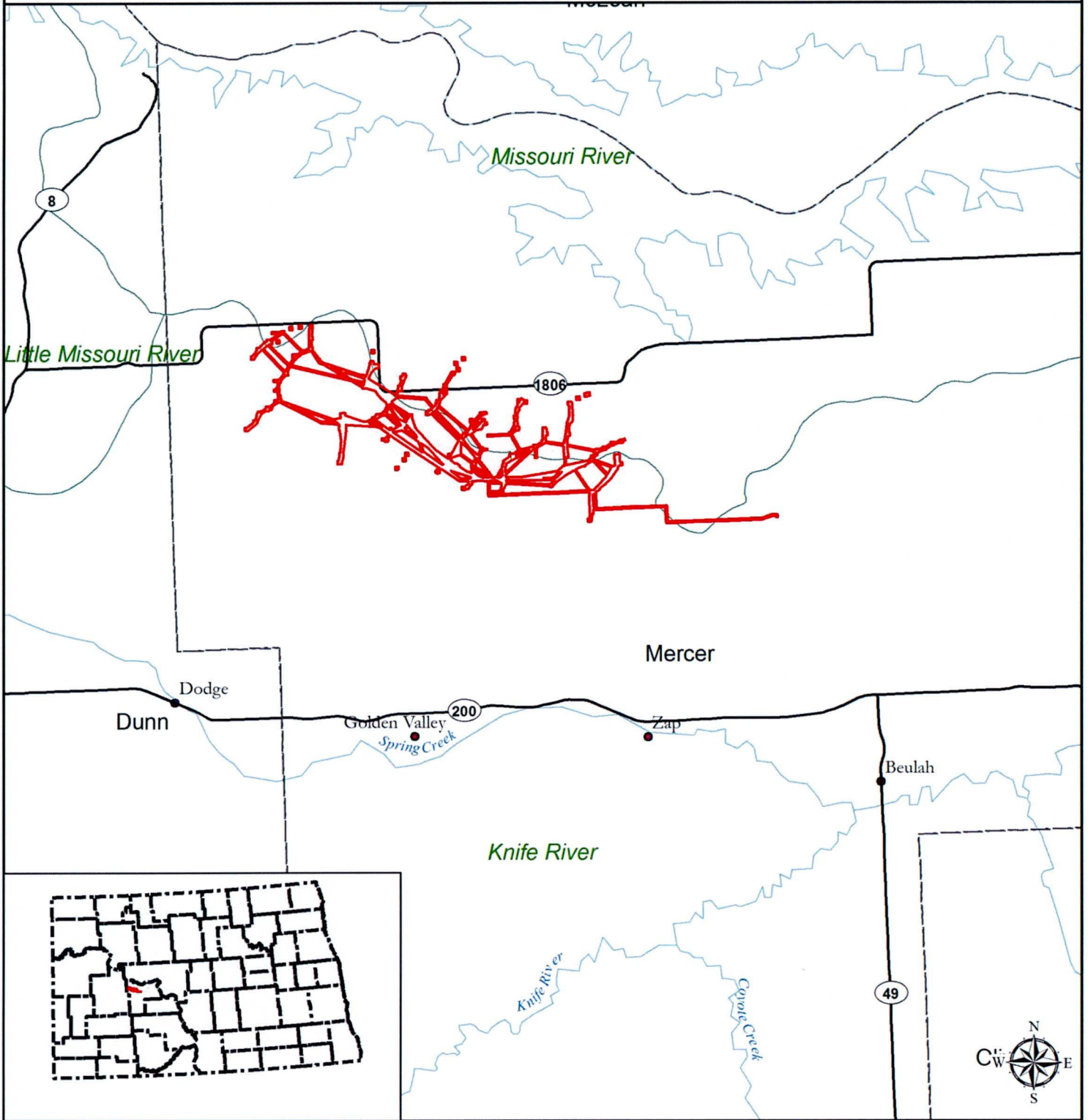
The Antelope Hill Windfarm consists of up to 86 proposed wind turbines with 38 alternate locations and a substation. The 124 wind turbine locations were inventoried, with associated access roads, collector lines, and general tie lines. Of the 3,839 acres of the project area, only 3,727 acres of the Survey Area were inventoried to a Class III Cultural Inventory standard as 102 acres have been previously inventoried.

BCA cultural resource staff conducted the Class III Cultural Resource Inventory of the proposed project location in August and October 2014. The field crew consisted of Christina Burns (Principal Investigator), Wade Burns (Field Director), Lindsey Reiners (Crew Chief), Russell Red Horn (MHA THPO monitor), Tara Friend (Archaeological Assistant), Andrew Domine (Archaeological Assistant), Michael Rohrer (Archaeological Assistant), Cody Kiker (Archaeological Assistant), and Aaron Kidwell (Archaeological Assistant). Mary Mortensen and Eric McCann prepared site forms. Mary Mortensen prepared site form maps and the project map. Brittany Brooks prepared the report. The report and fieldwork preparation included a review of previously identified cultural resources, an architectural reconnaissance inventory of buildings near the project area, and intensive pedestrian surveys of the Survey Area.


The pedestrian survey was performed by lining crew members 10-15 meters apart walking in parallel transects across the Survey Area. In areas with 30 percent or more ground surface visibility, pedestrian survey was deemed sufficient. During the project, no area fell below 30 percent ground surface visibility.

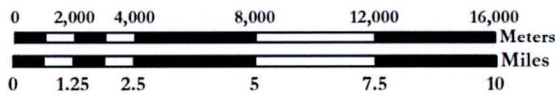
When an archaeological feature was identified, the location was marked with pin-flags and the surrounding area was intensely surveyed for additional cultural resources to determine the size and nature of the resource. When the nature of the resource was determined, the appropriate site forms were filled out, and site boundaries and features were plotted with a GPS. These GPS points were later brought into a GIS software, where site maps and sketch maps were created.

The sites and general Survey Area were photographed with a digital camera. Site forms were submitted to the North Dakota State Historic Preservation Office. Throughout the survey, field notes were taken. Copies of maps, field notes, site forms, and photographs are located at the BCA main office in Bismarck, North Dakota.



**Legend**

 Survey Area (3,829 acres)



Base Map: USGS 7.5'  
Scale: 1:24,000  
UTM NAD83 Zone 13 & 14

Figure 1. Location of Survey Area in Mercer County, North Dakota.

## **Environmental Setting**

The proposed project is located within two environmental study units, the Garrison Study Unit (GSU) and the Knife River Study Unit (KRSU).

### ***Garrison Study Unit***

The project lies within the Garrison Study Unit, which is located in the northwestern part of North Dakota. The study unit is situated within the Glaciated Missouri Plateau Subsection, of the Great Plains Physiographic Province (SHSND 2008b:6.1). Knob-and-kettle glaciated terrain and other glacial features are common on the Coteau du Missouri. Named streams include the Big Muddy Creek, Painted Woods Creek, Douglas Creek, Shell Creek and Deepwater Creek. Named rivers include Little Muddy River, Little Knife River and White Earth River (SHSND 2008b:6.1-6.6).

Temperatures vary immensely by season with warm summers and cold winters. Precipitation averages around 16 inches annually, most of which falls as rain during the spring and summer months. Prevailing winds throughout the year average around 16 mph from the west-northwest (SHSND 2008b:6.6).

