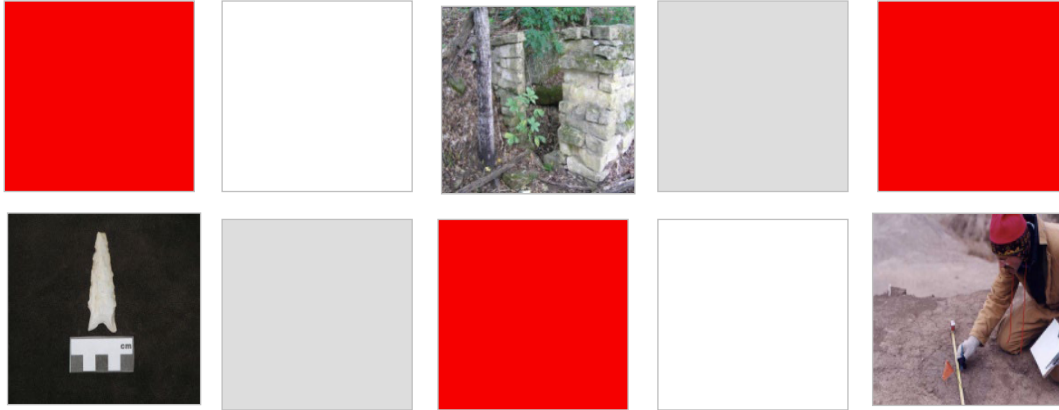


**Appendix C**  
**Archaeological Survey Results**





**Xcel Energy**

**Prairie Island Nuclear Generating Plant Independent Spent  
Fuel Storage Installation Expansion Project  
Goodhue County, Minnesota**

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**SHPO Project Number: 2023-2323**

September 2024

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Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation Expansion Project  
Goodhue County, Minnesota

## EXECUTIVE SUMMARY

The Prairie Island Nuclear Generating Plant (PINGP) in Section 5 of Township 113 North and 15 West in Goodhue County, Minnesota, is owned and operated by Northern States Power Company-Minnesota, doing business as Xcel Energy (Xcel). PINGP consists of two pressurized water reactors that operate under separate U.S. Nuclear Regulatory Commission (NRC) operating licenses allowing the units to operate through 2033/2034. Presently, Xcel is seeking a Certificate of Need (CON) from the Minnesota Public Utilities Commission (MPUC) to expand the capacity of the Independent Spent Fuel Storage Installation (ISFSI) to accommodate storage of spent fuel commensurate with an additional 20 years of operation.

The ISFSI Expansion Project (Project) is needed to provide additional spent fuel storage to support an additional 20 years of PINGP operation to 2053/2054 (see Figure 1 in Appendix A for Project location). As part of the Project, Xcel has applied to the MPUC for a CON to construct a fourth, and potentially a fifth, spent fuel storage pad(s) within the footprint of the existing ISFSI to support extended plant operation and spent-fuel storage for 20 additional years. The Project construction activities do not require a federal permit or approval.

A Phase I archaeological survey of the proposed location for the 0.9-acre ISFSI expansion area (Project Area) was conducted by Merjent, Inc. (Merjent) on April 15, 2024. A literature review completed prior to fieldwork did not identify previously recorded cultural resources within the Project Area. Xcel Energy provided the survey protocol to the Prairie Island Indian Community (PIIC) for review prior to fieldwork, and no comments were received. PIIC representatives were invited to monitor the Phase I survey, but the PIIC did not send representatives to attend the survey. PIIC representatives reviewed the draft report and had no comments.

No cultural resources were identified during the survey. Based on this Phase I archaeological survey, Merjent recommends that no historic properties will be affected by the proposed Project. No further archaeological work is recommended for the Project as planned.

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Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation Expansion Project  
Goodhue County, Minnesota

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## ACRONYMS AND ABBREVIATIONS

BCE	Before the Common Era
CE	Common Era
CFR	Code of Federal Regulations
cm	centimeter(s)
CON	Certificate of Need
DFS	decommissioning funding status
GIS	geographic information systems
GLO	General Land Office
GSV	ground surface visibility
ISFSI	Independent Spent Fuel Storage Installation
Merjent	Merjent, Inc.
MNCEMID	Minnesota Cemetery Identification (Number)
MnDNR	Minnesota Department of Natural Resources
MPUC	Minnesota Public Utilities Commission
NRC	U.S. Nuclear Regulatory Commission
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OSA	Minnesota Office of the State Archaeologist
PIIC	Prairie Island Indian Community
PINGP	Xcel Energy Prairie Island Nuclear Generating Plant
Project	Xcel Energy Prairie Island Nuclear Generating Plant Independent Spent Fuel Storage Installation Expansion Project
Project Area	0.9-acre Independent Spent Fuel Storage Installation Expansion Area
SHPO	State Historic Preservation Office
Study Area	1.0-mile radius of the Project Area
Xcel	Xcel Energy

## **1.0 INTRODUCTION**

Xcel Energy (Xcel) contracted Merjent, Inc. (Merjent) to complete a cultural resources investigation for the expansion of the Independent Spent Fuel Storage Installation (ISFSI) facility at the Prairie Island Nuclear Generating Plant (PINGP) in Section 5 of Township 113 North and 15 West in Goodhue County, Minnesota. The following report details the results of the literature review and the Phase I survey for the ISFSI Expansion Project (Project).

### **1.1 PROJECT DESCRIPTION**

The PINGP is owned and operated by Northern States Power Company-Minnesota, doing business as Xcel Energy, and consists of two pressurized water reactors that operate under separate U.S. Nuclear Regulatory Commission (NRC) operating licenses allowing the units to operate through 2033/2034. Presently, Xcel is seeking a Certificate of Need (CON) from the Minnesota Public Utilities Commission (MPUC) to expand the capacity of the ISFSI to accommodate storage of spent fuel commensurate with an additional 20 years of operation to 2053/2054. The Project construction activities do not require a federal permit or approval.

