

Environmental Assessment: Blue Lake Energy Storage Project

Human and Environmental Impacts of Constructing and Operating the
135.5 MW Blue Lake Energy Storage Project

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Xcel Energy proposes to construct and operate a battery energy storage system (BESS) with a nominal power rating of up to 135.5 MW alternating current (AC) with approximately 542 megawatt-hours (MWh) of energy capacity on a site of approximately 11.9 acres in the city of Shakopee in Scott County, Minnesota. In addition to battery energy storage enclosures, the facility will also include inverters and transformers, electrical feeder lines, a project substation, one or more stormwater drainage basins, and fencing surrounding the perimeter of the facility. The facility will be connected to the electric grid through a 115 kilovolt gen-tie of less than 500 feet between the project substation and Xcel Energy's adjacent Blue Lake Substation. Xcel Energy must obtain a site permit from the Minnesota Public Utilities Commission before it can construct the proposed project.

Document Availability

This EA and other materials related to this project are available on the Commission project webpage: <https://puc.eip.mn.gov/web/project/16354> and on the state of Minnesota's eDockets system: <https://www.edockets.state.mn.us/documents> (Docket No. 25-214). Printed copies are also available at the Shakopee Public Library.

Project Mailing List

To place your name on the project mailing list contact docketing.puc@state.mn.us or call 651-201-2246 with the docket number (25-214), your name, email address, and mailing address.

Alternative Formats

This document can be made available in alternative formats, that is, large print or audio, by calling (651)296-0406 (voice). Persons with hearing or speech impairment may call using their preferred Telecommunications Relay Service or email consumer.puc@state.mn.us for assistance.

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Acronyms and Abbreviations

Acronym/Abbreviation	Description
AC	alternating current
AIMP	Agricultural Impact Mitigation Plan
ALJ	administrative law judge
applicant	Northern States Power Company d/b/a Xcel Energy
BESS	Battery Energy Storage System
BMP	best management practice
Commission	Public Utilities Commission
CSW Permit	Construction Stormwater Permit
dba	A-weighted sound level recorded in units of decibels
DC	direct current
DNR	Minnesota Department of Natural Resources
DSP	draft site permit
DWSMA	Drinking Water Supply Management Area
EA	environmental assessment
EMF	electromagnetic fields
ESS	Energy Storage System
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
HMA	Hazard Mitigation Analysis
kV	kilovolt
LFP	lithium iron phosphate battery technology
MBS	Minnesota Biological Survey
MDA	Minnesota Department of Agriculture
MDH	Minnesota Department of Health
MW	megawatt
MWh	megawatt hour
mG	milligauss
MnDOT	Minnesota Department of Transportation
MPCA	Minnesota Pollution Control Agency

Acronyms and Definitions

NAC	noise area classification
NMC	nickel manganese cobalt battery technology
NHIS	Natural Heritage Information System
NLEB	Northern Long Eared Bat
project	Blue Lake Energy Storage Project
ROI	region of influence
ROW	right-of-way
SHPO	State Historic Preservation Office
SWPPP	Stormwater Pollution Prevention Plan
USFWS	United States Fish and Wildlife Service
VMP	Vegetation Management Plan
WCA	Wetland Conservation Act
WHPA	Wellhead Protection Area

DEFINITIONS

Several terms used in this document have specific meaning in Minnesota law or regulation. Other terms are defined for clarity.

associated facilities means buildings, equipment, communication instrumentation, or other physical structures that are necessary to the operation of a large electric power generating plant or high voltage transmission line (Minnesota Rule 7850.1000, subpart 3).

construction means any clearing of land, excavation, or other action that would adversely affect the natural environment of the site or route but does not include changes needed for temporary use of sites or routes for nonutility purposes, or uses in securing survey or geological data, including necessary borings to ascertain foundation conditions (Minnesota Statute 216E.01, subdivision 3).

distribution line means power lines that operate below 69 kilovolts.

easement means... A grant of one or more of the property rights by the property owner to and /or for the use by the public, a corporation, or another person or entity

energy storage system means equipment and associated facilities designed with a nameplate capacity of 10,000 kilowatts or more that is capable of storing generated electricity for a period of time and delivering the electricity for use after storage. (Minnesota Statute 216E.01, subdivision 3a).

high voltage transmission line means a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kilovolts or more and is greater than 1,500 feet in length (Minnesota Statute 216E.01, subdivision 4).

Acronyms and Definitions

land control area means the 68 acre area owned by Xcel Energy within which development of the project will take place.

local vicinity means 1,600 feet from the land control area and gen-tie corridor.

mitigation means to avoid, minimize, correct, or compensate for a potential impact.

permanent infrastructure area means the 7.8 acre area where the project's infrastructure will exist for the life of the project. This includes the fenced area surrounding the BESS yard and project substation as well as access roads, the stormwater basin, and the gen-tie line.

power line means a distribution, transmission, or high voltage transmission line.

preliminary development area means the 11.9-acre area within the land control area that will be disturbed during construction. This includes a laydown yard of approximately four (4) acres in the southern portion of the site that will be restored following construction.

project area means one mile from the land control area.

transmission line means power lines that operate at 69 kilovolts and above.

Summary

The Minnesota Public Utilities Commission (Commission) has prepared this environmental assessment(EA) for the Blue Lake Battery Energy Storage Project (project), a battery energy storage system (BESS) with a nominal power rating of up to 135.5 MW alternating current (AC) with approximately 542 megawatt-hours (MWh) of energy capacity on a site of approximately 11.9 acres in the city of Shakopee in Scott County, Minnesota proposed by Xcel Energy. The EA describes the project, highlights resources affected by the project, and discusses potential human and environmental impacts to these resources. It also discusses ways to mitigate potential impacts. These mitigation strategies can become enforceable conditions of the Commission’s site permit.

An EA is not a decision-making document, but rather an information document. The EA is intended to facilitate informed decisions by state agencies, particularly with respect to the goals of the Minnesota Power Plant Siting Act to “minimize adverse human and environmental impacts while insuring continuing electric power system reliability and integrity and ensuring that electric energy needs are met and fulfilled in an orderly and timely fashion”.¹

¹ Minnesota Statutes [216E.02](#), subd. 1.

1 Introduction

Xcel Energy proposes to construct and operate a battery energy storage system (BESS) with a nominal power rating of up to 135.5 MW alternating current (AC) with approximately 542 megawatt-hours (MWh) of energy capacity on a site of approximately 11.9 acres in the city of Shakopee in Scott County, Minnesota. In addition to battery energy storage enclosures, the facility will also include inverters and transformers, electrical feeder lines, a project substation, one or more stormwater drainage basins, and fencing surrounding the perimeter of the facility. The facility will be connected to the electric grid through a 115 kilovolt gen-tie line of less than 500 feet between the project substation and Xcel Energy's adjacent Blue Lake Substation.

Xcel Energy must obtain a site permit from the Minnesota Public Utilities Commission (Commission) before it can construct the proposed Blue Lake Energy Storage project (facility or project).

On June 20, 2025, Xcel Energy submitted a site permit application to the Commission for the Blue Lake Energy Storage Project,² and the Commission found the application to be substantially complete on August 12, 2025.³

Staff from the Commission's Energy Infrastructure Permitting division prepared this environmental assessment (EA) for the proposed project.⁴ The EA describes the project; highlights resources affected by the project and discusses potential human and environmental impacts to these resources. It also discusses ways to mitigate potential impacts. These mitigation strategies can become enforceable conditions of the Commission's site permit.

An EA is not a decision-making document, but rather an information document. The EA is intended to facilitate informed decisions by state agencies, particularly with respect to the goals of the Minnesota Power Plant Siting Act to "minimize adverse human and environmental impacts while

² Xcel Energy, *Application for a Site Permit for the Blue Lake Energy Storage Project*, June 20, 2025, 2024, eDockets Numbers [20256-220093-02](#), [20256-220093-03](#), [20256-220093-04](#), [20256-220093-05](#), [20256-220093-06](#), [20256-220093-07](#), [20256-220093-08](#), [20256-220093-09](#), [20256-220093-11](#), [20256-220093-12](#), [20256-220093-13](#), [20256-220093-14](#), 20256-220093-15 (Trade Secret), [20258-222516-01](#), and [20258-222516-03](#) [herein after Site Permit Application or SPA].

³ Commission, *Order Accepting Xcel Energy's Site Permit Application as Substantially Complete*, August 12, 2025, eDocket No. [20258-221987-01](#)

⁴ On July 1, 2025, Department of Commerce Energy Environmental Review and Analysis (DOC EERA) unit staff moved to the Minnesota Public Utilities Commission Energy Infrastructure Permitting (PUC EIP) unit as directed by state law (Laws of Minn. 2024, ch.126, art. 7) and in response to permitting reform under Minnesota Statute 216I (2024). The review of the Blue Lake Energy Storage application began under and will continue under Minnesota Statute 216E (2023). While DOC EERA staff initiated environmental review of this proposal prior to July 1, 2025, the environmental review is now being completed by PUC EIP staff. For accuracy related to procedural history, reference to previous filings and actions by Commerce/EERA will be identified as such, and "EIP" will be referenced throughout the remainder of this document.

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insuring continuing electric power system reliability and integrity and ensuring that electric energy needs are met and fulfilled in an orderly and timely fashion”.⁵

1.1 How is this document organized?

The EA addresses the matters identified in the scoping decision.

This EA is based on the applicant’s site permit application and public scoping comments. It addresses the matters identified in the October 24, 2025, scoping decision ([Appendix A](#))

- **Chapter 1** briefly describes the state of Minnesota’s role; discusses how this EA is organized; and provides a summary of potential impacts and mitigation.
- **Chapter 2** describes the project—design, construction, operation, and decommissioning.
- **Chapter 3** summarizes the regulatory framework, including the site permit process, the environmental review process, other approvals that might be required for the project, and the criteria the Commission uses to make its decisions.
- **Chapter 4** describes the environmental setting; details potential human and environmental impacts from the project; and identifies measures to mitigate adverse impacts. It summarizes the cumulative potential effects of the project and other projects and lists unavoidable impacts and irreversible and irretrievable commitments of resources.
- **Chapter 5** identifies the sources used to prepare the document.

1.2 What does the applicant propose to construct?

Xcel Energy proposes to construct a 135.5 MW BESS and associated facilities on a site of approximately 70 acres in the city of Shakopee in Scott County, Minnesota.

Xcel Energy proposes to construct and operate a BESS with a nominal power rating of up to 135.5 MW alternating current (AC) with approximately 542 MWh of energy capacity on a site of approximately 68 acres in the city of Shakopee in Scott County, Minnesota. Xcel Energy anticipates the project will occupy approximately 12 acres within the 68-acre site. In addition to batteries, racking, and enclosures, the facility will also include inverters, transformers, electrical feeder lines, a project substation, one or more stormwater drainage basins, a Connex trailer to store parts onsite, and fencing surrounding the perimeter of the facility. Xcel Energy does not plan to construct a dedicated operations and maintenance building but will use the project substation and an onsite Connex container to store spare parts.⁶ The facility will be connected to the electric grid through a gen-tie line of less than 500 feet between the project substation and the Xcel Energy’s adjacent Blue Lake Substation.