Landforms in this area consist of glaciated uplands, breaks terrain, valley wall side slopes and foot slopes, draws, alluvial terraces, and floodplains. This area of North Dakota is situated in the Northern Temperate Grasslands biome. The mixed grass prairie is dominated by western wheatgrass, blue grama, and needle-and-thread. This grassland provided good habitat for large game animals, such as bison and antelope. Gallery forests grew along the Missouri River and other tributaries and provided a suitable environment for white-tailed deer and small mammals such as muskrat and porcupine. Hardwood draws of bur oak, green ash, and juniper are part of transition zones between the grasslands and floodplain forests. Food plants in the area include chokecherry, buffaloberry, and gooseberry (SHSND 2008b:6.7).

In general, the faunal diversity in the area at contact time was as great as or greater than anywhere in the state (SHSND 2008b:6.8). Animals that could be hunted for meat, hides, feathers, teeth, bones, etc., included bison, elk, antelope, white-tailed deer, mule deer, bighorn sheep, mountain lion, coyote, foxes, eagles, hawks, owls, and a variety of waterfowl, fish, turtles, and mussels (SHSND 2008b:6.8).

Today the area contains an agricultural-based economy. Wheat, corn, sunflowers and grasslands comprise the project area. Tree cover is limited to wind blocks surrounding farmsteads and along riparian areas.

This biotic diversity along with the availability of water makes this setting favorable for human settlement, both during prehistoric and historic time-periods. One prominent natural resource in this area is Knife River Flint (KRF), which is abundant and has been quarried for centuries by native peoples. In addition, good quality Tongue River Silicified sediment, chalcedonies, and silicified wood attracted people to the area. These stones are capable of conchoidal fracturing and are ideal for stone tool production.

### ***Knife River Study Unit***

The project lies within the Knife River Study Unit, which is centrally located in North Dakota. This study unit is situated in the Unglaciaded Missouri Plateau subsection, of the Missouri Plateau section, of the Great Plains physiographic province. This region is comprised of stream valleys, gently rolling uplands, and the occasional butte. Named streams include Spring Creek, Otter Creek, Coyote Creek, and Deep Creek. Named rivers include Knife River and Little Knife River (SHSND 2008b:3.1-3.5).

Temperatures vary immensely by season with long, cold winters and short, warm summers. Precipitation averages around 15 inches annually, most of which falls during the spring and summer months. The ground is often covered by snow from mid-November to mid-April (SHSND 2008b:3.5).

Landforms in this area consist of upland plains, breaks terrain, valley wall side slopes and foot slopes, draws, alluvial terraces, and floodplains. This area of North Dakota is situated in the Northern Temperate Grasslands biome. The mixed grass prairie is dominated by wheatgrass, bluestem, needle-and-thread, and Indian breadroot. The riparian zones are comprised of green ash, bur oak, box elder, cottonwood, quaking aspen, Rocky Mountain red cedar, and paper birch as well as edible plants of chokecherry, juneberry, gooseberry, and buffaloberry (SHSND 2008b:3.6).

The prairie and riparian environments are host to a variety of large and small animals. Animals that could be hunted for meat, hides, feathers, teeth, bones, etc., included bison, elk, antelope, white-tailed deer, mule deer, coyote, badger, beaver, raccoon, rabbit, skunk, eagles, hawks, owls, and a variety of waterfowl, fish, turtles, and mussels (SHSND 2008b:3.6).

Today the area contains an agricultural-based economy. Wheat, corn, sunflowers and grasslands comprise the project area. Tree cover is limited to wind blocks surrounding farmsteads and along riparian areas.

This biotic diversity along with the availability of water makes this setting favorable for human settlement, both during prehistoric and historic time-periods. One prominent natural resource in this area is Knife River Flint (KRF), which is abundant and has been quarried for centuries by native peoples. In addition, good quality Tongue River Silicified sediment (TRSS), Porcellanite, chalcedonies, and silicified wood attracted people to the area. These stones are capable of conchoidal fracturing and are ideal for stone tool production (SHSND 2008b:3.6, 3.9).

## **Native American Cultural Background**

The proposed project is located within two cultural study units, the Garrison Study Unit and the Knife River Study Unit. The Native American cultural background of these two study units are different; however, the Euro-American cultural background is the same.

### ***Garrison Study Unit***

The majority of archaeological sites found within the Garrison Study Unit are stone circle sites, followed by cultural material scatters and cairn sites. These types of sites are most often found on ridge and hill settings (SHSND 2008b:6.9). The project is located near the Beaver Creek, and the

site distribution is light within a one mile radius of the Survey Area (where the file search was conducted). The archaeological horizons encountered in North Dakota are as follows:

**Paleo-Indian Period (9500-5500 B.C.)**

Due to the amount of sediment erosion and deposition that has taken place across the landscape since early Holocene times, it is difficult to locate intact Paleo components in the GSU. However, areas near tributaries on ridgetop and terrace settings have yielded plant and animal remains and shed light on Paleo-Indian subsistence patterns and lithic technologies. The Beacon Island site (32MN243A), for example, is an Agate Basin site that contains intact, unmixed, and datable remains of *Bison antiquus* and the Moe site (32MN101), which contains Folsom and later Paleo remnants, was found above today's reservoir water level. The most significant areas to discover Paleo-Indian remnants have been in the Knife River flint (KRF) principal source area and in or near the Missouri River valley. Knife River flint was the flint of choice to early groups producing lithics in this region (SHSND 2008b:6.63-6.65). "Two lithic technological procedures prominently represented at sites in the GSU are Folsom fluting and blade production" (SHSND 2008b:6.64). The Moe site yielded Folsom, Plainview (or Goshen), Agate Basin, Parallel-Oblique Flakes, and Scottsbluff points.

**Plains Archaic Period (5500-400 B.C.)**

Middle and Late Plains Archaic deposits are found in quickly deposited sedimentary context, which correlate with erosion in the uplands from subsequent drought. Plains Archaic remnants have frequently been discovered in upland settings as well as in terrace and riverbank locations. The Middle and Late Archaic components at the Mondrian Tree site (32MZ58) yielded bone remains of bison, antelope, elk, deer, beaver, and canids. This site also has evidence of summertime collecting and processing of plant foods, such as goosefoot, marsh elder, knotweed, dogbane, wild grape, hedge nettle, and mallow, with a sandstone grinding slab and quartzite mano (SHSND 2008b:6.66-6.67).

Early Plains Archaic components are indicated by finds of Simonsen points. Middle Plains Archaic components are represented by Oxbow, McKean, Duncan, and Hanna points. Late Plains Archaic components are indicated by finds of Yonkee and Sandy Creek points. Numerous Early, Middle, and Late Plains Archaic projectile point styles have proven to be reliable cultural/temporal indicators for relative dating in the GSU (SHSND 2008b:6.67-6.68).

**Plains Woodland Period (400 B.C.–A.D. 1200)**

Environmentally favorable conditions, the development of biomass, peaked twice during the Plains Woodland period, which coincide with the peak of the Besant/Sonota culture of the Middle Plains Woodland period and Late Plains Woodland period to early Plains Village period. Besant/Sonota components are rather common. Mortuary sites, such as the Boeckel-Renner site (32ME799), along with a large number of sites in the area indicate that people with the Middle Plains Woodland Besant/Sonota material culture had permanent occupation within the GSU. Site 32ME947 is a stratified, multi-component bison kill and processing site with a Middle and Late Plains Woodland components, which is associated with the Old Women's complex. Other Late Plains Woodland cultures in the GSU are represented by Avonlea and Mortlach (SHSND 2008b:6.69-6.70). "Subsistence remains from the Mortlach component at the Evans site

(32MN301) include bison, swift fox, coyote, deer, duck, and charred plum seed. Bison scapula digging tools were found, but not any remains of garden crops” (SHSND 2008b:6.71).

