

APPENDIX I

Archaeological and Historic Property Information

Please note: In accordance with Minnesota Rules part 7829.0500, Minnesota Statutes Chapter 13, and the Minnesota State Historic Preservation Office Manual for Archaeological Projects in Minnesota, Benton Solar has designated certain portions of Appendix I as NONPUBLIC DATA–NOT FOR PUBLIC DISCLOSURE because they contain sensitive cultural resource information. Accordingly, Benton Solar has prepared and is filing both NONPUBLIC and public versions of Appendix I.

APPENDIX I1

**Phase Ia Cultural Resources Literature Review for the Benton Solar
Project, Benton County, Minnesota**

Phase Ia Cultural Resources Literature Review for The Benton Solar Energy Project, Benton County, Minnesota

MARCH 2023

PREPARED FOR

NextEra Energy Resources, LLC

PREPARED BY

SWCA Environmental Consultants

**PHASE IA CULTURAL RESOURCES LITERATURE REVIEW
FOR THE BENTON SOLAR ENERGY PROJECT, BENTON
COUNTY, MINNESOTA**

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ABSTRACT

SWCA Environmental Consultants (SWCA) completed a Phase Ia cultural resources literature review (Phase Ia) at the request of NextEra Energy Resources, LLC, in Benton County, Minnesota for the proposed development of the Benton Solar Energy Project (project). The project area covers approximately 6,333 acres near the city of St. Cloud in Minden and St. George Townships, Benton County, Minnesota. It is in the State Historic Preservation Office (SHPO) Central Lakes Deciduous (4e) archaeological region. SWCA conducted the Phase Ia in accordance with the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005).

The project will require a site permit from the Minnesota Public Utilities Commission under Minnesota Statute (MS) 216E.04/Minnesota Rules (MR) 7850.2800 through 7850.3900. Per MS 216E.04, Subd. 2(8), as a large electric power generating plant powered by solar energy, the project qualifies for the alternative review process specified in MR 7850.2800 through 7850.3900. As required under this process, SWCA will coordinate with the SHPO to determine impacts to cultural resources listed in, eligible for listing in, or currently unevaluated for the Minnesota State Historic Sites Network, the Minnesota State Register of Historic Places, and the National Register of Historic Places (NRHP).

For the purposes of this Phase Ia, the project area and a surrounding 1-mile buffer constitute the project study area (study area), which extends into portions of Haven and Palmer Townships in Sherburne County. SWCA performed the Phase Ia in October 2022, which searched NRHP-listed resource locations, state archaeological files, the files of the Office of the State Archaeologist (OSA), and SHPO files for documented cultural resources within the study area. SWCA conducted the Phase Ia for the proposed project by reviewing Minnesota SHPO and OSA records, NRHP records, available historic atlases, and historic maps. The search revealed four previously recorded archaeological sites located in the study area. None of these previously recorded archaeological sites are located within the project area. The file search also revealed 16 previously recorded architectural or other built resources located in the study area. Six of these previously recorded architectural or other built resources, four historic buildings, and sections of two historic highways, are located in the project area. Background research also identified one cemetery within the project area.

SWCA recommends that the project proceed with avoidance of impacts to the seven previously recorded sites within the project boundary: six architectural or built resources and one cemetery. In addition, SWCA will coordinate with the Minnesota SHPO and OSA to determine the need for, and scope of, future Phase I archaeological and/or architectural surveys. SWCA recommends that the project proceed with avoidance of impacts to newly identified cultural resources found in subsequent Phase I archaeological and/or architectural surveys. Lastly, SWCA recommends an implementation of an unanticipated discovery plan to assist in the identification, evaluation, and avoidance of any significant cultural resources that might be discovered during construction or operations of the project.

PUBLIC DOCUMENT- NONPUBLIC DATA HAS BEEN EXCISED

Phase Ia Cultural Resources Literature Review for the Benton Solar Energy Project, Benton County, Minnesota

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INTRODUCTION

NextEra Energy Resources, LLC, contracted SWCA Environmental Consultants (SWCA) to conduct a Phase Ia cultural resources literature review (Phase Ia) for the proposed development of the Benton Solar Energy Project (project), which is located entirely on private land in Benton County, Minnesota. The project has a proposed nameplate capacity of 100 megawatts. The project layout would feature solar panels in five groupings with associated staging areas and infrastructure.

The project requires a site permit from the Minnesota Public Utilities Commission under Minnesota Statute (MS) 216E.04/Minnesota Rules (MR) 7850.2800 through 7850.3900. Per MS 216E.04, subdivision 2(8), as a large electric power generating plant powered by solar energy, the project qualifies for the alternative review process specified in MR 7850.2800 through 7850.3900. As required under this process, SWCA will coordinate with the State Historic Preservation Office (SHPO) to determine impacts to cultural resources listed in, eligible for listing in, or currently unevaluated for the Minnesota State Historic Sites Network (MSHSN), the Minnesota State Register of Historic Places (MSRHP), and the National Register of Historic Places (NRHP).

As currently proposed, the project would not need any federal funding, approvals, or permits that would require compliance with Section 106 of the National Historic Preservation Act. If it is subsequently determined that the project requires a federal approval or permit and associated Section 106 review, then the lead federal agency will coordinate related consultation at that time.

PROJECT DESCRIPTION

The proposed Benton Solar Energy Project area (project area) covers approximately 6,333 acres of private land near the city of St. Cloud in Minden and St. George Townships, Benton County, Minnesota. The project area is in the SHPO Central Lakes Deciduous (4e) archaeological region. For the purposes of this Phase Ia, the project area and a surrounding 1-mile buffer constitute the project study area (study area), which extends into Haven and Palmer Townships in Sherburne County, Minnesota. The project area is in Sections 17, 18, 19, 20, 29, 30, 31, and 32, Township (T) 36 North (N), Range (R) 29 West (W), and Sections 13, 23, 24, 25, 26, 35, and 36, T36N, R30W. The study area is in Sections 7, 8, 9, 16, 21, 28, and 33, T36N, R29W; Sections 11, 12, 14, 15, 22, 27, and 34, T36N, R30W; Sections 4, 5, and 6, T35N, R29W; and Sections 1, 2, and 3, T35N, R30W (Figure 1).

The study area for the Phase Ia provides a framework to evaluate the significance of identified cultural resources and aids in the discussion of our understanding of the past in the area. For the Phase Ia, SWCA searched SHPO databases, Office of the State Archaeologist (OSA) databases, and the NRHP-listed resource locations for documented cultural resources within the study area.

[NON-PUBLIC INFORMATION REDACTED]

Figure 1. Project location overview.

ENVIRONMENTAL OVERVIEW

The study area is within the Interior Plains portion of the Western Lake section of the Central Lowland physiographic province of the Great Plains (Fenneman 1928). Within Minnesota, the study area is in the North Central Hardwood Forests Level III ecoregion; more specifically, it is mostly in the McGrath Till Plain and Drumlins Level IV ecoregion (White 2020). The general topography of the study area is rolling, and elevation ranges roughly between 1,000 and 1,100 feet above mean sea level. The project area is in a rural area approximately 6 miles east of St. Cloud. Farmsteads are scattered throughout the project area, and most of the public roads are generally in a grid-like arrangement (U.S. Geological Survey [USGS] 2022). The primary land use is agricultural cropland and involves an extensive network of agricultural field ditches and intermittent and ephemeral streams, many of which support herbaceous riparian buffers.

Central Lakes Deciduous Archaeological Region

The project lies within the Central Lakes Deciduous archaeological region (Hudak et al. 2002). This region includes all of Anoka, Benton, Cass, Chisago, Crow Wing, Hennepin, Isanti, Mille Lacs, Morrison, Ramsey, Sherburne, Stearns, Todd, Wadena, Washington, and Wright counties and portions of Becker, Dakota, Douglas, Kandiyohi, Kanabec, Meeker, Otter Tail, Pine, Pope, and Swift counties (Gibbon et al. 2002). Additionally, the region extends into west central Wisconsin. Based on the available data, archaeological resource sites—including both larger settlement centers and smaller activity areas—in this region are associated with permanent water sources such as major lakes and rivers; relatedly, they can be associated with wild rice beds.

The general topography of the region consists of moraines, till plains, and outwash plains. Water sources in the study area include the Elk River, which crosses through the western side of the project area, meandering north to south. Mayhew Creek meets the Elk River on the western side of the project area. Stony Brook goes through the eastern side of the project area. Lake Donovan lies within the northwestern corner of the study area. Most of the soils in the region are medium to coarse prairie soils and forest soils. In the center and eastern edge of the Central Lakes Deciduous archaeological region granite is exposed in bedrock outcrops (Gibbon et al. 2002).

The region was intermittently glaciated during the Wisconsin Ice Age. It was located to the north of the glacial lake, Lake Grantsburg. The average annual precipitation in this region ranges from 22 to 28 inches; average temperature highs in January range from 12 to 24 degrees Fahrenheit; average temperature highs in July range from 78 to 82 degrees Fahrenheit; and in the south the frost-free season extends up to 160 days (Gibbon et al. 2002).

Paleoenvironment

During the early Pleistocene Epoch, approximately 60,000 years before present (B.P.), Minnesota experienced several glacial ice sheet advances and retreats that contributed to the formation of the landscape. Although the Central Lakes Deciduous archaeological region was intermittently glaciated during the Wisconsin Ice Age, those previous glaciations resulted in cumulative and extensive loess deposits across the region (Hudak et al. 2002). The soils in the area include forest Udalfs, a mix of Udalfs, and moist prairie Udolls (White 2020). Within the North Central Hardwood Forests ecoregion, the topography consists of flat to gently rolling till plains and rolling to hilly moraines, as well as lacustrine basins and outwash plains. More specifically, in the McGrath Plain and Drumlins ecoregion, the vegetation of the pre-settlement periods was prairie in the southwest and woodlands in the southeast and north.

In *Mn/Model Final report Phases 1-3, 2002: A Predictive Model of Precontact Archaeological Site Location for the State of Minnesota*, Hudak et al. (2002) state that four biotic provinces have been used to understand the constantly changing environment from 30,000 to 3000 B.P. in Minnesota: boreal forest (spruce and pine), mixed hardwood forest (conifer/deciduous forest), deciduous forest (including oak savanna), and prairie. From 8000 to 3000 B.P., the project area witnessed a shifting prairie and forest border, particularly between 6000 and 3000 B.P., when Benton County witnessed a change from forested area to prairie. In these periods, white-tailed deer, bison, elk, beaver, bear, and sometimes moose lived within the Central Lakes Deciduous archaeological region. Additionally, fish and waterfowl occupied the lakes in the region, and wild rice and acorns would have been food sources for the early occupants of the region (Gibbon et al. 2002).

Climate had a direct effect on the lifeways of precontact hunter-gatherers, dividing Minnesota by growing season length and generally determining the type of community associated with each region. Archaeological evidence and interpretation indicate that the south half of the state sustained a frost-free environment, assisting precontact hunter-gatherers in growing crops, and that the north half predominantly supported hunting and gathering of wild food resources (Gibbon 2012).

Modern Environment

When Euro-Americans began to settle in the region, many of the hardwoods, such as oaks, were cut down to create more agricultural land (Gibbon et al. 2002). This continued between the time of contact until the 1920s. Today, Benton County is mostly agricultural land, specifically for crops like corn and soybeans, pasture, and dairy farming (White 2020).

CULTURE HISTORY

The following cultural contexts are summarized from previously conducted syntheses for the state of Minnesota and the upper Midwest (Dobbs 1990a, 1990b; Hudak et al. 2002; Gibbon 2012; Minnesota SHPO 1993). The precontact period is divided into four periods: Paleoindian, Archaic, Woodland, and Plains Village and Mississippian/Oneota. These periods are further defined by significant changes in how Native American communities used technology and food sources.

Paleoindian Period (ca. 12,000–8000 B.P.)

This period is marked in Minnesota by the retreat of glacial ice and the draining of several lakes, including Lake Agassiz and Lake Superior. The Paleoindian occupations in what is now Minnesota were of low population density, and often sites were short-term specialized activity areas that resulted in a low archaeological profile. Peoples in the Paleoindian period adapted to a nomadic lifestyle, living near game animals, sources of wood and chert, large streams, and other major water sources. Their movements followed the seasons, the availability of plants, and the migratory patterns of game animals (Minnesota OSA 2021).

Paleoindian period archaeological sites are often identified by isolated projectile points and scatters of a few lithic artifacts on the ground surface. Justice (1987) divides these projectile points into Early Paleoindian—fluted point pattern (Clovis, Gainey, and Folsom points)—and Late Paleoindian—non-fluted lanceolate point pattern (Plano and Cody complex points). Other lithic tool types associated with the patterns of the Paleoindian period in Minnesota include bifacially flaked knives, simple choppers, adzes, and large scarpers (Dobbs 1990a).

Archaic Period (8000–2800 B.P.)

The end of the Pleistocene marked the end of the last Ice Age and the beginning of the Archaic period. The retreating glaciers exposed new land surfaces unlike any in present-day Minnesota. Expanses of prairie began to displace the forests, and expansive lakes and large, swift rivers were formed by glacial runoff. Human dietary and settlement patterns shifted in adaptation to environmental changes. More diverse plant and animal resources were used during the Archaic period, and the toolkit diversified to include ground and pecked stone tools, cold-hammered copper tools mined from sources in northern Minnesota, and a wider variety of projectile point types. The technology of the Archaic period is also notably characterized by a change in projectile point manufacture techniques. This shift from large lanceolate points to smaller notched and stemmed points is a result of the invention and adoption of the atlatl, which allowed hunters greater accuracy and range.

During the Archaic period, regional differences in material culture began to develop. Four distinct Archaic period contexts identified in Minnesota are the Shield Archaic, Lake Forest Archaic, Prairie Archaic, and Eastern or Riverine Archaic (Dobbs 1990a; Minnesota OSA 2021). Research suggests that community size increased from previous Paleoindian populations yet remained small, with day-to-day activities taking place at a series of small seasonal camps (Anfinson 1987). Similar to known Paleoindian sites, Archaic sites are relatively small and sparse.

Woodland Period (2800–1200 B.P.)

Throughout the Midwest, the Woodland period is generally divided into three periods: Early, Middle, and Late; however, Anfinson (1987) has suggested that a division into initial and terminal periods may be more appropriate in Minnesota. The climate during this period shifted from dry and warm to moist and cool and began to stabilize to resemble the climate of the region today (Anfinson 1990).

Woodland period cultures feature evidence of an increasingly sedentary lifestyle: ceramic vessel manufacture, burial mound construction, and cultivation of specific plant species (Dobbs 1990a). The original divisions of the Early, Middle, and Late Woodland were differentiated by their changes in technology. Ceramics from the Early Woodland period are normally thick and basic, and their exteriors tend to bear cord-marked decoration. Evidence from the Middle Woodland indicates the use of earthen burial mounds. The Late Woodland period continued the traditions of ceramics and burial mounds, but ceramic decorations and styles became more regionalized (Anfinson 1990). Despite significant changes in many aspects of the Woodland culture, archaeological research indicates that life during the Woodland period remained similar to that of the Archaic period, with a dependence on a diverse seasonal resource base of plants and animals (Anfinson 1987). Site types assigned to the Woodland period throughout the region range from small limited-use sites to large village and habitation sites. Throughout most of Minnesota, the Woodland period ended in approximately A.D. 1000; however, in northern Minnesota, the period lasted until the arrival of the French ca. 1650 (Minnesota OSA 2021).

Plains Village and Mississippian/Oneota Periods (1100 B.P.–A.D. 1650)

Archaeological sites in Minnesota exhibit significant changes in subsistence and settlement patterns during the Plains Village and Mississippian/Oneota periods. Populations became larger and even more regionalized than was typical of the previous periods. In addition, the level of artistry on ceramic vessels increased significantly, as ceramics were manufactured through a variety of techniques and decoration

styles; agricultural cultivation intensified; and settlement patterns shifted to larger and more permanent villages (usually near river settings). In addition to these cultural changes, the Plains Village and Mississippian/Oneota periods are split based on region; the Plains Village period is typical of the western part of the state, where Mississippian period is typical of the eastern part of the state (Anfinson 1987). These periods lasted from the end of the Terminal Woodland period, ca. 1200 B.P., to first contact with European explorers (Anfinson 1987).

Anfinson (1987) has suggested that the Plains Village and Mississippian/Oneota periods developed because of regionalization, which supported the creation of distinctive ideas and lifeways. Archaeological evidence indicates that Plains Village complexes developed from an indigenous Late Woodland base; however, archaeologists are unsure how the Mississippian/Oneota complexes developed (Dobbs 1990a). Plains Village and Mississippian/Oneota site types are similar to those associated with the Woodland period. The archaeological remains of these complexes range from burial mounds to small limited-use sites and extensive habitation sites. Site location remains consistent with that of the Woodland period and depends on numerous factors, including the location of specific resources that people used or the presence of a desirable environment.

Historic Period (A.D. 1650–Present)

The Historic period is categorized by Euro-American incursion into the interior of the continent, first through the rise of the fur trade and early commercial exploration and then via the spread of Euro-American settlement and intensive land use.

Contact/Fur Trade (1630s–1858)

At the time of contact, the western part of the Central Lakes Deciduous region was controlled by the Yankton, Tanktonai, and other Dakota groups, whereas the eastern part was controlled by Santee Dakota groups (Hudak et al. 2002). Between the mid-1700s and the late 1800s, the Ojibwa occupied and controlled the northern part of the region. The first fur trade contact in the Central Lakes Deciduous region occurred when French explorers and traders arrived in the region in the late 1600s. In the following years, the number of explorers and fur traders continued to increase. The establishment and operation of economic exchange, especially by fur traders, spurred further Euro-American exploration into Minnesota.

The French were interested in developing and maintaining amicable relationships with various Native American tribes; those relationships supported the initiation of the French period of exploration and occupation of Minnesota, which lasted into the early 1760s. During this period of French influence, much of the region featured an extensive network of forts and fur trading posts which were situated on or near rivers and lakes (MNHS 2019).

After the French loss of the Seven Year War (the French and Indian War), when the French ceded the territory east of the Mississippi to England, the 1760s brought a half-century of British activity in the region that became Minnesota. British companies began to compete with one another, leading to further development of the fur trade industry, resulting in the establishment of more trading posts and, consequently, major changes in the distribution of Native American people in the region. By 1800, the migration of Native American populations from the east and the depopulation of Native peoples in certain areas because of introduced diseases and warfare caused the gradual movement of the Ojibwa into northern Minnesota and the Dakota into southern Minnesota (MNHS 2019).

Fierce competition in the region led to over-trapping, and the depletion of many fur-bearing animals prompted traders to move farther west (MNHS 2019). In 1837, the U.S. government entered into treaties

with the Dakota, Winnebago, and Ojibwa that opened east-central Minnesota to logging and settlement and, by 1849, Minnesota had become organized as a Territory. Benton County was one of the original counties of the Territory in 1849. Its border shifted until it solidified to its current extent in 1860. When Minnesota gained statehood in 1858, Euro-American settlement increased, bringing a wave of new towns, cities, and non-fur trade-related enterprises (Benton County Historical Society and Raupp 2022).

Military Activity (1800–1890)

In the mid-nineteenth century, Minnesota territorial representatives appealed to the U.S. Congress to appropriate funds to build and maintain a series of five military roads within the state (Ginkel et al. 2016). The territory representatives argued that establishing these roads was justified for frontier defense and would aid in territorial settlement and commercial development. In July 1850, the territorial representatives secured funding for the development of those roads. Through the decade, territorial representatives and the War Department's Corps of Topographical Engineers oversaw the creation of the five originally proposed roads and two additional roads. Although not all the roads were completed, the segments that were completed were used heavily by the local Euro-American population.