Xcel Energy indicates that the project will help the company meet a need for approximately 600 MW of additional ESS capacity by 2030 to enable renewable integration and provide grid support. Xcel Energy indicates the project will support Minnesota’s transition to carbon-free by allowing wind and

⁵ Minnesota Statutes [216E.02](#), subd. 1.

⁶ SPA, pp. 27-28

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solar resources to continue producing energy at times when they would otherwise be curtailed due to low demand. In addition to supporting the transition to carbon-free resources, Xcel Energy indicates the project will provide ancillary and reliability services that are necessary for the safe and stable operation of the electrical grid.⁷

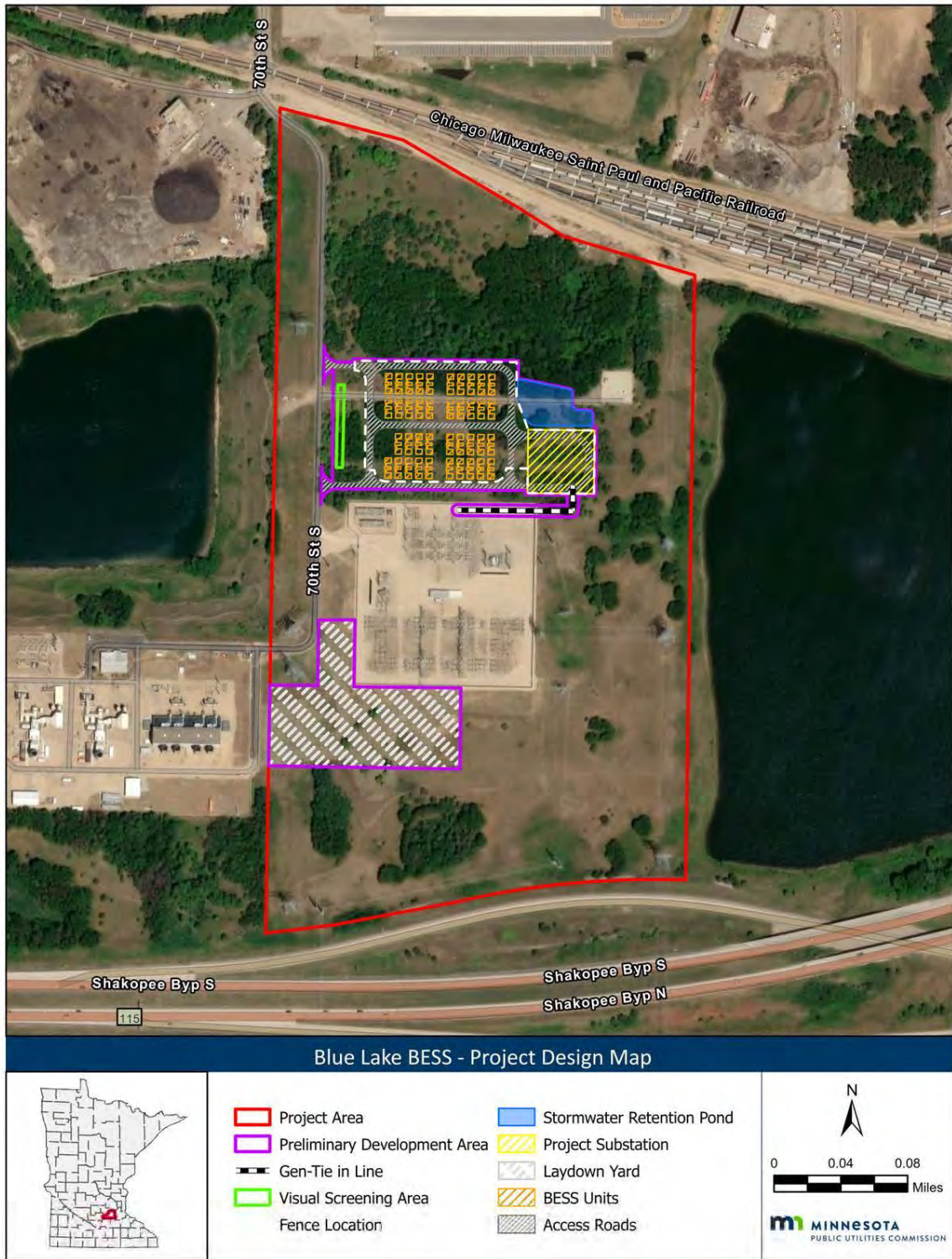
Xcel Energy filed a generator interconnection agreement (GIA) application for the project with the Midcontinent Independent System Operator (MISO) in May 2024 and executed a Generator Interconnection Agreement with the Midcontinent Independent System Operator for the project in October 2025.⁸ Xcel Energy anticipates that construction on the project will begin in early 2026 and be completed in time to begin operating in the second quarter of 2027.⁹

⁷ SPA, pp. 5-6

⁸ SPA, p. 17, **Appendix D**, response to Question 2b.

⁹ SPA, p. 9, **Appendix D**, response to Question 2a

Figure 1. Blue Lake Energy Storage Project



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1.3 What is the state of Minnesota’s role?

The applicant needs a site permit from the Commission to construct the project. Commission Staff prepared this EA. An administrative law judge will oversee a public hearing.

To build the project, the applicant needs a site permit from the Commission. The project may also require additional approvals from other federal and state agencies and local governments, for example, an oversize load permit from the Minnesota Department of Transportation (MnDOT) or Scott County or a Construction Stormwater Permit from the Minnesota Pollution Control Agency (MPCA). A site permit supersedes local zoning, building, and land use rules.¹⁰ The Commission’s site permit decision must be guided, in part, however, by consideration of impacts to local zoning and land use in accordance with the legislative goal to “minimize human settlement and other land use conflicts”.¹¹

Xcel Energy applied to the Commission for a site permit for the project on June 20, 2025.¹² The Commission must consider whether the record supports issuing a site permit, and what conditions should be placed on the site permit.¹³

To ensure a fair and robust airing of the issues, the Minnesota Legislature set out a process for the Commission to follow when considering site permit applications.¹⁴ In this instance, an EA was prepared, and a public hearing will be held. The goal of the EA is to describe potential human and environmental impacts of the project (*the facts*), whereas the intent of the public hearing is to allow interested persons the opportunity to advocate, question, and debate what the Commission should decide about the project (*what the facts mean*). The record developed during this process—including all public input—will be considered by the Commission when it makes its decisions on the applicant’s site permit application.

1.4 What is the public’s role?

Minnesota needs your help to make informed decisions.

During scoping, you told us your concerns about the project so that we could collect the right facts. At the public hearing, which comes next, you can tell us what those facts mean, and if you think we have represented them correctly in this EA. Your help in pulling together the facts and determining what they mean will help the Commission make informed decisions regarding the project.

¹⁰ Minnesota Statutes [216E.10](#), subd. 1.

¹¹ Minnesota Statutes [216E.03](#), subd. 7.

¹² Xcel Energy, *Application for a Site Permit for the Blue Lake Energy Storage Project*, June 20, 2025, 2024, eDockets Numbers [20256-220093-02](#), [20256-220093-03](#), [20256-220093-04](#), [20256-220093-05](#), [20256-220093-06](#), [20256-220093-07](#), [20256-220093-08](#), [20256-220093-09](#), [20256-220093-11](#), [20256-220093-12](#), [20256-220093-13](#), [20256-220093-14](#), 20256-220093-15 (Trade Secret), [20258-222516-01](#), and [20258-222516-03](#)

¹³ If the Commission grants a site or route permit, it chooses which of the studied locations is most appropriate. In this matter only one site location is studied

¹⁴ See generally Minnesota Statute [216E](#).

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1.5 What is an Environmental Assessment?

This document is an Environmental Assessment. The Commission will use the information in this document to inform their decisions about issuing a site permit for the project.

This EA contains an overview of affected resources and discusses potential human and environmental impacts and mitigation measures. The Commission's Energy Infrastructure Permitting staff prepared this document as part of the environmental review process. Scoping is the first step in the process. It provides opportunities to provide comments on the content of this environmental assessment, suggest alternatives, and to mitigate potential impacts.

1.6 Where do I get more information?

For additional information don't hesitate to contact Commission or Commerce staff.

If you would like more information or if you have questions, please contact Suzanne Steinhauer, suzanne.steinhauer@state.mn.us, 651-201-2253 or Jacques Harvieux, jacques.harvieux@state.mn.us, 651-201-2233 at the Commission.

Information about the project, including the site permit application, notices, and public comments, can be found on eDockets: <https://www.edockets.state.mn.us/documents> by entering "25-214" in the Docket # field and selecting the search button. Information is also available on the Commission's webpage for the project: <https://puc.eip.mn.gov/web/project/16354>.

1.7 What permits are needed?

A site permit, from the Commission is required. Federal, state, and local permits may also be necessary to construct the project.

The project requires a site permit from the Commission because it meets the statutory definition of *energy storage system*, which is equipment and associated facilities designed with a nameplate capacity of 10 MW or more and is capable of storing generated electricity for a period of time and delivering the electricity for use after storage.¹⁵

Various federal, state, and local approvals will be required for activities related to the construction and operation of the project. These permits are referred to as "downstream permits" and must be obtained by the applicant prior to constructing the project.

1.8 What are the potential impacts of the project?

The project will impact human and environmental resources. Impacts will occur during construction and operation.

A potential impact is the anticipated change to an existing condition caused directly or indirectly by the project. Potential impacts can be positive or negative, short- or long-term, and can accumulate incrementally. Impacts vary in duration and size, by resource, and across locations. The impacts of

¹⁵ Minn. Stat. 216E.01, subd. 3a

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constructing and operating a project can be mitigated by avoiding, minimizing, or compensating for the adverse effects and environmental impacts of a project.

The context of an impact—in combination with its anticipated on-the-ground effect and mitigation measures—is used to determine an impact intensity level, which can range from highly beneficial to highly harmful. Impacts are grouped: human settlement, human health and safety, land-based economies, archeological and historic resources, and natural resources.

Select resource topics received abbreviated study because they were deemed to be of minor importance to the Commission’s site permit decision. Potential impacts are anticipated to be negligible for displacement, communication, agriculture, forestry, and mining.

1.8.1 Human Settlement

Large energy projects can impact human settlement. Impacts range from short-term, such as increased local expenditures during construction, to long-term, such as changes to viewsheds.