Ceramic technologies in the area show up around the Middle Plains Woodland period at sites such as the Nightwalker’s Butte (32ML39), the Evans site, and the Mondrian Tree site (32MZ58). Mortlach ceramics display substantial variability in decoration and vessel form. Lithic technologies also show stylistic variation in the Late Plains Woodland period with Prairie Side-Notched points, Avonlea points, and other variations of side- and corner-notched points. Obsidian, from southeastern Idaho, of possible Besant/Sonota cultural affiliation was recovered from the Boeckel-Renner site (SHSND 2008b:6.71-6.73).

### **Plains Village Period (A.D. 1200-1780)**

Prior to 1780, the GSU was mainly an area of hunting camps and temporary settlements. “Field camps were established in a sheltered tributary stream valley setting at the Mondrian Tree site (32MZ58)” and specialized activities went on in an adjacent open upland rim setting at the Edna Mae site (32MZ369) (SHSND 2008b:6.74-6.75). Sometime within the middle of the Plains Village period, there was a drought episode, during which time the subsistence base was diminished and conflict arose. As a result, settlements, such as the White Earth Creek site (32MN101), had fortification ditches and palisade walls with bastions to protect their people (SHSND 2008b:6.73-6.75).

Besides hunting, the Plains Villagers grew corn, melons, pumpkins, and beans. Several ceramic temporal trends occurred during the Plains Village period via vessel forms and types of decoration. These are associated with the Knife River phase and Scattered Village complex. Exotic nonlocal shell, such as dentalium and abalone shell, and other trade goods have been found at the Mondrian Tree site (SHSND 2008b:6.75-6.76).

### **Equestrian/Fur Trade Period (A.D. 1780-1880)**

The advent of the Fur Trade and increased Euro-American contact in the 19<sup>th</sup> century brought about many changes in the traditional culture of groups such as the Mandan, Hidatsa, and Arikara. The Fort Berthold Reservation was established in 1870 for the Mandan, Hidatsa, and Arikara to protect them from hostile Equestrian Nomads (SHSND 2008b:6.76). Metal tools and implements obtained via trade replaced traditional items of stone, bone, wood, shell, and clay. The gun ascended to a place alongside the bow and arrow in basic weaponry. Temporary tipi camps were set up by hunting parties during different seasons of the year, and these settlements functioned as the field camps of pedestrian hunter-gatherers. Many of these locations, unless repeatedly reoccupied or marked by stone circles, probably contain little in the way of identifiable material traces in the archaeological record. The horse-mounted hunting and gathering peoples subsisted on bison; however, wild plant foods, other wild animal foods, and garden produce received in exchange with settled Village gardeners also were significant components of the diet (SHSND 2008b:6.76-6.78).

Intertribal trade that occurred during the Equestrian period has its beginning in prehistoric times. The Hidatsa traded with the Crow, Dakotas, Cheyenne, and others to the south and southwest (SHSND 2008b:6.78). Fur trade between Indians and non-Indians within the GSU, such as between the Assiniboine and Fort Kipp, began around 1826. Besides trading, there are a number

of written and ethnographic accounts of horse-mounted Indian groups using this area, such as the Crow, Dakota, Cheyenne, Assiniboine, and Hidatsa. The Crows traveled through here going between their Big Horn Mountain territory and their Missouri River village homeland. There may have been territorial continuity between the Crow and the Hidatsa from the time the two split in the 1500s until the Hidatsa were drastically weakened by the plagues in the late 1700s (SHSND 2008b:6.77-6.79).

### **Reservation Era (A.D. 1880-present)**

Between 1850 and 1870, the United States government created reservations to separate the Native Americans and the influx of settlers. Where they were once able to move freely, Native Americans were now restricted to a designated area. In 1887, the Dawes Act divided tribal land into individual land allotments as a means of assimilating Native Americans into Euro-American society. By using individual land allotments as a means of breaking tribal culture, the United States government sought to cease their way of life and force conversion to Christianity, farming, and education of children at boarding schools. Children were taken from their family and placed in boarding schools (Indian schools), such as the Fort Stevenson Indian School, Bismarck Indian School, and the Carlisle Indian School in Pennsylvania, and were prohibited from using their language, practices, and culture and emphasized Euro-American culture. Today, the Dawes Act is considered the most destructive policy dealing with Native peoples (MHA Nation 2012a and 2012b; SHSND 2008c).

In 1934, in an effort to rectify some of the damage done, the Indian Reorganization Act was established that secured certain rights to Native Americans. This included the reversal of the Dawes Act and a return to local self-government on a tribal basis. However, in the late 1940s and early 1950s the Indian Reorganization Act was disassembled. The plan was to establish a policy that would eliminate tribal status all together. In 1975, the Indian Self-Determination and Education Assistance Act was enabled. This policy meant to allow tribal autonomy while still benefitting from government treaty obligations. American Indian Religious Freedom Act of 1978 was created to protect and preserve the traditional religious rights and cultural practices of Native Americans. In addition to Self-Determination, other laws were passed such as the Indian Civil Rights Act, the Indian Financing Act, and the Indian Child Welfare Act (SHSND 2008c).

Today, reservations have tribal government, which administers many governmental, economic, health, welfare, and educational programs. There are still problems on Indian Reservation, such as poverty, crime, and alcoholism; however, there is also economic growth because of small independent business, farming, and gaming (MHA Nation 2012c).

### ***Knife River Study Unit***

The majority of archaeological sites found within the Knife River Study Unit are cultural material scatters, followed by stone circle, and cairn sites. These types of sites are most often found on hill and ridgetop settings (SHSND 2008b:3.10). The project is located near the Beaver Creek, and the site distribution is dense within a one-mile radius of the Survey Area (where the file search was conducted). The archaeological horizons encountered in North Dakota are as follows:

**Paleo-Indian Period (9500-5500 B.C.)**

The environmental conditions were stable during the early and middle Paleo-Indian Period. Paleo-Indian peoples are thought to have been mobile hunter-gatherers who would have used portions of the Knife River basin periodically throughout the year in order to use the KRF primary source area. There is a dense concentration of intact Paleo-Indian components and numerous Paleo-Indian point styles. Some of these styles include Folsom, Plainview/Midland, Scottsbluff, Eden, Alberta, Hell Gap-Agate Basin, Frederick, and Pryor Stemmed. Bison bone fragments at the Many Earths site (32DU490) and site 32DU452A are the only indicators of subsistence practices during this time period. Otherwise, it is hypothesized that all available floral and faunal resources were used to some extent. The large quantities of lithic resources in the area as well as hunting potential in the area would have made this region a focal point during the Paleo-Indian period (SHSND 2008b:3.60-3.63).

**Plains Archaic Period (5500-400 B.C.)**

The Early, Middle and Late Plains Archaic deposits are represented at the Knife River basin; however, there are few Early Plains Archaic deposits. Some Plains Archaic sites include Alkali Creek (32DU336-SEE), Goodman Creek (32ME796), Emerson (32DU285), Bees Nest (32ME175), and Misty Mountain (32DU37). These sites are associated such complexes as the Calf Creek/Mummy Cave, Oxbow, McKean, Duncan, Hanna, and Pelican Lake. The Middle and Late Plains Archaic are represented by the presence of base camps, field camps, and lithic procurement and manufacture located on bluff-top settings. Subsistence practices are suspected to have included the hunting of bison, antelope, and small game as well as the gathering of wild plants (SHSND2008b:3.64-3.68).

Early Plains Archaic components are indicated by finds of Hawken points and are found at such site as 32ME794. Middle Plains Archaic components are represented by Oxbow, McKean, Duncan, and Hanna points and are found at such sites as Goodman Creek, Bees Nest, 32DU23, and Alkali Creek. Late Plains Archaic components are indicated by finds of Pelican Lake and other corner-notched points and are found at such sites as Boeckel-Renner (32ME799) and 32OL337. Numerous Middle and Late Plains Archaic projectile point styles have proven to be reliable cultural/temporal indicators for relative dating in the KRSU (SHSND 2008b:3.68-3.69).

