

**Appendix E – Class I Literature Review – Cultural Resource Report
and Unanticipated Discoveries Plan**

this page is intentionally left blank



CLASS I LITERATURE REVIEW

LUVERNE WIND UPGRADE PROJECT STEELE COUNTY, NORTH DAKOTA

Prepared for

Otter Tail Power Company
215 S. Cascade Street
Fergus Falls, Minnesota 56537

Atwell Project No. 22007288

Submitted by Atwell, LLC

April 6, 2023

EXECUTIVE SUMMARY

In November of 2022, Atwell, LLC (Atwell) was contracted by Otter Tail Power Company (OTP) to conduct a Class I literature review for the proposed Luverne Wind Upgrade Project (Project) located in Steele County, North Dakota (Figure 1). The Project includes replacing current wind turbine technology with longer blades and new hub and gearbox with turbine generators being refurbished at 33 wind turbine locations. The existing Luverne Wind turbines are GE 1.5 megawatt [MW] turbines with a 82.5-meter rotor diameter and a total height of 398 feet (121.25 meters), and these will be replaced with new wind turbine technology (GE 1.5 MW turbines with 97-meter rotor diameter and a total height of 128.5 meters). The existing 33 turbine locations remain the same and OTP plans to use the existing turbine structural steel towers, turbine foundations, collection/communication systems, permanent access roads, and other associated facilities whose locations will not change.

During installation of the repowering technology, existing access roads and the gravel ring around the turbines may be temporarily widened to accommodate delivery and staging of components and equipment. A temporary laydown yard will be utilized during the Repower Project. The laydown yard and all the areas where temporary access roads and construction easements will occur were previously used during initial project construction. In all cases, the planned temporary construction areas meet exclusion and avoidance area criteria.

Currently, no federal trigger has been identified for this Project; therefore, Section 106 regulations do not apply. Should Section 106 be triggered, methods for archaeological and aboveground architectural investigations should be determined through consultation with the lead federal agency and the State Historical Society of North Dakota (SHSND).

The SHSND files were reviewed and rendered the following information:

- One previously identified archaeological site lead is in the Project Area.
- No previously documented architectural resources are in the Project Area.
- No architectural or archaeological resources listed on the National Register of Historic Places are in the Project Area.

Based on a review of the data presented above in conjunction with the fact that the vast majority of the Project Area has been previously surveyed (99.42%) and disturbed by the original construction of the wind farm, Atwell makes the following recommendations:

- The Project proceed as planned without additional archaeological work prior to construction.

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

Class I Literature Review

Luverne Wind Upgrade Project, Steele County, North Dakota

April 6, 2023

- An Unanticipated Discovery Plan is attached in Appendix A that establishes procedures and relevant contact information in the event that human remains or archaeological deposits are discovered during the construction, operational, and decommission phases of the Project.
 - If buried archaeological resources are encountered, all activity should cease in the immediate area and within a 100-foot buffer area, and the artifacts should be left in place. The Client's archaeologist should be contacted immediately, and unanticipated discovery procedures should be initiated.
 - If human remains are encountered, construction should stop in the immediate area of discovery and within a 100-foot buffer area, and law enforcement should be notified immediately. Law enforcement officials should determine whether the discovery is a crime scene and whether the remains are prehistoric or historic Native American remains. The SHSND should be contacted immediately if the human remains are determined to be prehistoric or historic in nature and/or Native American remains.

TABLE OF CONTENTS

FIGURES..... II

TABLES II

1 INTRODUCTION..... 1

 1.1 Background 1

 1.2 Applicable Regulations 1

2 METHODS 2

3 ENVIRONMENT 2

4 LITERATURE SEARCH 3

 4.1 Previous Cultural Resources Studies 3

 4.2 Previously Recorded archaeological sites..... 4

 4.3 Previously Recorded Architectural History Properties..... 5

5 CONCLUSIONS AND RECOMMENDATIONS 5

 5.1 Conclusions 5

 5.2 Recommendations 6

6 REFERENCES..... 7

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

FIGURES

- 1 Site Location Map
- 2 Class I Literature Review Results

TABLES

Table 1. Previously Conducted Cultural Resources Surveys 4

Table 2. Previously Documented Archaeological Resources within the Project
Area 4

Table 3. Previously Documented Archaeological Resources within One Mile 5

1 INTRODUCTION

1.1 BACKGROUND

Atwell, LLC (Atwell) was contracted by Otter Tail Power Company (OTP) to conduct a Class I literature review for the proposed Luverne Wind Upgrade Project (Project) located in Steele County, North Dakota (Figure 1). The Project Area is located on approximately 80 acres of mixed-use agricultural land in the following locations: Township 145 North Range 57 West Sections 22, 23, 27, 28, 29, 31, 32, 33, 34, and 35. These areas are located in Riverside Township.