Aesthetics: The project will introduce new manmade structures into the existing landscape. Portions of the project, particularly the gen-tie structures, may be visible from local roads, US Highway 169, Quarry Lake Park, and nearby residences. Because of the project’s location in an industrial area and the existing electrical infrastructure surrounding the project the impact intensity level is expected to be minimal. Impacts will be short- and long-term and localized. Potential impacts are unavoidable but can be mitigated in part.

Noise: Noise impacts during construction will range from negligible to significant depending on the activity, potential construction impacts are anticipated to be intermittent and short-term. Impacts are unavoidable but can be minimized. These localized impacts may affect nearby residences and businesses and might exceed state noise standards. Once operational, noise impacts are anticipated to be negligible for nearby residents, as the project-related noise is less than the existing background noise. Noise impacts from operation of the facility can be minimized.

Cultural Values: Because of the project’s location in an industrial area and its relatively small size, development of the project will not change the character of the area. Construction and operation of the project is not anticipated to impact or alter the work and leisure pursuits of residents in the project area in such a way as to impact the underlying culture of the area.

Land Use and Zoning: Land use impacts are anticipated to be long-term and localized. Although energy storage systems are not specifically addressed in local planning documents or zoning codes, the proposed facility is generally consistent with local land use ordinances and the City of Shakopee’s Comprehensive Plan. After the project’s useful life, the land control area could be restored to other planned land uses by implementing appropriate restoration measures. Impacts can be minimized.

Property Values. Impacts to property values within the local vicinity could occur; however, changes to a specific property’s value are difficult to determine. Because of the project’s location in an industrial area and the separation from residential areas, impacts to specific properties are expected to be negligible to minimal.

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Transportation and Public Services: Potential impacts to the electrical grid, roads and other utilities are anticipated to be short-term, intermittent, and localized during construction. Impacts to existing wells, septic systems, and railroads are not expected to occur. Construction of the project will require relocation of the access road to the Magellan pipeline valve site, but with proper marking to avoid work near underground utilities direct impacts to existing pipelines are not expected. Impacts to railroads and pipelines are not expected to occur. Overall, construction-related impacts are expected to be minimal, and are associated with possible traffic delays. During operation, negligible traffic increases would occur for maintenance. Impacts are unavoidable but can be minimized.

Socioeconomics: Socioeconomic effects associated with construction will, overall, be short-term and minimal. Impacts from operation will be negligible. Adverse impacts are not anticipated.

Economic Justice: The project is within an environmental justice (EJ) community as defined by Minnesota Statute. However, it is not anticipated to have disproportionately high and adverse human health or environmental effects on low-income, minority, or tribal populations. Potential impacts from construction of the project can be mitigated with a community benefits agreement.

1.8.2 Human Health and Safety

Large energy projects have potential to impact human health and safety. Most concerns are related to the construction phase, although BESS facilities do create additional operational risks.

Electronic and Magnetic Fields (EMF): Impacts to human health from possible exposure to EMFs are not anticipated.

Public Safety and Emergency Services: Like any construction project, there are risks for injuries from falls, equipment and vehicle use, electrical accidents, etc. Public risks involve electrocution. Electrocution risks could also result from unauthorized entry into the fenced area. The main safety hazard of a BESS is battery failure leading to thermal runaway which has the potential to spread to nearby batteries and containers, quickly presenting an emergency. Emergency response to fires or thermal runaway events at BESS facilities require specialized response. Potential impacts from construction are anticipated to be minimal. Potential impacts during operation are anticipated to be moderate to significant. Impacts would be short- and long-term and can be minimized.

1.8.3 Land-based Economies

Large energy projects can impact land-based economies by limiting land use for other purposes.

Tourism and Recreation: The project is adjacent to Quarry Lake Park, which provides a variety of recreational resources. Impacts to the park during construction would primarily be from air quality, water quality from erosion and runoff, and aesthetics to visitors. Impacts to recreational opportunities and tourism are anticipated to be minimal and can be minimized.

1.8.4 Archeological and Historic Resources

The impact intensity level is anticipated to be negligible to minimal. Impacts would be localized. Impacts can be mitigated through siting and an unanticipated discoveries plan.

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1.8.5 Natural Resources

Large energy projects can impact the natural environment. Impacts are dependent upon many factors, such as how the project is designed, constructed, maintained, and decommissioned. Other factors, such as the environmental setting, influence potential impacts. Impacts vary significantly within and across projects.

Air Quality Potential impacts to air quality during construction would be intermittent, localized, short-term, and minimal. Impacts are associated with fugitive dust and exhaust. Impacts can be mitigated. Once operational, the BESS facility will not generate criteria pollutants or carbon dioxide. Negligible fugitive dust and exhaust emissions would occur as part of routine maintenance activities. Impacts are unavoidable and do not affect a unique resource. Impacts can be minimized.

Geology and Groundwater. Impacts to geology are not expected. Impacts to domestic water supplies are not expected. Localized impacts to groundwater resources are not expected.

Soils: Impacts to soils will occur during construction and decommissioning of the project. The impact intensity level is expected to be minimal. Potential negative impacts will occur over both the short- and long-term. Isolated moderate to significant negative impacts associated with high rainfall events could occur. Impacts can be mitigated through use of best management practices (BMPs) for stormwater management.

Surface Water: The impact intensity level is anticipated to be minimal. Direct impacts to surface waters are not expected. Indirect impacts to surface waters might occur. These impacts will be short-term, of a small size, and localized. Impact can be mitigated.

Wetlands: There is one wetland within the site, but the outside of the preliminary development area. Since the project was sited to avoid wetlands, no direct impacts to wetlands are anticipated from the project. With proper construction management practices, indirect impacts to offsite wetlands can be avoided.

Vegetation: The ROI for vegetation is the land control area. The facility will convert the existing herbaceous and forested landcover to a mixture of impermeable surface and perennial vegetation for the life of the project. Potential impacts of the facility can be mitigated through development of a vegetation management plan (VMP).

Wildlife and Habitat: Impacts to large wildlife species, for example, deer, will be negligible. Significant negative impacts could occur to individuals during construction and operation of the project. While a portion of the site will be covered by crushed rock, a portion of the land control area will provide native habitat for the life of the project. The project does not contribute to significant habitat loss or degradation or create new habitat edge effects. Potential impacts can be mitigated in part through design and BMPs. The impact intensity level is expected to be minimal.

Rare and Unique Resources: The impact intensity level is anticipated to be minimal, as the project avoids identified areas of species occurrence and preferred habitat. Impacts can be mitigated.

Chapter 1 Introduction

1.9 What factors guide the Commission's decision?

Minnesota statute and rule identify the factors the Commission must consider when determining whether to issue a site permit.

After reviewing the project record—including public comments—the Commission will determine whether to issue a site permit and, if a site permit is issued and what permit conditions are appropriate. The site proposed by Xcel Energy is the only site the Commission will consider in this proceeding.

Minnesota Statutes 216E.03 lists considerations that guide the study, evaluation, and designation of site permits. Minnesota Rule 7850.4100 lists the factors the Commission must consider when making a site permit decision.

- A. Effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services.
- B. Effects on public health and safety.
- C. Effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining.
- D. Effects on archaeological and historic resources.
- E. Effects on the natural environment, including effects on air and water quality resources and flora and fauna.
- F. Effects on rare and unique natural resources.
- G. Application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity.
- H. Use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries.
- I. Use of existing large electric power generating plant sites.
- J. Use of existing transportation, pipeline, and electrical transmission systems or rights-of-way.
- K. Electrical system reliability.
- L. Costs of constructing, operating, and maintaining the facility which are dependent on design and route.
- M. Adverse human and natural environmental effects which cannot be avoided.
- N. Irreversible and irretrievable commitments of resources.

The Commission is also guided by the “state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric

energy security through efficient, cost-effective power supply and electric transmission infrastructure.”¹⁶

A draft site permit (DSP) for the Project is included in **Appendix C**.

1.10 Siting Factors – Analysis and Discussion

This analysis applies the siting factors to the project. Some factors are described in just a few words. Other factors are more descriptive and include a list of elements that, when grouped, make up the factor. Finally, certain factors are relatively succinct, but the scoping process identified elements to be analyzed in this EA. For example, the public health and safety factor includes an EMF element.

Factor M (unavoidable impacts) and **Factor N** (irreversible and irretrievable resource commitments) are discussed in [Section 4.8](#) and [Section 4.9](#), respectively, of this EA.. **Factor G** (application of design options) and **Factor L** (costs dependent on design) do not apply as the design of the proposed project is the only design under consideration.

Other factors are ranked as follows:


















	Impacts are anticipated to be negligible to minimal and able to be mitigated or consistent with factor
	Impacts are anticipated to be minimal to moderate and able to be mitigated in part or less consistent with factor, but nonetheless consistent
	Impacts are anticipated to be moderate to significant and unable to be mitigated fully or consistent in part or not consistent with factor

Table 1 Application of Siting Factors

Factor A: Human Settlement		
Element	Construction	Operation
Aesthetics		
Displacement		
Cultural Values		
Electric Interference		
Floodplains		
Land Use and Zoning		
Noise		

¹⁶ Minnesota Statutes [216E.03](#), subd. 7(a).

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Property Values*	●	●
Recreation	●	●
Socioeconomics	●	●
Environmental Justice	○	○

Factor A: Public Services

Element	Construction	Operation
Airports	●	●
Roads	●	●
Utilities	●	●

Factor B: Public Safety

Element	Construction	Operation
EMF	●	●
Emergency Services	●	●
Medical Devices	●	●
Public Safety	○	○
Stray Voltage	●	●
Worker Safety	○	○

Factor C: Land-based Economies

Element	Construction	Operation
Agriculture	●	●
Forestry	●	●
Mining	●	●
Tourism	●	●

Factor D: Archaeological and Historic Resources

Element	Construction	Operation
Archeological	●	●
Historic	●	●

Factor E: Natural Resources

Element	Construction	Operation
Air Quality	●	●
Geology and Groundwater	●	●

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Soils	●	●
Surface Water	●	●
Topography	●	●
Vegetation	●	●
Wetlands	●	●
Wildlife	●	●
Wildlife Habitat	●	●
Factor F: Rare and Unique Resources		
Element	Construction	Operation
Fauna	●	●
Flora	●	●
Factor I: Use of Existing Generating Plants		
Element	Construction	Operation
Existing Plants	●	●

1.10.1 Discussion

The following discussion highlights potential impacts to factor elements that are anticipated to be moderate to significant, and factors determined less consistent, consistent in part, or not consistent.