**Plains Woodland Period (400 B.C.–A.D. 1200)**

Early, Middle, and Late Plains Woodland periods can be expected in the KRSU and associated with the Besant/Sonota and Avonlea complexes. Some Plains Woodland sites include the Boeckel-Renner site, 32ME1267, 32ME454, and 32ME842. Settlement behavior of the Plains Woodland period should have residential bases on terraces in major river valleys, field camps and processing sites on ridgetops, and mortuary sites on the upland plains. Subsistence strategies are thought to have involved a mixture of hunting bison and gathering wild edible plants. Furthermore, large quantities of fire-cracked rock at Plains Woodland sites also speaks of a shared long-term reliance on hot rocks to transfer heat for baking and boiling at both temporary camps and base camps (SHSND 2008b:3.69-3.71).

At site 32DU508, fragments of cord-roughened vessels were found and ceramic fragments of cordmarked, simple stamped, and smoothed are recovered at the Goodman Creek site. Besant

side-notched points have been found at sites as 32ME454, Bees Nest, and 32ME154 and Avonlea points have been discovered as sites as Boeckel-Renner, 32ME184, and 32ME1267. During the Plains Woodland period, obsidian appears as an exchange commodity throughout North Dakota. Obsidian, from southeastern Idaho, of Besant/Sonota cultural affiliation was recovered from the Boeckel-Renner site. Obsidian, from Obsidian Cliffs, of Besant/Sonota cultural affiliation was recovered from 32ME166, 32ME174, 32ME220, and 32MZ1005 sites (SHSND 2008b:3.71-3.73).

### **Plains Village Period (A.D. 1200-1780)**

Plains Village sites in the Knife River basin are not well represented. Earthlodge villages were situated at the confluence of the Knife River and the Missouri River because the area “enabled hunting and gathering sufficient to supplement gardening to support permanent aggregations of hundreds of people” (SHSND 2008b:3.74). Beyond the earthlodge villages there would be sites used for specific purposes: (a) field camps, (b) hunting locations, (c) wild plant material collecting locations, (d) KRF quarrying locations, (e) stations and caches of various sorts, and (f) sacred and religious sites (SHSND 2008b:3.73-3.74).

The Extended Middle Missouri, Terminal Middle Missouri, Coalescent materials cultures, part of the Plains Village period, are identified within the Knife River valley by evidence of ceramic forms and artifact types. At site 32DU429, fragments a plain ware vessel with a constricted orifice was located. At site 43ME175, fragments of a check-stamped vessel were recovered. However, Plains Village ceramic and lithic technologies are nowhere near as well-represented in the KRSU as in the neighboring study units (SHSND 2008b:3.74-3.76).

### **Equestrian/Fur Trade Period (A.D. 1780-1880)**

The advent of the Fur Trade and increased Euro-American contact in the 19<sup>th</sup> century brought about many changes in the traditional culture of groups such as the Mandan, Hidatsa, and Arikara. Metal tools and implements obtained via trade replaced traditional items of stone, bone, wood, shell, and clay. The gun ascended to a place alongside the bow and arrow in basic weaponry. Temporary tipi camps were set up by hunting parties during different seasons of the year, and these settlements functioned as the field camps of pedestrian hunter-gatherers. Many of these locations, unless repeatedly reoccupied or marked by stone circles, probably contain little in the way of identifiable material traces in the archaeological record. Styles of glass beads have been able to be used to date protohistoric occupations at several sites in the KRSU. Subsistence of the horse-mounted hunting and gathering peoples was founded on bison, but wild plant foods, other wild animal foods, and garden produce received in exchange with settled Village gardeners also were significant components of the diet (SHSND 2008b:3.76-3.77).

Intertribal trade that occurred during the Equestrian period has its beginning in prehistoric times. The Hidatsa traded with the Crow, Dakotas, Cheyenne, and others. Fur trade between Indians and non-Indians occurred within the KRSU. Besides trading, there are a number of written accounts of horse-mounted Indian groups using this area, such as the Crow, Dakota, Cheyenne, Assiniboine, and Hidatsa. The Crow traveled through here going between their Big Horn Mountain territory and their Missouri River village homeland. There may have been territorial continuity between the Crow and the Hidatsa from the time the two split in the 1500s until the

Hidatsa were drastically weakened by the plagues in the late 1700s. Thereafter, the Teton Dakota and Assiniboine dominated the area (SHSND 2008b:3.77-3.78).

### **Reservation Era (A.D. 1880-present)**

Between 1850 and 1870, the United States government created reservations to separate the Native Americans and the influx of settlers. Where they were once able to move freely, Native Americans were now restricted to a designated area. In 1887, the Dawes Act divided tribal land into individual land allotments as a means of assimilating Native Americans into Euro-American society. By using individual land allotments as a means of breaking tribal culture, the United States government sought to cease their way of life and force conversion to Christianity, farming, and education of children at boarding schools. Children were taken from their family and placed in boarding schools (Indian schools), such as the Fort Stevenson Indian School, Bismarck Indian School, and the Carlisle Indian School in Pennsylvania, and were prohibited from using their language, practices, and culture and emphasized Euro-American culture. Today, the Dawes Act is considered the most destructive policy dealing with Native peoples (MHA Nation 2012a and 2012b; SHSND 2008c).

In 1934, in an effort to rectify some of the damage done, the Indian Reorganization Act was established that secured certain rights to Native Americans. This included the reversal of the Dawes Act and a return to local self-government on a tribal basis. However, in the late 1940s and early 1950s the Indian Reorganization Act was disassembled. The plan was to establish a policy that would eliminate tribal status all together. In 1975, the Indian Self-Determination and Education Assistance Act was enabled. This policy meant to allow tribal autonomy while still benefitting from government treaty obligations. American Indian Religious Freedom Act of 1978 was created to protect and preserve the traditional religious rights and cultural practices of Native Americans. In addition to Self-Determination, other laws were passed such as the Indian Civil Rights Act, the Indian Financing Act, and the Indian Child Welfare Act (SHSND 2008c).

Today, reservations have tribal government, which administers many governmental, economic, health, welfare, and educational programs. There are still problems on Indian Reservation, such as poverty, crime, and alcoholism; however, there is also economic growth because of small independent business, farming, and gaming (MHA Nation 2012c).

## **Euro-American Cultural Background**

The majority of historic sites within North Dakota are farmsteads/homesteads from the late 19<sup>th</sup> century and early 20<sup>th</sup> century.

### **Dakota Territory (1858-1889)**

The Dakota Territory consisted of the northernmost part of the land acquired from France in the 1803 Louisiana Purchase and in 1818, the United States acquired the northeastern portion of the Dakota Territory in a treaty with Great Britain. The Dakota Territory included North Dakota, South Dakota and much of present-day Montana and Wyoming. After becoming an incorporated territory in 1861, the population was slow to increase due to Indian attacks. Eventually, the population increased during the “Dakota Boom,” from 1870 to 1880, because of the railroad growth and the Homestead Act of 1862. Many of the settlers came from Germany and the

Scandinavian countries of Norway and Sweden. The economic base was organized around agriculture, mining, and cattle ranching (FWP 1938).