The Project involves replacing current wind turbine technology with longer blades and new hub and gearbox with turbine generators being refurbished at 33 wind turbine locations. The existing Luverne Wind turbines are GE 1.5 megawatt [MW] turbines with a 82.5-meter rotor diameter and a total height of 121.25 meters, and these will be replaced with new wind turbine technology (GE 1.5 MW turbines with 97-meter rotor diameter and a total height of 128.5 meters). The existing 33 turbine locations remain the same and OTP plans to use the existing turbine structural steel towers, turbine foundations, collection/communication systems, permanent access roads, and other associated facilities whose locations will not change.

During installation of the repowering technology, existing access roads and the gravel ring around the turbines may be temporarily widened to accommodate delivery and staging of components and equipment. A temporary laydown yard will be utilized during the Upgrade Project. The laydown yard and all of the areas where temporary access roads and construction easements will occur were previously used during initial project construction. In all cases, the planned temporary construction areas meet exclusion and avoidance area criteria.

1.2 APPLICABLE REGULATIONS

North Dakota does not have laws that mandate cultural resources surveys for private projects lacking characteristics that would trigger Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108), and its implementing regulations (36 CFR 800). The exception to this is human remains. Human remains are protected under the North Dakota Century Code 23-06-27 (Protection of Human Burial Sites, Human Remains, and Burial Goods).

Currently, no federal trigger has been identified for this project; therefore, Section 106 regulations do not apply. Should Section 106 be triggered, methods for archaeological pedestrian survey and aboveground architectural survey should be determined through

consultation with the lead federal agency and the State Historical Society of North Dakota (SHSND).

An Unanticipated Discovery Plan is being developed to establish procedures and relevant contact information in the event that human remains or archaeological deposits are discovered during the construction, operational, and decommission phases of the Project.

2 METHODS

In March 2023, staff from Atwell conducted background research at the SHSND for information on previously identified archaeological sites and architectural properties within one mile (1.6 km) of the Project Area and on surveys previously conducted within the Project Area.

3 ENVIRONMENT

The Project Area is located in Steele County, North Dakota, in a primarily rural agricultural area that is sparsely populated and supports a mix of grasslands, cultivated cropland, hayfields, and pasturelands. Agricultural use (cultivated crops, hay, and pasture) is the primary land use within the Project Area. The Project Area is bisected by State Highway 66 and is located predominantly east of State Highway 1. Small farmsteads are in the Project Area as well as small tracts of forested areas, wetlands, and natural stream corridors; however, these natural features are of limited size. Small, isolated woodlots, generally associated with wind breaks for farmsteads, are also scattered within the Project Area. Public roads are generally situated in a grid-like arrangement.

The Project Area is located within the Draft Plains ecoregion of the Northern Glaciated Plains (Bryce et al. 1996). According to the United States Geological Service (USGS) ecoregion mapping data, this ecoregion is characterized by the following:

On the Drift Plains, the retreating Wisconsinan glaciers left a subtle undulating topography and a thick mantle of glacial till. A greater proportion of temporary and seasonal wetlands are found on the drift plains than in the coteau areas, where semipermanent wetlands are numerous. Because of the productive soil and level topography, this ecoregion is almost entirely cultivated, with many wetlands drained or simply tilled and planted. However, valuable waterfowl habitat still remains, concentrated in state and federally sponsored duck production areas. The historic grassland on the Drift Plains was a transitional mix of tallgrass and shortgrass prairie. The prairie grasses have been largely replaced by fields of spring wheat, barley, sunflowers, and alfalfa (Bryce et al. 1996).

The surficial geology in the region is relatively flat with little visual relief. The surface soil texture is primarily loam that is well drained (USDA 2022). Within the Project Area, the topography is generally flat, with approximate elevations between 1,450 and 1,600 feet above mean sea level (amsl).

Natural Resource Conservation Service (NRCS) Soil Survey data for Steele County identified 16 different types of soils within the Project Area. These soils vary greatly in texture, natural drainage, slope, and other characteristics. The Project Area is dominated by a variety of loam texture soils (Table 1):

Table 1: Soils throughout Project Area

Soil Type	Hydric	Percent of Project Area
G143B: Barnes-Svea loams, 3 to 6 percent slopes	No	53.09%
G144B: Barnes-Buse loams, 3 to 6 percent slopes	No	23.32%
G143C: Barnes-Buse-Langhei loams, 6 to 9 percent slopes*	Yes	10.99%
G147F: Buse-Barnes-Darnen loams, 9 to 35 percent slopes	No	3.43%
G304A: Binford-Coe complex, 0 to 2 percent slopes	No	2.02%
G101A: Hamerly-Wyard loams, 0 to 3 percent slopes	No	1.58%
G147D: Buse-Barnes-Darnen loams, 6 to 15 percent slopes	No	1.45%
G100A: Hamerly-Tonka complex, 0 to 3 percent slopes*	Yes	1.12%
G147C: Buse-Barnes-Darnen loams, 3 to 9 percent slopes	No	0.64%
G304B: Binford-Coe complex, 2 to 6 percent slopes	No	0.61%
G146B: Barnes-Buse-Parnell complex, 0 to 6 percent slopes	No	0.52%
G304E: Coe-Binford sandy loams, 9 to 25 percent slopes	No	0.43%
G167B: Balaton-Wyard loams, 0 to 6 percent slopes	No	0.41%
G12A: Vallery, saline-Parnell complex, 0 to 1 percent slopes*	Yes	0.20%
G3A: Parnell silty clay loam, 0 to 1 percent slopes	No	0.16%
G143B: Barnes-Svea loams, 3 to 6 percent slopes	No	0.02%

4 LITERATURE SEARCH

4.1 PREVIOUS CULTURAL RESOURCES STUDIES

Research indicated that one archaeological survey has been conducted within the current Project Area (Table 2, Figure 2 Map Set).