FACTOR A: HUMAN SETTLEMENT

Aesthetics Visual impacts are subjective. Thus, potential impacts are unique to the individual and can vary widely. The project will introduce new manmade structures into the existing landscape. Portions of the project, particularly the gen-tie structures, may be visible from local roads, US Highway 169, Quarry Lake Park, and nearby residences. Because of the project’s location in an industrial area and the existing electrical infrastructure surrounding the project the impact intensity level is expected to be minimal. Impacts will be short- and long-term and localized. Potential impacts are unavoidable but can be mitigated in part

Noise Noise impacts from construction of the facility will be temporary and intermittent and range from negligible to significant depending on the construction equipment used and the location of the listener. Once operational, noise impacts are anticipated to be negligible for nearby residents, as the project-related noise is less than the existing background noise.

Environmental Justice The project is located within an Environmental Justice (EJ) community, as defined by Minnesota statute. Impacts from construction of the facility have the potential to be minimal to moderate. Once operational, the project will have a minimal, incremental impact, as it is in an industrialized area.

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FACTOR B: PUBLIC SAFETY

Public Safety and Emergency Services In addition to construction-related risks, BESS facilities have unique public safety risks related to operation. The main safety hazard for BESS facilities is battery failure leading to thermal runaway which has the potential to spread to nearby batteries and containers, quickly presenting an emergency. Emergency response to fires or thermal runaway events at BESS facilities require specialized response. Potential impacts from construction are anticipated to be minimal. Potential impacts during operation are anticipated to be moderate to significant. Employing best practices in facility design and operation, including identifying hazards and developing training for emergency responders can mitigate potential impacts.

1.11 What's next?

A public hearing will be held near the proposed project; you can provide comments at the hearing. The Commission will then review the record and decide whether to grant a site permit

An administrative law judge (ALJ) from the Court of Administrative Hearings will hold a public hearing after the EA is complete and available. At the hearing you may ask questions and submit comments about the project. After the close of the comment period, the ALJ will provide a written report to the Commission summarizing the public hearing and any comments received.

The Commission reviews all the information in the project record in determining whether to issue a site permit. Site permits define the location of the project and include conditions specifying mitigation measures. The Commission is expected to make a permit decision in early- 2026.

2 Proposed Project

Xcel Energy proposes to construct and operate a BESS with a nominal power rating of up to 135.5 MW AC with approximately 542 MWh of energy capacity on a developed area of approximately eight (8) acres within a 68-acre site in the city of Shakopee in Scott County, Minnesota. The facility will be connected to the electric grid through a 115 kilovolt gen-tie line of approximately 500 feet between the project substation and the Xcel Energy's existing Blue Lake Substation, located adjacent to the project site. This chapter describes the project and how it would be constructed, operated, and decommissioned.

2.1 BESS Facility

2.1.1 How do BESS facilities work?

A BESS connects to the electric grid and transfers electric energy from the grid to store in batteries when demand is low and then transferred back to the grid during outages or when demand is high.

A BESS consists of a series of electrochemical devices (batteries) that charges by collecting energy from a source (the electric grid or a power plant) and discharges the energy at a later time when needed. Battery storage can enhance the flexibility of a power system and can help integrate renewable generation technologies like wind and solar into the grid by storing energy when demand is low and discharging the energy when demand is high.¹⁷

2.1.2 Where is the Project located?

The Project is in the city of Shakopee in Scott County, Minnesota.

As shown in Figure 1, the facility is located on a site of approximately 68 acres in the city of Shakopee in Scott County. Xcel Energy owns the site, which is adjacent to its existing Blue Lake peaking plant. The site is bounded by US Highway 169 to the south and Chicago, Milwaukee, SaintPaul and Pacific Railroad tracks to the north.

Xcel Energy selected the site based on the proximity to existing electric transmission infrastructure, minimal impact to natural resources, and consistency with adjacent land uses.¹⁸

2.1.3 How is the facility designed?

In addition to battery energy storage enclosures, the facility will also include power conversion systems (consisting of integrated bidirectional string inverters), skid-mounted transformers, electrical feeder lines, communication lines, a project substation, stormwater drainage basin(s), access roads, and fencing surrounding the perimeter of the facility. Xcel Energy will not construct a stand-alone operations and maintenance building but will use portions of the substation building as

¹⁷ National Renewable Energy Laboratories, *Grid-Scale Battery Storage: Frequently Asked Questions*. September 2019, <https://www.nrel.gov/docs/fy19osti/74426.pdf>

¹⁸ SPA, p. 14-15

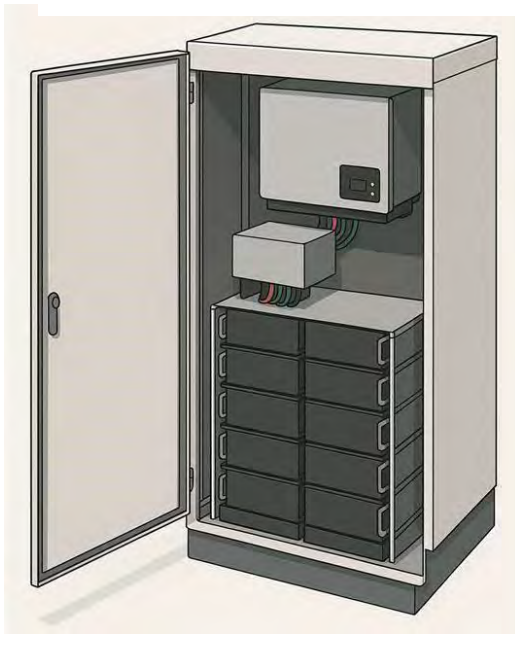
well as an onsite Connex container to store spare parts and maintenance supplies.¹⁹ The facility will be connected to the electric grid through a gen-tie line of approximately less than 500 feet between the project substation and the Xcel Energy’s adjacent Blue Lake Substation.²⁰

2.1.3.1 BATTERIES AND BESS ENCLOSURES

The BESS industry currently uses two main types of lithium-ion batteries:²¹

- **Nickel Manganese Cobalt (NMC):** Nickel is the primary source of energy in NMC batteries, but manganese and cobalt are required to stabilize and provide the desired power output. Because cobalt is expensive, these batteries typically use eight parts nickel to one part each of manganese and cobalt (8:1:1). NMC have a high energy density, which means that they can store energy in a smaller package, making them suitable for electric vehicles and consumer electronics such as smartphones and laptops.
- **Lithium Ion Phosphate (LFP):** LFP batteries are comprised of roughly equal parts of iron and phosphate. Relative to NMC technology, LFP batteries are more chemically stable and less prone to thermal runaway events and combustion, and the components of LFP batteries are cheaper and generally considered to be less toxic. LFP batteries are commonly used in energy storage facilities.

Figure 2. Sample BESS Enclosure



Battery storage technology is developing rapidly. Xcel Energy indicates that it anticipates using some type of LFP battery technology but will defer selection of the technology until closer to the anticipated start of construction in 2026. Xcel Energy has designed the project to accommodate Sungrow Power Titan 2.0 technology and plans to use Sungrow’s ST5015UX-4H-US

¹⁹ SPA, pp. 27-28

²⁰ SPA, pp. 26-27

²¹ Mayfield Renewables, October 2023, *Comparing NMC and LFP Lithium-Ion Batteries for C&I Applications*, [https://www.mayfield.energy/technical-articles/comparing-nmc-and-lfp-lithium-ion-batteries-for-ci-applications/#:%7E:text=Nickel%20Manganese%20Cobalt%20\(NMC\)%20and%20Lithium%20Iron%20Phosphate%20\(LFP,long%2Dterm%20reliability%20are%20paramount\)](https://www.mayfield.energy/technical-articles/comparing-nmc-and-lfp-lithium-ion-batteries-for-ci-applications/#:%7E:text=Nickel%20Manganese%20Cobalt%20(NMC)%20and%20Lithium%20Iron%20Phosphate%20(LFP,long%2Dterm%20reliability%20are%20paramount)) (Accessed December 9, 2025)

and MVS5140-LS-US units, as it has in other ESS projects.²²

The batteries are housed in enclosures (Figure 2).²³ Xcel Energy's preliminary design anticipates BESS enclosures will occupy approximately 2.2 acres of the approximately 5.2 acre fenced area of the site. Each BESS enclosure will connect to pad-mounted switchgear, transformer(s) to step up and step down voltage, and a power distribution system via 34.5 kV underground cables. Xcel Energy anticipates that the BESS enclosures will be approximately 10-12 feet tall and 20 feet long.²⁴

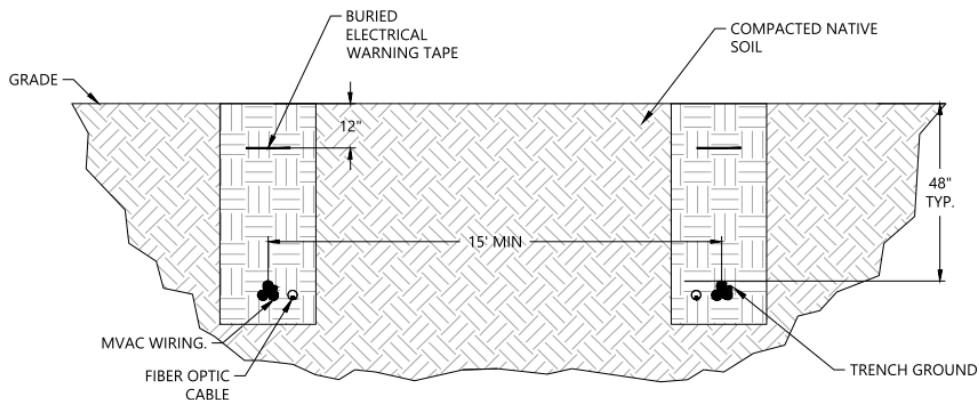
2.1.3.2 Project Gen Line and Substation

The project substation will occupy approximately one acre within the site. Electricity will flow from the Blue Lake Substation to the project substation via a 115 kV tap line of up to 500 feet. At the project substation, transformers will step the voltage down from 115 kV to 34.5 kV and then back from 34.5 kV to 115 kV depending upon the flow of electricity. Pending final design, Xcel Energy anticipates that the tap line will be comprised of two dead-end structures (one each at the existing Blue Lake Substation and project substation) and one to two tangent structures to support the line between dead-end structures.