In 1862, tensions between the Dakota and the U.S. Government grew, and the U.S. Government's failure to keep its promise of annuities over several years, poor dealings with fur traders as the market for furs collapsed, and the crop failure resulted in violence between the Native Americans and Euro-Americans. Over a 6-week period the violence escalated, prompting a large-scale evacuation of settlement areas. Even though hostilities ceased shortly after this period, the U.S. government rescinded all treaties established with the Dakota and forcibly removed them from the state on December 26, 1862 (Ginkel et al. 2016).

The eruption of violence led to major military expeditions by the U.S. government within the region in 1863, 1864, and 1865. Battles occurred within the state and in the nearby states of North Dakota and South Dakota. Although hostilities between the U.S. government and the Dakota decreased over the subsequent decade, a strained relationship between the two nations existed well into the 1890s and, to some extent, still exists today (Ginkel et al. 2016).

Early Agriculture and Railroads (1840–1940)

Acts passed in Minnesota in the mid-nineteenth century fostered an influx of settlers from the eastern states and Europe (Rose 1911). These initial settlers came by steamboat and followed the major rivers and tributaries into the interior of the state. Town sites relied on rivers as a source of transportation and power and tended to develop according to resource need, to company or industry need, or via social or ethnic boundaries. Due to its proximity to the Mississippi River, Benton County was settled by Euro-Americans—primarily of German, Polish, and Scandinavian descent—beginning in the 1840s and continuing throughout the nineteenth century. Early industries present in Benton County included agriculture and dairy farming, logging and lumbering, and granite quarrying (Benton County Historical Society and Raupp 2022).

In the late nineteenth and early twentieth centuries, railroads in Minnesota increased access to tillable land for farmers, reduced dependence on risky water transportation, and allowed for the transportation of goods and services away from major river transportation corridors. In Benton County specifically, railroads were an important factor in the rapid growth of its agriculture, industry, and population. In 1867, the St. Paul and Pacific Railroad connected St. Anthony and Sauk Rapids. Its establishment is related to the growth of the granite quarrying industry in the county. Similarly, when the Hinckley Branch of the Minneapolis and St. Cloud Railroad was constructed into the interior of the county in 1882, the logging and lumbering industry quickly increased its exploitation and production (*Benton County Multiple Resource Nomination* 1981).

Between 1870 and 1920, the population and settlement of Benton County increased, as is evident from early census population counts and the number of farms. The increase in population had a positive effect on agricultural activities, with the emergence of more diversified crops and the success of dairy farms. However, it had a negative effect on the logging and lumbering industry (*Benton County Multiple Resource Nomination* 1981). In the late nineteenth century, Benton County was well forested with species such as oak, maple, ash, basswood, and tamarack predominating (Neill et al. 1881). However, by 1910, both the trees and their associated industry had almost completely disappeared. Between 1900 and the 1930s, granite quarrying increased, and Benton County remains one of the highest producing granite sources in the world (*Benton County Multiple Resource Nomination* 1981).

RESEARCH GOALS

The research goals of the Phase Ia were to a) identify cultural resources within the project area or the study area, as documented in Minnesota SHPO and OSA records and b) provide Benton Solar with sufficient information so that preliminary infrastructure siting and design for the project could avoid impacts to significant, or potentially significant, cultural resources (significance is defined as those archaeological or architectural resources that are determined eligible for listing in the MSHSN, MSRHP, or NRHP). This research provides a framework in which to evaluate the significance of the cultural resources identified for MSHSN, MSRHP, and NRHP eligibility and aids in the discussion of our understanding of the past in the area.

RECORDS SEARCH AND LITERATURE REVIEW

For the Phase Ia literature review, which encompassed the project area and a surrounding 1-mile study area, SWCA followed the methods described in the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005).

Methods

In October 2022, SWCA archaeologist Jolene Schleicher coordinated with the Minnesota SHPO to conduct a search of records for information about the nature and location of previously conducted archaeological surveys, previously recorded cultural resources (archaeological and architectural), and NRHP-listed or eligible districts and individual properties within the study area. SWCA archaeologist Lucy Harrington, M.S., RPA, searched the records of the Minnesota OSA via the agency's online portal. The records searches included archaeological resources, traditional cultural properties, and NRHP-listed or eligible archaeological resources previously recorded within the study area.

SWCA also reviewed National Park Service NRHP data; county and township histories; historic maps of the study area, including Bureau of Land Management maps, General Land Office maps, and the Andreas Atlas (Andreas 1874); and current and historic aerial photographs of the study area to assist with assessing the sensitivity of the project area for containing cultural resources.

Results

The results of the record search indicate that no NHRP-listed or eligible historic properties (archaeological or architectural) are within the study area. However, there are four archaeological sites and 16 historic architectural or other built resources located within the project and study areas. Cultural resources located

immediately outside of the project area are included in the following summaries because they further suggest that additional undocumented cultural resources may be present within the project and study areas.

Previous Cultural Resources Inventories

The results of the records search indicate that nine previous cultural resources inventories have been conducted within the study area from 1991 to 2020. Six of these surveys overlapped the project area. The inventories consist of reconnaissance surveys and site evaluation reports for the reconstruction or realignment of various highways and the development of the St. Cloud Regional Airport (Table 1). It is possible that additional undocumented cultural resources, especially prehistoric and historic archaeological sites and historic resources (historic buildings/structures), could be located within the project area because the previous inventories were mostly conducted along and around major roads.

Table 1. Previous Cultural Resources Inventories

Report Number	Author	Title	Report Date	Location
THY-92-01	Leslie D. Peterson, Kent Skaar, and Wanda Watson Radford	The Minnesota Trunk Highway Archaeological Reconnaissance Study Annual Report - 1991	1991	Project and study areas
THY-94-01	Leslie D. Peterson, Kent Skaar, and Wanda Watson Radford	The Minnesota Trunk Highway Archaeological Reconnaissance Study Annual Report - 1993	1993	Project and study areas
BN-94-3 Vol. I	Kent Skaar, Patrick Nunnally, and Amanda Gronhøvd	Draft Cultural Resources Reconnaissance Survey and Site Evaluation Report, Vol. I: Technical Report	1994	Study area
BN-94-3 Vol. II	Kent Skaar, Patrick Nunnally, and Amanda Gronhøvd	Draft Cultural Resources Reconnaissance Survey and Site Evaluation Report, Vol. II: Supporting Documentation	1994	Study area
BN-2000-1H	Mead and Hunt, Inc.	Phase I Survey of Trunk Highway 95, Benton County, Minnesota, S.P. 0505-23	2000	Project and study areas
BN-2003-1H	Betsey H. Bradley, Michael A. Justin, Evelyn M. Tidlow, Barbara J. Bielefeldt, Christine N. Wiltberger, Kyran V. Kelley, and Holly Halverson	Cultural Resources Survey, Evaluation, and Effects Analysis Along Trunk Highway 23, Benton County, Minnesota	2003	Project and study areas
XX-2008-7H (MULTI-08-33)	Jennifer L.H. Tworzyanski and Miranda Van Vleet	Phase Ia Archaeological Survey and Phase I Architectural History Survey for the St. Cloud Airport, Benton and Sherburne Counties, Minnesota	2008	Study area
XX-2018-10H	Mead and Hunt, Inc.	Phase II Evaluation: Trunk Highway 95, XX-ROD-021	2018	Project and study areas
XX-2020-14H	Jenna Rempfert, Rachel Peterson, Elizabeth Gales, Kathryn Goetz, and Charlene Roise	Phase II Evaluation Trunk Highway 23 (XX-ROD-152)	2020	Project and study areas

Archaeological Resources

The file search identified four archaeological sites within the study area, although none of these four previously recorded archaeological sites are within the proposed project area. The four previously recorded archaeological sites in the study area consist of three precontact lithic scatters and one precontact artifact scatter (Table 2). The NRHP eligibility status of these four sites is either unevaluated for NRHP eligibility and/or recommended not eligible.

Table 2. Previously Recorded Archaeological Sites

Site Number (site name)	Site Context	Site Type	Location	Site Status
21BN0012 ([Non-public Information Redacted])	Precontact	Lithic scatter	Study area	Recommended not eligible
21BN0013 ([Non-public Information Redacted])	Precontact	Artifact scatter	Study area	Unevaluated; recommended not eligible
21BN0014 ([Non-public Information Redacted])	Precontact	Lithic scatter	Study area	Unevaluated; recommended not eligible
21BN0016 ([Non-public Information Redacted])	Precontact	Lithic scatter	Study area	Unevaluated

National Register of Historic Places–, Minnesota State Historic Sites Network–, and Minnesota State Register of Historic Places–Listed Properties

There are no NRHP-, MSHSN-, or MSRHP-listed properties in the project area or the study area.

Historic Buildings and Structures

A total of 16 historic architectural or built resources have been previously recorded in the project area and the study area. These consist of nine historic buildings, four bridges, and three sections of highway (Table 3). The NRHP eligibility status of the 16 previously recorded architectural or built resources is either unevaluated or recommended not eligible. This is mostly because they were built in the early twentieth century but have since received renovations, which altered their original appearance or feel. Six of the previously recorded architectural or built resources are also in the project area: four historic buildings and sections of two historic highways, which are either unevaluated for NRHP eligibility or have been recommended not eligible.

Table 3. Previously Recorded Historic Buildings and Structures

Resource Number	Name	Location	NRHP Status
BN-MIN-005	[Non-public Information Redacted]	Project area	Unevaluated
BN-MIN-006	[Non-public Information Redacted]	Project area	Recommended not eligible
BN-MIN-007	[Non-public Information Redacted]	Project area	Recommended not eligible
BN-MIN-008	[Non-public Information Redacted]	Study area	Recommended not eligible
BN-MIN-010	[Non-public Information Redacted]	Study area	Recommended not eligible
BN-MIN-025	[Non-public Information Redacted]	Study area	Unevaluated

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Phase Ia Cultural Resources Literature Review for the Benton Solar Energy Project, Benton County, Minnesota

Resource Number	Name	Location	NRHP Status
BN-MIN-026	[Non-public Information Redacted]	Study area	Unevaluated
BN-SGT-002	[Non-public Information Redacted]	Study area	Unevaluated
BN-SGT-005	[Non-public Information Redacted]	Project area	Unevaluated
BN-SGT-012	[Non-public Information Redacted]	Study area	Recommended not eligible
BN-SGT-013	[Non-public Information Redacted]	Study area	Recommended not eligible
BN-SGT-018	[Non-public Information Redacted]	Study area	Unevaluated
XX-ROD-021	[Non-public Information Redacted]	Project area	Recommended not eligible
XX-ROD-152	[Non-public Information Redacted]	Study area	Recommended not eligible
XX-ROD-155	[Non-public Information Redacted]	Project area	Unevaluated
SH-HAV-015	[Non-public Information Redacted]	Study area	Recommended not eligible

Cemeteries

One cemetery, the cemetery associated with St. Patrick's Catholic Church, is within the project area. Cemeteries are a cultural resource that is not typically evaluated for NRHP eligibility. However, in Minnesota, cemeteries/burials are subject to avoidance by the project pursuant to MS 307.08, which prohibits the molestation of human remains, burials, and cemeteries. Proposed development within the project area will be designed to avoid impacts to the cemetery.

Historic Atlas and Map Review

Review of General Land Office original survey maps from 1853 to 1870 did not depict any additional potential cultural resources within the project area or the study area (Bureau of Land Management 2022).

One residential building is depicted in the project area in *An Illustrated Historical Atlas of the State of Minnesota*, approximately in the northwest corner of Section 26, T36N, R30W (Andreas 1874). Its location roughly corresponds to the location of resource numbers BN-MIN-006 and BN-MIN-007. Although BN-MIN-006 and BN-MIN-007 are not the structures depicted in the atlas, their proximity to each other suggests that this particular area has been a residential area since the late nineteenth and early twentieth centuries.

Historical aerial photography from 1938, 1939, and 1953 and USGS topographic maps from 1968 and 1974 indicate that the project area has both perennial and intermittent streams, lakes and ponds, and marshy areas (USGS 2022; University of Minnesota 2015). A few gravel pits and ditches have been dug in the project and study areas. The maps tend to depict residential structures with several outbuildings. These farmsteads are connected to each other via a road system that sometimes follows a grid-like pattern.

RECOMMENDATIONS

SWCA conducted a Phase Ia cultural resources literature review within the project and study areas. Based on the results of the Phase Ia literature review, SWCA presents the following results and recommendations:

- No previously recorded MSHSN-, MSRHP-, or NRHP-listed or eligible resources are within the project or study areas.

- No previously recorded archaeological resources are within the project area. While four previously recorded archaeological sites are located in the study area, the project will not directly impact them as they are outside the project area.
- Coordinate with Minnesota OSA and SHPO regarding the need for, and scope of, a Phase I archaeological survey for the project in accordance with the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005) and *State Archaeologist's Manual for Archaeological Projects in Minnesota* (Anfinson 2011). If required, implement a Phase I archaeological survey within the physical area of potential effect (APE), consisting of the construction footprint for the project, when weather allows to identify any as yet unrecorded archaeological resources; make recommendations regarding MSHSN, MSRHP, or NRHP eligibility; and assess potential physical impacts or effects on any MSHSN, MSRHP, or NRHP eligible archaeological sites, including recommendations for avoidance or further archaeological testing to establish MSHSN, MSRHP, or NRHP eligibility and/or to mitigate adverse physical impacts or effects on MSHSN, MSRHP, or NRHP eligible archaeological sites.
- Six previously recorded architectural or other built resources (four historic buildings and sections of two historic highways) are located in the project area. The NRHP eligibility status of the historic buildings and other built resources is either undetermined or recommended not eligible. The four historic buildings will not be physically impacted by the project because of required setbacks of new project developments from existing buildings and structures. Though plans have not been finalized, it is assumed that the two historic highways will be used during construction; however, there will be no impact to these sites as no project changes to the highways will be made and they will be used according to their original purpose.
- Coordinate with Minnesota SHPO regarding the need for, and scope of, a Phase I architectural survey for the project in accordance with the *Historic and Architectural Survey Manual* (Heritage Preservation Department 2017). If required, implement a Phase I reconnaissance level architectural survey within the visual APE, consisting of an area surrounding the physical APE within which the project may be visible, to identify any as yet unrecorded historic architectural or other built resources that may have views of the project; make recommendations regarding MSHSN, MSRHP, or NRHP eligibility (particularly with regard to views, viewsheds, or setting associated with each resource); and assess potential visual impacts or effects to any MSHSN, MSRHP, or NRHP eligible architectural or other built resources, including recommendations for minimizing or mitigating adverse visual impacts or effects to MSHSN, MSRHP, or NRHP eligible architectural or other built resources.
- The project will avoid the one known cemetery, St. Patrick's Catholic Church cemetery, in the project area. SWCA specifically recommends that construction and operation activities for the project avoid St. Patrick's Catholic Church cemetery by 100 feet to avoid physical impacts to the cemetery in accordance with MS 307.08.
- Implement an unanticipated discovery plan that establishes procedures to be followed to assist in the identification, evaluation, and avoidance of any significant cultural resources that could be discovered during construction or operation of the project. The unanticipated discovery plan shall also address the Minnesota Damages; Illegal Molestation of Human Remains; Burials; Cemeteries; Penalty; Authentication Statute (MS 307.08), which protects known or suspected human burials and burial grounds regardless of land ownership status.

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Phase Ia Cultural Resources Literature Review for the Benton Solar Energy Project, Benton County, Minnesota

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ATTACHMENT I1-1

Letter from Minnesota Department of Administration State Historic Preservation Office to SWCA Environmental Consultants Following Review of the Phase Ia Cultural Resources Literature Review for the Benton Solar Project, Benton County, Minnesota



April 7, 2023

Via Email Only

Jolene Schleicher
SWCA Environmental Consultants
201 Slate Drive, Suite 8
Bismarck, ND 58503

RE: NextEra Energy Resources - Benton Solar Energy Project
Minden and St. George Townships, Benton County
SHPO Number: 2023-1118

Dear Jolene Schleicher:

Thank you for the opportunity to review and comment on the above referenced project. As stated in the report, the proposed project includes the development of a 100-megawatt solar energy project in Benton County and will require a site permit from the Minnesota Public Utilities Commission. Information received on March 3, 2023, has been reviewed pursuant to the responsibilities given the State Historic Preservation Office by the Minnesota Historic Sites Act (Minn. Stat. 138.665-666).

We have reviewed the submitted report: *Phase Ia Cultural Resources Literature Review for the Benton Solar Energy Project, Benton County, Minnesota* (March 2023) as prepared by SWCA Environmental Consultants. We agree that a Phase I archaeological survey should be completed for this project. The survey must meet the requirements of the Secretary of the Interior's Standards for Identification and Evaluation and should include an evaluation of National Register eligibility for any sites that are identified.

Based on the documentation provided, we agree that there are no properties listed in the National or State Registers of Historic Places located within the proposed project area or the larger study area.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800. If this project is considered for federal financial assistance, or requires a federal permit or license, then review and consultation with our office will need to be initiated by the lead federal agency. This consultation will need to include an appropriate area of potential effects (APE) for the federal undertaking as well as the necessary historic property identification and evaluation efforts required for a federal review. Be advised that comments and recommendations provided by our office for a state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

If you have any questions regarding our review of this project, please contact me at 651-201-3285 or kelly.graggjohnson@state.mn.us.

Sincerely,

Kelly Gragg-Johnson

Kelly Gragg-Johnson
Environmental Review Program Specialist

cc: Cody MacDonald, NextEra Energy
Jake McQueen, NextEra Energy

MINNESOTA STATE HISTORIC PRESERVATION OFFICE


50 Sherburne Avenue ■ Administration Building 203 ■ Saint Paul, Minnesota 55155 ■ 651-201-3287

mn.gov/admin/shpo ■ mnshpo@state.mn.us

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APPENDIX I2

**Phase I Archaeological and Traditional Cultural Property
Reconnaissance Inventory for the Benton Solar Project, Benton
County, Minnesota**

The logo for SWCA (Soil & Water Conservation Agency) is positioned vertically on the left side of the page. It consists of the letters 'S', 'W', and 'C' in a large, light blue, stylized font, with the 'A' partially visible at the top.

Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project, Benton County, Minnesota

JULY 2024

PREPARED FOR
Benton Solar, LLC

PREPARED BY
SWCA Environmental Consultants

**PHASE I ARCHAEOLOGICAL AND TRADITIONAL CULTURAL
PROPERTY RECONNAISSANCE INVENTORY
FOR THE BENTON SOLAR PROJECT,
BENTON COUNTY, MINNESOTA**

Prepared for and Submitted to

Benton Solar, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Prepared by

Scott Dersam, Cyrena Udem, and Anna Gilmer

Principal Investigators: Scott Phillips, Lucy Harrington, and Matthew Hull

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SWCA Project No. 76767

SWCA Cultural Resources Report Number 23-558

July 2024

MANAGEMENT SUMMARY/ABSTRACT

SWCA Environmental Consultants (SWCA) and interested Tribal Nations (named below) completed a Phase I archaeological and traditional cultural property (TCP) reconnaissance inventory (inventory) for the Benton Solar Project (Project), proposed by Benton Solar, LLC (Benton Solar), a wholly owned, indirect subsidiary of NextEra Energy Resources, LLC (NEER). The current Project area covers approximately 951.4 acres near the city of St. Cloud in Minden Township in Benton County, Minnesota, within the Minnesota State Historic Preservation Office (SHPO) Central Lakes Deciduous (4e) archaeological region. The Project is situated entirely on privately owned land.