Table 2. Previously Conducted Cultural Resources Surveys

Survey Number	Authors	Year	Title	Location
000972	Fox, Richard A. Jr.	1980	1978-1979 Cultural Resource Investigations Along the Middle Sheyenne River Valley Including Lake Ashtabula and A Portion of the Sheyenne River, Vol. 1, Barnes Co., Griggs Co., & Steele Co., ND	Within One Mile
011063	Engel, Damita J., and Kimball M. Banks	2009	North Dakota Forest Service 2009 Living Snow Fence Survey: A Class III Cultural Resource Inventory for Proposed Tree Planting Sites in Adams, Benson, Mercer, Oliver, Steele, & Walsh Counties, ND	Within One Mile
011182	Leuchtman, Amy, and Jennifer L. Harty	2009	Luverne Wind Farm: A Class III Cultural Resource Inventory, Barnes, Griggs and Steele Counties, ND	In Project Area
019154	McCarthy, Melinda M.	2021	Ashtabula II Wind Energy Center: A Class III ADLS Location Negative Survey Report	Within One Mile

In 2009, a Class III cultural resources inventory was conducted by Kadrmas, Lee, and Jackson, Inc., on behalf of M Power National Wind, to document cultural resources within the footprint of the proposed Luverne wind farm in Griggs and Steele Counties, North Dakota (Figure 2 Map Set) (Leuchtman and Harty 2009).

4.2 PREVIOUSLY RECORDED ARCHAEOLOGICAL SITES

One archaeological site, 32STX32, has been previously recorded within the current Project Area (see Figure 2 Map Set; Table 3). This isolated find consisted of one fire-cracked quartzite and one light-brown chalcedony, tertiary flake found in a plowed agricultural field. It was recommended as not eligible for the National Register of Historic Places.

Table 3. Previously Documented Archaeological Resources within the Project Area

Site Number	Description	Status
32STX32	KLJ-LWNTK-01, Prehistoric Lithic Isolate	Not Eligible

Three additional sites have been previously identified within one mile of the Project Area (Figure 2 Map Set; Table 4).

Table 4. Previously Documented Archaeological Resources within One Mile

Site Number	Description	Status
32STX51	MAC-ABRxl, Prehistoric Lithic Isolate	Unevaluated
32STX9	KLJ-IF-01, Prehistoric Lithic Projectile Point	Not Eligible
32ST176	KLJ-JFK-01, Historic Artifact Scatter	Not Eligible

4.3 PREVIOUSLY RECORDED ARCHITECTURAL HISTORY PROPERTIES

No historical architectural properties have been recorded within the Project Area. One historical architectural property has been recorded within one mile of the Project Area. (see Figure 2 map set; Table 5). The property designated, 32ST2, has been recorded as both an archaeological site and a historical architectural property. It consists of a suspension bridge with a house foundation now used as a dump. The 1980 report in which the site was recorded recommend it not eligible for the National Register of Historic Places.

Table 5. Previously Documented Architectural Resources within One Mile

Site Number	Description	Status
32ST2	Suspension Bridge and Historic Dump	Not Eligible

5 CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSIONS

As a result of the literature review, Atwell has reached the following conclusions:

- One previously identified archaeological site lead is in the Project Area.
- No previously documented architectural resources are within the Project Area.
- No architectural or archaeological resources listed on the NRHP are within the Project Area.
- No cemeteries are located within the Project Area.

Currently, no federal trigger has been identified for this project; therefore, Section 106 regulations do not apply. Should Section 106 be triggered, methods for archaeological pedestrian survey and aboveground architectural survey should be determined through consultation with the lead federal agency and the SHSND.

5.2 RECOMMENDATIONS

Based on a review of the data presented above in conjunction with the fact that the vast majority of the Project Area has been previously surveyed (99.42%) and disturbed by the original construction of the wind farm, Atwell makes the following recommendations:

- The Project proceed as planned without additional archaeological work prior to construction.
- An Unanticipated Discovery Plan is attached in Appendix A that establishes procedures and relevant contact information in the event that human remains or archaeological deposits are discovered during the construction, operational, and decommission phases of the Project.
 - If buried archaeological resources are encountered, all activity should cease in the immediate area and within a 100-foot buffer area and the artifacts should be left in place. The Client’s archaeologist should be contacted immediately, and unanticipated discovery procedures should be initiated.
 - If human remains are encountered, construction should stop in the immediate area of discovery and within a 100-foot buffer area, and law enforcement should be notified immediately. Law enforcement officials should determine whether the discovery is a crime scene and whether the remains are prehistoric or historic Native American remains. The SHSND should be contacted immediately if the human remains are determined to be prehistoric or historic in nature and/or Native American remains.