The Project is needed to provide additional spent fuel storage necessary (or, beyond the 64 equivalent dry fuel storage (DFS) systems currently authorized by the NRC and MPUC) to support an additional 20 years of PINGP operation to 2053/2054. A topographic overview map of the Project Area is provided in Figure 1 in Appendix A. As part of the Project, Xcel has applied to the MPUC for a CON to construct a fourth, and potentially a fifth, spent fuel storage pad(s) within the existing 5.5-acre ISFSI footprint to store approximately 34 additional DFS systems (see Figure 3 in Appendix A for location). The addition of up to two additional pads will not require a change in the security perimeter. The construction area of the fourth and fifth storage pads is 0.9-acre in area and constitutes the Project Area. Any variation in the number of total DFS systems needed will not result in a modification to the footprint of the ISFSI, its security perimeter, or the scope of the Project as proposed.

Xcel submitted the CON application to MPUC on February 7, 2024 (Docket No. E002/CN-24-68). The Minnesota Department of Commerce will prepare an Environmental Impact Statement as part of the MPUC's review of the CON application to study the Project's environmental impacts.

### **1.2 REGULATORY AUTHORITY**

MPUC permitting requires consideration of impacts to cultural resources by following relevant state historic preservation laws, notably the Field Archaeology Act (MS 138.31-42), for any approvals (permits, licenses) to utilize non-federal public lands/waters; the Minnesota Historic Sites Act (MS 138.661–138.669) if state approvals have the potential to impact designated historic properties; and the Private Cemeteries Act (MS 307.08), which is concerned with human remains. Xcel contracted with Merjent to conduct a Phase I archeological survey to fulfill MPUC requirements. The Project construction activities do not require a federal permit or approval.

### **1.3 THE PRAIRIE ISLAND INDIAN COMMUNITY AND XCEL'S PROCEDURES**

The ISFSI pads are located near (southeast of) the Prairie Island Indian Community (PIIC) Reservation on the ancestral homeland of the Mdewakanton Band of Eastern Dakota. Xcel has developed a Cultural Resources Management Plan (CRMP; see Appendix B) to protect significant historical, archaeological, and cultural resources that may currently exist on the PINGP site. Xcel's CRMP includes a discussion of known existing cultural and historic resources within the PINGP

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property, the activities which have potential to cause disturbance to these resources, and procedures and practices for proper review, notification, and consultation with concerned parties—including the PIIC—prior to initiating construction and excavation projects. Specific to each project, the procedure establishes programmatic controls to implement procedures to protect significant historical, archaeological, and cultural resources that may currently exist on the plant site, including the ISFSI site. The CRMP includes requirements for notification and consultation with a variety of federal, state, tribal, and local agencies and entities, depending on the nature and scope of planned activities.

Xcel maintains procedure FP-CY-ENV-01 titled *Archaeological, Cultural, and Historic Resources* (the ACHR Procedure) that supports the protection of such resources discovered on nuclear sites operated by Xcel by raising awareness about the federal and state laws which protect these resources. The ACHR Procedure applies to all ground-disturbing activities on the PINGP site, which will include the proposed ISFSI expansion facilities and requires review for all excavation or ground disturbing activities (Section 5.0) as well as completion of an Excavation Permit and compliance with procedure FP-IH-EXC-01, *Excavation and Trenching Controls*. Together, these procedures required Xcel to consider site review for such resources and potential consultation with agencies and tribal governments, as appropriate, prior to the execution of work to protect previously undiscovered cultural resources.

The ACHR Procedure (Section 5.1.2) requires that Xcel determine if the Project may affect culturally sensitive areas at PINGP, requiring the need for an archaeological survey. Relative to the ISFSI, the ACHR Procedure (Section 5.1.2.b.1) required that Xcel, promptly upon identification of the proposed location for the construction activities associated with modifications to the ISFSI to accommodate additional DFS Systems, disclose to the PIIC that location. Xcel provided formal notification to the PIIC via a letter sent in July 2023.

As required by the ACHR Procedure (Section 5.1.2.b.2), Xcel was required to perform subsurface testing within the area where any new ISFSI pads will be located to the depth expected to be excavated for construction of the new ISFSI pads (approximately 6 feet). Per the ACHR Procedure, the testing was to be performed using generally accepted practices under the observation of a qualified archaeologist. Prior to conducting this testing, Xcel was to collaborate with PIIC to review, incorporate comments, and finalize the testing protocol to be used. Xcel was to allow representatives of PIIC a reasonable opportunity to observe the performance of the testing subject to those representatives' compliance with site access requirements. In addition, Xcel was to collaborate with the PIIC and provide reasonable opportunity to review and provide comments on the draft report summarizing the results of the testing. In accordance with the ACHR Procedure, Xcel was to propose a ten-day period (from receipt) to allow PIIC the opportunity for review and comment on the testing protocol and draft report.

The PIIC was provided Project construction plans and proposed procedures, its input and comments were requested, and the PIIC was invited to monitor ground disturbing activities associated with the Project. The PIIC declined to provide input and to provide a monitor. A draft report was sent to the PIIC for review and comment; PIIC representatives responded that they had no comments.



## **1.4 Survey Summary**

A Phase I archaeological survey of the 0.9-acre Project Area was conducted April 15, 2024, by Merjent archaeologist Aaron Armstrong-Duarte, who also served as Principal Investigator. No cultural resources were located during the survey. Based on this Phase I archaeological survey, Merjent recommends that no historic properties will be affected by the proposed Project. No further archaeological work is recommended for the Project as planned.

Merjent applied industry best practices and adhered to the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* (Title 48 Code of Federal Regulations [CFR] Part 44716), the *State Historic Preservation Office (SHPO) Manual for Archaeological Projects in Minnesota* (Anfinson 2005), and the *State Archaeologist's Manual for Archaeological Projects in Minnesota* (Anfinson 2011). Merjent completed an archival review for the Project in July 2023. There are no previously inventoried architectural structures, archaeological sites, or cemeteries in the Project Area. There are no previously inventoried architectural structures within a 1.0-mile radius of the Project Area (Study Area). There are 20 previously-inventoried archaeological sites within the Study Area, and two historic cemeteries in the Study Area (see Figure 1 in Appendix A).

## **2.0 ENVIRONMENTAL CONTEXT**

As defined by the Ecological Classification System developed by the Minnesota Department of Natural Resources (MnDNR) and U.S. Forest Service, the Project is in the Blufflands Subsection of the Eastern Broadleaf Forest Province (MnDNR 2024a). The subsection is small compared to other subsections and continues into Wisconsin. The western boundary of the subsection is complex, following major river valleys. The northern boundary marks the northern extent of loess deposits. There is also a small outwash plain that marks the northern boundary. This subsection consists of an old plateau covered by loess (windblown silt) that has been extensively eroded along rivers and streams. It is characterized by highly dissected landscapes associated with major rivers in southeastern Minnesota. Bluffs and deep stream valleys (500 to 600 feet deep) are common. River bottom forests grew along major streams and rivers but many of the forests began to be cut down beginning in the nineteenth century (MnDNR 2024a).