As currently proposed, there is no federal involvement with the Project that would require review under Section 106 of the National Historic Preservation Act. However, the Project requires a site permit from the Minnesota Public Utilities Commission under Minnesota Statutes, section 216E.04/Minnesota Rules, chapters 7850.2800–7850.3900. Per Minnesota Statutes, section 216E.04 (Subd. 2(8)), as a large electric power generating plant powered by solar energy, the Project qualifies for the alternative review process specified in Minnesota Rules, chapters 7850.2800–7850.3900. As required under this process, SWCA will coordinate with the SHPO to determine impacts to cultural resources listed in, eligible for, or currently unevaluated for the Minnesota State Historic Sites Network, the Minnesota State Register of Historic Places, and the National Register of Historic Places (NRHP).

Benton Solar and SWCA worked with interested Tribes and coordinated with the SHPO to further inform the cultural resource inventory and documentation needs for the Project. In meeting with the SHPO, Benton Solar and SWCA determined that archaeological sites; buildings, structures, and objects (historic sites); and sites of traditional and cultural importance or TCPs would need to be considered as part of the cultural resource inventory and documentation effort. Consequently, SWCA proceeded with the inventory of archaeological sites and supported the interested Tribes in the inventory of TCP sites within and adjacent to the Project's proposed limits of disturbance. Prior to the current Phase I archaeological survey and TCP inventory, to inform the SHPO review, SWCA prepared a Phase Ia literature search for the Project boundary (Poppen 2023). The Project area for the earlier Phase Ia literature review covered 6,333 acres in Minden and St. George Townships and included a surrounding 1-mile buffer that were collectively designated as the Phase Ia study area. The Project area was subsequently revised (reduced) to 951.4 acres within Minden Township. This current report addresses the Phase I inventory and the cultural resources identified within the revised Project area.

The inventory was performed in multiple field mobilizations between November 9, 2022, and May 11, 2024, and consisted of crews with representatives from SWCA, the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office (THPO), Mille Lacs Band of Ojibwe THPO, Rosebud Sioux THPO, and Standing Rock Sioux THPO. For the inventory, SWCA representatives Scott Phillips, Lucy Harrington, and Matthew Hull served as principal investigators, and Scott Dersam, Cyrena Udem, and Anna Gilmer of SWCA served as the authors of the report. The inventory was completed by SWCA Secretary of the Interior–qualified archaeologists Lucy Harrington and Scott Dersam; archaeologists Alyssa Spiering, Elise Poppen, Ryan Cline, Jacob Cropper, Anna Tulley, Teresa Malson, and Sam Peterson; Tribal cultural specialists (TCSs) Toshina One Road, Wayne Cloud, and Brent Starr of the Sisseton-Wahpeton Oyate THPO; TCSs Daniel Sam and Andrew Wise of the Mille Lacs Band of Ojibwe THPO; TCSs Sinte Nupa Gilbert, Jade Cristy, and Darwin Walking Eagle III of the Rosebud Sioux THPO; and TCSs Allen Flying By, Loretta Stone, and Emily Yellow Earrings of the Standing Rock Sioux THPO.

SWCA conducted the inventory by means of pedestrian survey. In total, 946.4 acres were newly surveyed. All proposed project disturbance is located within the inventoried area. During the inventory, SWCA documented six unevaluated sites (21BNk, 21BNl, 21BN0033, 21BN0034, 21BN0035, and

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Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project, Benton County, Minnesota

21BN0032). Site 21BNk ([**NON-PUBLIC INFORMATION REDACTED**]), 21BNl ([**NON-PUBLIC INFORMATION REDACTED**]), 21BN0033 ([**NON-PUBLIC INFORMATION REDACTED**]), 21BN0034 ([**NON-PUBLIC INFORMATION REDACTED**]), and 21BN0035 ([**NON-PUBLIC INFORMATION REDACTED**]) are TCP and archaeological sites that are recommended eligible for in the NRHP. Site 21BN0032 is a historic-age cultural material scatter site that, due to its loss of integrity and continued disturbance from agricultural activities, is recommended not eligible for the NRHP.

The Tribal cultural specialists recommended that the Project avoid direct effects on 21BNk, 21BNl, 21BN0033, 21BN0034, and 21BN0035. SWCA does not recommend avoidance or further cultural resources work for 21BN0032. To achieve avoidance of direct effects on the five TCP and archaeological resources, Benton Solar will install the transmission line and solar infrastructure array away from the TCP resources. Site 21BNk will be avoided by the transmission line right-of-way by 90 feet and by the transmission line itself by 140 feet. Sites 21BNl, 21BN0033, and 21BN0034 will be avoided by all Project infrastructure by 100 feet.

After SWCA completed the inventory for this Project, HDR, Inc. (HDR), began a survey for a separate project location that overlaps the Project area (see maps presented in Appendix A); survey work is ongoing at the time of this report. Cultural avoidance areas were identified during HDR's survey. Avoidance was recommended by HDR personnel and Tribal cultural specialists participating in the survey effort. Additionally, during the HDR inventory, the site boundary of 21BNk was expanded (personal communication, Jennifer Bring, HDR, 2024). SWCA does not have additional information on the cultural avoidance areas beyond avoidance location data, and HDR's corresponding survey report is forthcoming.

As proposed, the Project will avoid the cultural avoidance areas identified during the HDR inventory. SWCA understands that the exterior boundaries of the cultural avoidance areas are buffered by at least 60-feet from the cultural resources identified during the HDR inventory. Therefore, while the right-of-way is approximately 60-feet from the cultural resources, the limits of disturbance for the transmission line will be more than 100 feet from the resources identified during the HDR inventory. Therefore, no additional cultural resources work is recommended for these cultural resources for this project.

SWCA recommends that the Project proceed with above avoidance measures for the TCPs newly identified during the Phase I archaeological surveys (21BNk, 21BNl, 21BN0033, 21BN0034, and 21BN0035) and the resources recorded during HDR's survey. Additionally, SWCA recommends the implementation of an unanticipated discovery plan to assist in the identification, evaluation, and avoidance of any significant cultural resources that might be discovered during construction or operation of the Project.

With these findings and recommendations, SWCA recommends the Project be granted a determination of **no significant sites affected** and permission to proceed as proposed.

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*Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota*

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INTRODUCTION

SWCA Environmental Consultants (SWCA) and interested Tribal Nations (named below) completed a Phase I archaeological and traditional cultural property (TCP) reconnaissance inventory (inventory) for the Benton Solar Project (Project), proposed by Benton Solar, LLC (Benton Solar), a wholly owned, indirect subsidiary of NextEra Energy Resources, LLC (NEER). The Project area covers approximately 951.4 acres near the city of St. Cloud in Minden Township in Benton County, Minnesota, within Minnesota State Historic Preservation Office (SHPO) Central Lakes Deciduous (4e) archaeological region. The Project is situated entirely on privately owned land.

As currently proposed, there is no federal involvement with the Project that would require review under Section 106 of the National Historic Preservation Act. However, the Project requires a site permit from the Minnesota Public Utilities Commission under Minnesota Statutes, section 216E.04/Minnesota Rules, chapters 7850.2800–7850.3900. Per Minnesota Statutes, section 216E.04 (Subd. 2(8)), as a large electric power generating plant powered by solar energy, the Project qualifies for the alternative review process specified in Minnesota Rules, chapters 7850.2800–7850.3900. As required under this process, SWCA will coordinate with the SHPO to determine impacts to cultural resources listed in, eligible for, or currently unevaluated for the Minnesota State Historic Sites Network, the Minnesota State Register of Historic Places, and the National Register of Historic Places (NRHP).

Benton Solar and SWCA worked with interested Tribes and coordinated with the SHPO to further inform the cultural resource inventory and documentation needs for the Project. In meeting with the SHPO, Benton Solar, and SWCA determined that archaeological sites; buildings, structures, and objects (historic sites); and sites of traditional and cultural importance to Tribes (i.e., TCPs) would need to be considered as part of the cultural resource inventory and documentation effort. Consequently, SWCA proceeded with the inventory of archaeological sites and supported the interested Tribes in the inventory of TCP sites within and adjacent to the Project's proposed limits of disturbance. Concurrently, SWCA proceeded with an assessment of historic sites within the Project boundary and a surrounding 1-mile area.

Prior to the current Phase I archaeological survey and TCP inventory, to inform the SHPO review, SWCA prepared a Phase Ia literature search for the Project boundary (Poppen 2023). The Project area for the Phase Ia literature review covered 6,333 acres in Minden and St. George Townships and included a surrounding 1-mile buffer that were collectively designated as the Phase Ia study area (Poppen 2023). The Project area was subsequently revised (reduced) to 951.4 acres within Minden Township. This current report addresses the Phase I inventory conducted within the revised Project area and the cultural resources identified within the revised Project area.

PROJECT DESCRIPTION

The proposed Benton Solar Project area (Project area) covers approximately 951.4 acres of private land near the city of St. Cloud in Minden Township, Benton County, Minnesota (Figures 1–3). The Project area is in the SHPO Central Lakes Deciduous (4e) archaeological region. For the purposes of this Phase I inventory, the Project area contains the Project footprint and adjacent portions of some parcels. The legal sections intersected by the Project boundary are Sections 13, 23, 24, 25, 26, 35, and 36, Township (T) 36 North, Range (R) 30 West. The proposed Project components include solar arrays, access roads, underground electrical collection lines, substations, a battery energy storage system (BESS), a transmission line, laydown yards (staging areas), and stormwater basins.

Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota

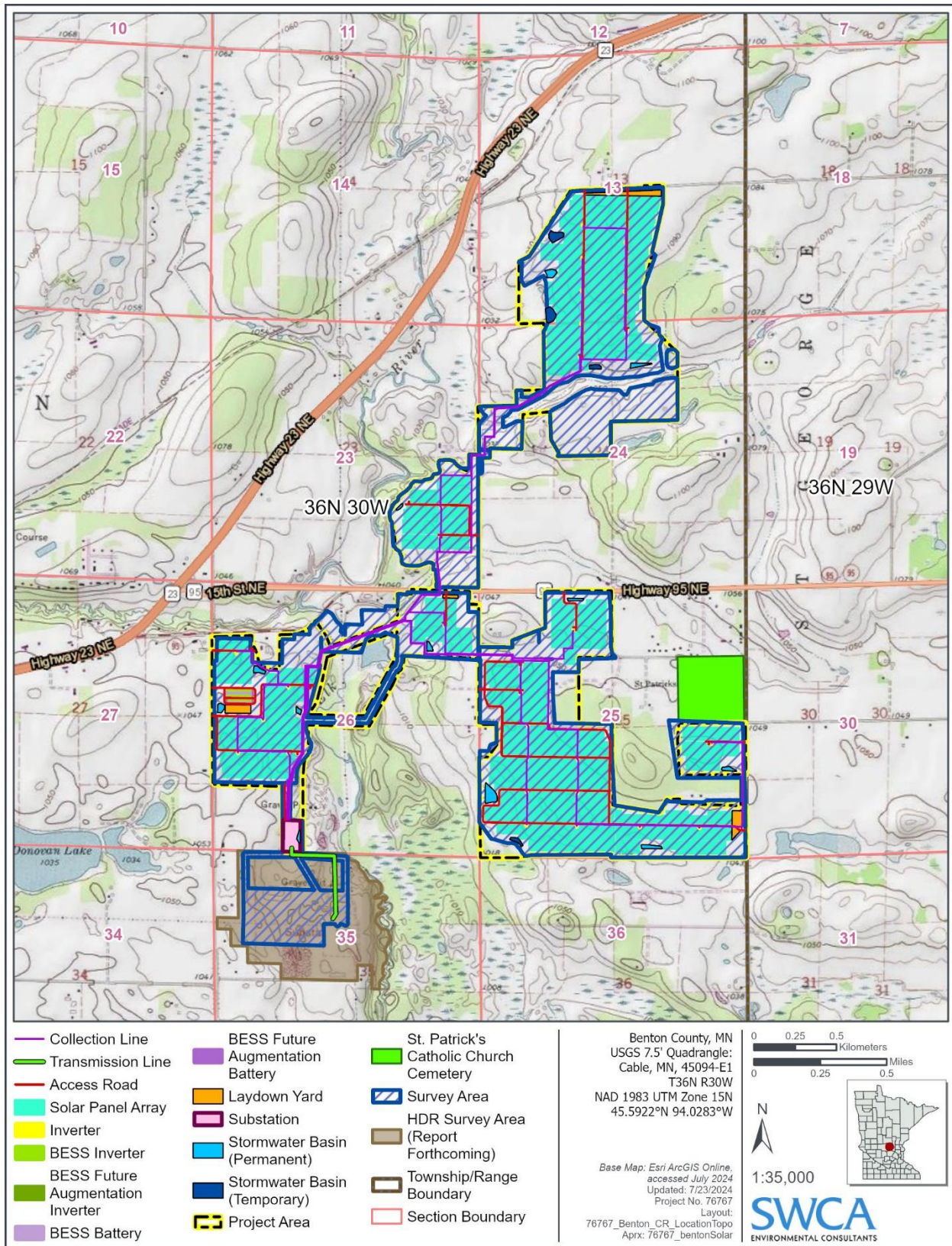


Figure 1. Project area overview map.

Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota

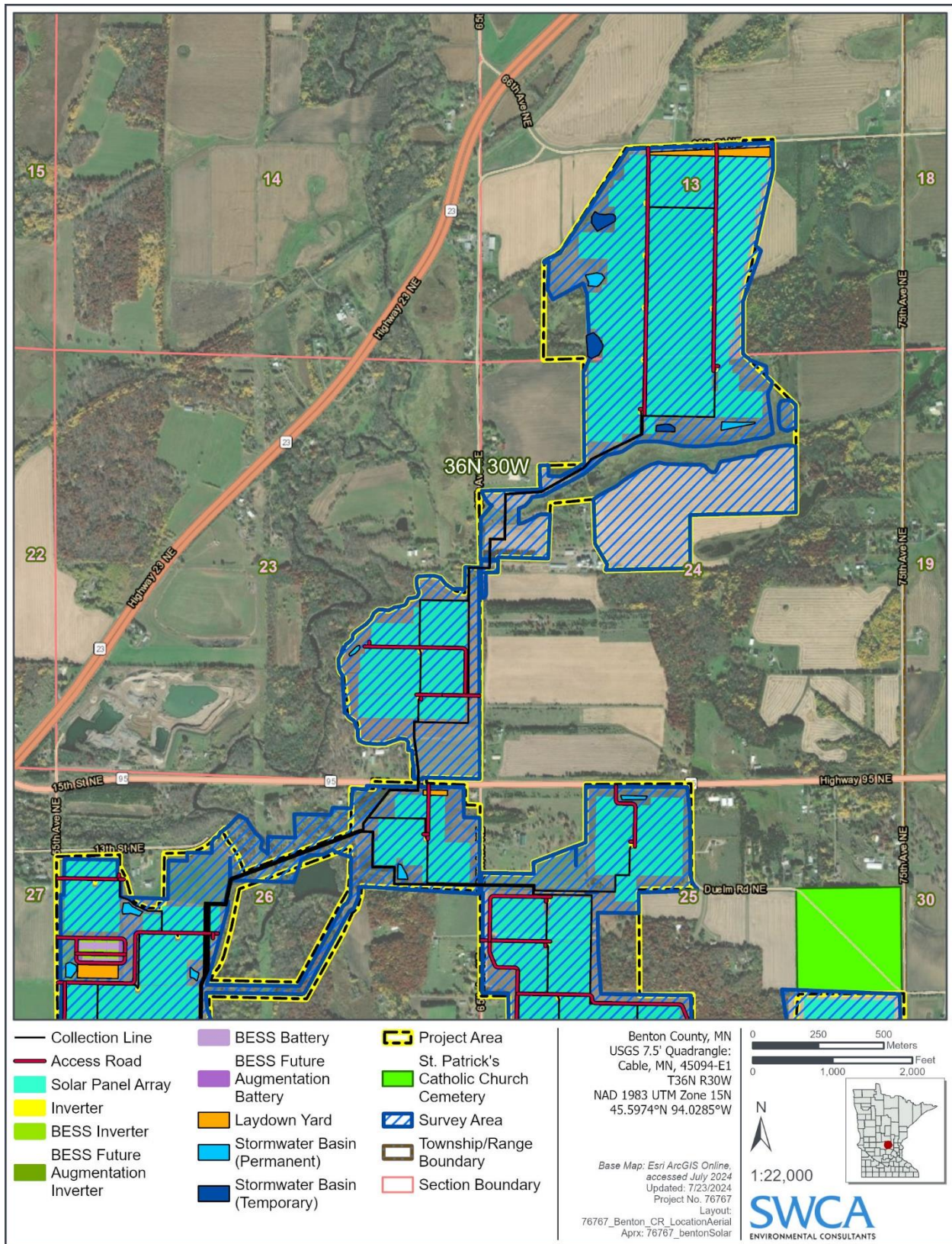


Figure 2. Northern Project area aerial overview map.

Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota

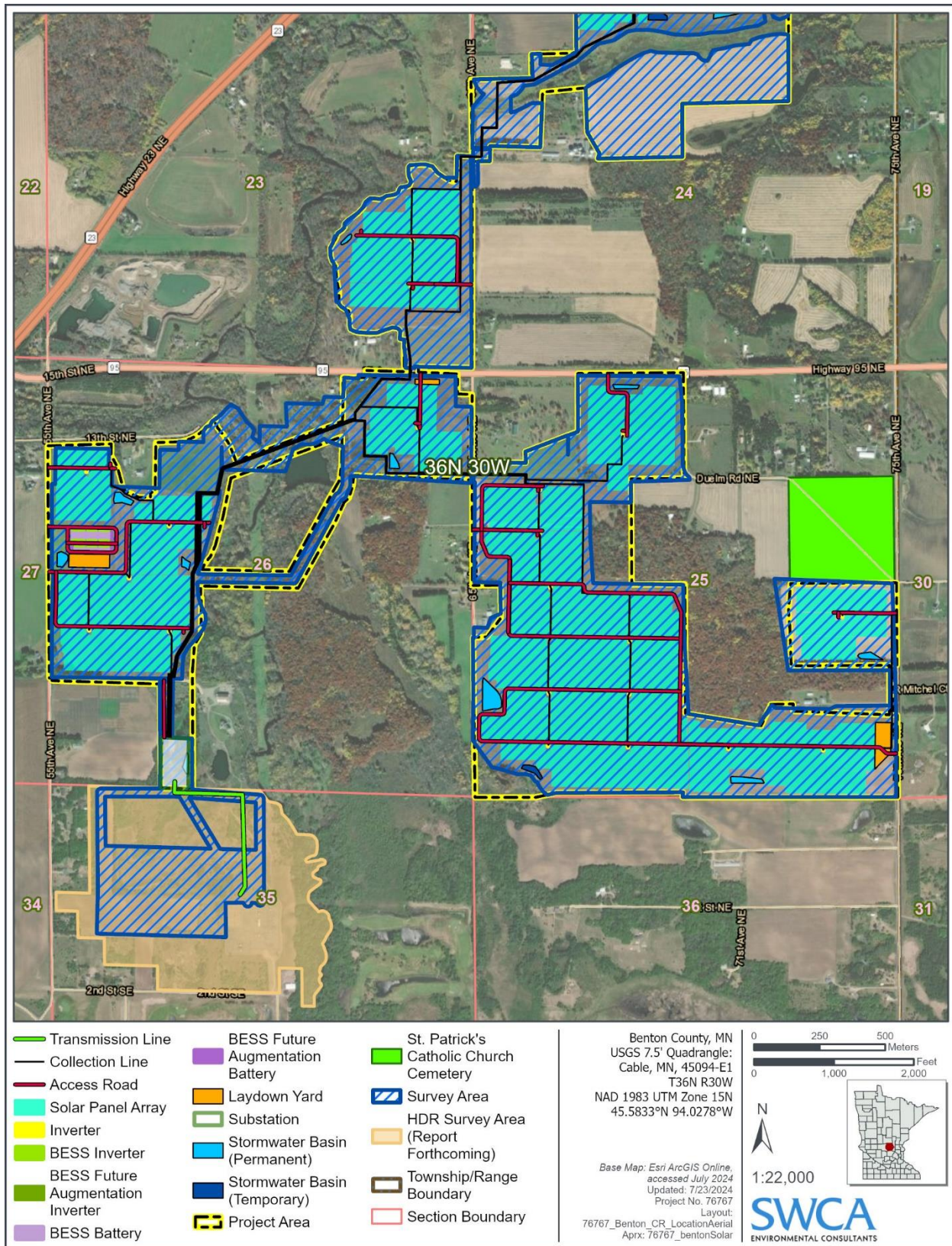


Figure 3. Southern Project area aerial overview map.