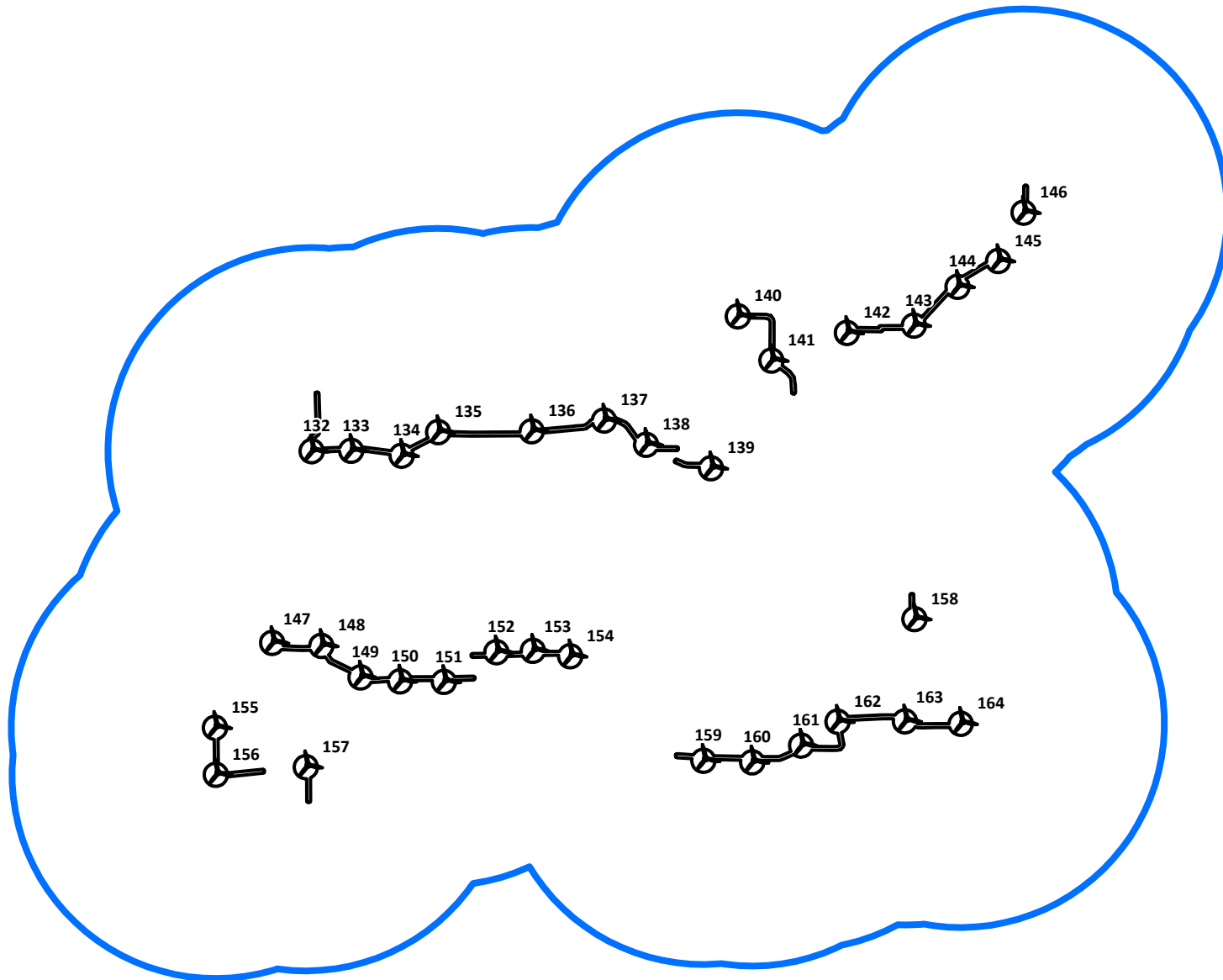
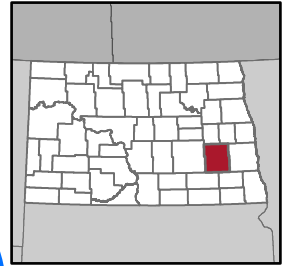
6 REFERENCES

Bryce SA, Omernik JM, Pater DA, Ulmer M, Schaar J, Freeouf J, Johnson P, Kuck P, Azevedo SH. 1996. Ecoregions of North Dakota and South Dakota. Reston, Virginia: U.S. Geological Survey.

Leuchtman A, Harty JL. 2009. Luverne wind farm: a class III cultural resource inventory, Barnes, Griggs and Steele counties, ND.

USDA [U.S. Department of Agriculture]. 2022. Web soil survey. Natural Resources Conservation Service. <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.