Fur Trade – Before and after the Lewis and Clark 1803 expedition, explorers such as Sieur de la Vérendrye, David Thompson, Charles Chaboillez, Alexander Henry, and Manuel Lisa ventured into the area either looking for trade routes or to establish fur trading posts. Consequently, “between 1806 and 1850 Spaniards from St. Louis, Frenchmen from Quebec, Scots and Britons from Hudson’s Bay and Montreal, and Americans working either as free traders or engages for a dozen fur companies” headed into the region (FWP 1938; Lamar 1996:27).

Forts – The majority of the forts in the region were constructed in the 19<sup>th</sup> century. Their purpose included trading outposts, primarily fur trade and military posts for the protection of supply routes, trails, trade, and settlers. These forts, prior to the introduction of the railroad were along rivers such as the Missouri, Yellowstone, Heart, and Red rivers. Some of the more notable forts include Fort Mandan, Fort Lisa, Fort Henry, Fort Clark, Fort Union, Fort Abercrombie, Fort Berthold, Fort Buford, Fort Rice, Fort Totten, and Fort Abraham Lincoln (FWP 1938; SHSND 2008a).

Trails – Two major trails, the River Trail and the Ridge Trail, branches of the network of Red River Trails in the Red River Valley, originally were Native American trails that were later used by Euro-American fur traders. The Red River Trails connected fur trading posts, where they hauled furs and goods by ox cart. Later, the trails also connected military posts, where military supplies and men were sent. These military posts (e.g., Fort Abercrombie, Fort Totten, and Fort Ransom) also protected the trails as well as the people traveling up and down the trails. Eventually the trails and ox carts were replaced by the railroad (Gilman *et al.* 1979).

A notable trail in the western part of the region is the Bismarck-Deadwood Stage Trail (1887-1880). This trail was a stagecoach and supply line that ran between Bismarck, the western terminus of the Northern Pacific Railroad and the Black Hills gold town of Deadwood in Dakota Territory. There was transportation and economic booms associated with this trail and that boom ended when the railroad reached Pierre and an alternate line opened (SHSND 2008a).

Riverboats – The Missouri and Red rivers were important to the settlement and expansion of the Dakota Territory and were used the most for river transportation. Riverboats such as rafts, sailboats, rowboats, Mackinaws, keelboats, and steamboats brought explorers and fur traders into the Dakota Territory; however, the keelboat and steamboat were probably used more often due to their carrying capacity. “Keelboats were used primarily from 1800 to 1840, when they were replaced by steamboats” (Miller 2012). This type of boat floated high in the water allowing it to travel on shallow rivers and was able to carry 15 to 30 tons of cargo. River transportation becomes increasingly important for transporting goods to outposts and return furs downstream.

Steamboats eventually replaced the keelboats and were used for cargo and passenger transportation. The riverboat industry became a popular mode of transportation, as it was much easier to deliver goods to remote areas by boat than overland routes. In addition, “settlers and visitors could also travel much more safely by taking steamboats” (Burns 2004:14). The demise of riverboat transportation occurred for several reasons: (1) less shipping of passengers and cargo, (2) scarcity of wood yards, (3) inconvenient climate, (4) labor unrest, and (5) the railroad.

Shipping on the Red River continued until 1912 and until the 1930s on the Missouri River (Burns 2004).

*Railroad* - Major development of the railroad in the Dakota Territory occurred in the 1870s and 1880s between the Northern Pacific Railroad and the Great Northern Railroad. The success of the railroad was primarily because of agriculture and increasing settlement. Federal land grants were given to the Northern Pacific Railroad, who in turn sold the land, while the Great Northern Railroad bought its lands from the federal government and promoted settlement along its lines (FWP 1938).

*Agriculture* – The Federal Homestead Act of 1862 offered free land to anyone over 21 years-old who would cultivate and improve his 160 acres of land and live on it for 5 years. An additional 160 acres could be obtained for a tree claim and a third track of land could be acquired before or after the land was surveyed. Crops planted and harvested included spring wheat, durum, flaxseed, barley, oats, sugar beets, corn, hay, red clover, alfalfa, sweet clover, and seed potato. Ranching of cattle and sheep, poultry raising, and bee keeping was also done on farms (FWP 1938).

Bonanza farms or large farms so-called because of their almost fabulous yields of wheat open to settlement in 1863. The main purpose of Bonanza farms was to demonstrate the potential wealth of the Red River Valley. Most of these farms were owned by companies in the east, with resident managers, were run like factories with hundreds of men, and used advanced farming methods. Bonanza farms thrived in the Red River Valley during the last two decades of the 19<sup>th</sup> century; however, they were eventually subdivided into smaller farms (FWP 1938).

### **North Dakota (1889-Present)**

North Dakota became the 39<sup>th</sup> state to enter the Union on November 2, 1889. After statehood, industrial development increased. The railroad industry expanded and peaked in 1905 through competition between the Great Northern Railway and the Soo Line. Large lignite mines opened and local brickworks and flourmills flourished in the state. Entrepreneurs built stores, shops, and offices along Main Street and town squares. While rural areas still relied on small local general stores, city consumers had more choice with locally owned department retail stores. In 1919, the Bank of North Dakota at Bismarck opened and has become a large and powerful economic force. “The State Mill and Elevator at Grand Forks, completed in 1922, provided a market for grain and a source of feed and seed [and] the state hail insurance program benefitted many farmers until its elimination in the 1960s” (SHSND 2012).

Farm homes in the eastern part of the state were small, close together with well-painted modernized buildings surrounded by neat lawns and tree groves. They had modern conveniences like electricity, telephones, radios, and cars. In the central part of the state, farms were not as modernized as eastern North Dakota but were well kept. In western North Dakota, the shacks erected to establish residence under the Federal Homestead Act were still in use in the early 20<sup>th</sup> century (FWP 1928).

For North Dakota, the 1920s and 1930s were an economic depression, starting with the 1920 collapse of wartime prices for grain. In 1921, more banks closed than in any other year, resulting in farm foreclosures. At the same time, farm size increased and many farmers mechanized their

operations. A dramatic shift to motorized transportation put a greater emphasis on better roads and bridges (SHSND 2012).

The Great Depression of the 1930s slowed progress and spurred change. Rural population decreased while the city population grew. Because of the price decline of farm produce, cooperatives enjoyed a renewed popularity as farmers banded together to market their produce and reduce the cost of farming. Farmers Unions built local elevators and organized oil cooperatives that served the needs of the rural community. Despite economic problems, crop failures, dust storms, and extreme weather, North Dakota visibly modernized during the 1930s. Federal relief programs improved highways, state parks, and city services throughout the state. State departments undertook public health and safety problems, and a movement for consolidated law enforcement was started with the formation of a State Highway Patrol in 1935. "Rural schools consolidated at an increasing rate. Public utilities extended their reach through development or rural electric cooperatives; the first, Baker Electric of Cando, energized its lines in 1938" (SHSND 2012).

Immediately, after Franklin Roosevelt took the oath of office he began passing a series of laws aimed at putting people back to work, restore faith in the banking system, and shore up the economy (SHSND 2012). Among these laws included the Works Progress Administration (WPA) and the Civilian Conservation Corps (CCC). In North Dakota between 1935 and 1942, the WPA built 20,373 miles of highways and streets, 821 new bridges and viaducts, 166 miles of sidewalks, 15,012 culverts, 503 new public buildings, 61 building additions, 680 outdoor recreation facilities, 809 water wells, two irrigation projects, 39 sewage treatment plants, and nine water treatment plants, as well as other reconstructions and repairs (Robinson 1966:408). In June of 1933, some 235,000 men were enrolled in the CCC to work on federal and state public improvement projects. They built national forest trails, campsites, and visitor centers in state and national parks as well as roads and dams (SHSND 2012).