### **2.1 HYDROLOGY**

There are no lakes in the Blufflands Subsection. The drainage network is well developed and dendritic in pattern and extent. Major rivers include the Mississippi (which forms the eastern boundary), Root, Whitewater, Zumbro, and Canon. There are numerous coldwater trout streams throughout the subsection. The Prehistoric Hydrography (MM4) layer on the Minnesota Office of the State Archaeologist (OSA) Portal depicts the Project Area as floodplain buffered by wetlands (OSA 2024a) and the Historic Lakes and Rivers (MM4) layer on the OSA Portal depicts the Project Area buffered by riverways that are in the present course of the Mississippi River. The Project Area is on an island and is drained to the west and southwest by the Vermillion River, and to the east and southeast by the Mississippi River.

### **2.2 GEOLOGY**

The Blufflands Subsection was not glaciated during the Late Wisconsin Ice Age. Depth of drift over bedrock varies from 0 to 50 feet within the subsection. Bedrock is exposed in river and stream valleys. In general, sediment thickness varies by landscape position and large exposures of bedrock occur in the steep ravines. These exposures are primarily Ordovician dolomite,

limestone, and sandstone with Cambrian sandstone, shale, and dolomite exposed along the valley walls of the Mississippi River. Devonian dolomite and limestone are more locally exposed along the western edge of the subsection. (MnDNR 2024b; Morey et al. 1981). There is no exposed bedrock in the Project Area.

**2.3 SOILS**

Within the Blufflands Subsection, loess thickness is variable; loess deposits range from 30 feet thick on broad ridgetops, to less than one foot on valley walls. The predominant soils are Udalfs, with localized Aquents along the floodplains of major rivers (Cummins and Grigal 1981). Cambrian siltstones, sandstones, and shales influence soil properties (MnDNR 2024).

According to Natural Resources Conservation Service (NRCS) soils data, there is one soil type within the Project Area (NCRS 2024; see Table 2.3-1 below). Sparta soils are Mollisols, which form on stable landforms and are typically associated with grassland ecosystems, exhibit depth and are well drained; therefore, there is potential to encounter intact archaeological deposits. Although there is potential to encounter archaeological deposits within these soils, Holliday (2004) states that soil series mapped by the NRCS potentially provide clues but should be recognized as having considerable limitations in archaeological applications.

TABLE 2.3-1				
Soil Types Present in the Project Area				
Soil Type	Soil Profile	Landform Position	Acres of Project Area	Percent of Project Area
Sparta loamy sand, 0 to 6 percent slopes	Ap-AB-Bw1-Bw2-Bt	Stream terraces in river valleys, outwash terraces, outwash plains, and dune fields	0.9	100%

**2.4 VEGETATION AND LAND USE**

Prior to Euro-American settlement, tallgrass prairie and bur oak savanna were major vegetation types on ridge tops and dry upper slopes within the Blufflands Subsection. Red oak-white oak-shagbark hickory-basswood forests were present on moister slopes, and red oak-basswood-black walnut forests in protected valleys. Prairie was restricted primarily to broader ridge tops, where fires could spread, but also occurred on steep, south or southwest facing slopes (MnDNR 2024).

After Euro-American settlement, much of the forest and tallgrass prairie land was cleared or converted to agriculture. Today, about thirty percent of the subsection is cropland, twenty percent is in pasture, and fifty percent is in woodland. Species characteristic of oak openings and barrens are present and abundant in some areas of the subsection (based on herbarium collections), although most remaining areas of openings and barrens are small (MnDNR 2024).

**2.5 CULTURE HISTORY**

The Project Area is within Minnesota Archaeological Region 3, the Southeast Riverine Region. Most of southeastern Minnesota is in this region, which includes Dodge, Fillmore, Goodhue, Houston, Mower, Olmsted, Wabasha, and Winona counties, and portions of Dakota, Freeborn, Rice, and Waseca counties. The region continues into the adjacent corners of Wisconsin and Iowa. (Gibbon et al. 2002).

### **2.5.1 Pre-European Contact Period (10,900 BCE–1650 CE)**

The first inhabitants of Minnesota are known as Paleoindians (10,900 to 7,500 years Before the Common Era [BCE]). These people were highly nomadic hunter-gatherers, moving in small bands in search of food and other subsistence resources; however, in the late Glacial and early Holocene forests of Minnesota, Paleoindians likely relied more on gathering and the hunting of a variety of smaller animals. Paleoindian sites are small, relatively ephemeral, and commonly identified with the recovery of distinctive spear points that occur across much of North America (Gibbon et al. 2002).

The Paleoindian peoples were followed by Archaic Tradition hunter-gatherers. At the end of the Ice Age, around 10,000 years BCE, the climate became warmer and drier, which led to major changes in plant and animal communities. Spruce forests followed the retreating glacial ice northward and were replaced by a new landscape comprised of extensive lakes and rivers. Many large-game species became extinct. Archaic Tradition hunters-gatherers (7,500 to 500 BCE) adapted to this new environment, shifting their focus to smaller game such as deer and elk, the abundant fish and shellfish in the numerous lakes and rivers, and wild plants such as nuts and berries (Gibbon et al. 2002).

The Archaic peoples appear to have been less nomadic than the Paleoindians and lived in smaller household groups. Archaic sites are identified by large notched and stemmed projectile points. Immense sedimentation during the early part of the Archaic, corresponding with the early and middle Holocene periods, resulted in many Archaic Tradition sites being deeply buried under river valley deposits; therefore, these sites are not usually evident in surficial contexts (Gibbon et al. 2002).

The Woodland Tradition followed the Archaic Tradition. In Minnesota, the Woodland culture is separated into two periods: the earlier Initial Woodland period (circa 500 BCE to 500 years into the Common Era [CE]), and the later Terminal Woodland period (500 to 1650 CE) (Gibbon et al. 2002).