The inventory covered and surrounded the construction area for each of the solar array infrastructure locations, access roads, underground electrical collector line, a BESS, and transmission lines. The survey area for linear infrastructure (access roads, transmission lines, and collector lines) was concentrated on a 100- to 200-foot-wide corridor centered on the proposed linear infrastructure's centerline and consisted of approximately 25.7 linear acres. The block survey areas for the solar array and infrastructure locations consisted of approximately 920.7 acres of private land (Figures 4–7). In total, 946.4 acres were newly surveyed in support of the Project; this acreage is collectively referred to as the Project survey area. All proposed project disturbance is located within the inventoried area.

SWCA performed the inventory in multiple mobilizations: November 9 through 12, 2022; June 5 through 9 and July 13 through 15, 2023; and May 7 through 11, 2024. The inventory crew varied but always incorporated representatives from SWCA and at least two Tribal cultural specialists (TCSs). The TCSs represented the Sisseton-Wahpeton Oyate Tribal Historic Preservation Office (THPO), the Mille Lacs Band of Ojibwe THPO, the Rosebud Sioux THPO, and the Standing Rock Sioux THPO. For the inventory, SWCA representatives Scott Phillips, Lucy Harrington, and Matthew Hull served as principal investigators, and Scott Dersam, Cyrena Udem, and Anna Gilmer served as authors of the report. The inventory was completed by SWCA Secretary of the Interior–qualified archaeologists Lucy Harrington and Scott Dersam; archaeologists Alyssa Spiering, Ryan Cline, Elise Poppen, Jacob Cropper, Teresa Malson, Anna Tulley, and Sam Peterson; TCSs Toshina One Road, Wayne Cloud, and Brent Starr of the Sisseton-Wahpeton Oyate THPO; TCSs Daniel Sam and Andrew Wise of the Mille Lacs Band of Ojibwe THPO; TCSs Sinte Nupa Gilbert, Jade Cristy, and Darwin Walking Eagle III of the Rosebud Sioux THPO; and TCSs Allen Flying By, Loretta Stone, and Emily Yellow Earrings of the Standing Rock Sioux THPO. All SWCA's field notes and photographs are on file at SWCA's Bismarck, North Dakota, office under project number 76767.

ENVIRONMENTAL OVERVIEW

The study area is within the Interior Plains portion of the Western Lake section of the Central Lowland physiographic province of the Great Plains (Fenneman 1928). Within Minnesota, the study area is in the North Central Hardwood Forests Level III ecoregion; more specifically, it is mostly in the McGrath Till Plain and Drumlins Level IV ecoregion (White 2020). The general topography of the study area is rolling, and elevation ranges roughly between 1,000 and 1,100 feet above mean sea level. The Project area is in a rural area approximately 6 miles east of St. Cloud. Farmsteads are scattered throughout the Project area, and most of the public roads are generally in a grid-like arrangement (U.S. Geological Survey [USGS] 2023). The primary land use is agricultural cropland and involves a relatively extensive network of agricultural field ditches and intermittent and ephemeral streams, many of which support herbaceous riparian buffers.



Figure 4. Overview of the central portion of the Project survey area, facing north.



Figure 5. Overview of northern portion of the Project survey area, facing northwest.



Figure 6. Overview of central portion of the Project survey area, facing east.



Figure 7. Overview of southern portion of the Project survey area, facing west.

Central Lakes Deciduous Archaeological Region

The Project lies within the SHPO Central Lakes Deciduous archaeological region (Hudak et al. 2002). This region includes all of Anoka, Benton, Cass, Chisago, Crow Wing, Hennepin, Isanti, Mille Lacs, Morrison, Ramsey, Sherburne, Stearns, Todd, Wadena, Washington, and Wright Counties and portions of Becker, Dakota, Douglas, Kandiyohi, Kanabec, Meeker, Otter Tail, Pine, Pope, and Swift Counties (Gibbon et al. 2002). Additionally, the region extends into west central Wisconsin. Based on the available data, archaeological resources and sites in this region (including both larger settlement centers and smaller activity areas) are associated with permanent water sources such as major lakes and rivers; relatedly, they can be associated with wild rice beds.

The general topography of the region is formed by moraines, till plains, and outwash plains. Water sources in the study area include the Elk River, which crosses through the west side of the Project area, meandering north to south. Mayhew Creek meets the Elk River on the west side of the Project area. Stony Brook goes through the east side of the Project area. Lake Donovan lies within the northwest corner of the study area. Most of the soils in the region are medium to coarse prairie soils and forest soils. In the center and eastern edge of the Central Lakes Deciduous archaeological region, granite is exposed in bedrock outcrops (Gibbon et al. 2002).

The region was intermittently glaciated during the Wisconsin Ice Age. It was located to the north of the glacial lake, Lake Grantsburg. The average annual precipitation in this region, in the present day, ranges from 22 to 28 inches; average temperature highs in January range from 12 to 24 degrees Fahrenheit; average temperature highs in July range from 78 to 82 degrees Fahrenheit; and, in the southern part of the region, frost-free season extends up to 160 days (Gibbon et al. 2002).

Paleoenvironment

During the early Pleistocene Epoch, approximately 60,000 years before present (B.P.), Minnesota experienced several glacial ice sheet advances and retreats that contributed to the formation of the landscape. Although the Central Lakes Deciduous archaeological region was intermittently glaciated during the Wisconsin Ice Age, those previous glaciations resulted in cumulative and extensive loess deposits across the region (Hudak et al. 2002). The soils in the area include forest Udalfs, a mix of Udalfs, and moist prairie Udolls (White 2020). Within the North Central Hardwood Forests ecoregion, the topography consists of flat to gently rolling till plains and rolling to hilly moraines, as well as lacustrine basins and outwash plains. More specifically, in the McGrath Plain and Drumlins ecoregion, the vegetation of the pre-U.S. settlement periods was prairie in the southwest and woodlands in the southeast and north.

In *Mn/Model Final report Phases 1-3, 2002: A Predictive Model of Precontact Archaeological Site Location for the State of Minnesota*, Hudak et al. (2002) state that four biotic provinces have been used to understand the constantly changing environment from 30,000 to 3000 B.P. in Minnesota: boreal forest (spruce and pine), mixed hardwood forest (conifer/deciduous forest), deciduous forest (including oak savanna), and prairie. From 8000 to 3000 B.P., the Project area had a shifting prairie and forest border, particularly between 6000 and 3000 B.P., when Benton County underwent a change from forested area to prairie. In these periods, white-tailed deer, bison, elk, beaver, bear, and sometimes moose lived within the Central Lakes Deciduous archaeological region. Additionally, fish and waterfowl occupied the lakes in the region, and wild rice and acorns would have been among the food sources for the early occupants of the region (Gibbon et al. 2002).

Climate had a direct effect on the lifeways of precontact hunter-gatherers, dividing Minnesota by growing season length and generally determining the type of community associated with each region. Archaeological evidence and interpretation indicate that the south half of the state sustained a frost-free environment, assisting precontact hunter-gatherers in growing crops, and that the north half predominantly supported hunting and gathering of wild food resources (Gibbon 2012).

Modern Environment

When Euro-Americans began to settle in the region, many of the hardwoods, such as oaks, were cut down to create more agricultural land (Gibbon et al. 2002). This continued between the time of their initial settlement until the 1920s. Today, Benton County is mostly agricultural land, specifically for crops such as corn and soybeans and for pasture and dairy farming (White 2020).

CULTURE HISTORY

The following cultural contexts are summarized from previously conducted syntheses for the state of Minnesota and the upper Midwest (Dobbs 1990a, 1990b; Hudak et al. 2002; Gibbon 2012; Minnesota SHPO 1993). The precontact period is divided archaeologically into four periods: Paleoindian, Archaic, Woodland, and Plains Village and Mississippian/Oneota. These periods are further defined by significant changes in the archaeological record regarding how Native American communities used technology and food sources.

Paleoindian Period (ca. 12,000–8000 B.P.)

This period is marked in Minnesota by the retreat of glacial ice and the draining of several lakes, including Lake Agassiz and Lake Superior. The Paleoindian occupations in what is now Minnesota were of low population density, and often sites were short-term specialized activity areas that resulted in a minimal archaeological profile. Peoples in the Paleoindian period adapted to a nomadic lifestyle, living near game animals, sources of wood and chert, large streams, and other major water sources. Their movements followed the seasons, the availability of plants, and the migratory patterns of game animals (Minnesota Office of the State Archaeologist [OSA] 2021).

Paleoindian period archaeological sites are often identified by isolated projectile points and scatters of a few lithic artifacts on the ground surface. Justice (1987) divides these projectile points into Early Paleoindian—fluted point pattern (Clovis, Gainey, and Folsom points)—and Late Paleoindian—non-fluted lanceolate point pattern (Plano and Cody complex points). Other lithic tool types associated with the patterns of the Paleoindian period in Minnesota include bifacially flaked knives, basic choppers, adzes, and large scarpers (Dobbs 1990a).

Archaic Period (8000–2800 B.P.)

The end of the Pleistocene marked the end of the last Ice Age and the beginning of the Archaic period. The retreating glaciers exposed new land surfaces unlike any in present-day Minnesota. Expanses of prairie began to displace the forests, and expansive lakes and large, swift rivers were formed by glacial runoff. Human dietary and settlement patterns shifted in adaptation to environmental changes. More diverse plant and animal resources were used during the Archaic period than had been apparent earlier, and the toolkit diversified in the Archaic period to include ground and pecked stone tools, cold-hammered

copper tools mined from sources in northern Minnesota, and a wider variety of projectile point types. The technology of the Archaic period is also notably characterized by a change in projectile point manufacture techniques. This shift from large lanceolate points to smaller notched and stemmed points is a result of the invention and adoption of the atlatl, which allowed hunters greater accuracy and range.

During the Archaic period, regional differences in material culture began to develop. Four distinct Archaic period contexts identified in Minnesota are the Shield Archaic, Lake Forest Archaic, Prairie Archaic, and Eastern or Riverine Archaic (Dobbs 1990a; Minnesota OSA 2021). Research suggests that community size increased from previous Paleoindian populations yet remained small, with day-to-day activities taking place at a series of small seasonal camps (Anfinson 1987). Similar to known Paleoindian sites, Archaic sites are relatively small and sparse.

Woodland Period (2800–1200 B.P.)

Throughout the Midwest, the Woodland period is generally divided into three periods: Early, Middle, and Late; however, Anfinson (1987) has suggested that a division into initial and terminal periods may be more appropriate in Minnesota. The climate during this period shifted from dry and warm to moist and cool and began to stabilize to resemble the climate of the region today (Anfinson 1990).

Woodland period cultures feature evidence of an increasingly sedentary lifestyle: ceramic vessel manufacture, burial mound construction, and cultivation of specific plant species (Dobbs 1990a). The original divisions of the Early, Middle, and Late Woodland were differentiated by their changes in technology. Ceramics from the Early Woodland period are normally thick and basic, and their exteriors tend to bear cord-marked decoration. Evidence from the Middle Woodland indicates the use of earthen burial mounds. The Late Woodland period continued the traditions of ceramics and burial mounds, but ceramic decorations and styles became more regionalized (Anfinson 1990). Despite significant changes in many aspects of the Woodland culture, archaeological research indicates that life during the Woodland period remained similar to that of the Archaic period, with a dependence on a diverse seasonal resource base of plants and animals (Anfinson 1987). Site types assigned to the Woodland period throughout the region range from small limited-use sites to large village and habitation sites. Throughout most of Minnesota, the Woodland period ended in approximately A.D. 1000; however, in northern Minnesota, the period lasted until the arrival of the French ca. 1650 (Minnesota OSA 2021).

Plains Village and Mississippian/Oneota Periods (1100 B.P.–A.D. 1650)

Archaeological sites in Minnesota exhibit significant changes in subsistence and settlement patterns during the Plains Village and Mississippian/Oneota periods. Populations became larger and even more regionalized than was typical of the previous periods. In addition, the level of artistry on ceramic vessels increased significantly, as ceramics were manufactured through a variety of techniques and decoration styles; agricultural cultivation intensified; and settlement patterns shifted to larger and more permanent villages (usually near river settings). In addition to these cultural changes, the Plains Village and Mississippian/Oneota periods are split based on region; the Plains Village period is typical of the western part of the state, where the Mississippian period is typical of the eastern part of the state (Anfinson 1987). These periods lasted from the end of the Terminal Woodland period, ca. 1200 B.P., to first contact with European explorers (Anfinson 1987).

Anfinson (1987) has suggested that the Plains Village and Mississippian/Oneota periods developed because of regionalization, which supported the creation of distinctive ideas and lifeways. Archaeological evidence indicates that Plains Village complexes developed from an indigenous Late Woodland base; however, archaeologists are unsure how the Mississippian/Oneota complexes developed (Dobbs 1990a). Plains Village and Mississippian/Oneota site types are similar to those associated with the Woodland period. The archaeological remains of these complexes range from burial mounds to small limited-use sites and extensive habitation sites. Site location remains consistent with that of the Woodland period and depends on numerous factors, including the location of specific resources that people used or the presence of a desirable environment.

Historic Period (A.D. 1650–present)

The post-contact or Historic period is categorized by Euro-American incursion on Native communities and into the interior of the continent, first through the rise of the fur trade and early commercial exploration and then via the displacement and removal of indigenous peoples and spread of Euro-American settlement and intensive land use.

Contact/Fur Trade (1630s–1858)

At the time of contact, the western part of the Central Lakes Deciduous region was the home of Yankton, Tanktonai, and other Dakota groups, whereas the eastern part was home to Santee Dakota groups (Hudak et al. 2002). Between the mid-1700s and the late 1800s, the Ojibwa resided in the northern part of the region. The first fur trade contact in the Central Lakes Deciduous region resulted when French explorers and traders arrived in the region in the late 1600s. Subsequently, the number of explorers and fur traders continued to increase. The establishment and operation of economic exchange, especially by fur traders, spurred further Euro-American exploration into what is now Minnesota.

The French were interested in developing and maintaining amicable relationships with various Native American Tribes; those relationships supported the initiation of the French period of exploration and occupation of Minnesota territories, which lasted into the early 1760s. During this period of French influence, much of the region featured an extensive network of forts and fur trading posts that were situated on or near rivers and lakes (MNHS 2019).

After the French loss of the Seven Year War (the French and Indian War), when the French ceded their claims to the territory east of the Mississippi to England, the 1760s brought a half-century of British activity in the region that became Minnesota. British companies began to compete with one another, leading to further development of the fur trade industry, resulting in the establishment of more trading posts and, consequently, major changes in the distribution of Native American people in the region. By 1800, the migration of Native American populations displaced from the east and the depopulation of Native peoples in some areas because of introduced diseases and warfare or raiding caused the gradual movement of the Ojibwa into northern Minnesota and the Dakota into southern Minnesota (MNHS 2019).

Fierce competition in the region led to over-trapping, and the depletion of many fur-bearing animals prompted traders to move farther west (MNHS 2019). In 1837, the U.S. government established treaties with the Dakota, Winnebago, and Ojibwa that opened east-central Minnesota to logging and settlement and, by 1849, Minnesota had become organized as a U.S. Territory. Benton County was one of the original counties of the Territory in 1849. The territorial border shifted until it solidified to the state borderlines in 1860. When Minnesota gained statehood in 1858, Euro-American settlement increased,

bringing a wave of new towns, cities, and non-fur trade-related enterprises (Benton County Historical Society and Raupp 2022).

Military Activity (1800–1890)

In the mid-nineteenth century, Minnesota territorial representatives appealed to the U.S. Congress to appropriate funds to build and maintain a series of five military roads within the state (Ginkel et al. 2016). The territory representatives argued that establishing these roads was justified for frontier defense and would aid in territorial settlement and commercial development. In July 1850, the territorial representatives secured funding for the development of those roads. Through the decade, territorial representatives and the War Department's Corps of Topographical Engineers oversaw the creation of the five originally proposed roads and two additional roads. Although not all the roads were completed, the segments that were completed were used heavily by the local Euro-American population.

In 1862, tensions between the Dakota and the U.S. government grew, and the U.S. government's failure to keep its promise of annuities over several years, poor dealings with fur traders as the market for furs collapsed, and the crop failure resulted in violence between the Native Americans and Euro-Americans. Over a 6-week period, the violence escalated, prompting a large-scale evacuation of Euro-American settlement areas. Even though hostilities ceased shortly after this period, the U.S. government rescinded all treaties established with the Dakota people and forcibly removed them from the state on December 26, 1862 (Ginkel et al. 2016).

The eruption of violence led to major military expeditions by the U.S. government within the region in 1863, 1864, and 1865. Battles occurred within the state and in the nearby states of North Dakota and South Dakota. Although hostilities between the U.S. government and the Dakota decreased over the subsequent decade, a strained relationship between the two nations existed well into the 1890s and, to some extent, still exists today (Ginkel et al. 2016).

Early Agriculture and Railroads (1840–1940)

Acts passed in Minnesota in the mid-nineteenth century fostered an influx of settlers from the eastern states and Europe (Rose 1911). These initial settlers came by steamboat and followed the major rivers and tributaries into the interior of the state. Town sites relied on rivers as a source of transportation and power and tended to develop according to resource need, to company or industry need, or via social or ethnic boundaries. Due to its proximity to the Mississippi River, Benton County was settled by Euro-Americans—primarily of German, Polish, and Scandinavian descent—beginning in the 1840s and continuing throughout the nineteenth century. Early industries present in Benton County included agriculture and dairy farming, logging and lumbering, and granite quarrying (Benton County Historical Society and Raupp 2022).

In the late nineteenth and early twentieth centuries, railroads in Minnesota increased access to tillable land for farmers, reduced dependence on risky water transportation, and allowed for the transportation of goods and services away from major river transportation corridors. In Benton County specifically, railroads were an important factor in the rapid growth of its agriculture, industry, and population. In 1867, the St. Paul and Pacific Railroad connected St. Anthony and Sauk Rapids. Its establishment is related to the growth of the granite quarrying industry in the county. Similarly, when the Hinckley Branch of the Minneapolis and St. Cloud Railroad was constructed into the interior of the county in 1882, the logging and lumbering industry quickly increased its exploitation and production (*Benton County Multiple Resource Nomination* 1981).

Between 1870 and 1920, the population and settlement of Benton County increased, as is evident from early census population counts and the number of farms. The increase in population had a positive effect on agricultural activities, with the emergence of more diversified crops and the success of dairy farms. However, it had a negative effect on the logging and lumbering industry (*Benton County Multiple Resource Nomination* 1981). In the late nineteenth century, Benton County was well forested with species such as oak, maple, ash, basswood, and tamarack predominating (Neill et al. 1881). However, by 1910, both the trees and their associated industry had almost completely disappeared. Between 1900 and the 1930s, granite quarrying increased, and Benton County became one of the highest-producing granite sources in the world (*Benton County Multiple Resource Nomination* 1981).