2.1.3.3 Power Conversion System

Electrical energy will flow between the project substation and the BESS enclosures through underground 34.5 kV AC feeder lines (Figure 3). The power will pass through medium voltage transformers and inverters to the battery modules. The inverters convert AC to DC for storage in the battery modules and from DC to AC for delivery back to the grid. Inverters will be located within the BESS enclosures while the medium voltage transformers will be skid-mounted and located outside the enclosures.²⁵

Figure 3: Underground Cabling



²² SPA, pp. 24-25

²³ Burns & McDonnell Engineering, Inc. via Xcel Energy

²⁴ SPA, p. 26

²⁵ SPA, pp. 25-26, 32,

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2.1.3.4 FENCING

Xcel Energy will install security fencing that meets applicable electrical code requirements for safety and security around the perimeter of the facility (both the BESS facility and the project substation). Fencing will be secured to posts that will be directly embedded in the soil or set in concrete foundations as required for structural integrity. Xcel Energy anticipates using 10-foot tall anti-climb chain link fencing topped by 18 inches of sheet metal flashing along to the top of the fence and gate to prevent climbing animals from gaining a toehold. The facility will be accessed through a locked gates the access road.²⁶

2.1.3.5 ACCESS ROADS AND DRIVE AREA

Xcel Energy plans access to the project at two points along 70th Street South, on the western site boundary. The entry road will narrow from approximately 100 feet (possibly wider during construction to allow a safe turning radii for trucks) to 20 feet as it enters the facility. Within the facility, the surfaces between BESS enclosures and the fence will be covered by gravel, allowing for access to the enclosures and substation. Xcel Energy anticipates the internal spacing/drive lanes will be approximately 20 feet wide.²⁷

2.1.3.6 OPERATIONS AND MAINTENANCE BUILDING

Rather than constructing a separate operations and maintenance (O&M) building at the facility, Xcel Energy plans to use existing O&M facility space the Blue Lake Peaking Plant and an onsite Connex container to store spare parts.²⁸

2.1.4 How would the BESS facility be constructed?

Xcel Energy anticipates that construction of the facility will begin in mid-2026 with an in-service date of mid-2027. This section summarizes construction activities. Unless otherwise noted, this summary has been adapted from Section 4.3. and Appendix D, the *Preliminary Vegetation Management Plan (VMP)* of the site permit application.

Construction will begin after necessary permits are obtained and the interconnection process is finalized. Xcel Energy anticipates that construction will begin in the second quarter of 2026 to meet an in-service date of the second quarter 2026.²⁹ The actual construction schedule is dependent upon permitting, final design, delivery of equipment, and workforce availability.

Construction is defined in Minn. Stat. 216E.01, subd. 3 as clearing of land, excavation, or other action that would adversely affect the natural environment of the site but does not include temporary disturbances needed for surveying or geotechnical investigation. Xcel Energy's pre-construction activities include geotechnical investigation, identification of underground utilities, final project design, and component procurement (e.g., batteries, racking, inverters, BESS containers, transformers, etc.).

²⁶ SPA, pp. 27-28

²⁷ SPA, p. 28

²⁸ SPA, pp. 27-28

²⁹ SPA, pp. 9-10

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Initial site preparation includes soil and vegetation stabilization in areas where there won't be disturbance, installation of erosion and sediment control devices, vegetation removal in some areas, grubbing and grading, tree removal, and site access improvements. Xcel Energy anticipates using an existing laydown area of approximately 4.1 acres on the southern portion of the site (Figure 1). Stormwater basins will also be constructed. The applicant anticipates approximately 3.5 acres of the site will require grading. Final cut and fill volumes will depend upon final design, but based on preliminary design, Xcel Energy estimates approximately 35,000 cubic yards of cut and 35,000 cubic yards of fill will be required for access roads, stormwater basins, the ESS pad, and other facilities required for the project.

Typical construction equipment will be used for the project – scrapers, bulldozers, dump trucks, watering trucks, motor graders, vibratory compactors, backhoes, and pickup trucks. Additional specialty equipment could include a skid steer loader, pile driver, cranes, concrete truck and boom truck, a high reach bucket truck, and a truck-mounted auger or drill rig.

The applicant estimates that for several weeks there will be five to 15 semi-trucks daily to deliver the project components such as batteries, enclosures, inverters, and transformer skids. Traffic will decrease once these components are delivered. Traffic volume during construction will predominantly come from worker travel to the construction site. Xcel Energy estimates daily construction traffic of about 15-35 light duty trucks and cars during the nine (9) to 12 months of construction.³⁰

The applicant estimates that the project will create up to 80 temporary construction jobs, and three full-time jobs to operate and maintain the facility.³¹

ACCESS ROADS AND DRIVE AREAS

Preliminary design for the facility anticipates installing two access roads from 70th Street South, at the western boundary of the site. The length of the access roads will depend upon final engineering to accommodate the selected equipment and the re-alignment of the existing access road to the Magellan valve station. Preliminary design is for a 140 foot wide apron, narrowing to approximately 20 feet as it enters fenced area. Both the apron and access roads may be temporarily widened during construction to allow for larger construction vehicles.

Unlike internal access roads in solar facilities, which have specifically designed road profiles, the entire fenced area containing the BESS equipment will be graveled to allow vehicles to move in lanes of approximately 20 feet between BESS enclosures. Construction of the drive area will begin with scraping and removal of topsoil from the developed area. Topsoil removed from the developed area will be stockpiled in suitable locations on-site. After the topsoil has been segregated and substructures and electrical and communications cabling and other in-ground infrastructure has been installed, the contractor will compact the subgrade materials along the to the specified compaction requirements specified in the civil and geotechnical engineer plans. Following

³⁰ SPA, pp. 71, 80

³¹ SPA, p. 33

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compaction of the drive lanes area, Xcel Energy will install geotextile fabric and approximately six inches of aggregate, which will then be compacted.

SUBSTATION AND INTERCONNECTION

Site preparation for the substation, including grading and compacting, will occur concurrently with the grading for the BESS. Following site preparation, contractors will install a grounding grid and underground conduit within the substation footprint along with foundations for the transformer, control house(s), and high voltage structures. Substation equipment will be delivered to the site and installed on the prepared foundations. Contractors will construct secondary containment areas for the transformer according to design requirements in the SPCC plan, and final grading will occur around the Project substation. Dead end structures will be installed at both the existing Blue Lake Substation and the Project Substation and conductors will be strung along the tap line. Depending upon final design up to two structures between the dead-end structures will be installed. Final perimeter fencing will be installed and crushed rock will be laid within the fenced area extending approximately five feet outside the fence line.

BESS ENCLOSURES

Once the BESS area has been prepared and underground cables and conduits are installed, workers will install concrete pile foundations (driven piles or helical piles) approximately one to three feet below ground surface for the BESS containers. BESS containers (approximately 9.5 feet by 20 feet) will be placed on foundations by crane and will be bolted or welded to pile caps. Installation of the BESS enclosures will require the use of trenching machines, pile drivers, forklifts, concrete trucks, boom trucks, and cranes.³²

POWER CONVERSION SYSTEM

The electrical collection system will be installed below-ground. Cable for the AC electrical collection system will be placed underground. A trench will be excavated for the cabling, topsoil and subsoil will be segregated and stockpiled. Once cabling is installed in the trench, the trench will be backfilled with subsoil followed by topsoil.

Medium voltage transformer skids will be placed on concrete pile foundations (driven piles or helical piles) separate from the BESS enclosures.³³

STORMWATER DRAINAGE

At the time of the application, the preliminary design anticipated one stormwater drainage basin, with a total area of approximately 0,6 acres. Typical construction procedures for stormwater basins start with contractors removing topsoil to be temporarily stored at a suitable location and then excavate subsoil in accordance with design depths and slopes to accommodate inlets and outlets. Excavated subsoil would be distributed throughout the site as fill material in areas where grading is

³² SPA, pp. 32, 100

³³ SPA, p. 32

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required. Once the excavation and grading are complete, contractors replace the topsoil and the seed the basins. Xcel Energy has not specified the seed mixes for the stormwater basins, but these areas are typically seeded with a seed mixture that is tolerant of wet conditions.

FENCING

Xcel Energy will install permanent security fencing around the perimeter of the BESS facility. Xcel Energy anticipates using a 10-foot tall chain link fence topped by 18 inches of flashing.³⁴ Preliminary design anticipates approximately 2,360 linear feet of fencing in total. Typically for energy infrastructure facilities such as substations and BESS facilities, fence posts will be directly embedded or set in concrete foundations at corner and gate posts and in some locations as necessary. Preliminary plans do not anticipate a separate fence for the project substation. Gates will be installed at the entrance from the access roads and.

RESTORATION

After construction, the developed area will be graded to natural contours (as possible), soils will be decompacted, and topsoil stockpiled during construction will be respread. Most of the disturbed areas will be reseeded with seed mixes in accordance with the project's VMP and stormwater pollution prevention plan (SWPPP). A cover crop will be planted to prevent erosion during the time it takes for native seeds / vegetation to establish and erosion control measures (e.g., silt fences, mulch, sediment control logs) will be used until seeded vegetation has established. Xcel Energy anticipates that restoration will take approximately two to four months.³⁵

Xcel Energy has prepared a preliminary VMP outlining how the site will be cleared prior to construction and revegetated and monitored over the life of the project to control for noxious weed and invasive species, ensure appropriate erosion control measures are implemented, and ensure the site is revegetated.³⁶

2.1.5 How would the facility be operated and maintained?

Xcel Energy estimates the service life of the project to be 20 years. Following restoration and construction closeout, control of the facility will transfer from the construction team to the operations staff. Up to three full time maintenance staff will perform regularly scheduled inspections of electrical equipment, maintain or repair equipment as needed, maintain vegetation at the site, and remove snow as needed (Table 2). The operations staff may be employed by Xcel Energy, an affiliated entity, or a qualified contractor.³⁷

³⁴ SPA, pp. 27-28

³⁵ SPA, p. 34

³⁶ SPA, Appendix D, *Preliminary Vegetation Management Plan*

³⁷ SPA, pp, 34-35.

Table 2. Operations and Maintenance Tasks and Frequency³⁸

Device	Task	Preliminary Frequency
BESS	System visual check	Once Yearly
	Filter Inspection	Once Yearly
	Battery condition check	Continuous - remote
	Breaker check	Once Yearly
	Cooling system check	Once Yearly
Electric Boards	Case visual check	Once Yearly
	Fuses check	Once Yearly
	Surge arresters check	Once Yearly
	Torque check	Once Yearly
	DC voltage and current check	Once Yearly
	Grounding check	Once Yearly
Inverter	Case visual inspection	Once Yearly
	Air intake and filters inspections	Once Yearly
	DC voltage and current check	Once yearly
	Conversion efficiency inspection	Once yearly
	Datalogger memory download	Once yearly
	Fuses check	Once yearly
	Grounding check	Once yearly
	Torque check	Once yearly
Support Structures	Visual check	Once yearly
MV Transformers	Visual Check	Once yearly

2.1.5.1 Battery Augmentation

Along with the normal physical degradation of manmade structures as they age, the batteries used in the facility will lose the ability to store and deliver energy over time. This process, sometimes referred to as “derating” or “degradation,” results in diminished capacity and efficiency, shorter operational life, and a decline in performance over time. Battery degradation is caused by chemical wear and tear that occurs over multiple charging and discharging cycles, aging (regardless of how the battery is used), and environmental factors such as temperature fluctuation, humidity, and dust in the operating environment. The normal degradation can also be impacted by temperature extremes, humidity, overcharging and deep discharging, and other factors.³⁹

³⁸ SPA, p. 37, Table 4.3.