The frequent surficial expression of Woodland site locations, coupled with burial mounds that frequently mark their place, has resulted in more frequent documentation and excavation of Woodland sites. Due to this higher frequency of identification, many Woodland sites have also been grouped into specific regional archaeological cultures (Gibbon et al. 2002; Gibbon 2012).

The Initial Woodland period is primarily marked by the emergence of precontact ceramic traditions and burial mounds. Regional archaeological cultures of the Initial Woodland period include Howard Lake, Malmo, Elk Lake, and Laurel (Gibbon et al. 2002; Gibbon 2012).

The Terminal Woodland period has been defined throughout eastern and central Minnesota, the Red River Valley, and portions of the Dakotas (Gibbon 2012). During this period, populations began to increase, which in turn led to an increase in size and number of precontact sites. Burial mounds became more prevalent and the cultural material artifacts began shifting to smaller, unnotched triangular projectile points and thinner ceramic vessels that were more globular in shape. Agriculture and wild rice harvests also increased (Gibbon et al. 2002; Gibbon 2012).

In the northern portion of the state, ceramic types and burial practices indicate specific regional archaeological cultures, including Kathio, Blackduck, and Psinomani. In the southern portion of the state, primarily comprised of deciduous forests and prairie, some cultures adopted the cultivation of maize and the construction of effigy burial mounds (Gibbon et al. 2002; Gibbon

2012). By the end of the Initial Woodland, maize horticulture had spread to the northern portion of the state (Boyd and Surette 2010)

Around approximately 1000 CE, Mississippian populations from Cahokia, near St. Louis, Missouri, began to extend their influence northward into the Upper Mississippi River Valley and evidence suggests that there were attempts at colonization. Archaeologists tend to regard some southern Minnesota Terminal Woodland cultures as the northern expression of a “Mississippian” lifeway, distinguished by distinctive ceramic styles, larger and more diverse artifact assemblages, and evidence of maize production. In southern Minnesota, three Mississippian complexes have been identified: Silvernale, Oneota, and Plains Village (Gibbon et al. 2002). It was the Mississippian peoples in the south, and the Terminal Woodland peoples in the north, who had contact with the first Europeans to explore Minnesota in the mid-seventeenth century (Gibbon et al. 2002; Gibbon 2012).

### **2.5.2 Contact Period (1650–1837 CE)**

The Contact Period includes American Indian and Euro-American contexts. The OSA subdivides the American Indian context into “Indeterminate” or “Eastern Dakota,” and the Euro-American context into “Indeterminate,” “French,” “British,” and “Initial U.S.” (Gibbon 2012). This section focusses on developing a cultural context and temporal framework for sites relevant to the Project.

Because the Project occurs on traditional Dakota lands, a brief description of the Dakota is warranted. DeMallie (2001) states that Dakota and Lakota (also known as Sioux) tribes share common language, history, social organization, and culture. They were first mentioned in 1640 (Thwaites 1898) and at that time occupied the area between Mille Lacs and the Missouri River and south into central Iowa. Three divisions were distinguished by the early nineteenth century, the Santee, Yankton and Yanktonai (Dakota), and Teton (Lakota), which mirrored geographical, linguistic, and cultural distinctions. Following government administrators, anthropologists grouped all three divisions under the designation “Dakota” (e.g., Dorsey 1897; Deloria 1944; Holder 1970). Researchers tend to minimize the use of the term “Sioux” for two reasons: 1) it had a foreign origin in an Ojibwa ethnonym and 2) it was said to mean “snake” and therefore has pejorative connotations (DeMallie 2001).

Oral histories and various linguistic reconstructions are similar regarding the origins of the tribe. Linguistic studies place the Proto-Dakota west of Lake Michigan in southern Wisconsin, southeastern Minnesota, northwestern Iowa, and northern Illinois (Munson 1975). Dakota traditions recorded by Nicollet in 1839 indicate an origin near the northern lakes east of the Mississippi prior to moving westward—initially by the Teton, then the Yankton and Yanktonai, and lastly the Santee (DeMallie 1976). A tradition of the Mdewakanton group of Santee states that their ancestors left the lakes around the headwaters of the upper Mississippi and moved to the region of the Minnesota River because bison were more plentiful (Commissioner of Indian Affairs 1849). Oral traditions also state that the Assiniboine split off from a band of Yanktonai (Riggs 1893).

Conventional archaeological methods are unable to answer questions regarding Dakota origins at this time. Generally, sites identified with the precontact Dakota on the northeastern fringe of the plains are lumped into the Woodland Tradition in Minnesota, as are early contact sites (Eggen 1952; Winchell 1911).

In the heavily forested regions within Dakota territory, deer were the principal game; however, the plains Dakota made their livelihood hunting bison (DeMallie 2001). In the mid-seventeenth

century, the eastern Dakota groups hunted bison in the grassland-forest savannah east of the Mississippi River. War with other groups, notably the Illinois, Fox, and other Central Algonquian tribes, all of whom had access to guns and who hunted bison, likely caused the Dakota to hunt west of the Mississippi River. Also, by the mid-seventeenth century, the Ojibwe began to move west from Sault Sainte Marie to regions they inhabited at the time of Euro-American contact. Initially the Dakota and Ojibwe warred, but eventually came to peaceful terms (for the most part) and the Dakota allowed the Ojibwe to hunt in their territory and act as middlemen in trade with the French (DeMallie 2001).

By the early eighteenth century, traders had built several posts and forts within Dakota territory, including one at Duluth and Fort l'Huillier on the Blue Earth River, a tributary of the Minnesota River (DeMallie 2001). The fort on the Blue Earth River was seen as an unwelcome incursion into the territory of the eastern Dakota and they retaliated by robbing two French traders and firing on the post. The western Dakota groups denied any responsibility, which demonstrates the autonomy between villages. Fort l'Huillier was abandoned in 1702, and the Dakota lacked direct contact with the French for the next 20 years (DeMallie, 2001).

During this time, the Dakota depended on Fox and Ojibwe as intermediaries for trade. First in 1714 and again in 1721, the Fox made peace with the Dakota, not only for trade purposes, but also as an alliance against the Ojibwe who were expanding southwest from Lake Superior (Edmunds and Peyser 1993). The French negotiated a peace agreement between the Ojibwe and Dakota with the result of undermining the alliance between the Dakota and Fox, although with the unintended result of also undermining the peace between the Fox and the Ojibwe due to the opening of direct trade (Hickerson 1962).