RECORDS SEARCH AND LITERATURE REVIEW

For the previously conducted Phase Ia literature review, which encompassed the Project area and a surrounding 1-mile study area (Poppen 2023), SWCA followed the methods described in the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005).

Methods

In October 2022, SWCA archaeologist Jolene Schleicher coordinated with the Minnesota SHPO to conduct a search of records for information about the nature and location of previously conducted archaeological surveys, previously recorded cultural resources (archaeological and architectural), and NRHP-listed or eligible districts and individual properties within the study area. SWCA archaeologist Lucy Harrington, M.S., RPA, searched the records of the Minnesota OSA via the agency's online portal. The records searches included archaeological resources, traditional cultural properties, and NRHP-listed or eligible archaeological resources previously recorded within the study area.

SWCA also reviewed National Park Service NRHP data; county and township histories; historical maps of the study area, including Bureau of Land Management maps, General Land Office maps, and the Andreas Atlas (Andreas 1874); and current and historical aerial photographs of the study area to assist with assessing the sensitivity of the Project area for containing cultural resources.

Results

The results of the record search indicate that no NHRP-listed or eligible historic properties (archaeological or architectural) are within the current Project area. Likewise, there are no previously documented archaeological sites within the current Project area. However, one previously recorded historic architectural or other built resource is located within the Project area. Additionally, four previously recorded archaeological sites, including one precontact site that is just outside the Project boundary, are within one mile of the Project area and five additional built resources are adjacent to or just outside the Project area. Cultural resources located immediately outside of the Project area are included in the following summaries because they suggest that undocumented cultural resources could be present within the Project and study areas.

Previous Cultural Resources Inventories

The results of the records search indicate that five previous cultural resources inventories have been conducted within the current Project area from 1991 to 2018, and two were conducted just outside the current Project area to the west in 2003 and 2020. The inventories consist of reconnaissance surveys and

Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project, Benton County, Minnesota

site evaluations for the reconstruction or realignment of various highways and the relocation of associated bridges (Table 1). The previous inventories primarily took place along the westernmost edge of the Project area. It is possible that additional undocumented cultural resources, especially prehistoric and historic archaeological sites and historic resources (historic buildings/structures), could be located within the Project area because the previous inventories were mostly conducted along and around major roads.

Table 1. Previous Cultural Resources Inventories

Report Number	Author	Title	Report Date	Location
THY-92-01	Leslie D. Peterson, Kent Skaar, and Wanda Watson Radford	The Minnesota Trunk Highway Archaeological Reconnaissance Study Annual Report - 1991	1991	Edge of Project area
THY-94-01	Leslie D. Peterson, Kent Skaar, and Wanda Watson Radford	The Minnesota Trunk Highway Archaeological Reconnaissance Study Annual Report - 1993	1993	Edge of Project area
BN-94-3 Vol. I and II	Kent Skaar, Patrick Nunnally, and Amanda Gronhøvd	Draft Cultural Resources Reconnaissance Survey and Site Evaluation Report, Vol. I: Technical Report and Vol II: Supporting Documentation	1994	Edge of Project area
BN-2000-1H	Mead and Hunt, Inc.	Phase I Survey of State Highway 95, Benton County, Minnesota, S.P. 0505-23	2000	Project area
BN-2003-1H	Betsey H. Bradley, Michael A. Justin, Evelyn M. Tidlow, Barbara J. Bielefeldt, Christine N. Wiltberger, Kyran V. Kelley, and Holly Halverson	Cultural Resources Survey, Evaluation, and Effects Analysis Along Trunk Highway 23, Benton County, Minnesota	2003	Just outside Project area
XX-2018-10H	Mead and Hunt, Inc.	Phase II Evaluation: State Highway 95, XX-ROD-021	2018	Edge of Project area
XX-2020-14H	Jenna Rempfert, Rachel Peterson, Elizabeth Gales, Kathryn Goetz, and Charlene Roise	Phase II Evaluation Trunk Highway 23 (XX-ROD-152)	2020	Just outside Project area

Archaeological Resources

The file search identified no archaeological sites within the current Phase I Project area, although four previously recorded archaeological sites are within 1 mile of the Project area. The four previously recorded archaeological sites consist of three precontact lithic scatters and one precontact artifact scatter (Table 2). Site 21BN0013 is nearest to the Project area, approximately 1,160 feet outside of the Project area's northwestern boundary. The NRHP eligibility status of these four sites is either unevaluated for NRHP eligibility and/or recommended not eligible.

Table 2. Previously Recorded Archaeological Sites

Site Number (site name)	Site Context	Site Type	Location	Site Status
21BN0012 ([Non-public Information Redacted])	Precontact	Lithic scatter	In 1 mile study area	Recommended not eligible
21BN0013 ([Non-public Information Redacted])	Precontact	Artifact scatter	In 1 mile study area	Unevaluated; recommended not eligible
21BN0014 ([Non-public Information Redacted])	Precontact	Lithic scatter	In 1 mile study area	Unevaluated; recommended not eligible
21BN0016 ([Non-public Information Redacted])	Precontact	Lithic scatter	In 1 mile study area	Unevaluated

National Register of Historic Places–, Minnesota State Historic Sites Network–, and Minnesota State Register of Historic Places–Listed Properties

There are no NRHP-, Minnesota State Historic Sites Network-, or Minnesota State Register of Historic Places-listed properties in the Project area.

Historic Buildings and Structures

One previously recorded historic architectural or built resource, XX-ROD-021 (a section of State Highway 95) is located in the current Project area and is (Table 3). This previously recorded architectural or built resource is recommended not NRHP eligible because it lacks significance under NRHP eligibility criteria. Another five previously recorded architectural or built resources are within 1 mile of the Project area: four are historic buildings and one is a section of another highway; these five resources have either been recommended not NRHP eligible or have not been evaluated for NRHP eligibility (see Table 3).

Table 3. Previously Recorded Historic Buildings and Structures

Resource Number	Name	Location	NRHP Status
BN-MIN-005	[Non-public Information Redacted]	Within 1 mile of Project area	Unevaluated
BN-MIN-006	[Non-public Information Redacted]	Within 1 mile of Project area	Recommended not eligible
BN-MIN-007	[Non-public Information Redacted]	Within 1 mile of Project area	Recommended not eligible
BN-SGT-005	[Non-public Information Redacted]	Within 1 mile of Project area	Unevaluated
XX-ROD-021	[Non-public Information Redacted]	Project area	Recommended not eligible
XX-ROD-152	[Non-public Information Redacted]	Within 1 mile of Project area	Recommended not eligible

Cemeteries

One cemetery, the cemetery associated with St. Patrick's Catholic Church, is located outside, but in close proximity to, the current Project area. Cemeteries are a cultural resource that is not typically evaluated for NRHP eligibility. However, in Minnesota, cemeteries/burials are subject to avoidance by the Project pursuant to Minnesota Statutes, section 307.08, which prohibits the molestation of human remains, burials, and cemeteries. Proposed development within the Project area will be designed to avoid any potential physical impacts to the cemetery.

Historic Atlas and Map Review

Review of General Land Office original survey maps from 1853 to 1870 did not depict any additional potential cultural resources within the Project area (Bureau of Land Management 2022).

One residential building is depicted in the Project area in *An Illustrated Historical Atlas of the State of Minnesota*, approximately in the northwest corner of Section 26, T36N, R30W (Andreas 1874). Its location roughly corresponds to the location of resource numbers BN-MIN-006 and BN-MIN-007. Although BN-MIN-006 and BN-MIN-007 are not the structures depicted in the atlas, their proximity to each other suggests that this particular area has been a residential area since the late nineteenth and early twentieth centuries.

Historical aerial photography from 1938, 1939, and 1953 and USGS topographic maps from 1968 and 1974 indicate that the Project area has both perennial and intermittent streams, lakes and ponds, and marshy areas (USGS 2023; University of Minnesota 2015). A few gravel pits and ditches have been dug in the Project area. The maps tend to depict residential structures with several outbuildings. These farmsteads are connected to each other via a road system that tend to follow a grid-like pattern.

RESEARCH DESIGN

Objectives

The field inventory was performed to identify any archaeological sites and TCP sites in the Project survey area that have not yet been recorded. In addition, the inventory was completed to re-evaluate any existing archaeological sites or TCP sites that are present in the survey area as they relate to planned infrastructure facilities. The inventory work was done to meet the review requirements of the Public Utilities Commission and follows the spirit of state regulatory requirements found at Minnesota Statutes, sections 216F and 216E; Minnesota Rules, chapter 7854; and the Private Cemeteries Act (Minnesota Statutes, section 307). SWCA's work complies with the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005) and follows guidance set forth by the *Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* (National Park Service 1983).

Methods

Identification of Survey Locations

The inventory work was performed for Benton Solar to meet review requirements for Public Utilities Commission permitting; no other federal or state review requirements apply to cultural resources for this

Project. SWCA archaeologists, in collaboration with participating TCSs, inventoried proposed Project infrastructure and associated construction corridors and workspaces. Maps with cultural resources data (including the locations of identified cultural resource sites, features identified during a review of historical maps, and the locations of former permanent water features), along with Tribal knowledge, were used to understand the distribution, setting, and character of cultural resources within the Project survey area. While all areas of proposed infrastructure and potential ground disturbance were surveyed during field inventories, this analysis of previously known information provided SWCA archaeologists and TCSs with the basis for approaching the survey work with planning and forethought. This planning and forethought gave SWCA archaeologists and TCSs the ability to identify areas on the landscape that intersected proposed Project infrastructure and construction workspaces that might have the greatest potential to contain archaeological and TCP resources. These specific identified areas received greater focus because of this increased chance of encountering important cultural resources. In general, these high-potential areas coincided with permanent water features and drainages, prominent elevations as compared to the surrounding landscape, and locations exhibiting minimal mechanical disturbance (i.e., pasture areas). Regardless, the complete limits of disturbance were field-surveyed, along with the previously discussed Project survey area, for the Phase I archaeological and TCP reconnaissance inventory.

Archaeological Survey

The complete Project survey area was subjected to a systematic pedestrian survey. The survey team used a Samsung Galaxy Tablet equipped with the Esri Collector application and loaded with the Project infrastructure construction boundaries (inventory locations) and other background data as guidance. Exceptions to surveyed locations were areas where the survey corridor extended onto non-participating landowner parcels and areas already heavily disturbed by earth-moving activities or development (i.e., capped and ditched road rights-of-way associated with agricultural infrastructure, roads associated with residential yards, and non-historic residential yards, farmyard areas, industrial yards, or similarly disturbed areas).

Archaeological (and TCP) resource information recorded during the survey was stored in a geo-referenced database. The geospatial data used a consistent field naming and numbering convention for all identified archaeological (and TCP) resources. This naming convention aided in tracking, infrastructure planning discussion, and quality control prior to finalizing results reporting. The geodatabase was managed by a coordinator who oversaw daily downloads of geospatial data and photographs.

Pedestrian survey was conducted in areas that exhibited greater than 25 percent surface visibility. Pedestrian survey was conducted along transects spaced at intervals of 15 meters (m) or less. Portions of the survey area that exhibited less than 25 percent visibility were pedestrian-surveyed to identify subsurface testing areas as well as to identify any exposed features that may be present. Also, a close-interval survey (transects spaced at 1 m or less) was performed in an approximately 15-m (50-foot) area surrounding any identified artifacts. All artifacts identified during the pedestrian survey were described in the field notebook and documented with a digital camera, but were not collected or removed from the Project area.

Subsurface testing was conducted in areas with less than 25 percent bare-ground visibility that were considered to have potential to contain intact archaeological resources, including areas that were not entirely disturbed and that did not contain [NON-PUBLIC INFORMATION REDACTED], were not located in wetland habitats, and were not sloped greater than 20 percent. Subsurface testing used shovel test pits (shovel tests) excavated at 15-m intervals. Shovel tests were 30 to 40 centimeters (cm) in diameter and excavated to depths of 100 cm or until culturally sterile soil was reached. All excavated

sediments were screened through ¼-inch hardware cloth mesh. In areas of less than 25 percent visibility where archaeological materials were identified, shovel tests would be dug at 5-m intervals in the four cardinal directions (where feasible) from the positive test, to identify the extent of the site area. Shovel test data were recorded on standard forms or in the field notebook, which included the survey locations, shovel test locations, shovel test depth, soil profile, soil texture and inclusions, and Munsell color. Digital cameras and tablets were used to document shovel test locations. All artifacts identified in shovel tests were described in the field notebook and documented with a digital camera, but were not collected or removed from the Project area.

Traditional Cultural Property Survey

SWCA archaeologists relied on TCSs for TCP identification and definition, and in the respectful limits of SWCA documentation of the TCP resources. TCP collaborative recording was conducted by representatives from the Mille Lacs Band of Ojibwe THPO (Daniel Sam and Andrew Wise), the Sisseton-Wahpeton Oyate THPO (Toshina One Road, Wayne Cloud, and Brent Starr), the Rosebud Sioux THPO (Sinte Nupa Gilbert, Jade Cristy, and Darwin Walking Eagle III), and the Standing Rock Sioux THPO (Allen Flying By, Emily Yellow Earrings, and Loretta Stone), aided by SWCA archaeological staff. The TCS representatives, along with participating SWCA staff, recorded the TCP resources, employing pedestrian survey using digital tablets to locate and guide surveyors, as well as record the resource with point representation using a GPS. TCS representatives allowed for the use of a digital camera to photograph the TCPs during recording. Each TCP was recorded [NON-PUBLIC INFORMATION REDACTED].

For [NON-PUBLIC INFORMATION REDACTED] TCPs, the TCSs took the lead in identifying, defining, and documenting the resources. In general, the TCSs followed the same pedestrian survey strategy as documented above, including using digital tablets loaded with the survey locations to guide surveyors; recording point, line, or polygon data with a global positioning system (GPS) unit; and using a digital camera to photograph each feature/TCP.

In addition to the above documentation measures, the TCSs made non-scaled sketches of each surface feature/TCP or collection of surface features/TCPs. These sketches contained a visual representation of the feature/TCP or collection of features/TCPs, locational information, descriptive information concerning type of feature/TCP or features, color of stones present, dimension information, stone count, date of sketch, and artist information. A designated feature/TCP that contains multiple feature/TCP elements (for example, [NON-PUBLIC INFORMATION REDACTED]) is referenced in this report as a [NON-PUBLIC INFORMATION REDACTED]. [NON-PUBLIC INFORMATION REDACTED] was recorded with a single GPS point and the site was circumscribed with a boundary polygon. No materials from the [NON-PUBLIC INFORMATION REDACTED] TCPs were collected or removed from the Project area.

Laboratory Analysis and Curation

Because no artifacts or other cultural materials were collected during the survey, formal laboratory analysis and curation were not performed. Instead, a prescribed amount of information was recorded about the artifacts and features in the field and documented in the field notes. Due to landowner permissions at the time of the survey, there was no authorization to remove private property from private land.

Site Evaluation

As standard practice, SWCA evaluates sites and their significance as defined by the following criteria set forth in Title 36 Code of Federal Regulations 60.4 (National Park Service 1991).

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B) That are associated with the lives of persons significant in our past; or
- C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D) That have yielded, or may be likely to yield, information important in prehistory or history.

A site is determined to be significant if it possesses integrity of one or more of the following: location, design, setting, materials, workmanship, feeling, and association; and can be determined eligible under one or more of the above-described criteria. If a site is determined to be not significant, it is determined not eligible because it does not meet the criteria of one or more of the above.

Prehistoric Archaeological Sites

Prehistoric lithic scatters/campsites (sites without any structures or association with known significant events or persons) generally will not contain NRHP discussion for Criteria A, B, and C. Instead, for NRHP eligibility recommendation purposes, these properties are discussed for their potential to yield information significant to prehistory or the archaeological record under NRHP Criterion D. In certain cases, a prehistoric site type (such as a stone feature site) may not be solely recommended eligible for the NRHP from an archaeological perspective (Criterion D) but may also be considered important to cultures of Native American peoples under Criterion A.

Evaluation of the significance of archaeological sites under Criterion D considers general characteristics such as the nature, size, and diversity of the site assemblage; the potential presence or absence of subsurface artifact deposits; the nature of any features within the site (construction techniques, building materials, structural integrity); and the age range reflected by the site assemblage. Sites considered to be significant generally contain an assemblage of artifact and feature remains that reflects sufficient diversity to permit identification of activities and allow confirmation of the period of site use. Sites with the most potential to address research questions about human lifeways contain associated features, structures, and/or relatively intact and dateable artifacts significant in further understanding the cultural history of the region.

Historic Archaeological Sites or Components

Historic sites retaining or consisting primarily of preserved features or aboveground buildings/structures are evaluated primarily under Criteria A, B, and C, as discussed in the next section below; however, such sites may also contain archaeological resources. Historic archaeological resources, including those lacking associated features or structures, such as trash scatters, are primarily evaluated under Criterion D, similar to prehistoric archaeological sites as described above.

Non-Archaeological Sites or Components

Non-archaeological sites or sites with non-archaeological components (also known as historic architecture resources or engineering sites) are those primarily assessed for NRHP eligibility under Criteria A, B, and C, rather than Criterion D. Examples of historic architectural resource types include linear features, such as transportation routes and water conduits, as well as standing buildings, structure sites, and engineered facilities. Historic architectural resources evaluated for potential contribution to history or cultural traditions for reasons beyond their possible future research value tend to have different evaluation and management considerations than archaeological sites, as described for NRHP Criterion A through C above.

WORK SUMMARY

The Phase I reconnaissance inventory was conducted under conditions varying from sunny and dry to cloudy and rainy during multiple mobilizations: November 9 through 12, 2022; June 5 through 9 and July 13 through 15, 2023; and May 7 through 11, 2024. The inventory was completed by SWCA Secretary of the Interior–qualified archaeologists Lucy Harrington and Scott Dersam; archaeologists Ryan Cline, Elise Poppen, Teresa Malson, Alyssa Spiering, Jacob Cropper, Anna Tulley, and Sam Peterson; and TCSs Toshina One Road, Wayne Cloud, and Brent Starr of the Sisseton-Wahpeton Oyate THPO; TCSs Daniel Sam and Andrew Wise of the Mille Lacs Band of Ojibwe THPO; TCSs Sinte Nupa Gilber, Jade Cristy, and Darwin Walking Eagle III of the Rosebud Sioux THPO; and TCSs Allen Flying By, Emily Yellow Earrings, and Loretta Stone of the Standing Rock Sioux THPO.

The inventory survey area encompassed the construction area for each of the solar array locations, collector lines, transmission lines, and access road locations. Surface visibility throughout the survey area was adequate for pedestrian survey, except for a few areas where deeper sections of forest were encountered along a collector line, requiring shovel tests along transects. The majority of proposed Project infrastructure is located within active or previously tilled agricultural fields, and surveys were conducted in the summer and fall, when seedling growth was still minimal or agricultural fields had been tilled and recently weathered, resulting in surface visibility typically ranging from 50 to 100 percent. Surface visibility was limited to less than 20 percent in a few locations, typically due to forest ecotones and overgrown prairie grass understories.

A pedestrian survey was conducted throughout the inventory survey area where landowner permission had been obtained. This included the few locations with marginal ground surface visibility where shovel testing could be required in order to assess pre-existing impacts (agricultural, residential, or commercial) and to assess the potential presence of surface stone or earthen features, or TCP sites. Pre-existing impacts to the survey area include modern agricultural farming practices throughout the Project survey area; modern farmstead rural development; erosion; the installation and maintenance of improved roads; and, to a lesser extent, the installation and maintenance of overhead electrical transmission and distribution lines, the installation of livestock fencing, and presence of livestock grazing.