In the 1940s, with more favorable weather and improved crop yields, farmers benefitted by the higher prices stimulated by America's entry into World War II. By the end of the war, farm debt had dropped noticeably. After the war, the industrial economy continued to prosper. "In 1946, the demand for Missouri River flood control and diversion of the river's waters for irrigation and industrial development were rewarded with initiation of construction on the Garrison Dam" (SHSND 2012). The development of natural resources expanded in 1951 when oil was discovered within the Bakken near Tioga. Communication and interstate transportation systems improved and expanded in the 1950s. By the 1960s, two large Air Force Bases, one in Minot and the other in Grand Forks, had been built as a modern continuation of an historic role in Federal military strategy that began in the 1860s. In the 1950s, as private auto transportation increased, the use of passenger rail service declined, railroads had increasingly become a means of hauling freight (SHSND 2012).

The 1960s signified the start of large-scale energy development because of high demand, which lead to the development of power plants and coal strip mines. An oil boom occurred in 1978 as a result of high international crude oil prices, causing increase in the population of towns such as Dickinson, Williston, and Watford City. This oil boom and subsequent population increase did not last as worldwide oil prices declined in 1981 and oil workers moved away (SHSND 2012). Another oil boom started in 2008, is still ongoing, and resulted in enough oil and gas jobs to give

North Dakota the lowest unemployment rate in the United States. In addition, the oil boom has supplied economic growth in other areas such as the service industry (Rocco 2013).

## **Research Goals**

The Antelope Hill Windfarm, when completed, will generate up to 172 megawatts (MW) of electricity. There are three proposed arrays in which this survey covered. Options 1 and 2 would consist of up to 86 wind turbine generators using a V-100 or V-110 generator. Option 3 would consist of up to 75 wind turbine generators using a Siemens 108 generator. Antelope Hills Wind Project, LLC is seeking a Certificate of Site Compatibility from the North Dakota Public Service Commission in accordance with the North Dakota Energy Conversion and Transmission Facility Siting Act as set forth in North Dakota Century Code (NDCC) 49-22. The Project area was inventoried to comply with state and federal regulations to locate any cultural resources within the Project area. This allows Antelope Hills Wind Project, LLC to plan construction that will minimize impact to any National Register of Historic Places (NRHP) - eligible cultural resources.

## **Result**

### ***File Search***

On August 19, 2014, Amanda Person of Beaver Creek Archaeology, Inc. conducted a file search at the North Dakota State Historic Preservation Office (ND SHPO). The purpose of the file search is primarily to identify previously recorded archaeological and historical sites, and also to identify previous inventories in the area. The file search revealed 134 sites, four site leads, and 25 isolated finds within a one-mile radius of the Survey Area (see Tables 3 & 4 in Appendix C). There are 43 manuscripts on file for the sections in which the Survey Area is located (see Table 5 in Appendix C). There are 17 previously recorded sites located within or adjacent to the Survey Area.

### ***Intensive Pedestrian Survey***

The Class III Inventory covered approximately 3,727 acres. The location of the Survey Area can be seen in Figure 1 and in the maps located in Appendix B.

The inventory resulted in the identification of 28 previously unrecorded cultural resources and 17 previously recorded cultural resources. Cultural Resources included 15 Native American stone feature sites (32ME507, 32ME802, 32ME1278, 32ME1279, 32ME2220, 32ME2521, 32ME2525, 32ME2568, 32ME2569, 32ME2570, 32ME2575, 32ME2577, 32ME2578, 32ME2583, and 32ME2586); one Native American mound site (32ME2572); five Native American cultural material (CM) scatter sites (32ME510, 32ME1267, 32ME2576, 32ME2579, and 32ME2585); one Native American stone feature and CM scatter site (32ME1444); one Native American/Historic Archaeological site (32ME1280); seven Native American Isolated Finds (32MEx759, 32MEx760, 32MEx761, 32MEx762, 32MEx763, 32MEx764, 32MEX765); one Native American Site Lead (32MEx766); five Historic Archaeological sites (32ME1293, 32ME2498, 32ME2524, 32ME2571, and 32ME2573); five Architectural sites (32ME1595, 32ME1596, 32ME2567, 32ME2574, and 32ME2582); and four Historic Archaeological/Architectural sites (32ME2217, 32ME2580, 32ME2581, and 32ME2584).

*Antelope Hills Windfarm: A Class III Intensive Cultural Resource Inventory in Mercer County, North Dakota*

The 15 Native American stone feature sites, the mound site, four CM Scatter sites, the stone feature/CM scatter site, the Native American/Historic Archaeological, one Historic Archaeological site (32ME1293), and the Site Lead have been recommended unevaluated/potentially eligible to the National Register of Historic Places (NRHP) by BCA, and are recommended to be avoided during construction. One CM Scatter site (32ME2583), the seven Isolated Finds, four Historic Archaeological, the five Architectural, and the four Historic Archaeological/Architectural sites have been recommended not eligible for the NRHP and as such, no avoidance is recommended for these sites for this project.

**Table 2.** Summary of Cultural Resources Identified during the Class III Intensive Survey

Site	Site Type	Description	NRHP Evaluation	Recommendation
32ME507	Stone Feature	5 Stone Circles	Unevaluated	50 foot avoidance
32ME510	CM Scatter	Lithic Scatter	Unevaluated	50 foot avoidance
32ME802	Stone Feature	1 Cairn, 1 Alignment, 14 Stone Circles	Unevaluated	50 foot avoidance
32ME1267	CM Scatter	Lithic Scatter	Unevaluated	50 foot avoidance
32ME1278	Stone Feature	1 Cairn	Unevaluated	50 foot avoidance
32ME1279	Stone Feature	1 Cairn, 1 Stone Circle, KRF flakes, Bone	Unevaluated	50 foot avoidance
32ME1280	Stone Feature	1 Prehistoric Cairn, 1 Historic Cairn, Lithic Scatter	Unevaluated	50 foot avoidance
32ME1293	Historic	1 Cairn	Unevaluated	50 foot avoidance
32ME1444	Stone Feature	20 Stone Circles, 2 Cairns, 2 Geomorphs, KRF Flakes	Unevaluated	50 foot avoidance
32ME1595	Architectural	Windmill	Not Eligible	No Avoidance
32ME1596	Architectural	Windmill	Not Eligible	No Avoidance
32ME2217	Historic/ Architectural	Abandoned Farmstead: 1 Structure, 4 Foundations	Not Eligible	No Avoidance
32ME2220	Stone Feature	1 Stone Circle	Unevaluated	50 foot Avoidance
32ME2498	Historic	Dump	Not Eligible	No Avoidance
32ME2521	Stone Feature	2 Cairns	Unevaluated	50 foot avoidance
32ME2524	Historic	Old Road Berm	Not Eligible	No Avoidance
32ME2525	Stone Feature	1 Cairn, 1 Stone Circle	Unevaluated	50 foot avoidance
32ME2567	Architectural	1 Structure	Not Eligible	No Avoidance
32ME2568	Stone Feature	1 Cairn	Unevaluated	50 foot avoidance
32ME2569	Stone Feature	1 Stone Circle	Unevaluated	50 foot avoidance
32ME2570	Stone Feature	1 Cairn	Unevaluated	50 foot avoidance
32ME2571	Historic	1 Foundation, 2 Wood Piles	Not Eligible	No Avoidance
32ME2572	Stone Feature	5 Mounds	Unevaluated	50 foot avoidance
32ME2573	Historic	1 Depression	Not Eligible	No Avoidance
32ME2574	Architectural	2 Structures	Not Eligible	No Avoidance
32ME2575	Stone Feature	1 Stone Circle	Unevaluated	50 foot avoidance
32ME2576	CM Scatter	Lithic Scatter	Unevaluated	50 foot avoidance
32ME2577	Stone Feature	1 Stone Circle	Unevaluated	50 foot avoidance
32ME2578	Stone Feature	2 Stone Circles	Unevaluated	50 foot avoidance
32ME2579	CM Scatter	Lithic Scatter	Unevaluated	50 foot avoidance
32ME2580	Historic/ Architectural	Abandoned Farmstead: 5 Structures	Not Eligible	No Avoidance