In the 1730s, Pierra Gaultier de Varennes sieur de la Verendrye financed his search for the western sea by trading with the Native Americans and built posts west and north of Lake Superior. La Verendrye allied himself with the Ojibwe and Cree and, in 1734, his eldest son accompanied a Cree war party against the Dakota (DeMallie 2001). This action precipitated hostilities by the Dakota against the French. By 1736, several Frenchmen, including le Verendrye's youngest son, a Jesuit missionary, and 20 voyageurs were killed, scalped, and decapitated, with their heads placed on beaver skins (Thwaites 1898).

Also, by 1736, most of the Dakota lived west of the Mississippi River. That year, the number of Dakota living east of the Mississippi was 300, compared with 2,000 Dakota on the prairies (Thwaites 1898). Although warfare with the Ojibwe had forced the Dakota to abandon their villages around Leech Lake and Mille Lacs, this did not result in an end to hostilities. While Ojibwe traditions recount many victories against the Dakota, most of the Dakota had already located to the Mississippi and Minnesota River valleys due to the availability of bison and the advantages of trade with the French (DeMallie 2001). A 1697 map, with additions in 1699 and 1702, depicts 22 Dakota villages in the upper Mississippi River region (DeMallie 2001).

The Dakota of the east lived in small, scattered villages, each of which was composed of five or six families (Radisson 1961). In addition to these small villages, there were larger ones that they returned to annually, which housed up to 7,000 people (Radisson 1961). Radisson (1961) describes some of the lodges as being covered with mats and some with skins and says lodges were rounded and constructed with long poles. Other accounts indicate that the Dakota of the west lived in tipis that they carried with them whenever they relocated (Neill 1890). There is no mention of Dakota use of dogs or horses during this period.

When the Dakota returned to their villages in the spring, they used cache pits to contain surplus wild rice. Radisson (1961) writes that they sowed maize, but that the harvest was small. The wild rice afforded them nourishment throughout the year. Conversely, the Jesuit Relations mention in 1642 that the Dakota harvested corn, but in 1670 to 1672 it was stated that they did not till land (Thwaites 1898). During the summer, the Dakota gathered for communal bison hunts, which were extremely important since these hunts provided hides and surplus meat to be dried for winter use (De Mallie 2001). Hennepin (1903) reported that sometimes 100 to 120 bison were killed in a single hunt. Because a single hunter or small group could frighten the bison herd away, hunts were strictly controlled by the chiefs for the communal good. Anyone who hunted before the bison were surrounded was liable for punishment by specially appointed police. Hennepin (1903) described these police as carrying clubs, overturning lodges of offenders, and confiscating their food.

Following the communal bison hunt, the eastern Dakota would return to their villages in the lake county for the wild rice harvest season, part of which, as noted above, was stored in underground cache pits (Radisson 1961; Hennepin 1903). Corn and various other roots, fruits, and berries were gathered and eaten while fresh (Radisson 1961). Le Sueur provided additional detail in that the western Dakota hunted extensively, utilizing the prairies between the upper Mississippi and the Missouri Rivers where canoes were not needed. They practiced no horticulture, did not gather wild rice, and had no fixed villages. All their travel was by foot (Wedel 1974).

DeMallie (2001) writes that the Dakota placed their dead either on scaffolds or buried them in the ground. Oftentimes the bones from the scaffold burial were collected, re-buried in the ground, and surrounded by a ring of stones. DeMallie (2001) also reports that occasionally the bones of the dead were preserved, honored, and carried on war expeditions.

The first mention of the Dakota of the west was in 1679 to 1680. Hennepin (1903) was told by the Dakota of the east that 50 to 75 miles above present-day Minneapolis lived the Nations Tintonha (Inhabitants of the Meadows).

By the late seventeenth and eighteenth centuries, the image that develops from the literature regarding the Dakota is one of small village groups bonded by common language and customs (DeMallie 2001). Dakota villages were bands that traveled around independently of each other and the dispersion of the Dakota of the east into many small villages likely related to the need for each group to use the resources of the area most efficiently, particularly the wild rice.

Gates (1965) states that the Dakota had acquired numerous horses by 1774 and used them for both transportation and pack horses. The acquisition of the horse was an integral innovation that fit into the nomadic bison-hunting economy and intensified earlier subsistence patterns (Wissler 1914). Additionally, the Dakota developed cultural traits that ultimately became central to Plains culture, including the intertribal pipe adoption ceremony and the Sun Dance (Parks 1993).

Following the acquisition of the horse, the westward expansion of the Dakota continued in the early 1800s. The Teton, allied with the Cheyenne and Arapaho, pressed westward, driving the Kiowa and the Crow from the Black Hills area and claiming it as their own (DeMallie 1980). This was the period in which the classic western Dakota culture developed.

After the Louisiana Purchase in 1803 by the United States, the establishment of formal relations with the tribes became integral to the government's need to explore and exploit the new territory. During their trip up the Missouri River, Lewis and Clark met with the Yankton, Yanktonai, and Teton tribes and presented peace medals and U.S. flags to their chiefs, affirming their status and

power (DeMallie 2001). In 1805, Lieutenant Zebulon M. Pike traveled up the Mississippi and signed the first treaty with the Dakota. Under the terms of the treaty, the Mdewakanton ceded to the United States two areas of land near the Mississippi River for the construction of military posts, one of which was at the confluence of the Minnesota and Mississippi Rivers where Fort Saint Anthony (later Fort Snelling) was built in 1819.

The Dakota were divided during the War of 1812 with the eastern Dakota siding with the British and the western Dakota siding with the United States. After the war concluded, in 1815, representatives of several tribes were invited to Portage des Sioux where they signed treaties of peace and friendship with the United States. These treaties were noteworthy in that they specified that the Native American signers acknowledged themselves and their tribes to be under the sole protection of the U.S. government—the first extension of federal authority over the Dakota (Kappler 1904–1941).

An 1825 military expedition led by General Henry Atkinson and Indian Agent Benjamin O’Fallon up the Missouri River signed four more treaties with the Yankton, Yanktonai, and Teton (Kappler 1904–1941). These treaties specified that the Dakota acknowledged living within the United States, recognized its supremacy, and claimed its protection. The treaties also gave the United States the right to regulate all trade and intercourse with the Dakota.