Shovel Testing Results

The inventory crew conducted shovel testing on July 15, 2023, and May 8 through 11, 2024, to assess the potential for cultural resources where the ground surface visibility was obscured by vegetation. A total of 158 shovel tests (STs) were proposed; 26 STs were not conducted due to the presence of excessive slopes, standing water associated with wetlands, and utility rights-of-ways. The inventory crew dug a total of 132

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STs to depths between 10 and 120 cm. Of the 132 STs excavated, 131 were negative for cultural materials. One primary chert flake was unearthed in ST-Y4. The shovel test results and sediments encountered are summarized in Table 4.

Subsurface testing encountered six stratigraphic units (Stratum I through VI), which were differentiated based on a combination of color, sediment texture, and inclusions. Stratum I consists of brown (10YR4/6), sand to sandy loam with less than 5 percent gravels in a heavy root mat; this stratum is found across nearly the entire tested area. Stratum II is brown (10YR5/6) well-sorted sand with less than 5 percent gravels and a slightly granular or rounded structure. Stratum III is light yellowish brown (orange-tan), gravelly, sandy loam with calcium carbonate flecks or mottles below 25 centimeters below surface (cmbs); gravels are many, very small to large pebbles. Stratum IV was orange sand with white mottles, likely due to carbonates; like Stratum II, this deposit was also widespread across the shovel-tested area. Stratum V is pale brown (10YR7/6) sand with few to common, small to large pebbles and was only seen in ST2. Stratum VI is dark brown sandy loam with a few roots at the top; this stratum was only noted in ST15 and may represent a filled or disturbance area.

Table 4. Shovel Test Results

Test Number	Depth (cmbs)	Stratum						Cultural Material
		I	II	III (D)	IV (E)	V (C)	VI (F)	
ST1	100	0–60	60–100	–	–	–	–	None
ST2	100	0–14	14–80	–	–	–	–	None
ST3	40	0–20	20–35	35–40	–	–	–	None; terminated on rock impasse
ST4	100	0–55	55–100	–	–	–	–	None
ST5	100	0–60	60–100	–	–	–	–	None
ST6	100	0–50	–	–	50–100	–	–	None
ST7	100	0–60	60–100	–	–	–	–	None
ST8	100	0–30	30–60	–	60–100	–	–	None
ST9	100	0–60	60–100	–	–	–	–	None
ST10	49	0–34	–	–	34–49	–	–	None
ST11	100	0–53	–	–	53–100	–	–	None
ST12	100	0–52	–	–	52–100	–	–	None
ST13	100	0–54	–	–	54–100	–	–	None
ST14	100	0–51	–	–	51–100	–	–	None
ST15	100	–	–	–	–	–	0–100	None
ST16	100	0–40	40–100	–	–	–	–	None
ST17	100	0–40	40–100	–	–	–	–	None
ST18	100	0–50	–	–	50–100	–	–	None
ST19	100	0–52	–	–	52–100	–	–	None
ST20	100	0–38	–	–	38–100	–	–	None
ST21	100	0–50	–	–	50–100	–	–	None
ST22	100	0–54	–	–	54–100	–	–	None
ST23	100	0–40	–	–	40–100	–	–	None

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Test Number	Depth (cmbs)	Stratum						Cultural Material
		I	II	III (D)	IV (E)	V (C)	VI (F)	
ST24	53	0-53	-	-	-	-	-	None: terminated on large root
ST-A1	100	0-50	50-100	-	-	-	-	None: terminated at water table
ST-A2	70	0-30	30-70	-	-	-	-	None: terminated at water table
ST-A3	65	0-65	-	-	-	-	-	None: terminated at water table
ST-A4	65	0-65	-	-	-	-	-	None: terminated at water table
ST-A5	10	0-10	-	-	-	-	-	None: terminated at water table
ST-A8	40	0-40	-	-	-	-	-	None: terminated at water table
ST-B1	65	0-10	10-65	-	-	-	-	None: terminated at water table
ST-B2	65	0-65	-	-	-	-	-	None: terminated at water table
ST-B3	60	0-60	-	-	-	-	-	None: terminated at water table
ST-B4	60	0-60	-	-	-	-	-	None: terminated at water table
ST-B5	80	0-80	-	-	-	-	-	None: terminated at water table
ST-C1	80	0-80	-	-	-	-	-	None: terminated at root impasse
ST-C3	50	0-53	-	-	-	-	-	None: terminated at root impasse
ST-D6	60	0-40	40-60	-	-	-	-	None: terminated at water table
ST-D8	15	0-15	-	-	-	-	-	None: terminated at root impasse
ST-E1	73	0-73	-	-	-	-	-	None: terminated at water table
ST-E2	70	0-25	25-60	60-70	-	-	-	None: terminated at water table
ST-E3	53	0-53	-	-	-	-	-	None: terminated at water table
ST-E4	43	0-43	-	-	-	-	-	None: terminated at water table
ST-E5	70	0-30	30-70	-	-	-	-	None: terminated at rock impasse
ST-F1	45	0-45	45-83	-	-	-	-	None: terminated at water table
ST-F2	88	0-65	65-88	-	-	-	-	None: terminated at water table
ST-F3	63	0-10	10-40	40-63	-	-	-	None: terminated at water table
ST-F4	50	0-15	15-50	-	-	-	-	None: terminated at water table
ST-F5	30	0-30	30-40	-	-	-	-	None: terminated at rock impasse
ST-F6	100	0-70	70-100	-	-	-	-	None
ST-F7	80	0-70	70-80	-	-	-	-	None: terminated at C-horizon
ST-H1	100	0-35	35-80	80-100	-	-	-	None
ST-H2	85	0-25	25-75	75-85	-	-	-	None
ST-H3	80	0-25	25-60	60-80	-	-	-	None: terminated at water table
ST-H5	70	0-55	55-70	-	-	-	-	None: terminated at subsoil
ST-H6	60	0-45	45-60	-	-	-	-	None: terminated at subsoil
ST-G4	60	0-50	50-60	-	-	-	-	None
ST-G5	100	0-40	40-100	-	-	-	-	None
ST-J1	40	0-15	15-40	-	-	-	-	None: terminated at root impasse
ST-J3	50	0-30	30-50	-	-	-	-	None: terminated at rock impasse

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Test Number	Depth (cmbs)	Stratum						Cultural Material
		I	II	III (D)	IV (E)	V (C)	VI (F)	
ST-J4	30	0–15	15–30	–	–	–	–	None: terminated at water table
ST-J5	60	0–20	20–43	43–60	–	–	–	None: terminated at water table
ST-J6	90	0–40	40–90	–	–	–	–	None: terminated at water table
ST-J7	110	0–15	15–42	42–110	–	–	–	None: terminated at water table
ST-J8	100	0–40	40–100	–	–	–	–	None
ST-J9	105	0–90	90–105	–	–	–	–	None
ST-J10	65	0–50	50–65	–	–	–	–	None: terminated at subsoil
ST-J11	70	0–25	25–45	45–70	–	–	–	None: terminated at subsoil
ST-J12	65	0–10	10–40	40–65	–	–	–	None: terminated at subsoil
ST-J13	65	0–30	30–53	53–65	–	–	–	None: terminated at subsoil
ST-J14	55	0–15	15–45	45–55	–	–	–	None: terminated at subsoil
ST-J15	60	0–20	20–40	40–60	–	–	–	None: terminated at subsoil
ST-J16	70	0–20	20–55	55–70	–	–	–	None: terminated at subsoil
ST-J17	60	0–20	20–50	50–60	–	–	–	None: terminated at subsoil
ST-J18	45	0–15	15–25	25–45	–	–	–	None: terminated at subsoil
ST-J19	40	0–30	30–40	–	–	–	–	None: terminated at subsoil
ST-K1	50	0–20	20–35	35–50	–	–	–	None: terminated at subsoil
ST-K2	60	0–20	20–30	30–60	–	–	–	None: terminated at subsoil
ST-K5	80	0–15	15–25	25–80	–	–	–	None: terminated at water table
ST-K6	65	0–45	45–65	–	–	–	–	None: terminated at water table
ST-K7	75	0–65	65–75	–	–	–	–	None: terminated at water table
ST-K8	60	0–45	45–60	–	–	–	–	None: terminated at water table
ST-K9	100	0–30	30–70	70–100	–	–	–	None
ST-K10	100	0–30	30–80	80–100	–	–	–	None
ST-K11	65	0–20	20–60	60–65	–	–	–	None: terminated at subsoil
ST-K12	65	0–20	20–60	60–65	–	–	–	None: terminated at subsoil
ST-K13	50	0–20	20–40	40–50	–	–	–	None: terminated at subsoil
ST-K14	50	0–20	20–40	40–50	–	–	–	None: terminated at subsoil
ST-K15	55	0–20	20–50	50–55	–	–	–	None: terminated at subsoil
ST-K16	45	0–15	15–40	40–45	–	–	–	None: terminated at subsoil
ST-K17	45	0–10	10–30	30–40	–	–	–	None: terminated at subsoil
ST-K18	35	0–20	20–25	25–35	–	–	–	None: terminated at subsoil
ST-L1	60	0–40	40–60	–	–	–	–	None: terminated at subsoil
ST-L2	50	0–15	15–50	–	–	–	–	None: terminated at rock impasse
ST-L3	60	0–15	15–60	–	–	–	–	None: terminated at subsoil
ST-L4	60	0–15	15–60	–	–	–	–	None: terminated at water table
ST-L5	80	0–40	40–80	–	–	–	–	None: terminated at water table

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Test Number	Depth (cmbs)	Stratum						Cultural Material
		I	II	III (D)	IV (E)	V (C)	VI (F)	
ST-L6	70	0–70	–	–	–	–	–	None: terminated at water table
ST-L8	100	0–30	30–90	90–100	–	–	–	None
ST-L9	100	0–20	20–50	50–100	–	–	–	None
ST-L10	100	0–20	20–90	90–100	–	–	–	None
ST-L11	40	0–30	30–40	–	–	–	–	None: terminated at subsoil
ST-L12	50	0–15	15–40	40–50	–	–	–	None: terminated at subsoil
ST-L13	45	0–15	15–35	35–45	–	–	–	None: terminated at subsoil
ST-L14	50	0–15	15–40	40–50	–	–	–	None: terminated at subsoil
ST-L15	70	0–15	15–60	60–70	–	–	–	None: terminated at subsoil
ST-L16	70	0–15	15–50	50–70	–	–	–	None: terminated at subsoil
ST-M1	100	0–30	30–50	50–100	–	–	–	None
ST-M4	55	0–10	10–55	–	–	–	–	None: terminated at water table
ST-M5	70	0–15	15–70	–	–	–	–	None: terminated at water table
ST-M6	70	0–45	45–70	–	–	–	–	None: terminated at water table
ST-M7	70	0–50	50–70	–	–	–	–	None: terminated at water table
ST-M8	70	0–45	45–70	–	–	–	–	None: terminated at water table
ST-M9	100	0–50	50–100	–	–	–	–	None
ST-N4	85	0–40	40–85	–	–	–	–	None: terminated at water table
ST-N5	85	0–40	40–85	–	–	–	–	None: terminated at water table
ST-N6	100	0–100	–	–	–	–	–	None
ST-X2	80	0–50	50–80	–	–	–	–	None: terminated at subsoil
ST-X3	65	0–45	45–65	–	–	–	–	None: terminated at subsoil
ST-X4	80	0–45	45–70	70–80	–	–	–	None: terminated at water table
ST-X5	60	0–40	40–60	–	–	–	–	None: terminated at water table
ST-Y2	100	0–90	90–100	–	–	–	–	None
ST-Y3	100	0–80	80–100	–	–	–	–	None
ST-Y4	120	0–20	20–80	80–120	–	–	–	[NON-PUBLIC INFORMATION REDACTED] between 90–100 cmbs
ST-Y4 5S	110	0–25	25–80	80–110	–	–	–	None
ST-Y4 5N	110	0–20	20–85	85–110	–	–	–	None
ST-Y4 5W	100	0–20	20–80	80–100	–	–	–	None
ST-Y5	100	0–80	80–100	–	–	–	–	None
ST-Z2	100	0–75	75–100	–	–	–	–	None
ST-Z3	100	0–20	20–100	–	–	–	–	None
ST-Z4	100	0–40	40–100	–	–	–	–	None
ST-Z5	77	0–30	30–60	60–77	–	–	–	None: terminated at subsoil

RESULTS

During the field survey, SWCA personnel and TCSs recorded five newly identified TCPs (21BNk, 21BNl, 21BN0033, 21BN0034, and 21BN0035) and one newly identified archaeological site (21BN0032) within the inventory survey area (Table 5). Each resource is documented below with a narrative description of the site, an overview photograph, and a sketch map showing the nearest proposed Project facility location, if present. The Project boundary, SWCA survey area, HDR survey area, and resource locations are illustrated in maps provided in Appendix A.

Table 5. Newly Recorded Archaeological and Traditional Cultural Property Sites

Site Number (field ID / site name)	Site Context	Site Type	Location	NRHP Status
21BNk (TCP-1 / [NON-PUBLIC INFORMATION REDACTED])	Prehistoric	[NON-PUBLIC INFORMATION REDACTED]/TCP	Project area	Unevaluated; recommended eligible
21BNl (TCP-2 / BEN-001)	Prehistoric	[NON-PUBLIC INFORMATION REDACTED]/TCP	Project area	Unevaluated; recommended eligible
21BN0032 (BENSO – Site1)	Historic / Post-contact	Artifact scatter	Project area	Recommended not eligible
21BN0033 (Benton Solar_ALS001)	Prehistoric	[NON-PUBLIC INFORMATION REDACTED]/TCP	Project area	Unevaluated; recommended eligible
21BN0034 (Benton Solar_ALS002)	Prehistoric	[NON-PUBLIC INFORMATION REDACTED]/TCP	Project area	Unevaluated; recommended eligible
21BN0035 (Benton Solar_ALS003)	Prehistoric	[NON-PUBLIC INFORMATION REDACTED]/TCP	Project area	Unevaluated; recommended eligible

21BN0032

Site Type: Historic cultural material scatter

Association: Historic (1880s–1930s)

Site Size: 4.5 × 3.5 m (15.8 m²) / (169.5 square feet)

Landownership: Private

NRHP Recommendation: Not Eligible

Management Recommendation: No further work

Site Description

Site 21BN0032 is a newly recorded historic cultural material scatter site located in [NON-PUBLIC INFORMATION REDACTED]. Vegetation present in the site's immediate setting consists of this season's corn crop (knee high) with interspersed weeds, and remaining corn chaff from the previous season's harvest (Figures 8 and 9). The site location includes weathered corn stalks and newly planted row corn, leaving roughly 85 percent ground surface visibility. Surface sediment is dark brown sandy clay loam with plant detritus and few, but some subrounded and subangular gravels. Deposition was likely originally alluvial from the nearby [NON-PUBLIC INFORMATION REDACTED]; however, the

surface soils have been muddled by years of agricultural plowing. Impacts to the site include erosion and agricultural activities.

Survey Results

SWCA recorded 21BN0032 on June 6, 2023 (Figure 10). The site consists of a diffuse scatter of historic cultural material including glass, ceramic, and metal materials (Table 6). The glass assemblage includes multiple colors and types of glass, including solarized amethyst, aqua, and clear glass forms, and a notable amount of milk glass. The ceramic assemblage includes white ware, porcelain soft pastes with green transfer prints, earthenware, and fragments of stoneware vessels. The metal assemblage includes several large pieces that appear consistent with horse-drawn and early industrial farming implements.

The range and situation of the materials, including residential goods and food/beverage containers, as well as farm equipment and hardware in combination, suggests disturbed and mixed contexts for these artifacts within what is currently a heavily tilled agricultural field. The site generally lacks integrity as no structural components remain, and the location has been heavily impacted by the planting of corn row crop.

Table 6. 21BN0032 Artifact List

Artifact Type	Description	Quantity
Glass	Solarized amethyst	3
Glass	Milk	7
Glass	Aqua	7
Glass	Clear	4
Glass	Azur blue	1
Ceramic	White ware	12
Ceramic	Porcelain	4
Ceramic	Earthenware	10
Ferrous metal	Metal fragment	8
Total		56

National Register of Historic Places Eligibility Recommendation

Site 21BN0032 is a newly recorded historic artifact scatter site in a [NON-PUBLIC INFORMATION REDACTED]. No standing structures or features are present on-site. Topographic maps dated to 1954 and aerial imagery from 1996 show no structures present within and immediately adjacent to the site boundary (USGS 2023). The cultural material comprising the site appears to be in a disturbed and mixed context, likely due to placement of the land and site under agricultural tillage. Given the apparent absence of structures, the site appears to be a secondary deposit (e.g., a trash deposit). Additional research would be necessary to determine if the materials at the site can be associated with persons or events important to history (Criteria A and B), although the site appears to lack the integrity necessary to convey significance under Criterion A or B. None of the materials embody distinctive characteristics of a type or period, or represent the work of a master; therefore, the site is not significant under Criterion C. Given the small scattering of historic-aged cultural materials comprising the site, it is unlikely that additional investigation would contribute information important to our understanding of history in the area; therefore, the site does

not meet the requirements of significance under Criterion D. Overall, the site materials do not present sufficient, patterned evidence of past lifeways to meaningfully convey any important aspects of local or regional history within contexts relevant to determine eligibility under the NRHP criteria. Therefore, SWCA recommends the site not eligible for the NRHP.

Management Recommendation

No further work is recommended.

[NON-PUBLIC INFORMATION REDACTED]

Figure 8. Site 21BN0032 overview photo, facing west.



Figure 9. Site 21BN0032 artifact scatter.

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*Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota*

[NON-PUBLIC INFORMATION REDACTED]

Figure 10. Site 21BN0032 sketch map.

21BN0033

Site Type: [NON-PUBLIC INFORMATION REDACTED]

Association: Unknown Prehistoric

Site Size: 24.3 × 26.9 m (350.9 m²)/(3,776.62 square feet)

Landownership: Private

NRHP Recommendation: Eligible

Management Recommendation: Avoidance/no further work

Site Description

Site 21BN0033 (Benton Solar_ALS001) is a TCP site consisting of [NON-PUBLIC INFORMATION REDACTED] (Figure 11). Ground cover surrounding the [NON-PUBLIC INFORMATION REDACTED] consists of grass bounded by a woodland immediately to the north, east, and south, allowing for approximately 5 percent bare ground surface visibility (Figures 12 and 13). No shovel tests were placed due to the nature of the site and because the site lies outside of the proposed project components. Impacts to the area include deflation and a two-track road associated with the residential development in the area. Some [NON-PUBLIC INFORMATION REDACTED] were noted as having been moved and disturbed. The feature exhibits cultural use [NON-PUBLIC INFORMATION REDACTED].

Survey Results

[NON-PUBLIC INFORMATION REDACTED]

National Register of Historic Places Eligibility Recommendation

Site 21BN0033 is [NON-PUBLIC INFORMATION REDACTED]. The resource has been slightly impacted by deflation and land development and is in fair condition, retaining integrity of location, design, material, workmanship, and feeling. [NON-PUBLIC INFORMATION REDACTED]

Based on Tribal cultural associations identified by TCSs as well as archaeological information, SWCA recommends the site eligible for the NRHP as a property of traditional religious and cultural importance under Criterion A for its association with past events and the broad patterns of history.

The significance of this TCP cannot be assessed solely through an examination of the ethnographic or archaeological literature. Further, the resource's significance as a TCP lies with the Tribal members who are responsible for retaining such knowledge within and for the benefit of the traditional community. Much of the key information required to interpret the site was indicated by participating Tribes as retained by elders who consider many aspects of their beliefs to be confidential and usually not to be shared outside their communities. Additionally, any further investigations of the site by individuals outside the traditional community may be constrained by the sensitive nature of the site and the basis from which interpretations may be derived. Consequently, the confidential nature of information that may further inform the significance the site is respected by the recorders. However, to those with the appropriate traditional knowledge, the site presents a wealth of information, some of which is protected and remains confidential to the participating Tribes.