FIGURES



Luverne Wind Upgrade Project

Figure 1 – Site Location












Steele County, North Dakota
Issue Date: 3/7/2023

-  Existing Turbine Locations
-  Study Area
-  1 mile Buffer



SOURCE: USGS Topo Map

**LUVERNE WIND
UPGRADE PROJECT**
**Figure 2 – Known Cultural
Resources Index**
Steele County, North Dakota
Issue Date: 3/7/2023

-  Architectural Site (Point)
-  Archeological Site (Point)
-  Architectural Site (Poly)
-  Archeological Site (Poly)
-  Archeological Survey
-  Existing Turbine Locations
-  Existing Access Roads
-  Disturbance Area (~80 acres)
-  Mapbook Page
-  Study Area
-  1 mile Buffer



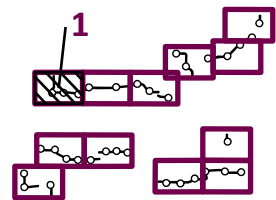
SOURCE: USGS Topo Map

LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- Study Area
- ▭ Township



SOURCE: Esri World Imagery (2021)

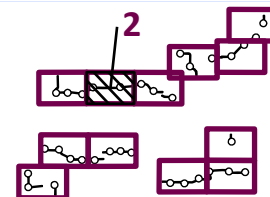
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index











Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- Study Area
- ▭ Township

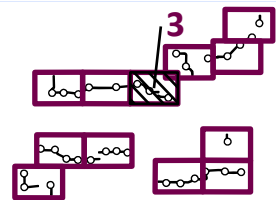
SOURCE: Esri World Imagery (2021)



**Luverne Re-Power
Wind Farm**
**Figure 2 – Known Cultural
Resources Index**
Steele County, North Dakota
Issue Date: 3/7/2023

-  Architectural Site (Point)
-  Archeological Site (Point)
-  Architectural Site (Poly)
-  Archeological Site (Poly)
-  Archeological Survey
-  Existing Turbine Locations
-  Existing Access Roads
-  Disturbance Area (~80 acres)
-  Study Area
-  Township

SOURCE: Esri World Imagery (2021)





0 0.1 Miles

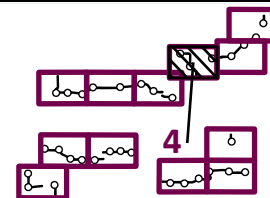
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- Study Area
- ▭ Township











SOURCE: Esri World Imagery (2021)



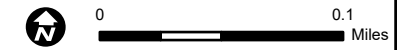
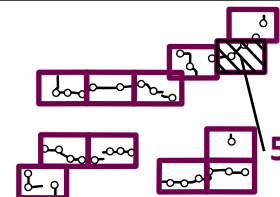
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

-  Architectural Site (Point)
-  Archeological Site (Point)
-  Architectural Site (Poly)
-  Archeological Site (Poly)
-  Archeological Survey
-  Existing Turbine Locations
-  Existing Access Roads
-  Disturbance Area (~80 acres)
-  Study Area
-  Township











SOURCE: Esri World Imagery (2021)



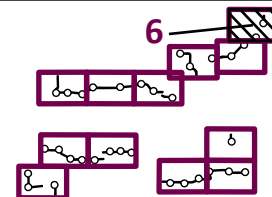
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

-  Architectural Site (Point)
-  Archeological Site (Point)
-  Architectural Site (Poly)
-  Archeological Site (Poly)
-  Archeological Survey
-  Existing Turbine Locations
-  Existing Access Roads
-  Disturbance Area (~80 acres)
-  Study Area
-  Township

SOURCE: Esri World Imagery (2021)

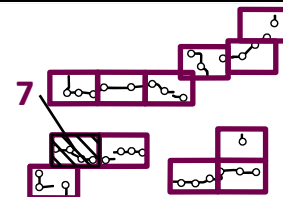


LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- Study Area
- ▭ Township



SOURCE: Esri World Imagery (2021)



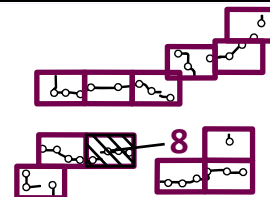
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- Study Area
- ▭ Township











SOURCE: Esri World Imagery (2021)



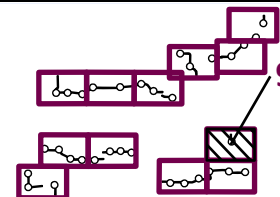
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

-  Architectural Site (Point)
-  Archeological Site (Point)
-  Architectural Site (Poly)
-  Archeological Site (Poly)
-  Archeological Survey
-  Existing Turbine Locations
-  Existing Access Roads
-  Disturbance Area (~80 acres)
-  Study Area
-  Township

SOURCE: Esri World Imagery (2021)