Other treaties had more focused purposes. The 1830 treaty jointly signed by the Santee, Yankton, Sauk, Fox, Omaha, Iowa, Otoe, and Missouri tribes at Prairie du Chien (Kappler 1904–1941) ostensibly was to end intertribal warfare. In actuality, the Dakota, Sauk, and Fox surrendered two 20-mile-wide strips of land separating their territories from each other. Also significant, this treaty was the first stating that the Dakota were to obtain annuities from the United States payable over a 10-year period in money or goods. Other similar treaties followed in 1836 and 1837, further eroding Santee and Yankton lands with the promise of annuities (Kappler 1904–1941). The non-deliverance of the annuities, resulting in the starvation of the Dakota and confinement to small reservations, led directly to the 1862 Dakota War.

### **2.5.3 Note on Middle to Late Holocene Subsistence**

Middle to late Holocene period subsistence resources of the Blufflands Subsection would have included white-tailed deer throughout the region, small herds of bison and elk, as well as beaver, and bear. Fish and waterfowl would have been plentiful. Wild edible plants were extensive throughout most of the region. Acorns would have been an abundant food resource (Gibbon et al. 2002).

### **2.5.4 The Prairie Island Indian Community and the Prairie Island Nuclear Generating Plant**

The PIIC is a federally recognized Indian tribe organized under the Indian Reorganization Act of 1934. PIIC members are Mdewakanton Dakota and their reservation is at the confluence of the Vermillion and Mississippi Rivers on Prairie Island. The Mdewakanton have lived on Prairie Island for generations. In 1973, the PINGP began operation. Prior to that, the federal government authorized construction of the PINGP and appropriated PIIC land for construction of the plant. The PINGP is located immediately adjacent to the PIIC (PIIC 2024).

## **3.0 LITERATURE SEARCH RESULTS**

Merjent conducted a literature review of Minnesota SHPO and OSA files in July of 2023. A Phase Ia literature review was submitted to SHPO on July 13, 2023. SHPO provided comment on the

Phase Ia in a letter dated September 6, 2023, and assigned the Project SHPO number 2023-2323. The literature search focused on previously inventoried architectural structures, archaeological sites, and cemeteries within the Study Area. An in-person visit to SHPO to review previous surveys was conducted in March 2024. In March and April 2024, Merjent reviewed other archival resources, including General Land Office (GLO) maps, historical county atlases, and historical aerial imagery, to identify potential cultural features in the Study Area. In addition, the State Historic Sites Network, State Register of Historic Places, and National Historic Landmarks databases were queried; there were no resources identified that pertain to these databases.

As the original literature review was conducted in July 2023, SHPO and OSA files were again reviewed via the Minnesota Statewide Historic Inventory Portal and the OSA Portal to confirm if there had been any cultural resources added to the Study Area since the July 2023 literature review. Four additional resources were identified within the Study Area but had not been included in the Phase Ia literature review: two cemeteries (Minnesota Cemetery Identification [MNCEMID] Numbers 20711 and 20762), GD-RWC-0279 (a geographic feature of cultural and historical significance), and XX-RRD-CSP044 (a railroad corridor historic district).

**3.1 PREVIOUSLY RECORDED CULTURAL RESOURCES**

**3.1.1 Archaeological Sites**

Merjent identified 20 previously recorded archaeological sites within the Study Area (see Figure 1 in Appendix A and Table 3.1.1-1 below). None of the 20 archaeological sites intersect the Project Area. One site (21GD0002) is listed on the National Register of Historic Places (NRHP), and one site has been determined eligible by SHPO for NRHP listing.

TABLE 3.1.1-1				
Previously Recorded Archaeological Sites within the Study Area				
Site Number	Description	Miles From Project Area		SHPO NRHP Status
			Location	
21GDI	Burial mounds	0.43		Unevaluated
21GD0001	Burial mounds	0.71		Unevaluated
21GD0002	Precontact village	0.41		Listed
21GD0058/61	Burial mounds	0.26		Unevaluated
21GD0059	Burial mounds	0.26		Unevaluated
21GD0060	Burial mounds	0.58		Unevaluated
21GD0062	Burial mound	0.28		Unevaluated
21GD0063	Burial mound	0.90		Unevaluated
21GD0064	Burial mound	0.69		Unevaluated
21GD0075	Burial mounds	0.84		Unevaluated
21GD0088	Trading post	0.65		Unevaluated
21GD0148	Precontact village	0.43		Determined eligible
21GD0149	Burial mound	0.48		Unevaluated
21GD0207	Precontact artifact scatter	0.36		Unevaluated
21GD0251	Precontact village	0.99		Unevaluated
21GD0277	Burial mound	0.35		Unevaluated
21GD0278	Farmstead	0.34		Unevaluated
21GD0279	Farmstead	0.31		Unevaluated
21GD0280	Precontact village	0.30		Unevaluated
21GD0281	Family Cemetery	0.45		Unevaluated



**3.1.2 Historic Architectural Structures**

There are two previously documented historic architectural structures within the Study Area (see Figure 1 in Appendix A and Table 3.1.2-1 below). Structure XX-RRD-CSP044 is a railroad corridor historic district that intersects the southwestern edge of the Study Area and does not intersect the Project Area. It has been determined by SHPO to be eligible for listing on the NRHP. Site GD-RWC-00279 is a geographic feature of cultural and historical significance that intersects the Project Area. It is defined as nearly the whole of Prairie Island and is unevaluated for listing on the NRHP.

TABLE 3.1.2-1			
Previously Recorded Architectural Historic Structures within the Study Area			
Structure Number	Structure Name	Structure Type	SHPO NRHP Status
XX-RRD-CSP044	St. Paul and Chicago Railway Company/Chicago Milwaukee and St. Paul Railway Company/Chicago Milwaukee St. Paul and Pacific Railroad Company, River Division Railroad Corridor Historic District	Railroad corridor	Determined eligible
GD-RWC-00279	Prairie Island	Geographic feature of cultural and historical significance	Unevaluated

**3.1.3 Previously Conducted Archaeological Surveys**

Merjent identified eight previously conducted surveys within the Study Area (See Figure 1 in Appendix A and Table 3.1.3-1 below). Three of these previous surveys intersect the Project Area. Johnson (1960–69) discovered nine archaeological sites, but none were found in the Project Area. GD-2010-03 discovered 13 archaeological sites, but none were found in the Project Area. Westwood 2010 and 2014 did not discover any archaeological sites.