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Site	Site Type	Description	NRHP Evaluation	Recommendation
32ME2581	Historic/ Architectural	Abandoned Farmstead: 9 Structures, 1 Foundation	Not Eligible	No Avoidance
32ME2582	Architectural	Farmstead: 7 Structures	Not Eligible	No Avoidance
32ME2583	Stone Feature	1 Alignment, 1 Arc, 20 Stone Circles, 3 Stone Circles w/ Cairns	Unevaluated	50 foot avoidance
32ME2584	Historic/ Architectural	Farmstead: 18 Structures, 1 Collapsed Structure, 1 Dump	Not Eligible	No Avoidance
32ME2585	CM Scatter	Lithic Scatter	Not Eligible	No Avoidance
32ME2586	Stone Feature	1 Cairn, 1 Stone Circle, 1 Arc	Unevaluated	Avoidance*
32MEx759	Isolated Find	Utilized KRF Flake	Not Eligible	No Avoidance
32MEx760	Isolated Find	Projectile Point	Not Eligible	No Avoidance
32MEx761	Isolated Find	3 KRF Flakes	Not Eligible	No Avoidance
32MEx762	Isolated Find	2 KRF Flakes	Not Eligible	No Avoidance
32MEx763	Isolated Find	2 KRF Flakes	Not Eligible	No Avoidance
32MEx764	Isolated Find	2 KRF Flakes	Not Eligible	No Avoidance
32MEx765	Isolated Find	1 KRF Core	Not Eligible	No Avoidance
32MEx766	Site Lead	Stone Circles	Unevaluated	Avoidance**

\* Avoidance by keeping construction activities in the agricultural field on the opposite site of the fence line

\*\* Located outside the Survey Area.

## Conclusion and Recommendation

In August and October 2014, BCA conducted a Class III Cultural Resource Inventory of the proposed Antelope Hills Windfarm. The Class III Inventory covered approximately, 3,727 acres. The location of the Survey Area can be seen on the maps located in Appendix B.

During the field inventory, BCA archaeologists identified 28 previously unrecorded cultural resources and 17 previously recorded cultural resources. Cultural Resources included 15 Native American stone feature sites (32ME507, 32ME802, 32ME1278, 32ME1279, 32ME2220, 32ME2521, 32ME2525, 32ME2568, 32ME2569, 32ME2570, 32ME2575, 32ME2577, 32ME2578, 32ME2583, and 32ME2586); one Native American mound site (32ME2572); five Native American cultural material (CM) scatter sites (32ME510, 32ME1267, 32ME2576, 32ME2579, and 32ME2585); one Native American stone feature and CM scatter site (32ME1444); one Native American/Historic Archaeological site (32ME1280); seven Native American Isolated Finds (32MEx759, 32MEx760, 32MEx761, 32MEx762, 32MEx763, 32MEx764, 32MEx765); one Native American Site Lead (32MEx766); five Historic Archaeological sites (32ME1293, 32ME2498, 32ME2524, 32ME2571, and 32ME2573); five Architectural sites (32ME1595, 32ME1596, 32ME2567, 32ME2574, and 32ME2582); and four Historic Archaeological/Architectural sites (32ME2217, 32ME2580, 32ME2581, and 32ME2584).

The 15 Native American stone feature sites, the mound site, four CM Scatter sites, the stone feature/CM scatter site, the Native American/Historic Archaeological, one Historic Archaeological site (32ME1293), and the Site Lead have been recommended unevaluated/potentially eligible to the National Register of Historic Places (NRHP) by BCA, and are recommended to be avoided during construction. One CM Scatter site (32ME2583), the seven Isolated Finds, four Historic Archaeological, the five Architectural, and the four Historic

Archaeological/Architectural sites have been recommended not eligible for the NRHP and as such, no avoidance is recommended for these sites for this project. Tribal Avoidance Areas, located on the map in Appendix B as black hashed areas, must be avoided during project construction.

BCA recommends that potentially eligible sites located close to project features be avoided by a buffer 50 feet, and that temporary fencing be placed along these buffer zones (see maps in Appendix B). It is also recommended that sites recommended not eligible need no further archaeological work performed. For site 32ME2586, BCA recommends that the site be avoided by keeping construction activities within the agricultural field on the other side of the fence line.

There are 13 5-acre alternate turbine locations that are not connected to the rest of the project. If any of these alternate turbine pads are used, additional survey will be needed for access roads and collector lines. An addendum to this report will contain an architectural visual impact inventory for the proposed project area. Further survey will need to be conducted for any project changes that fall outside the Survey Area.

Due to the location of site 32ME2583, a series of four turbine locations and the associated access road and collector lines cannot be utilized at this time (see map in Appendix B). Further work will be need in order to utilize three of the turbine locations. One of the turbine locations cannot be utilized due to the location of the site. Provided that the aforementioned avoidance measures are taken, Beaver Creek Archaeology, Inc. recommends that the project proceed under a *No Historic Properties Affected* as surveyed, mapped, and described herein.

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North Dakota*

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Appendix A: Survey Area Photos