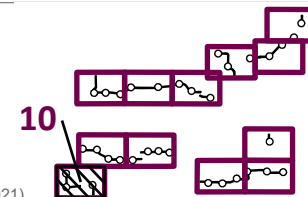


LUVERNE WIND UPGRADE PROJECT

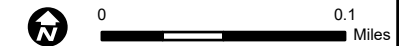
Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- Study Area
- ▭ Township



SOURCE: Esri World Imagery (2021)



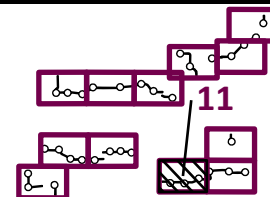
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

- ▲ Architectural Site (Point)
- ▲ Archeological Site (Point)
- Architectural Site (Poly)
- Archeological Site (Poly)
- Archeological Survey
- ✈ Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~80 acres)
- ▭ Study Area
- ▭ Township











SOURCE: Esri World Imagery (2021)



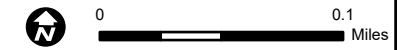
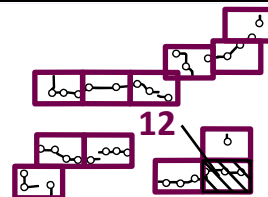
LUVERNE WIND UPGRADE PROJECT

Figure 2 – Known Cultural Resources Index

Steele County, North Dakota
Issue Date: 3/7/2023

-  Architectural Site (Point)
-  Archeological Site (Point)
-  Architectural Site (Poly)
-  Archeological Site (Poly)
-  Archeological Survey
-  Existing Turbine Locations
-  Existing Access Roads
-  Disturbance Area (~80 acres)
-  Study Area
-  Township

SOURCE: Esri World Imagery (2021)



APPENDIX A
UNANTICIPATED DISCOVERIES PLAN



UNANTICIPATED DISCOVERIES PLAN

LUVERNE WIND UPGRADE PROJECT STEELE COUNTY, NORTH DAKOTA

Prepared for

Otter Tail Power Company
215 S. Cascade Street
Fergus Falls, Minnesota 56537

Atwell Project No. 22007288

Submitted by Atwell, LLC

April 6, 2023

Contents

1 INTRODUCTION..... 1

2 SUMMARY OF ARCHAEOLOGICAL INVESTIGATIONS..... 2

3 REGULATORY BACKGROUND AND AUTHORITY 3

4 UNANTICIPATED DISCOVERY PROCEDURES..... 4

 4.1 Archaeological Material 4

 4.2 Human Remains and Unmarked Burials 5

5 KEY PERSONNEL AND OFFICIALS 8

Appendices

Appendix B: Examples of Archaeological Resources

1 Introduction

This Unanticipated Discoveries Plan (UDP) has been developed to lay out specific protocols and procedures to be taken should unanticipated archaeological resources be discovered during construction, operation, or decommission of the proposed Luverne Wind Upgrade Project (Project) located in Steele County, North Dakota. *Unanticipated Discoveries* are previously unknown or unrecorded archaeological resources, including human remains, discovered during Project activities. A series of steps to minimize physical impacts to archaeological resources is outlined in this UDP.

The protocols and procedures in the UDP outline actions to be taken if unanticipated discoveries are encountered during construction, operations, and decommission. The UDP is applicable to ground disturbing work associated with the Project during the construction, operations, and decommissioning phases. It may be revised from time to time to make adjustments in accordance with regulatory changes, approved practices, or expansion into previous non-Project areas.

The UDP includes procedures in accordance with the State Historical Society of North Dakota (SHSND) for compliance with state requirements. In addition, general requirements for meeting the National Historic Preservation Act (NHPA) are included in the UDP.

The objectives of these procedures are to identify and promote avoidance and/or the preservation and recording of any archaeological material discovered. A key component of the UDP is notification of archaeological authorities to resolve any issues that may arise from unanticipated discoveries.

2 Summary of Archaeological Investigations

An archaeological literature review, completed in March of 2023, indicated that one previous archaeological survey had been conducted within the Project Area. The literature review also indicated that one archaeological site lead, 32STX32, has been previously recorded within the current Project Area. No previously recorded architectural resources are located within the Project Area. Previous survey within the site lead boundary, in the vicinity of the Project Area, did not reveal any archaeological deposits.

Based on the literature review in conjunction with the fact that the Project Area has largely been previously surveyed and disturbed by the original construction of the wind farm, Atwell makes the following recommendations:

- The Project proceed as planned without additional cultural resource work prior to construction.
- An UDP be developed to establish procedures and relevant contact information in the event that human remains or archaeological deposits are discovered during the construction, operational, and decommission phases of the Project.
 - If buried archaeological resources are encountered, all activity should cease in the immediate area and within a 100-foot buffer area and the artifacts should be left in place. The Client's archaeologist should be contacted immediately, and unanticipated discovery procedures should be initiated.
 - If human remains are encountered, construction should stop in the immediate area of discovery and within a 100-foot buffer area, and law enforcement should be notified immediately. Law enforcement officials should determine whether the discovery is a crime scene and whether the remains are prehistoric or historic Native American remains. The SHSND should be contacted immediately if the human remains are determined to be prehistoric or historic in nature and/or Native American remains.