TABLE 3.1.3-1			
Previously Conducted Archaeological Surveys within the Study Area			
Project Number	Title	Author(s)	Year
Wilford 1948–57	Lloyd A. Wilford survey and excavation of Prairie Island, including excavation of the Bartron Site in 1948; Manuscripts on file, University of Minnesota archaeology collection, Minnesota Historical Society, St. Paul.	Wilford	1948–57
Johnson 1960–69*	Elden Johnson survey of Prairie Island, excavation of several sites; Field notes on file at Minnesota Historical Society, St. Paul; Assignment of site numbers to nine sites	Johnson	1960–69
Johnson et al. 1969	Excavation of the Birch Lake Mound Group (21GD0058/61)	Johnson et al.	1969
Johnson 1980	Phase I survey of cooling tower location; discovery of 21GD0148 and 21GD0207; Manuscript on file, University of Minnesota archaeology collection	Johnson	1980
GD-2006-01	Phase I Archaeological Survey of the Proposed Sturgeon Lake Overpass, Goodhue County, Minnesota	Justin	2006
GD-2010-03*	A Limited Archaeological Reconnaissance Survey of the Grounds of the Prairie Island Nuclear Generating Plant, Red Wing, Goodhue County, Minnesota	Boden et al.	2010
Westwood 2010	Phase I Archaeological Reconnaissance Survey Report for the Proposed Upgrades to the Independent Spent Fuel Storage Installation at Xcel Energy Prairie Island Nuclear Generating Plant, Goodhue County, Minnesota; Report on file, PINGP	Sather	2010
Westwood 2014	Phase I Archaeological Investigations: Proposed Expansion of the Independent Spent Fuel Storage Installation and Associated Infrastructure,	Gronhke and Gronhovd	2014

Prairie Island Nuclear Generating Plant, Goodhue County, Minnesota; Report on file, PINGP
* Intersects Project

**3.1.4 Historical Cemeteries**

Two historical cemeteries (MNCEMID numbers 20711 and 20762/3) occur within the Study Area (see Figure 1 in Appendix A), neither of which intersect the Project Area. Cemetery 20711 is a cemetery of unknown name and its precise location within the SW ¼ of the SW ¼ of Section 4, Township 113 North, and Range 15 West is unknown. An unnamed cemetery is depicted in a 1925 atlas in roughly this location but there is no evidence of a cemetery today. Cemetery 20762/3 has three potential names, Graves, Messiah Episcopal Cemetery, and Church of the Messiah Cemetery. In 1905 the Church of the Messiah church and cemetery relocated to Welch, Minnesota, proximity seven miles away from its former location in the SW ¼ of the NW ¼ of Section 5, Township 113 North, and Range 15 West (Findagrave.com 2024). The maps and atlases reviewed for the Project did not identify a historical or extant cemetery in this locale.

MNCEMID	Name(s)	Miles From Project Area	
		Location	Period
20711	Unknown cemetery	0.35	Euro-American
20762/3	Graves; Messiah Episcopal Cemetery; Church of the Messiah Cemetery	0.36	Euro-American

**3.2 HISTORICAL MAP REVIEW**

To identify historic-period site potential and land use patterns, Merjent reviewed the 1854 GLO survey map and notes for Township 113 North and Range 15 West (see Figure 2 in Appendix A). In addition, historical atlases dating to 1894 (C.M. Foot and Co.), 1925 (A.E. Rhame), and 1954 (Ray Johnson Printing Co.) were reviewed. See Table 3.2-1 below for descriptions of resources in the Study Area.

Map	Landscape Features	Cultural Features
1854 GLO	Prairie Island, Mississippi River, Vermillion River depicted	None
C.M. Foot and Co. 1894	Prairie Island, Mississippi River, Vermillion River depicted	Project Area parcel owned by John Larson; School No. 132 depicted just northeast of the Project Area; farmsteads depicted just north of, southwest of, and southeast of the Project Area; multiple farmsteads and farm fields depicted within the Study Area
A.E. Rhame 1925	Prairie Island, Mississippi River, Vermillion River depicted	Project Area parcel owned by Alfred Larsen; School No. 132 depicted just northeast of the Project Area; farmstead locations not depicted on map; unnamed cemetery depicted to the southeast of Project Area in S4, T113N, R15W
Ray Johnson Printing Co. 1954	Prairie Island, Mississippi River, Vermillion River, Sturgeon Lake, Goose Lake (aka Larson Lake) depicted	Project Area parcel owned by Alvin Lots; School No. 132 depicted just northeast of the Project Area; and farmsteads depicted north of and southeast of the Project Area; multiple farmsteads depicted within the Study Area

**3.3 HISTORICAL AERIAL PHOTOGRAPHS**

Historical aerial photographs provided by the OSA Portal (2024b) and Google Earth Pro (2024) were reviewed for historic-period site potential and land use patterns. Aerial photographs available for each Project Area are listed below in Table 3.3-1.

TABLE 3.3-1 Aerial Photographs Available for the Project		
Photo Year	Landscape Features	Cultural Features
1938	Prairie Island, Mississippi River, Vermillion River, Sturgeon Lake, Larson Lake appear as they do today	The Project and Study Areas are dominated by farm fields and farmsteads; most farmsteads feature multiple structures; sporadic forested areas near drainages and waterways; roadways appear sparse; East Co. Rd. 18 visible
1949	Prairie Island, Mississippi River, Vermillion River, Sturgeon Lake, Larson Lake appear as they do today	The Project and Study Areas are dominated by farm fields and farmsteads; most farmsteads feature multiple structures; sporadic forested areas near drainages and waterways; roadways appear sparse; East Co. Rd. 18 visible
1991	Prairie Island, Mississippi River, Vermillion River, Sturgeon Lake, Larson Lake appear as they do today	Farm fields and farmsteads are no longer present in the Project and Study Areas; The PINGP and Prairie Island Indian Community Dakota Station are present; land not part of the PINGP or Dakota Station is largely forested; roadways appear in their modern alignments

**3.4 IMPLICATIONS FOR SITE POTENTIAL**

The environmental setting, proximity of known cultural resources, and the location of the Project Area near water sources suggests that precontact archaeological resources may be present in the Project Area. However, the likelihood of encountering intact cultural resources within the Project Area is diminished due to modern disturbances. Causes of modern disturbance include sustained agricultural activity (plow zone) and construction of the PINGP and specifically, the ISFSI. Historic-period artifacts and features are possible in the Project Area due to the proximity to historic-period adjacent farmsteads. Conversely, remnants of historical occupation have likely been affected by the same ground-disturbing activities discussed previously, likely hindering the integrity and discovery of potential sites.