**Figure 2:** Overview of the Survey Area. Looking to the south.



**Figure 3:** Overview of the Survey Area. Looking to the east.



**Figure 4:** Overview of the Survey Area. Looking to the north.



**Figure 5:** Overview of the Survey Area. Looking to the south.

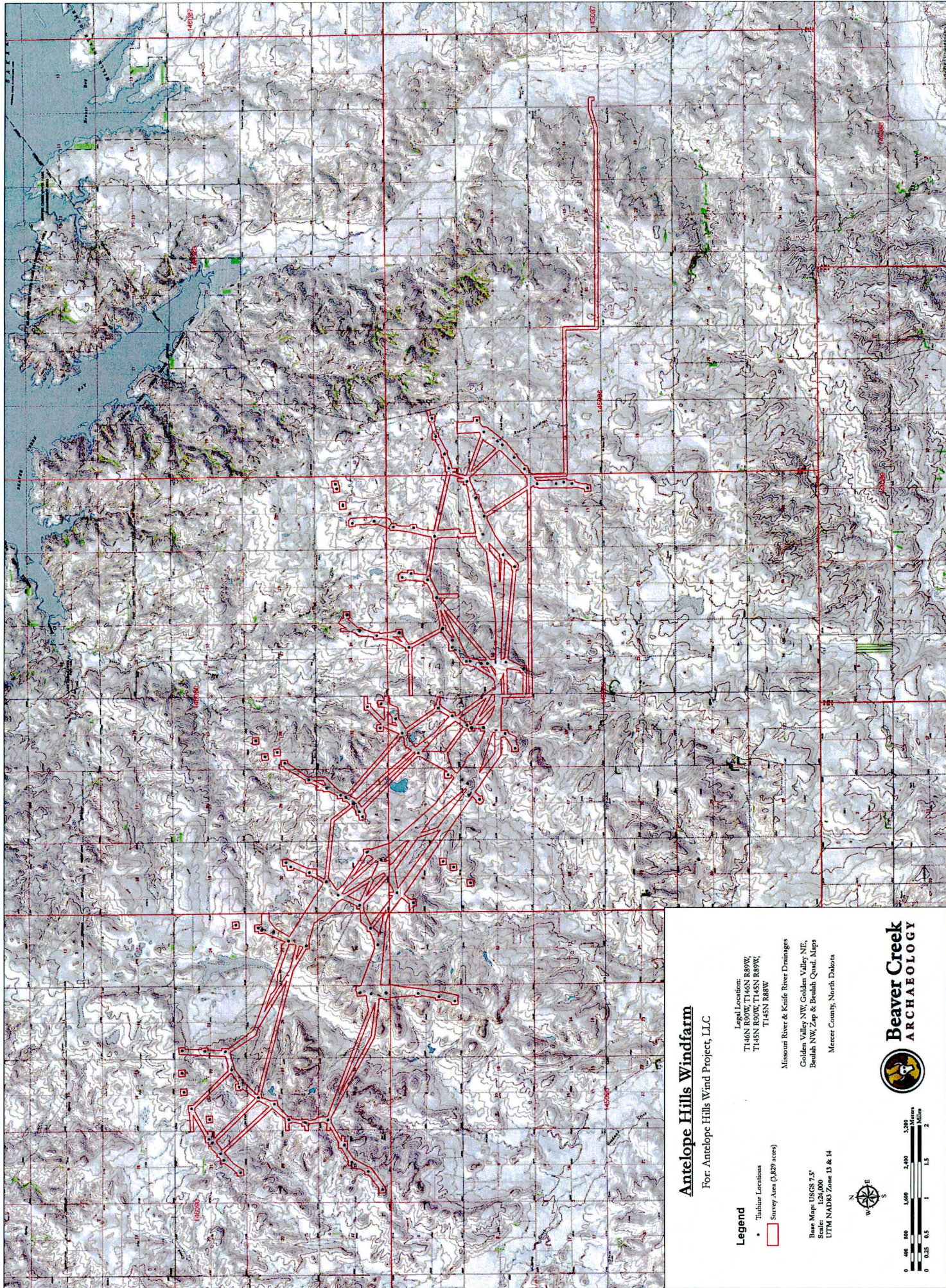


**Figure 6:** Overview of the Survey Area. Looking to the southeast.



**Figure 7:** Overview of the Survey Area. Looking to the southwest.

## Appendix B: Maps



## Antelope Hills Windfarm

For: Antelope Hills Wind Project, LLC

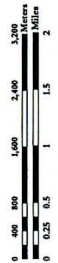
### Legend

- Turbine Locations
- ▭ Survey Area (0.829 acres)

Legal Location:  
T146N R00W, T146N R89W,  
T145N R00W, T145N R89W,  
T145N R88W

Missouri River & Knife River Drainages  
Golden Valley NW, Golden Valley NE,  
Beulah NW, Zap & Beulah Quad. Alupa  
Mercer County, North Dakota

Base Map: USGS 7.5'  
Scale: 1:24,000  
UTM NAD83 Zone 14 S



**Beaver Creek**  
ARCHAEOLOGY

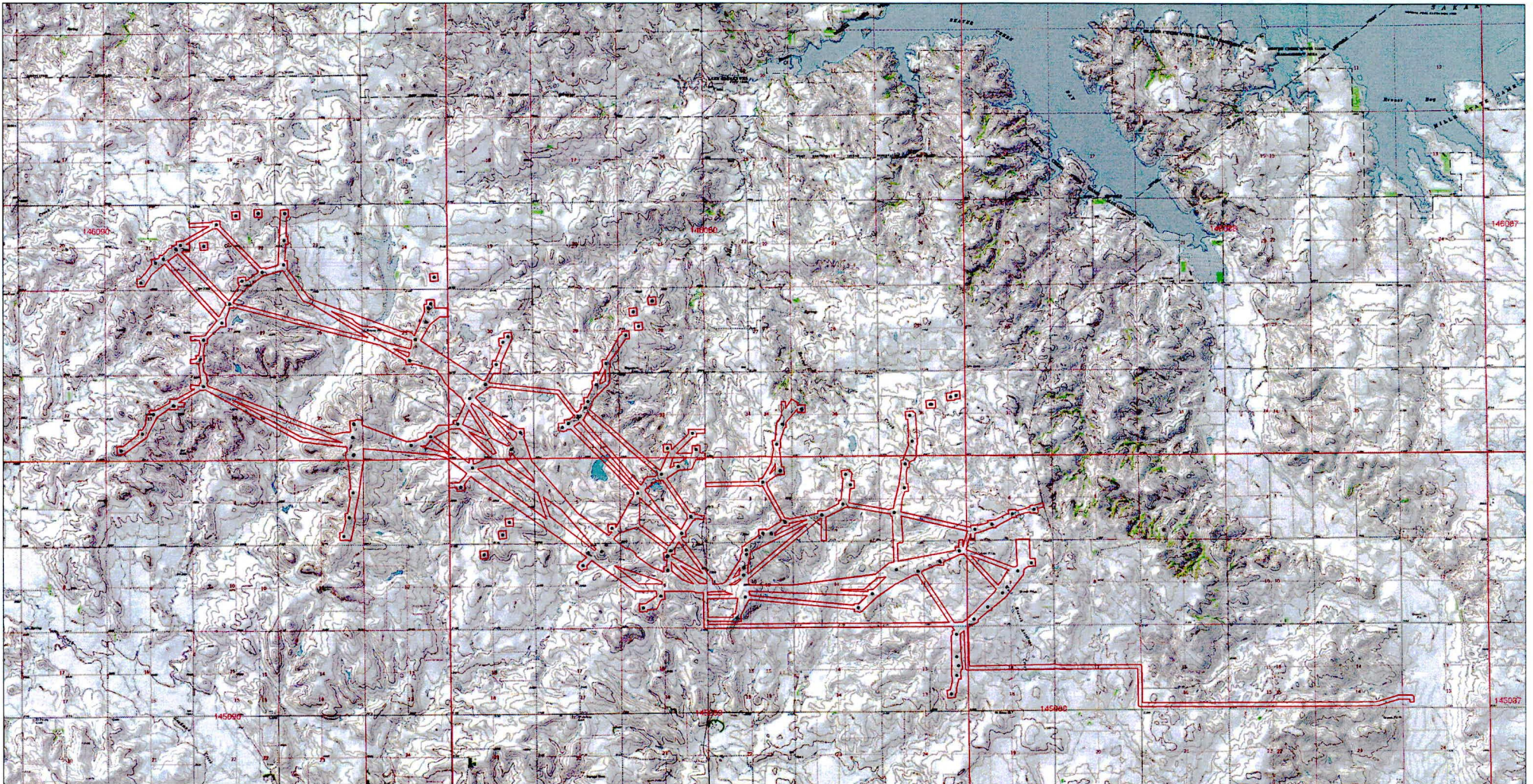


## Appendix C: Literature Search

**Information Removed Due to ND SHPO Regulations for Public Dispersal of Documents**

## Appendix D: Site Descriptions

**Information Removed Due to ND SHPO Regulations for Public Dispersal of Documents**



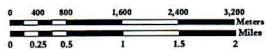
## Antelope Hills Windfarm

For: Antelope Hills Wind Project, LLC

### Legend

- Turbine Locations
- ▭ Survey Area (3,829 acres)

Base Map: USGS 7.5'  
 Scale: 1:24,000  
 UTM NAD83 Zone 13 & 14



**Beaver Creek**  
 ARCHAEOLOGY

Legal Location:  
 T146N R90W, T146N R89W,  
 T145N R90W, T145N R89W,  
 T145N R88W

Missouri River & Knife River Drainages

Golden Valley NW, Golden Valley NE,  
 Beulah NW, Zap & Beulah Quad. Maps

Mercer County, North Dakota