³⁹ GridX. *What is Battery Degradation and How to Prevent It*. April 14, 2025, <https://www.gridx.ai/knowledge/what-is-battery-degradation-and-how-to-prevent-it> NREL, Grid-Scale Battery Storage: Frequently Asked Questions

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To maintain the facility's capacity and accreditation, BESS facilities anticipate replacing degraded batteries with new batteries periodically over the course of the facility's operating life. This periodic replacement is referred to as "augmentation." Battery augmentation may involve either the addition of battery modules within the existing enclosures or the installation of new enclosures and new batteries. Xcel Energy anticipates that the project will be augmented by installing six additional ESS units as batteries degrade over the operating life of the facility and has designed the site to accommodate the future units within the fenced area. The facility's actual augmentation cycle depends upon factors that are unknown at this time, including actual degradation of the cells compared to theoretical assumptions, future changes in technology, and other factors.⁴⁰

2.1.6 What happens at the end of the facility's useful life?⁴¹

As the project progresses through its service life, the applicant may seek to repower the project. The applicant's decision on whether to pursue repowering will consider the equipment performance, maintenance costs, extending the useful life of the project, or a desire to increase storage capacity with newer or more efficient batteries and other equipment. Any site permit issued by the Commission will specify the maximum capacity, so if Xcel Energy wishes to increase the capacity, it must seek an amendment to the site permit. At the end of the project's useful life, Xcel Energy will either take the necessary steps to continue operation of the project (re-permitting and retrofitting) or will decommission the project.

Commission issued site permits require that the permittee be responsible for removing all project components and restore the site to pre-construction conditions at the end of a project's useful life and that the permittee is responsible for all costs associated with decommissioning the project. Xcel Energy provided a draft decommissioning plan as Appendix E of its site permit application.

If the project is not repowered, Xcel Energy will decommission the project and remove the project facilities. Decommissioning would include removal of the BESS enclosures (cabinets, batteries, racking, inverters, and other auxiliary equipment), foundations, skid-mounted transformers, fencing, project substation, project tap line structures and conductors, gravel and crushed rock, and the access road. Below-ground electric and communications cabling would be removed to a depth of four feet. Xcel Energy anticipates the decommissioning of the facility will take approximately six months to complete.

Commission permits require that permittees are responsible for all decommissioning costs. Xcel Energy anticipates the total estimated cost to decommission the project is approximately \$ 21.3 million and estimated salvage/scrap value is approximately \$1.1 million, for a net decommissioning cost of approximately \$20.2 million.

Like other regulated utilities in Minnesota and elsewhere, Xcel Energy uses a net salvage methodology, where net estimated decommissioning costs (anticipated cost of removing an asset at the end of its useful life less the anticipated salvage value,) are included in the depreciation expense for each facility. The depreciated plant balance is included in the utility's rate base. Funds collected for removal and restoration are included in the depreciation reserve for the facility.

⁴⁰ SPA, pp. 22, 26

⁴¹ Adapted from SPA, Section 4.4.1 (pp. 38 – 41) and Appendix E, *Preliminary Decommissioning Plan*

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Utilities are required to periodically update these costs, and the Commission must approve the net salvage rates used for the Project.

2.2 Project Schedule

Xcel Energy anticipates the project will begin commercial operation in mid-2026, with an in-service date in the second quarter of 2027. [Table 3](#) shows Xcel Energy’s estimated development and construction milestones.

Table 3. Anticipated Project Schedule⁴²

Activity	Anticipated Timeframe
Land Acquisition	Complete
Generator Interconnection Agreement	Complete
Site Permit	Q1 2026
Downstream Permits	Q1 2026
Construction	Q2 2026 – Q2 2027
Testing and Commissioning	Q1-Q2 2027
Commercial Operation Date	Q2 2027

2.3 Project Costs

Xcel estimates the total installed capital cost to construct the project to be approximately \$211 million. Actual costs will depend on final material and labor costs. Xcel Energy estimates annual operations and maintenance costs of approximately \$3 to 5 million exclusive of augmentation costs.⁴³

⁴² Adapted from SPA, pp. 9-10 and [Appendix D](#), response to Data Request 2

⁴³ [Appendix D](#), response to Data Request 1

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Chapter 3 discusses the site permit approval required from the Commission. It describes the environmental review process and lists the factors the Commission considers when making its decision. This chapter also discusses required approvals from federal and state agencies and local units of government with permitting authority for actions related to the project. Lastly, it lists topics outside the scope of this EA.

3.1 What Commission approvals are required?

The project requires a site permit from the Commission before it can be constructed.

The project requires a site permit from the Commission because it meets the definition of an *energy storage system* which means electric equipment with a capacity of 10 MW or more that is capable of storing electricity for a period of time and delivering the electricity for use after storage.⁴⁴

3.2 What is environmental review?

Environmental review informs interested persons about potential impacts and possible mitigation measures associated with the project; environmental review informs Commission decisions.

Minnesota law requires that potential human and environmental impacts be analyzed before the Commission decides whether to grant a site permit. This analysis is called environmental review.

3.3 What does the review and permitting process look like?

The Commission accepted the application as substantially complete on August 12, 2025.⁴⁵ EIP staff held a remote access public information and scoping meeting on September 10, 2025 and a public meeting in Shakopee, Minnesota on September 11, 2025.

The environmental review and permitting process for this project is summarized Figure 4.

APPLICATION FILING AND ACCEPTANCE

Xcel Energy provided the required written notice of its intent to file a site permit under the alternative process on May 22, 2025,⁴⁶ and filed an application for a site permit on June 20, 2025.⁴⁷

⁴⁴ 2023 Minn. Stat., 216E.01, subd. 3a

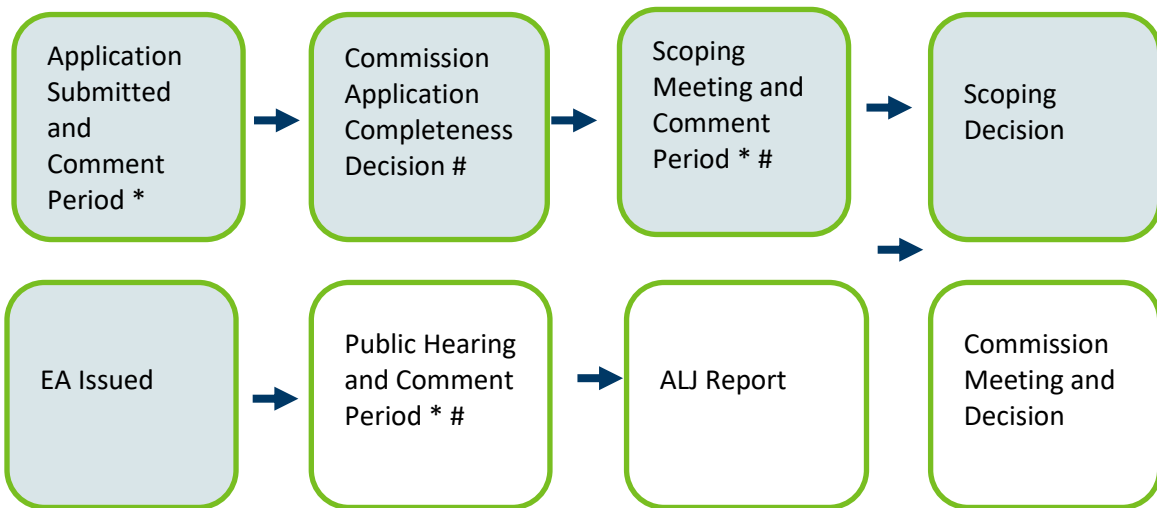
⁴⁵ Commission, *Order Accepting Xcel Energy's Site Permit Application as Substantially Complete*, August 12, 2025, eDocket No. [20258-221987-01](#)

⁴⁶ Xcel Energy, *Notice of Intent to Submit a Site Permit Application Under the Alternative Permitting Process.*, May 22, 2025, eDocket ID: [20255-219189-01](#)

⁴⁷ Xcel Energy, *Application for a Site Permit for the Blue Lake Energy Storage Project*, June 20, 2025, 2024, eDockets Numbers [20256-220093-02](#), [20256-220093-03](#), [20256-220093-04](#), [20256-220093-05](#), [20256-220093-06](#), [20256-220093-07](#), [20256-220093-08](#), [20256-220093-09](#), [20256-220093-11](#), [20256-220093-12](#), [20256-220093-13](#), [20256-220093-14](#), [20256-220093-15](#) (Trade Secret), [20258-222516-01](#), and [20258-222516-03](#).

The Commission accepted the application as substantially complete on August 12, 2025.⁴⁸ The order also referred the matter to the Court of Administrative Hearings for appointment of an ALJ to conduct a public hearing for the project. Commission staff provided a *Sample Site Permit for an Energy Storage System* on September 5, 2025.⁴⁹

Figure 4. Permitting Process Summary



SCOPING PROCESS

Scoping is the first step in the environmental review process. It helps focus the EA on the most relevant information needed by the Commission to make informed decisions. Scoping comments have been compiled and are available to review or download.

Scoping includes a public meeting and comment period that provide opportunities for interested persons to help develop the scope (or contents) of the EA.⁵⁰ The purpose of the public information and scoping meetings is to provide information and answer questions about a proposed project and the permitting process. The meeting and associated comment period also provides an opportunity to gather input regarding potential impacts and mitigative measures that should be studied in the EA.

On August 22, 2025, the Commission issued a *Notice of Public Information and Environmental Assessment Scoping Meetings* and associated public comment period.⁵¹ The notice was sent to those

⁴⁸ Commission, *Order Accepting Xcel Energy's Site Permit Application as Substantially Complete*, August 12, 2025, eDocket No. [20258-221987-01](#)

⁴⁹ Commission, *Sample Energy Storage System Site Permit*, September 5, 2025, eDockets No. [20259-222730-01](#)

⁵⁰ Minn. R. [7850.3700](#), subp. 2.

⁵¹ Commission *Notice of Public Information and Environmental Assessment Scoping Meetings*, August 22, 2025 eDocket ID: [20258-222322-01](#)

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individuals on the project contact list, representatives from state agencies, tribal governments, tribal historic preservation officers, and to potentially affected landowner and was also available on the Commission's webpage for the Project.

EIP staff held a remote access public information and scoping meeting on September 10, 2025, and a public meeting in Shakopee, Minnesota on September 11, 2025. There were no attendees at either meeting.⁵²

The written comment period closed on September 25, 2025. The only comment received during the comment period was from the Minnesota Department of Natural Resources (DNR).⁵³ DNR provided comments on the potential impacts of the project on Louisiana broomrape and native plant communities and stormwater runoff and recommended minimizing ground disturbance to the extent possible given the proximity to a site of high biodiversity significance. DNR's comments also included recommendations on project lighting, dust control, and erosion control. DNR also provided the Natural Heritage Review of the project, which identified several rare features that may be impacted by the Project including a Site of Biodiversity Significance with a High ranking and several state and federally listed species, including Louisiana broomrape, Gophersnake, lark sparrow, bats, and the Rusty Patched Bumblebee.