**4.0 OBJECTIVES AND FIELD METHODS**

The objective of the Phase I archaeological survey was to identify conventional archaeological sites within the Project Area that are at least 45 years of age. Archaeological resource types considered for this investigation included both precontact and historic-period archaeological sites and burial mounds that could provide information about human occupation. Such sites could be evident in artifacts or features on or below the current ground surfaces. The focus of this field investigation was to identify potentially affected cultural resources within the Project Area.

Throughout all stages of this investigation, Merjent applied industry best practices and adhered to the *Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation* (48 CFR 44716), the *SHPO Manual for Archaeological Projects in Minnesota* (Anfinson 2005), and the *State Archaeologist’s Manual for Archaeological Projects in Minnesota* (Anfinson 2011).

The survey area was based on files provided by Xcel in October 2023. Pedestrian survey was conducted in the Project Area in 15-meter transects. Areas exhibiting obvious disturbance or

inundation were photo documented. Shovel testing was proposed in areas exhibiting less than 25 percent ground surface visibility (GSV) without clear disturbance and with a potential to contain archaeological deposits. The survey was located and recorded using Geographic Information System (GIS) data in conjunction with a Trimble R1 Integrated Global Navigation Satellite System receiver and ESRI Field Maps. Field observations including vegetation, GSV, slope, general topography, and areas of soil disturbance or inundation were described on field forms.

The PINGP has safety and security protocols which limit who can conduct excavation within the confines of the PINGP. Shovel test excavations were conducted by Westinghouse personnel who are employed by PINGP, have been trained, and are authorized to conduct ground disturbing activities within the Project Area. Merjent archaeologist Aaron Armstrong-Duarte conducted the pedestrian survey, observed all shovel test excavations, screened all excavated soils, and photographed and documented the shovel test excavations. In addition, for security reasons, PINGP limited photographs to the immediate Project Area and shovel test excavations. Overview photographs of the larger Project setting were not permitted as the photographs would capture sensitive PINGP infrastructure and pose a security risk.

### **5.0 SURVEY RESULTS**

The field survey was conducted on April 15, 2024, by Merjent archaeologist Aaron Armstrong-Duarte. At the time of survey, no snow was present, and it was relatively warm, though overcast. The entire Project Area was covered in 35 to 48 centimeters (cm) of class 5 gravel (see Photo 5.0-1 below); GSV was zero percent. Nine shovel test excavations were conducted down the center of the Project Area in an east–west alignment (see Figure 3 in Appendix A). The class 5 gravel and the A-horizon soils were removed with a spade shovel; subsoils were excavated with a 30.5 cm bucket auger (see Photo 5.0-2 below). Permitting requirements stipulate that shovel tests within the Project Area must go to the depth of the ISFSI footings, which are proposed to be 183 cm (6 feet) below the surface. All shovel tests were excavated to a minimum depth of 190 cm (see Photo 5.0-3 and Table 5.0-1 below). No paleosols were observed. No cultural resources were discovered during pedestrian survey or shovel test excavations.



**Photo 5.0-1. Overview of Project Area, Facing West.**



**Photo 5.0-2. Westinghouse Personnel Using Bucket Auger.**

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**Photo 5.0-3. Shovel Test Excavation Number 2.**

TABLE 5.0-1						
Shovel Test Excavation Table						
Shovel Test Number	Type	Centimeters Below the Gound Surface	Soil Horizon	Soil Texture	Munsell Hue	Material Culture
1	Spade Shovel	0–35	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	35–67	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	67–130	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	130–198	B	Fine Sand	7.5YR 4/4	
2	Spade Shovel	0–45	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	45–65	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	65–80	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	80–190	B	Fine Sand	7.5YR 4/4	
3	Spade Shovel	0–48	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	48–81	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	81–110	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	110–193	B	Fine Sand	7.5YR 4/4	
4	Spade Shovel	0–37	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	37–66	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	66–91	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	91–190	B	Fine Sand	7.5YR 4/4	
5	Spade Shovel	0–39	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	39–69	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	69–85	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	85–192	B	Fine Sand	7.5YR 4/4	
6	Spade Shovel	0–37	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	37–74	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	74–90	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	90–190	B	Fine Sand	7.5YR 4/4	
7	Spade Shovel	0–35	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	35–64	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	64–100	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	100–195	B	Fine Sand	7.5YR 4/4	
8	Spade Shovel	0–36	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative
	Spade Shovel	36–68	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	68–95	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	95–198	B	Fine Sand	7.5YR 4/4	
9	Spade Shovel	0–35	Class 5 Gravel	Course Gravel	7.5YR 7/6	Negative

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TABLE 5.0-1						
Shovel Test Excavation Table						
Shovel Test Number	Type	Centimeters Below the Gound Surface	Soil Horizon	Soil Texture	Munsell Hue	Material Culture
	Spade Shovel	35–65	A	Loamy Fine Sand	10YR 2/2	
	Bucket Auger	65–95	A/B	Loamy Fine Sand	7.5YR 3/2	
	Bucket Auger	95–191	B	Fine Sand	7.5YR 4/4	

**6.0 SUMMARY AND RECOMMENDATIONS**

An archaeological survey of the Project Area totaling 0.9-acre was completed on April 15, 2024. A literature search conducted prior to fieldwork identified no previously recorded archaeological sites or cemeteries in the Project Area. Architectural historic structure GD-RWC-00279, a geographic feature of cultural and historical significance, that is defined as nearly the whole of Prairie Island, is unevaluated for listing on the NRHP. As Project construction activities do not require a federal permit or approval, GD-RWC-00279 remains unevaluated. No cultural resources were identified during the survey. Merjent recommends a determination that no historic properties will be affected by the proposed Project. No further archaeological work is recommended for the Project as planned.

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**APPENDIX A**

**Figures**

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**[PROTECTED INFORMATION BEGINS**

**PROTECTED INFORMATION ENDS]**