The report was submitted to the SHSND on May 4, 2023.

3 Regulatory Background and Authority

The UDP is designed to meet North Dakota and federal regulations governing the discovery of archeological materials and human remains. The applicable state and federal regulations are:

- North Dakota Century Code 55-10-11 – Recognition of Federal Historical Preservation Law;
- North Dakota Century Code 23-06-27 – Protection of human burial sites, human remains, and burial goods;
- Section 106 of the National Historic Preservation Act, (NHPA), as Amended; and

Currently, no federal trigger has been identified for this Project; therefore, Section 106 regulation do not apply. However, this UDP has been designed to comply with Section 106 should a federal trigger be identified in the future.

North Dakota has stringent state laws protecting human burials. A human burial can be marked or unmarked. An “unmarked burial” includes any location where human remains have been or may be found inadvertently and where there is no surficial evidence of a burial site (i.e., cemetery fence lines, tombstones, grave markers, etc.). This includes all prehistoric or historic Native American burials as well as all early historic-period Euro-American, African-American, and other isolated burials and abandoned cemeteries that are no longer being used for internments or being maintained in good condition. Human burials are protected under North Dakota Century Code 23-06-27. This law outlines the penalties for disturbing these resources as well and outlines the reporting protocol in the event an unmarked grave, burial, or historic cemetery is discovered.

4 Unanticipated Discovery Procedures

The general process for managing unanticipated discoveries is outlined in the following section, followed by information specific to archaeological sites and human remains or unmarked burials.

A responsible person who will be involved with all aspects of Project-related ground disturbing work during the construction, operations, and decommissioning phases should be identified. The designated responsible person (cultural liaison) should be present onsite during most Project activities and have some level of training, awareness, and sensitivity to the cultural resources that may be encountered within the Project site. This person will act as the Project liaison with the owner, Project archeologist, and cultural resources authorities in the event of unanticipated discoveries. S/he also will serve as the initial contact in the event of unanticipated discoveries during Project activities and be listed in the contacts section of this UDP.

During the Project kick-off meeting, all contractors will be made aware of the UDP and will be provided contact information for the cultural liaison, who will contact the Project archeologist to evaluate the need for further action. Whenever new personnel are brought onsite, they also will be informed of the UDP and the contact information. A copy of the UDP, including contact information, shall be posted in an accessible location onsite for reference as needed.

4.1 Archaeological Material

For purposes of the UDP, “archaeological material” could be from prehistoric or historic periods and includes, though not exclusively, the following types of materials (see Appendix A for additional examples):

- An area of charcoal or charcoal-stained soils associated with historic-period or prehistoric-period remains, such as bones, pottery sherds, shell, stone tools or chips;
- An arrowhead, pottery sherds, shell, stone tool, or stone chips;
- A historic-period bottle, old glass fragments, square nails, bricks and mortar, decorated white ware ceramics, etc.;
- A cluster of shell, sherds, and/or bones or large field stones or burned rocks in association with stone tools or chips;
- Dredging, pumping, industrial, and/or agricultural equipment older than 50 years;
- Buried structures, brick foundation piers or concrete slabs from remnant outbuildings or residences;
- A cluster of darkened soils in association with bones; and
- Undisturbed mounds of soil in areas that were once wetlands or shorelines.

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

The following general procedure is to be executed if archaeological material is discovered.

1. The site supervisor/foreman is informed of the discovery. The site supervisor/foreman will then contact the cultural liaison.
2. All construction activity within 100 feet of the discovery area/feature/site will cease immediately.
3. All remains or materials are to be left in place unless in jeopardy because of Project activities.
4. The area will be secured to prevent any damage or loss of removable objects. If feasible, a fence or other barrier will be erected to demarcate and protect the discovery area.
5. The cultural liaison will contact the Project archeologist, who will record the discovery location and delineate the extent of the discovery relative to planned Project activities. The Project archeologist will assess, record, and photograph the find.
6. Within 48 hours of the discovery, the Project archeologist will notify the SHSND and provide a brief written summary of the discovery that will include a recommendation on the NRHP eligibility of the resources, the effect of Project activity on historic properties, if present, and a proposed treatment to resolve adverse effects, if applicable.
7. The SHSND will review the recommendation made by the Project archaeologist and determine the appropriate course of action.
8. If cultural resources or remains have the potential to be culturally significant to a living Native American Tribe, the SHSND will notify the appropriate Tribes.
9. If human remains or unmarked burial sites are discovered, procedures in the next section should be followed.

4.2 Human Remains and Unmarked Burials

It is recommended that the Project follow the unanticipated discoveries protocol outlined in this section if any human remains or unmarked burial sites are discovered during Project activities.

Human remains may include any human body parts. Burial artifacts and burial sites are not easily recognized, but generally would include intact prehistoric pots, clusters of artifacts, or modern grave features (e.g., headstones, coffin parts, etc.). If in doubt whether the bones or other materials are human, it is best to stop work in the immediate area of the discovery and seek advice from the Project archaeologist.