Management Recommendation

The TCSs present for the survey recommended the site be avoided by all Project direct impacts. As proposed, Benton Solar has sited the Project so that it avoids the site by 100 feet. Therefore, no further work is recommended for this site for this project.

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[NON-PUBLIC INFORMATION REDACTED]

Figure 11. Site 21BN0033 sketch map.

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*Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota*

[NON-PUBLIC INFORMATION REDACTED]

Figure 12. Site 21BN0033 overview, facing south.

[NON-PUBLIC INFORMATION REDACTED]

Figure 13. Site 21BN0033 overview, facing north.

21BN0034

Site Type: [NON-PUBLIC INFORMATION REDACTED]/TCP

Association: Unknown Prehistoric

Site Size: 10.6 × 19.10 m (105.6 m²)/(1,115.0 square feet)

Landownership: Private

NRHP Recommendation: Eligible

Management Recommendation: Avoidance/no further work

Site Description

Site 21BN0034 (Benton Solar_ALS002) is a TCP site, consisting of [NON-PUBLIC INFORMATION REDACTED] (Figure 14). Ground cover surrounding the [NON-PUBLIC INFORMATION REDACTED] consists of low-lying plants, grass, and leaf litter, allowing for approximately 5 percent bare ground surface visibility (Figure 15). No shovel tests were placed due to the nature of the site and because the site lies outside of the proposed project components. Impacts to the area include erosion associated with the nearby drainage. The feature exhibits cultural use [NON-PUBLIC INFORMATION REDACTED].

Survey Results

[NON-PUBLIC INFORMATION REDACTED]

National Register of Historic Places Eligibility Recommendation

21BN0034 is [NON-PUBLIC INFORMATION REDACTED]. The resource has been slightly impacted by erosion and is in fair condition, retaining integrity of location, design, material, workmanship, and feeling. [NON-PUBLIC INFORMATION REDACTED].

Based on Tribal cultural associations identified by TCSs as well as archaeological information, SWCA recommends the site eligible for the NRHP as a property of traditional religious and cultural importance under Criterion A for its association with past events and the broad patterns of history.

The significance of this TCP cannot be assessed solely through an examination of the ethnographic or archaeological literature. Further, the resource's significance as a TCP lies with the Tribal members who are responsible for retaining such knowledge within and for the benefit of the traditional community. Much of the key information required to interpret the site was indicated by participating Tribes as retained by elders who consider many aspects of their beliefs to be confidential and usually not to be shared outside their communities. Additionally, any further investigations of the site by individuals outside the traditional community may be constrained by the sensitive nature of the site and the basis from which interpretations may be derived. Consequently, the confidential nature of information that may further inform the significance the site is respected by the recorders. However, to those with the appropriate traditional knowledge, the site presents a wealth of information, some of which is protected and remains confidential to the participating Tribes.

Management Recommendation

The TCSs present for the survey recommended the site be avoided by all Project direct impacts. As proposed, Benton Solar has sited the Project so that it avoids the site by 100 feet. Therefore, no further work is recommended for this site for this project.

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[NON-PUBLIC INFORMATION REDACTED]

Figure 14. 21BN0034 sketch map.

[NON-PUBLIC INFORMATION REDACTED]

Figure 15. 21BN0034 overview, facing south.

21BN0035

Site Type: [NON-PUBLIC INFORMATION REDACTED]/TCP

Association: Unknown Prehistoric

Site Size: 3 × 3 m (7.1 m²)/(78.3 square feet)

Landownership: Private

NRHP Recommendation: Eligible

Management Recommendation: Avoidance/no further work

Site Description

Site 21BN0035 (Benton Solar_ALS003) is a TCP site consisting [NON-PUBLIC INFORMATION REDACTED] (Figures 16 and 17). Ground cover present in the site's immediate setting consists of grass, allowing for roughly 0 percent bare ground surface visibility. Sediment observed in the shovel tests is dark brown coarse sand with up to 5 percent gravels. Deposition was likely originally alluvial from the nearby Elk and Mississippi Rivers. Impacts to the site include development.

Survey Results

[NON-PUBLIC INFORMATION REDACTED]

National Register of Historic Places Eligibility Recommendation

Site 21BN0035 is a TCP site consisting of [NON-PUBLIC INFORMATION REDACTED]. The resource consists of [NON-PUBLIC INFORMATION REDACTED]. The resource has been heavily

impacted by the installation of aboveground and belowground utilities and the road. **[NON-PUBLIC INFORMATION REDACTED]**.

Based on Tribal cultural associations identified by TCSs as well as archaeological information, SWCA recommends the site eligible for the NRHP as a property of traditional religious and cultural importance under Criterion A for its association with past events and the broad patterns of history.

The significance of this TCP cannot be assessed solely through an examination of the ethnographic or archaeological literature. Further, the resource's significance as a TCP lies with the Tribal members who are responsible for retaining such knowledge within and for the benefit of the traditional community. Much of the key information required to interpret the site was indicated by participating Tribes as retained by elders who consider many aspects of their beliefs to be confidential and usually not to be shared outside their communities. Additionally, any further investigations of the site by individuals outside the traditional community may be constrained by the sensitive nature of the site and the basis from which interpretations may be derived. Consequently, the confidential nature of information that may further inform the significance the site is respected by the recorders. However, to those with the appropriate traditional knowledge, the site presents a wealth of information, some of which is protected and remains confidential to the participating Tribes.

Management Recommendation

The TCS present for the survey recommended the site be avoided by all Project direct impacts. As proposed, Benton Solar has sited the Project so that it avoids the site by 50 feet. Therefore, no further work is recommended for this site for this project.

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*Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota*

[NON-PUBLIC INFORMATION REDACTED]

Figure 16. Site 21BN0035 overview, facing south.

[NON-PUBLIC INFORMATION REDACTED]

**Figure 17. Right-of-way for aboveground and belowground utilities adjacent
to 21BN0035, facing north toward 21BN0035.**

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[NON-PUBLIC INFORMATION REDACTED]

Figure 18. Site 21BN0035 sketch map.

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Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project, Benton County, Minnesota

[NON-PUBLIC INFORMATION REDACTED]

Figure 18. [NON-PUBLIC INFORMATION REDACTED] from 21BN0035, [NON-PUBLIC INFORMATION REDACTED].

[NON-PUBLIC INFORMATION REDACTED]

Figure 20. [NON-PUBLIC INFORMATION REDACTED] 21BN0035, [NON-PUBLIC INFORMATION REDACTED].

[NON-PUBLIC INFORMATION REDACTED]

Figure 21. [NON-PUBLIC INFORMATION REDACTED] 21BN0035, [NON-PUBLIC INFORMATION REDACTED].

21BKI

Site Type: [NON-PUBLIC INFORMATION REDACTED]/TCP

Association: Unknown Prehistoric

Site Size: 2.4 × 2.4 m (5.9 m²)/(26.2 square feet), [NON-PUBLIC INFORMATION REDACTED]

Landownership: Private

NRHP Recommendation: Eligible

Management Recommendation: Avoidance/no further work

Site Description

Site 21BKI is a [NON-PUBLIC INFORMATION REDACTED] (Figure 22). Ground cover surrounding the [NON-PUBLIC INFORMATION REDACTED] consists of intermittent corn chaff from the previous season and newly planted soybeans still in early sprouting stage, which allowed for approximately 80 percent bare ground surface visibility. Impacts to the area include previous agricultural tilling consisting of significant annual soil redeposition. The feature exhibits cultural use [NON-PUBLIC INFORMATION REDACTED].

Survey Results

[NON-PUBLIC INFORMATION REDACTED]

National Register of Historic Places Eligibility Recommendation

Site 21BK1 is a [NON-PUBLIC INFORMATION REDACTED]. The resource has been slightly impacted by industrial agricultural tilling and is in fair condition, retaining integrity of location, design, material, workmanship, and feeling. [NON-PUBLIC INFORMATION REDACTED]

Based on Tribal cultural associations identified by TCSs as well as archaeological information, SWCA recommends the site eligible for the NRHP as a property of traditional religious and cultural importance under Criterion A for its association with past events and the broad patterns of history.

The significance of this TCP cannot be assessed solely through an examination of the ethnographic or archaeological literature. Further, the resource's significance as a TCP lies with the Tribal members who are responsible for retaining such knowledge within and for the benefit of the traditional community. Much of the key information required to interpret the site was indicated by participating Tribes as retained by elders who consider many aspects of their beliefs to be confidential and usually not to be shared outside their communities. Additionally, any further investigations of the site by individuals outside the traditional community may be constrained by the sensitive nature of the site and the basis from which interpretations may be derived. Consequently, the confidential nature of information that may further inform the significance the site is respected by the recorders. However, to those with the appropriate traditional knowledge, the site presents a wealth of information, some of which is protected and remains confidential to the participating Tribes.

Management Recommendation

The TCSs present for the survey recommended the site be avoided by all Project direct impacts. As proposed, Benton Solar has sited the Project so that it avoids the site by 100 feet. Therefore, no further work is recommended for this site for this project.

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Benton County, Minnesota*

[NON-PUBLIC INFORMATION REDACTED]

Figure 22. Site 21BKI sketch map.

21BNk

Site Type: [NON-PUBLIC INFORMATION REDACTED]/TCP

Association: Unknown Prehistoric

Site Size: 8.0 × 7.5 m (46.86m²)/(504.89 square feet) [NON-PUBLIC INFORMATION REDACTED]

Landownership: Private

NRHP Recommendation: Eligible

Management Recommendation: Avoidance/no further work

Site Description

Site 21BNk is an [NON-PUBLIC INFORMATION REDACTED] (Figures 23–26). Ground cover consists of pasture grasses and forbs, sage, and elm and scrub oak trees, allowing for approximately 10 percent bare ground surface visibility. Some of the elm and oak trees are growing out of [NON-PUBLIC INFORMATION REDACTED]. Impacts to the area include previous grazing, nearby agricultural landscape use, nearby industrial quarrying, and power plant construction. The [NON-PUBLIC INFORMATION REDACTED] has an older (estimated 1930–1960) looting pit on its northern side, though the pit is ephemeral and does not penetrate [NON-PUBLIC INFORMATION REDACTED]. The looting pit is highly overgrown by vegetation (see Figure 26).

Survey Results

[NON-PUBLIC INFORMATION REDACTED]

National Register of Historic Places Eligibility Recommendation

Site 21BNk is an [NON-PUBLIC INFORMATION REDACTED]. The site is in good condition, retaining integrity of location, design, material, workmanship, and feeling. [NON-PUBLIC INFORMATION REDACTED]

Based on Tribal cultural associations identified by TCSs, SWCA recommends the site eligible for the NRHP as a property of traditional religious and cultural importance under Criterion A for its association with past events and the broad patterns of history. The TCP is further recommended eligible for the NRHP under Criteria C and D. Site 21BNk is eligible under Criterion C because it embodies the distinctive characteristics of a type, period, and method of construction regionally associated with [NON-PUBLIC INFORMATION REDACTED]. Site 21BNk is eligible under Criterion D because it has yielded, and may further yield, information important in prehistory in the Minnesota regions local Tribal ontologies and in association with [NON-PUBLIC INFORMATION REDACTED].

The significance of this TCP cannot be assessed solely through an examination of the ethnographic or archaeological literature. Further, the resource's significance as a TCP lies with the Tribal members who are responsible for retaining such knowledge within and for the benefit of the traditional community. Much of the key information required to interpret the site was indicated by participating Tribes as retained by elders who consider many aspects of their beliefs to be confidential and usually not to be shared outside their communities. Additionally, any further investigations of the site by individuals outside the traditional community may be constrained by the sensitive nature of the site and the basis from which interpretations may be derived. Consequently, the confidential nature of information that may further inform the significance of the site is respected by the recorders. However, to those with the appropriate

traditional knowledge, the site presents a wealth of information, some of which is protected and remains confidential to the participating Tribes.

Management Recommendation

The TCSs present for the survey recommended the site be avoided by all Project direct impacts. As proposed, Benton Solar has sited the transmission line right-of-way so that it avoids the site by 90 feet and sited the overhead transmission line itself so that it avoids the site by 140 feet. Therefore, no further work is recommended for this site for this project.

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Benton County, Minnesota*

[NON-PUBLIC INFORMATION REDACTED]

Figure 23. Site 21BNk sketch map.

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*Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota*

[NON-PUBLIC INFORMATION REDACTED]

Figure 24. Site 21BNk overview, facing northeast.

[NON-PUBLIC INFORMATION REDACTED]

Figure 25. Site 21BNk overview, facing east.

[NON-PUBLIC INFORMATION REDACTED]

Figure 26. Site 21BNk [NON-PUBLIC INFORMATION REDACTED], facing southwest.

CONCURRENT HDR, INC., SURVEY RESULTS

After SWCA completed the inventory for this Project, HDR, Inc. (HDR), began a survey for a separate project location that overlaps the Project area (see maps presented in Appendix A); survey work is ongoing at the time of this report. Cultural avoidance areas were identified during HDR's survey. Avoidance was recommended by HDR personnel and Tribal cultural specialists participating in the survey effort. Additionally, during the HDR inventory, the site boundary of 21BNk was expanded (personal communication, Jennifer Bring, HDR, 2024). SWCA does not have additional information on the cultural avoidance areas beyond avoidance location data, and HDR's corresponding survey report is forthcoming.

As proposed, the Project will avoid the cultural avoidance areas identified during the HDR inventory. SWCA understands that the exterior boundaries of the cultural avoidance areas are buffered by at least 60-feet from the cultural resources identified during the HDR inventory. Therefore, while the right-of-way is approximately 60-feet from the cultural resources, the limits of disturbance for the transmission line will be more than 100 feet from the resources identified during the HDR inventory. Therefore, no additional cultural resources work is recommended for these cultural resources for this project.

RECOMMENDATIONS

Between November 2022 and May 2024, SWCA and representatives from interested Tribal Nations conducted a Phase 1 archaeological and TCP reconnaissance inventory for the proposed Benton Solar Project in Benton County, Minnesota. During the inventory, six new resources were recorded. SWCA and TCSs recorded five TCPs: 21BNk ([NON-PUBLIC INFORMATION REDACTED]), 21BK1 ([NON-

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Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project, Benton County, Minnesota

PUBLIC INFORMATION REDACTED)), 21BN0033 (**[NON-PUBLIC INFORMATION REDACTED]**), 21BN0034 (**[NON-PUBLIC INFORMATION REDACTED]**), and 21BN0035 (**[NON-PUBLIC INFORMATION REDACTED]**). SWCA recorded one historic archaeological site (21BN0032), a historic-artifact scatter site.

Sites 21BNk, 21BKl, 21BN0033, 21BN0034, and 21BN0035 are recommended eligible for the NRHP, and avoidance of these five TCPs is recommended. Benton Solar will install the transmission line and solar infrastructure array to avoid the five TCP resources.

For 21BNk, Benton Solar has sited the transmission line right-of-way so that it avoids the site by 90 feet and sited the overhead transmission line itself so that it avoids the site by 140 feet. For 21BKl, Benton Solar has sited the project so that it avoids the site by 100 feet. Once these five locations were adequately, the need for additional cultural resources work for these five TCPs was eliminated. Therefore, no further cultural resources work is recommended for 21BNk, 21BKl, 21BN0033, 21BN0034, and 21BN0035 for this project.

Site 21BN0032 recommended not eligible for the NRHP. Therefore, no avoidance or further work is recommended for 21BN0032.

After SWCA completed the inventory for this Project, HDR, Inc. (HDR), began a survey for a separate project location that overlaps the Project area (see maps presented in Appendix A); survey work is ongoing at the time of this report. Cultural avoidance areas were identified during HDR's survey. Avoidance was recommended by HDR personnel and Tribal cultural specialists participating in the survey effort. Additionally, during the HDR inventory, the site boundary of 21BNk was expanded (personal communication, Jennifer Bring, HDR, 2024). SWCA does not have additional information on the cultural avoidance areas beyond avoidance location data, and HDR's corresponding survey report is forthcoming.

As proposed, the Project will avoid the cultural avoidance areas identified during the HDR inventory. SWCA understands that the exterior boundaries of the cultural avoidance areas are buffered by at least 60-feet from the cultural resources identified during the HDR inventory. Therefore, while the right-of-way is approximately 60-feet from the cultural resources, the limits of disturbance for the transmission line will be more than 100 feet from the resources identified during the HDR inventory. Therefore, no additional cultural resources work is recommended for these cultural resources for this project.

With these findings and avoidance recommendations, SWCA recommends the Project be granted a determination of **no significant sites affected** and permission to proceed as proposed.

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Benton County, Minnesota*

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APPENDIX A

Project Results Maps

[NON-PUBLIC INFORMATION REDACTED]

A1. Project area and records search results overview map.

[NON-PUBLIC INFORMATION REDACTED]

A2. Project area and resource location overview map.

[NON-PUBLIC INFORMATION REDACTED]

A3. Project area overview map showing shovel tests.

[NON-PUBLIC INFORMATION REDACTED]

A4. Project area overview map showing shovel tests, showing Detail A and B from Figure A3.

ATTACHMENT I2-1

**Letter from Minnesota Department of Administration State Historic
Preservation Office to SWCA Environmental Consultants Following
Review of the Phase I Archaeological and Traditional Cultural
Property Reconnaissance Inventory for the Benton Solar Project,
Benton County, Minnesota**



September 4, 2024

Jolene Schleicher
SWCA Environmental Consultants
201 Slate Drive, Suite 8
Bismarck, ND 58503

RE: NextEra Energy Resources - Benton Solar Energy Project
Minden and St. George Townships, Benton County
SHPO Number: 2023-1118

Dear Jolene Schleicher:

Thank you for continuing consultation on the above referenced project. It is our understanding that the proposed project includes the development of a 100-megawatt solar energy project in Benton County and will require a site permit from the Minnesota Public Utilities Commission. Therefore, information received on July 24, 2024, has been reviewed pursuant to the responsibilities given the State Historic Preservation Office by the Minnesota Historic Sites Act (Minn. Stat. 138.665-666).

Based on our review of the submitted report, *Phase I Archaeological and Traditional Cultural Property Reconnaissance Inventory for the Benton Solar Project, Benton County, Minnesota* (SWCA Environmental Consultants, July 2024), we understand that six (6) new archaeological resources were identified within the proposed project area. These resources include archaeological sites **21BNk, 21BNI, 21BN0032, 21BN0033, 21BN0034, and 21BN0035**. Of these, sites **21BNk, 21BNI, 21BN0033, 21BN0034, 21BN0035** represent traditional cultural properties significant to Native American tribes who participated in the survey. We acknowledge that Native American tribes have special expertise in identifying resources that hold cultural and/or religious significance to them. We understand that the recommendation from the Native American tribes who participated in the survey is to avoid these resources and we defer to those tribes regarding that recommendation. Based on the report, we understand that additional and concurrent survey for an unrelated project near 21BNk may have identified additional areas that should be included in that site boundary and avoided. Again, we defer to the Native American tribes as the experts in determining what should be avoided.

Archaeological site **21BN0032**, which is a historic cultural material scatter, was also identified within the proposed project area. We concur with your determination that archaeological site 21BN0032 is not significant and is **not eligible** for listing in the National Register of Historic Places due to a lack of significance and integrity. Therefore, we agree with your recommendation that avoidance of this site is not warranted.

Based on the documentation provided, we agree that there are **no properties** listed in the National or State Registers of Historic Places, or within the Historic Sites Network, that will be affected by the proposed project.