None of these comments suggested an alternative site for the proposed project

SCOPING DECISION

The scoping decision identifies the issues studied in this EA.

After considering public comments and recommendations by staff, the Commission issued a scoping decision on October 24, 2025 (**Appendix A**). The scoping decision identifies the issues to be evaluated in this EA.

3.4 Are other permits or approvals required?

Yes, other permits and approvals are required for the project.

A site permit from the Commission is the only state permit required for siting the project. However, various federal, state, and local approvals might be required for activities related to construction and operation of the project. These subsequent permits are referred to as "downstream" permits and must be obtained by the permittee prior to construction.⁵⁴ **Table 4** lists potential downstream permits that might be required, several of which are discussed below.

⁵² Oral Comments on the Scope of Environmental Assessment, eDockets Number [202510-223469-01](#)

⁵³ Minnesota Department of Natural Resources, *Comments*, September 24, 2025, eDocket Nos. [20259-223282-01](#), [20259-223282-02](#), and [20259-223282-03](#)

⁵⁴ DSP (Appendix C), Section 4.5.2 (stating the permittee "shall obtain all required permits for the project and comply with the conditions of those permits").

Table 4. Potential Downstream Permits

Unit of Government	Type of Application	Purpose	Anticipated for Project
Federal			
U.S. Environmental Protection Agency	Spill Prevention, Control and Countermeasures Plan (SPCCP)	Prevent oil spills and minimize impacts from any spills that do occur.	Possible
State			
Department of Natural Resources	License to Cross Public Lands and Waters	Prevent impacts associated with crossing public lands and waters	No
	State Threatened and Endangered Species Consultation	Consultation to mitigate impacts to state-listed species	Yes
	Water Appropriation Permit	Balances competing management objectives; may be required for construction dewatering	No
Minnesota Pollution Control Agency	Construction Stormwater Permit	Minimizes temporary and permanent impacts from stormwater	Yes
	Section 401 Clean Water Act – Water Quality Certification	Ensures project will comply with state water quality standards	No
State Historic Preservation Office	National Historic Preservation Act Section 106 Consultation	Ensures adequate consideration of impacts to significant cultural resources	Yes
Department of Agriculture	Agricultural Impact Mitigation Plan	Establishes measures for protection of agricultural resources	No
Department of Labor and Industry	Electrical Inspection	Necessary to comply with electric code.	Yes
Department of Transportation	Utility Accommodation on Trunk Highway ROW Permit	Controls utilities being placed along or across highway rights-of-way (ROW)	No
	Oversize/Overweight Permit	Controls use of roads for oversize or overweight vehicles	No
Board of Water and Soil Resources	Wetland Conservation Act	Ensures conservation of wetlands	No
Local			

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Unit of Government	Type of Application	Purpose	Anticipated for Project
Scott County	Moving Permit/ Oversize/Overweight Vehicle Permit	Needed to transport oversized and overweight loads on county roads	Possible
City of Shakopee	Road Improvement	Needed to move, widen, or create a new driveway access to the site	Possible
	Wetland Conservation Act Permit	Ensures conservation of wetlands	Yes
	Moving Permit/ Oversize/Overweight Vehicle Permit	Needed to transport oversized and overweight loads on county roads	Yes

3.4.1 Federal

The U.S. Environmental Protection Agency requires certain facilities to develop, maintain, and implement a Spill Prevention, Control and Countermeasures Plan (SPCCP) to prevent oil spills and control any spills that do occur. An SPCCP may be required for power transformers within the project substation.

A permit is required from the United States Fish and Wildlife Service (USFWS) for the incidental taking⁵⁵ of any threatened or endangered species. The project is not expected to impact federally listed threatened or endangered species, and no permit from the USFWS is anticipated to be necessary.

3.4.2 State

Potential impacts to state lands and waters, as well as fish and wildlife resources, are regulated by the DNR. Licenses are required to cross state lands or waters.⁵⁶ Projects affecting the course, current, or cross-section of lakes, wetlands, and streams that are public waters may require a *Public Waters Work Permit*.⁵⁷ Not unlike the USFWS, DNR encourages project proposers to consult with the agency to determine if a project has the potential to impact state-listed threatened or endangered species. Additionally, consultation can lead to the identification of measures to mitigate potential impacts associated with the project.

Construction projects that disturb one or more acres of land require a general *National Pollutant Discharge Elimination System / State Disposal System Construction Stormwater Permit* (CSW Permit) from the MPCA. This permit is issued to “construction site owners and their operators to prevent

⁵⁵ [16 U.S. § 1532\(19\)](#) (defining “take” to mean to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in such conduct).

⁵⁶ Minnesota Statutes [84.415](#).

⁵⁷ DNR (n.d.) *Requirements for Projects Involving Public Waters Work Permits*, http://www.dnr.state.mn.us/waters/watermgmt_section/pwpermits/requirements.html.

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stormwater pollution during and after construction.”⁵⁸ The CSW Permit requires use of best management practices; development of a Stormwater Pollution Prevention Plan; and adequate stormwater treatment capacity once the project is complete. Projects must be designed so that stormwater discharged after construction does not violate state water quality standards. Specifically, projects with net increases of one acre or more to impervious surface must be designed to treat water volumes of one-inch times the net increase in impervious surface.⁵⁹

A Clean Water Act Section 401 *Water Quality Certification* from MPCA might also be required. “Section 401 of the Clean Water Act requires any applicant for a federal license or permit to conduct an activity that may result in a discharge of a pollutant into waters of the United States to obtain a certification from the State in which the discharge originates that the discharge complies the applicable water quality standards.”⁶⁰ The certification becomes a condition of the federal permit.

Additionally, MPCA regulates generation, handling, and storage of hazardous wastes.

A permit from MnDOT is required for construction, placement, or maintenance of utility lines adjacent or across trunk highway rights-of-way. Coordination would be required to construct access roads or driveways from trunk highways. These permits are required to ensure that use of the right-of-way does not interfere with free and safe flow of traffic, among other reasons.⁶¹

The State Historic Preservation Office (SHPO) is charged with preserving and protecting the state’s historic resources. SHPO consults with project proposers and state agencies to identify historic resources to avoid and minimize impacts to these resources.

The MDA ensures the integrity of Minnesota’s food supply while protecting the health of its environment and the resources required for food production. MDA assists in the development of agricultural impact mitigation plans that outline necessary steps to avoid and mitigate impacts to agricultural lands.

The Board of Water and Soil Resources oversees implementation of Minnesota’s *Wetland Conservation Act* (WCA). The WCA is implemented by local units of government.

3.4.3 Local

The City of Shakopee oversees local implementation of the WCA within its city limits. The WCA requires that any person “proposing to impact a wetland to first, attempt to avoid the impact;

⁵⁸ MPCA. *Construction Stormwater*. (2022). <https://www.pca.state.mn.us/business-with-us/construction-stormwater>

⁵⁹ MPCA. *Minnesota Stormwater Manual*. (2022). <https://www.pca.state.mn.us/water/minnesotas-stormwater-manual>.

⁶⁰ MPCA. (n.d.) *Clean Water Act Section 401 Water Quality Certifications*, <https://www.pca.state.mn.us/water/clean-water-act-section-401-water-quality-certifications>.

⁶¹ MnDOT. *Utility Accommodation on Highway Right of Way*: (2023). <https://www.dot.state.mn.us/policy/operations/oe002.html>

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second, attempt to minimize the impact; and finally, replace any impacted area with another wetland of at least equal function and value.”⁶²

Commission site permits preempt local zoning, building, and land use rules, regulations, or ordinances promulgated by regional, county, local, and special purpose government; however, coordination with local governments may be required for the issues listed below.

- **Access/Driveway** Coordination may be required to construct access roads or driveways from local streets, county or township roads.
- **Overwidth Load** Coordination may be required to move over-width or heavy loads on county or township roads.
- **Road Crossing and Right-of-Way** Coordination may be required to cross or occupy county or township road rights-of-way.

3.5 Do electrical codes apply?

Yes, if constructed the project must meet electrical safety code requirements.

The project must meet requirements of the National Electrical Safety Code.⁶³ These standards are designed to safeguard human health “from hazards arising from the installation, operation, or maintenance of conductors and equipment in electric supply stations and overhead and underground electric supply lines”.⁶⁴ They also ensure that facilities and all associated structures are built from materials that will withstand the operational stresses placed upon them over the expected lifespan of the equipment, provided operational maintenance is performed.

3.6 Are any issues outside the scope of this EA?

Yes, the scoping decision identified several issues that will not be studied.

This EA does not address the following:

- The need for the project, including questions of size, type, timing, and alternative system configurations.
- Any site other than the site identified in the scope.
- Any impacts related to the manufacture of the elements of the project including batteries, battery storage units, concrete, fuel used for construction vehicles, etc.
- The manner in which landowners are compensated for the project.

⁶² Minnesota. Rule. [8420.0100](#), subp. 2

⁶³ See Minnesota. Statute. [326B.35](#); Minn. R. [7826.0300](#), subp. 1 (requiring utilities to comply with the most recent edition of the National Electric Safety Code when constructing new facilities or reinvesting capital in existing facilities)

⁶⁴ IEEE Standards Association (n.d.) *2017 – National Electrical Safety Code Brochure*, retrieved from: https://standards.ieee.org/content/dam/ieee-standards/standards/web/documents/other/nesc_2017_brochure.pdf.

4 Project Impacts and Mitigation

Chapter 4 describes the environmental setting, affected resources, and potential impacts from the project. It also discusses mitigation of potential impacts.

4.1 How are potential impacts measured?

Potential impacts are measured on a qualitative scale based on an expected impact intensity level; the impact intensity level takes mitigation into account.

A potential impact is the anticipated change to an existing condition caused either directly or indirectly by the construction and operation of a proposed project. Potential impacts can be positive or negative, short- or long-term, and, in certain circumstances, can accumulate incrementally. Impacts vary in duration and size, by resource, and across locations.

Direct impacts are caused by the proposed action and occur at the same time and place. An indirect impact is caused by the proposed action but is further removed in distance or occurs later in time. This EA considers direct and indirect impacts that are reasonably foreseeable, which means a reasonable person would anticipate or predict the impact. Cumulative potential effects are the result of the incremental impacts of the proposed action in addition to other projects in the environmentally relevant area.