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

Procedures for unanticipated discoveries involving human remains or unmarked burials are outlined below. In the event that human remains, an unmarked burial, or an abandoned cemetery is encountered by Project staff, the following procedures are applicable.

1. On discovery of the remains, construction activities (including excavation or any other below ground work) within 100 feet of the discovery will cease.
2. The site supervisor/foreman will be informed of the discovery. The site supervisor/foreman will then notify the cultural liaison.
3. Temporary site protection measures (e.g., high visibility warning tape and stakes, avoidance signs in language[s] understandable to the Project team, etc.) will be installed around the discovery area to prevent unintentional incursion and potential damage to the remains.
4. The cultural liaison will contact local law enforcement (e.g., police department, county sheriff) within 24 hours. Local law enforcement will notify the appropriate medical examiner's office.
5. The cultural liaison will contact the Project archaeologist, who will be or will engage a qualified professional archaeologist who is permitted in North Dakota and who has a background in osteology, forensic anthropology, physical anthropology, or equivalent.
6. The Project archaeologist will notify the SHSND within 48 hours of the discovery and provide the SHSND with a brief summary of the findings and recommendations.
7. The local law enforcement officials must be given site access to assess the nature and age of the remains. If the medical examiner's office determines that the human remains are older than 50 years of age and there is no need for a legal inquiry or criminal investigation, the SHSND will have jurisdiction over the remains.
8. If the SHSND believes the remains may have ethnic affinity with a living Native American Tribe, the SHSND will notify the appropriate Tribal representative(s) of the discovery.
9. Consultation will be initiated between the Project personnel (consisting of OTP or their agent, the Project archaeologist or qualified professional archaeologist, and the cultural liaison) and the SHSND to determine the final disposition of the human remains. The below will be considered during consultation if the remains are determined to be Native American.
 - a. The National Park Services' Native American Graves Protection and Repatriation Act (NAGPRA) (U.S. Code 25, §3001, et seq.) database and Tribal websites.
 - b. Information available at the Great Plains Regional Office of the Bureau of Indian Affairs.
 - c. The potential interest of additional state-recognized Tribes.

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

10. No work that will cause a direct effect to the discovery area will proceed until all human remains and associated artifacts have been recovered, and, where applicable, the appropriate regulatory agencies have given clearance for the Project work to proceed.

5 Key Personnel and Officials

In the event of an unanticipated discovery, the key personnel and agency officials listed below should be contacted consistent with the steps outlined above.

Cultural Liaison

Bryce Haugen
Energy Supply
215 S. Cascade St.
Fergus Falls, MN 56537
(701) 739-8385
bhaugen@otpc.com

Project Archaeologist

Matthew Chouest
2 Towne Square
Southfield, MI 48076
(517) 231-2053
mchouest@atwell-group.com

State Historical Society of North Dakota (SHSND)

Andrew J. Robinson
State Archaeologist
State Historical Society of North Dakota
Archaeology and Historic Preservation
612 East Boulevard Avenue
Bismarck, ND 58505-0830
Phone: (701) 328-3575
Email: andrewrobinson@nd.gov

Steele County Sheriff's Office

204 East Pearl Street
Owatonna, MN. 55060
Phone: (507) 444-3800

Steele County Coroner's Office

PO Box 275
Finley, ND 58230
Phone: (701) 524-2442

APPENDIX B - EXAMPLES OF ARCHAEOLOGICAL RESOURCES

Surface or subsurface structures, shelters, facilities, or features, including, but not limited to

- domestic structures
- storage structures
- cooking structures
- ceremonial structures
- artificial mounds
- earthworks
- fortifications
- canals
- reservoirs
- gardens or fields
- bedrock mortars
- grinding surfaces
- rock alignments
- cairns
- trails
- borrow pits
- cooking pits
- refuse pits
- burial pits or graves
- hearths
- kilns
- post molds
- wall trenches

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

- middens
- Surface or subsurface artifact concentrations or scatters
- Whole or fragmentary tools, implements, containers, weapons or weapon projectiles, clothing, and ornaments, including, but not limited to:
 - pottery
 - other ceramics
 - cordage
 - basketry
 - other weaving
 - bottles
 - other glassware
 - bone
 - ivory
 - shell
 - metal
 - wood
 - hide
 - feathers
 - pigments
 - flaked stone
 - ground stone
 - pecked stone
- By-products, waste products, or debris resulting from manufacture or use of human-made or natural materials
- Organic waste, including, but not limited to: vegetal and animal remains, coprolites
- Human remains, including, but not limited to: bone, teeth, mummified flesh, burials, cremations

PUBLIC DOCUMENT - NON-PUBLIC DATA HAS BEEN EXCISED

- Rock carvings, rock paintings, intaglios, and other works of artistic or symbolic representation
- Rock shelters and caves or portions thereof containing any of the above material remains
- All portions of shipwrecks, including, but not limited to: armaments, apparel, tackle, cargo
- Any portion or piece of any of the foregoing