MINNESOTA STATE HISTORIC PRESERVATION OFFICE

50 Sherburne Avenue ■ Administration Building 203 ■ Saint Paul, Minnesota 55155 ■ 651-201-3287

mn.gov/admin/shpo ■ mnshpo@state.mn.us

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Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36 CFR § 800. If this project is considered for federal financial assistance, or requires a federal permit or license, then review and consultation with our office will need to be initiated by the lead federal agency. This consultation will need to include an appropriate area of potential effects (APE) for the federal undertaking as well as the necessary historic property identification and evaluation efforts required for a federal review. Be advised that comments and recommendations provided by our office for a state-level review may differ from findings and determinations made by the federal agency as part of review and consultation under Section 106.

If you have any questions regarding our review of this project, please contact Kelly Gragg-Johnson, Environmental Review Program Specialist, at 651-201-3285 or kelly.graggjohnson@state.mn.us.

Sincerely,



Amy Spong
Deputy State Historic Preservation Officer

APPENDIX I3

Tribal Outreach Summary

PUBLIC DOCUMENT- NONPUBLIC DATA HAS BEEN EXCISED

Table I3-1. Native American Tribes Contacted for the Benton Solar Energy Project

Tribe	THPO and Other Representatives	Benton Solar, LLC Outreach Letter Date	THPO Interest Response/Date	SWCA Outreach for Fieldwork/Date	THPO Response to SWCA/Date	Fieldwork Completed Dates
Assiniboine & Sioux Tribes (Fort Peck)	Dyan Youpee	10/25/2022	No	No	No	N/A
Bad River Band of Lake Superior Chippewa	Edith Leoso	10/25/2022	No	No	No	N/A
Bay Mills Indian Community	Dwight "Bucko" Teeple	10/25/2022	No	No	No	N/A
Bois Forte Band of Chippewa	Jaylen Strong	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Cheyenne and Arapaho Tribes	Max Bear	10/25/2022	No	No	No	N/A
Cheyenne River Sioux Tribe	Steve Vance	10/25/2022	No	No	No	N/A
Crow Creek Sioux Tribe	Merle Marks	10/25/2022	Yes, 10/27/2022	No	No	N/A
Flandreau Santee Sioux Tribe	Garrie Kills a Hundred	10/25/2022	No	No	No	N/A
Fond du Lac Band of Lake Superior Chippewa	Evan Schroeder	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Fort Belknap Indian Community	Michael Black Wolf	10/25/2022	No	No	No	N/A
Grand Portage Band of Chippewa	Rob Hull	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Grand Traverse Band of Ottawa and Chippewa Indians	Sammie McClellan-Dyal	10/25/2022	No	No	No	N/A
Ho-Chunk Nation	Bill Quackenbush	10/25/2022	No	No	No	N/A
Keweenaw Bay Indian Community	Alden Connor	10/25/2022	No	No	No	N/A
Lac Courte Oreilles Band of Lake Superior Chippewa	Brian Bisonette	10/25/2022	No	No	No	N/A
Lac du Flambeau Band of Lake Superior Chippewa	Sarah Thompson	10/25/2022	No	No	No	N/A

PUBLIC DOCUMENT- NONPUBLIC DATA HAS BEEN EXCISED

Tribe	THPO and Other Representatives	Benton Solar, LLC Outreach Letter Date	THPO Interest Response/Date	SWCA Outreach for Fieldwork/Date	THPO Response to SWCA/Date	Fieldwork Completed Dates
Lac Vieux Desert Band of Lake Superior Chippewa	Alina Shively	10/25/2022	No	No	No	N/A
Leech Lake Band of Ojibwe	Amy Burnette	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Little River Band of Ottawa	Jonnie "Jay" Sam II	10/25/2022	No	No	No	N/A
Little Traverse Bay Bands of Odawa	Melissa Wiatroluk	10/25/2022	No	No	No	N/A
Lower Brule Sioux Tribe	Boyd Gourneau	10/25/2022	No	No	No	N/A
Lower Sioux Indian Community	Cheyenne St. John	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Menominee Tribe	David Grignon	10/25/2022	No	No	No	N/A
Miami Tribe	Diane Hunter	10/25/2022	No	No	No	N/A
Mille Lacs Band of Ojibwe	Terry Kemper	10/25/2022: initial outreach 8/10/2023: follow-up outreach	Yes, 10/26/2022 with interest in the Project	Yes, 11/1/2022; 5/23/2023; 7/5/2023; 4/29/2024	Yes, 11/2/2022; 5/23/2023; 7/10/2023; 4/30/2024	11/9/2022; 11/12/2022; 11/13/2022; 6/5–9/2023 Unable to join July 2023 or May 2024 surveys
Northern Cheyenne Tribe	Teanna Limpy	10/25/2022	No	No	No	N/A
Oglala Sioux Tribe	Thomas Brings	10/25/2022	No	No	No	N/A
Omaha Tribe	Dwight Howe	10/25/2022	No	No	No	N/A
Ottawa Tribe	Rhonda Hayworth	10/25/2022	No	No	No	N/A
Prairie Island Indian Community	Noah White	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Red Cliff Band of Lake Superior Chippewa	Marvin Defoe	10/25/2022	No	No	No	N/A

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Tribe	THPO and Other Representatives	Benton Solar, LLC Outreach Letter Date	THPO Interest Response/Date	SWCA Outreach for Fieldwork/Date	THPO Response to SWCA/Date	Fieldwork Completed Dates
Red Lake Nation	Kade Ferris	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Rosebud Sioux Tribe	Ione Quigley / Benjamin Young	10/25/2022: initial outreach 8/10/2023: follow-up outreach	Yes, 10/26/2022 with interest in the Project	Yes, 11/1/2022, 5/23/2023, 7/5/2023; 4/29/2024	Yes, 11/2/2022, 5/24/2023; 7/7/2023; 7/10/2023; 4/30/2024	11/9/2022; 11/12/2022; 11/13/2022; 7/14/2023; 7/15/2023; 5/7-11/2024 Unable to join June 2023 fieldwork due to family emergency for the TCS.
Saginaw Chippewa	Marcella Hadden	10/25/2022	No	No	No	N/A
Santee Sioux Nation	Larry Thomas	10/25/2022	No	No	No	N/A
Sault Ste. Marie Tribe of Chippewa	Marie R. Richards	10/25/2022	No	No	No	N/A
Shakopee Mdewakanton Sioux Community	Leonard Wabasha	10/25/2022: initial outreach 8/10/2023: follow-up outreach	Yes 10/26/2022 deferring to closer Tribes	No	No	N/A
Sisseton Wahpeton Oyate	Dianne Desrosiers / Wayne Cloud	10/25/2022: initial outreach 8/10/2023: follow-up outreach	Did not receive response, but Benton Solar requested additional outreach.	Yes, 11/1/2022, 5/23/2023, 7/5/2023; 4/29/2024	Yes, 11/2/2022, 5/23/2023, 7/5/2023; 5/1/2024	11/9/2022; 11/12/2022; 11/13/2022; 6/5-9/2023; 5/7-11/2024 Unavailable to join July 2023 fieldwork
Sokaogon Chippewa Community	Michael LaRonge	10/25/2022	No	No	No	N/A
Spirit Lake Tribe	Kenneth Graywater	10/25/2022	No	No	No	N/A
St. Croix Chippewa	Wanda McFaggen	10/25/2022	No	No	No	N/A
Standing Rock Sioux Tribe	Jon Eagle / Tyrel Iron Eyes	10/25/2022: initial outreach 8/10/2023: follow-up outreach	Did not receive response, but Benton Solar requested additional outreach.	Yes, 11/1/2022; 5/23/2023, 7/5/2023; 4/29/2024	Yes, 11/2/2022; 5/25/2023; 7/6/2023; 5/1/2024	11/9/2022; 11/12/2022; 11/13/2022; 7/13-15/2023; 5/7-11/2024 Unavailable to join June 2023 fieldwork

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Tribe	THPO and Other Representatives	Benton Solar, LLC Outreach Letter Date	THPO Interest Response/Date	SWCA Outreach for Fieldwork/Date	THPO Response to SWCA/Date	Fieldwork Completed Dates
Turtle Mountain Band of Chippewa	Larus Longie	10/25/2022	No	No	No	N/A
Upper Sioux Community	Samantha Odegard	10/25/2022: initial outreach 8/10/2023: follow-up outreach	Did not receive response, but Benton Solar requested additional outreach.	Yes, 11/1/2022; 5/23/2023, 7/5/2023; 4/29/2024	Yes, 11/1/2022, 5/23/2023, and 7/10/2023, were not available for fieldwork; 5/1/2024	5/7-11/2024
White Earth Nation	Jaime Arsenault	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	No	No	N/A
Winnebago Tribe	Sunshine Thomas-Bear	10/25/2022: initial outreach 8/10/2023: follow-up outreach	No	Yes, 5/23/2023, 7/5/2023; 4/29/2024	Yes, 7/5/2023; were not available for fieldwork	N/A
Yankton Sioux Tribe	Colten Archambeau	10/25/2022	No	Yes, 11/1/2022, 5/23/2023, 7/5/2023; 4/29/2024	Yes, 7/10/2023 and 4/30/2024 were not available for fieldwork	N/A

Note: N/A = not applicable.

ATTACHMENT I3-1

**Letter from NextEra Energy Resources, LLC
to Native American Tribes**



October 25, 2022

«Prefix» «First_Name» «Last_Name» «Suffix»
«Title»
«Tribe»
«Mailing_Address»
«City», «State» «Zip»

Subject: Development of Benton Solar Project in Benton County, Minnesota

Dear «First_Name»,

Benton Solar, LLC, an indirect, wholly-owned subsidiary of NextEra Energy Resources, LLC, (NextEra) is in the process of developing the Benton Solar (Benton) project in Benton County, Minnesota. Benton will be located on private land approximately 7 miles east of St. Cloud, MN (Figure 1). The exact project boundary has not been finalized and is subject to change.

Consistent with NextEra's policy to reach out to Tribes in the area of its projects, I wanted to provide you the following information, and to ask whether you would have an interest in receiving further information about the project including potential collaboration opportunities to identify and avoid, where possible, sensitive tribal resources.

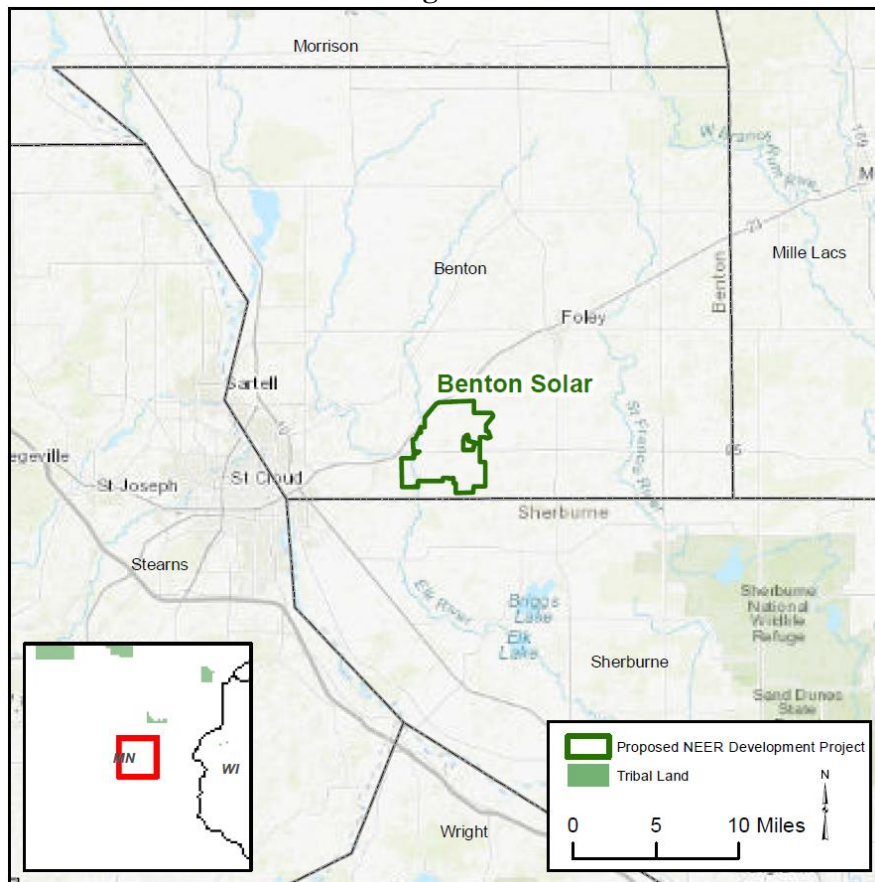
Benton will be comprised of fixed-tilt or sun-tracker photovoltaic (PV) solar panels mounted on metal posts arranged in linear arrays with a total nameplate capacity of approximately 100 megawatts (MW). Each panel will stand approximately 8 to 10 feet tall at its highest point. Each array will be connected to several DC-to-AC inverters and be transmitted to the project substation by a series of underground or above ground collector lines. A new Operations & Maintenance (O&M) facility may be constructed at the Project site. The project may also construct a short, less than a mile long generation-tie (gen-tie) transmission line to interconnect with the grid at the Benton County 115 kV Substation.

Benton plans to begin cultural surveys by mid-Fall 2022, weather permitting. We can offer up to five (5) slots during the cultural pedestrian surveys.

Benton anticipates filing all required permit applications with the Minnesota Public Utilities Commission by Spring 2023, with final permits issued and construction scheduled to begin by Fall 2024. Full commercial operation is expected by late 2025.

At this time, no federal action or permits are anticipated; therefore, formal Section 106 consultation is not required. Should an action requiring review under Section 106 of the National Historic Preservation Act (NHPA) develop, Benton/NextEra Energy Resources does not intend for any discussions between the Tribes and Benton/NextEra Energy Resources to take the place of any official Section 106 consultation.

Figure 1



Proposed Project

As described above, the proposed project would consist of the construction of an array of PV solar panels, with associated above ground DC-to-AC inverters. Proposed project facilities would include some or all of the following components:

- All-weather access roads to and within the site
- Fixed-tilt or sun-tracking rack mounting to which the PV panels are attached
- Underground or above ground electrical collection lines from each inverter to the collection substation
- A temporary laydown yard (up to 15 acres)
- An O&M yard (approximately 10 acres)
- A collection substation (approximately 5 acres)

Although the project layout is still preliminary, most of the ground surface will be impacted within the footprint of the PV solar array field during construction of a typical solar project. Activities include vegetation removal and grading to make the ground level. The PV panel racking system supports would then be driven into the ground to a depth of approximately 6 to 8 feet with a tractor-sized hydraulic ram. Following construction, perennial vegetation will be seeded beneath the PV solar array, but the land will not be suitable for crops while the solar facility is operational. Access roads, an O&M facility, and temporary construction/laydown areas are anticipated to be installed, as necessary, to fully accommodate all aspects of project construction, operation, and maintenance.

Project Area

The proposed project area is located east/northeast of St. Cloud, MN with the northern portion within the Laurentian Mixed Forest Province and the southern portion of the project within the Eastern Broadleaf Forest Province. The land cover in the project area is largely agricultural and previously disturbed, though wetlands and wooded areas remain scattered within the project boundary. The Laurentian Mixed Forest Province in this area was dominated by maple-brasswood forests, while the Eastern Broadleaf Forest Province in this area was dominated by oak barrens, oak openings, and jack pine, with brushland in large areas of the sandplain.

Cultural Resources Studies

Benton retained SWCA to conduct a desktop cultural resources review of the project area and a 1-mile buffer. No previously recorded archaeological resources were identified within the project area. Four (4) previously recorded archaeological resources were identified within the 1-mile buffer (Table 1).

Table 1. Previously identified cultural resources

Site	Description	Eligibility	Location
21BN0012	Precontact lithic scatter	Unknown	1-mile buffer
21BN0013	Precontact material scatter	Unknown	1-mile buffer
21BN0014	Precontact lithic scatter	Unknown	1-mile buffer
21BN0016	Precontact lithic scatter	Unknown	1-mile buffer

Benton commits to working with all interested Tribes who respond to this outreach effort. We routinely collaborate with Tribes to identify and avoid sensitive tribal resources within the project area, to the extent feasible.

General Project Timing

Archaeological Field Work/Pedestrian Surveys	Fall 2022
Prepare & Complete Cultural Resource Report	Winter 2022-2023
File Minnesota Public Utilities Commission Applications	Spring 2023
Final Permits Issued	Mid-2024
Construction Mobilization	Fall 2024
Commercial Operation Date	Late 2025

Outreach Summary

As it may be helpful to you in determining your level of participation in this project, below is a list of the Tribes that have also received this letter based on review of available public information and internal NextEra research efforts. If you think a Tribe not listed below may have an interest in this area, please let us know so that we may reach out to them.

- Assiniboine & Sioux Tribes (Fort Peck), Montana
- Bad River Band of Lake Superior Chippewa, Wisconsin
- Bay Mills Indian Community, Michigan
- Bois Forte Band of Chippewa, Minnesota
- Cheyenne and Arapaho Tribes, Oklahoma
- Cheyenne River Sioux Tribe, South Dakota
- Crow Creek Sioux Tribe, South Dakota
- Flandreau Santee Sioux Tribe, South Dakota
- Fond du Lac Band of Lake Superior Chippewa, Minnesota

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- Fort Belknap Indian Community, Montana
- Grand Portage Band of Chippewa, Minnesota
- Grand Traverse Band of Ottawa and Chippewa Indians, Michigan
- Ho-Chunk Nation, Wisconsin
- Keweenaw Bay Indian Community, Michigan
- Lac Courte Oreilles Band of Lake Superior Chippewa, Wisconsin
- Lac du Flambeau Band of Lake Superior Chippewa, Wisconsin
- Lac Vieux Desert Band of Lake Superior Chippewa, Michigan
- Leech Lake Band of Ojibwe, Minnesota
- Little River Band of Ottawa, Michigan
- Little Traverse Bay Bands of Odawa, Michigan
- Lower Brule Sioux Tribe, South Dakota
- Lower Sioux Indian Community, Minnesota
- Menominee Tribe, Wisconsin
- Miami Tribe, Oklahoma
- Mille Lacs Band of Ojibwe, Minnesota
- Northern Cheyenne Tribe, Montana
- Oglala Sioux Tribe, South Dakota
- Omaha Tribe, Nebraska
- Ottawa Tribe, Oklahoma
- Prairie Island Indian Community, Minnesota
- Red Cliff Band of Lake Superior Chippewa, Wisconsin
- Red Lake Nation, Minnesota
- Rosebud Sioux Tribe, South Dakota
- Saginaw Chippewa, Michigan
- Santee Sioux Nation, Nebraska
- Sault Ste. Marie Tribe of Chippewa, Michigan
- Shakopee Mdewakanton Sioux Community, Minnesota
- Sisseton Wahpeton Oyate, South Dakota
- Sokaogon Chippewa Community, Wisconsin
- Spirit Lake Tribe, North Dakota
- St. Croix Chippewa, Wisconsin
- Standing Rock Sioux Tribe, Minnesota
- Turtle Mountain Band of Chippewa, North Dakota
- Upper Sioux Community, Minnesota
- White Earth Nation, Minnesota
- Winnebago Tribe, Nebraska
- Yankton Sioux Tribe, South Dakota

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I hope this information has been helpful to you. Again, as it is NextEra's policy to reach out to Tribes in the vicinity of its projects, I wanted to provide you this information about the project. Please let me know if you have an interest in the project area and would like to be involved in further discussions so that we can answer any questions, provide you additional information, discuss any concerns you may have about the project, and plan any requested tribal participation accordingly. I can be reached at (561) 304-5168 or via email at Ronald.Burris@NextEraEnergy.com.

Regards,



Ronald F. Burris II
Sr Project Manager, Tribal Relations

cc: Brittney Paxson, NextEra
Jill Kotwasinski, NextEra

[NON-PUBLIC INFORMATION REDACTED]