4.1.1 Potential Impacts and Mitigation

The following terms and concepts are used to describe and analyze potential impacts:

- **Duration** Impacts vary in length. Short-term impacts are generally associated with construction. Long-term impacts are associated with the operation and usually end with decommissioning and reclamation. Permanent impacts extend beyond the decommissioning stage.
- **Size** Impacts vary in size. To the extent possible, potential impacts are described quantitatively, for example, the number of impacted acres or the percentage of affected individuals in a population.
- **Uniqueness** Resources are different. Common resources occur frequently, while uncommon resources are not ordinarily encountered.
- **Location** Impacts are location dependent. For example, common resources in one location might be uncommon in another.

The context of an impact—in combination with its anticipated on-the-ground effect—is used to determine an impact intensity level, which can range from beneficial to harmful. Impact intensity levels are described using a qualitative scale, which is explained below. These terms are not intended as value judgments, but rather a means to ensure common understanding among readers and to compare potential impacts between alternatives.

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- **Negligible** impacts do not alter an existing resource condition or function and are generally not noticeable to an average observer. These short-term impacts affect common resources.
- **Minimal** impacts do not considerably alter an existing resource condition or function. Minimal impacts might, for some resources and at some locations, be noticeable to an average observer. These impacts generally affect common resources over the short- or long-term.
- **Moderate** impacts alter an existing resource condition or function and are generally noticeable to the average observer. Impacts might be spread out over a large area making them difficult to observe but can be estimated by modeling. Moderate impacts might be long-term or permanent to common resources, but generally short- to long-term to uncommon resources.
- **Significant** impacts alter an existing resource condition or function to the extent that the resource is impaired or cannot function. Significant impacts are likely noticeable or predictable to the average observer. Impacts might be spread out over a large area making them difficult to observe but can be estimated by modeling. Significant impacts can be of any duration and affect common or uncommon resources.

Also discussed are opportunities to avoid, minimize, or compensate for potential impacts. Collectively, these actions are referred to as mitigation.

- To **avoid** an impact means to eliminate it altogether, for example, by not undertaking parts or all of a project, or relocating the project.
- To **minimize** an impact means to limit its intensity, for example, by reducing project size or moving a portion of the project.
- To **correct** an impact means to repair, rehabilitate, or restore the affected resource.
- To **compensate** for an impact means replacing it or providing a substitute resource elsewhere, or by fixing it by repairing, rehabilitating, or restoring the affected resource. Compensating an impact can be used when an impact cannot be avoided or further minimized.

Some impacts can be avoided or minimized; some might be unavoidable but can be minimized; others might be unavoidable and unable to be minimized, but compensation can be applied. The level at which an impact can be mitigated might change the impact intensity level.

4.1.2 Regions of Influence

Potential impacts to human and environmental resources are analyzed within specific geographic areas called regions of influence (“ROI”). This EA uses the following ROIs:

- Land control area (land control of the BESS and gen-tie line)
- Local vicinity (1,600 feet from the boundary of the BESS)
- Project area (one mile from the boundary of the facility)
- Region (Scott County)

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Impacts to resources may extend beyond these distances but are expected to diminish quickly. ROIs vary between resources. Table 5 summarizes the ROIs used in this EA.

Table 5. Regions of Influence for Human and Environmental Resources

Resource Type	Resource Element	Region of Influence
Human Settlement	Displacement, Electrical Interference, Land Use and Zoning	Land control area
	Noise, Property Values	Local vicinity
	Aesthetics, Cultural Values, Recreation	Project area
	Socioeconomics	Region
Public Services	Airports, Roads, Emergency Services, Public Utilities	Project area
Public Health and Safety	Electric and Magnetic Fields, Implantable Medical Devices, Stray Voltage, Worker and Public Safety	Land control area
Land-based Economies	Agriculture, Forestry, Mining	Site control area
	Tourism	Project area
Archaeological and Historic Resources		Project area
Natural Environment	Geology and Groundwater, Soils, Vegetation, Water Resources, Wetlands, Wildlife (except birds), Wildlife Habitat	Land control area
	Wildlife (birds), Rare and Unique Resources	Local vicinity
	Air Quality	Region

4.2 Project Setting

The project is between US Highway 169 and County Road 101 (Highway 101) in an industrial area of Shakopee in Scott County. Other than Quarry Lake Park, located immediately west of the site, land use surrounding the project is predominantly industrial and commercial. The site is separated from residential areas by US Highway 169.

The proposed facility is located adjacent to Xcel Energy’s existing Blue Lake Peaking Plant and Blue Lake Substation in an industrial area between US Highway 169 and the Union Pacific Railroad in Shakopee, Minnesota (Figure 1). The topography at the site is slightly rolling, with a range in surface

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elevation from approximately 736 to 754 feet above sea level.⁶⁵ There is one delineated wetland within the site. There are no lakes, rivers, or other watercourses within the project site. The nearest waterbody is Quarry Lake, located approximately 275 feet west of the site boundary and 500 feet west of the preliminary development area. The nearest public water inventory (PWI) watercourse is an unnamed stream, located approximately 2,700 feet west of the site. The nearest PWI water body is Fisher Lake, located approximately 3,000 feet north of the site.⁶⁶

The project is in the Big Woods (222 Mb) subsection of the Eastern Broadleaf Forest Province. Prior to European settlement vegetation in the project area was primarily woodland and maple-basswood forests. Although most of this subsection is currently used for cropland and pasture, with small amounts that remain upland forest or wetland, the site itself is in an industrial area, Shakopee's Quarry Lake Park abuts the site to the west, but otherwise the surrounding land uses are predominantly industrial and commercial. The nearest residential areas are located across US Highway 169. In addition to the Blue Lake plant and substation facilities and the surrounding industrial and commercial buildings, built features common to the area include federal, state, and local roads, and railroads.

4.3 Human Settlement

Large energy projects can impact human settlement. Impacts might be short-term, such as increased local expenditures during construction, or long-term, such as changes to viewshed.

4.3.1 Aesthetics

The ROI for aesthetics is the project area. The project will introduce new manmade structures into the existing landscape. Portions of the project, particularly the gen-tie structures, may be visible from local roads, US Highway 169, Quarry Park, and nearby residences. Because of the project's location in an industrial area and the existing electrical infrastructure surrounding the project the impact intensity level is expected to be minimal. Impacts will be short- and long-term and localized. Potential impacts are unavoidable but can be mitigated in part.

Aesthetics refers to the visual quality of an area as perceived by the viewer and forms the impression a viewer has of an area. Aesthetics are subjective, meaning their relative value depends upon the perception and philosophical or psychological responses unique to individuals. Impacts to aesthetics are equally subjective and depend upon the sensitivity and exposure of an individual. How an individual values aesthetics, as well as perceived impacts to a viewshed, can vary greatly.

A viewshed includes the natural landscape and built features visible from a specific location. Natural landscapes can include wetlands, surface waters, distinctive landforms, and vegetation patterns. Buildings, roads, bridges, and power lines are examples of built features.

⁶⁵ SPA, Map 1

⁶⁶ SPA, p. 102

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Viewer exposure refers to variables associated with observing a viewshed, and can include the number of viewers, frequency and duration of views, and view location. For example, a high exposure viewshed would be observed frequently by large numbers of people. These variables, as well as other factors such as viewing angle or time of day, affect the aesthetic impact.

The existing landscape in the project area is a mixture of industrial, commercial, recreation, and suburban residential neighborhoods. The built environment in the project area includes highways and local roads, a railroad, warehouses and manufacturing facilities, and electric and infrastructure including the Blue Lake Generating Plant and the Blue Lake Substation adjacent to the facility as well as transmission and distribution lines. There are no residences within the site. The project is separated from residential neighborhoods by screening along the southern site boundary and by US Highway 169. The nearest home is located approximately 540 feet south of the site boundary and more than 2,000 feet from the proposed infrastructure).⁶⁷

POTENTIAL IMPACTS

The visible elements of the facility will consist of approximately 128 new BESS enclosures⁶⁸, a fenced area of approximately 5.2 acres, a project substation, up to 500 feet of new gen-tie line, up to four new transmission structures, a new 10-foot chain link fence surrounding the facility, and one or more new stormwater basins.⁶⁹

The project will convert approximately eight acres from its current landcover into a BESS facility. Although the change will be noticeable, the facility is similar in appearance to the existing electric infrastructure and other industrial and commercial features in the project area.

Aesthetic impacts from the project are anticipated to be minimal. The gen-tie structures will be the most visible element of the facility as the BESS enclosures would be relatively difficult to see due to their relatively low height, the site's topography and distance from roads and residential areas. For motorists along US Highway 169, the view would be fleeting. Residents in the project vicinity, residents traveling local roads, and users of the Quarry Lake Park are likely to be more sensitive to aesthetic impacts, but the topography of the site, but the substation and transmission structures would be indiscernible from those of the adjoining Blue Lake Substation.

Exterior security lighting will be installed at the project substation and within the ESS pad areas. Switch activated lights will be located at each BESS enclosure to allow for maintenance and repair.⁷⁰ Impacts to light-sensitive land uses are not anticipated given the industrial location and the minimal required lighting for operations.

⁶⁷ SPA, p. 44 and Appendix F, *Sound Study*

⁶⁸ SPA, p. 1, Appendix E, *Sound Study*

⁶⁹ SPA, p. 1, 25-29 Appendix E, *Sound Study*

⁷⁰ SPA, p. 46

MITIGATION

Minimizing aesthetic impacts from ESS facilities is primarily accomplished by locating the facilities so that they are not immediately adjacent to homes, ensuring that damage to natural landscapes during construction is minimized, minimizing impacts from facility lighting, and shielding the facilities from view by terrain or vegetation.

The DSP (**Appendix C**) includes several conditions that help minimize aesthetic impacts from the project.

- Section 4.3.8 requires the permittee to consider landowner input with respect to visual impacts and to use care to preserve the natural landscape.
- Section 4.3.28 requires the permittee to minimize lighting impacts by using shielded and downward facing light fixtures and using lights that minimizes blue hue.

Xcel Energy proposes to develop a vegetative screening plan in coordination with the City of Shakopee to screen the project from adjacent properties and from public viewpoints including Quarry Lake Park.⁷¹ Section 5.1 of the DSP is a special condition requiring the permittee to include the plan and certification of its distribution along with the site plan required by section 8.3 of the permit.

Aesthetic impacts can also be mitigated through individual agreements with neighboring landowners (sometimes referred to as good neighbor agreements). Such agreements are not within the scope of this EA.

4.3.2 Noise

The ROI for noise is the local vicinity. The impact intensity level during construction will range from negligible to significant depending on the activity, potential construction impacts are anticipated to be intermittent and short-term. Impacts are unavoidable but can be minimized. These localized impacts may affect nearby residences and businesses and might exceed state noise standards. Once operational, noise impacts are anticipated to be negligible for nearby residents, as the project-related noise is less than the existing background noise. Noise impacts from operation of the facility can be minimized mitigated.

Noise can be defined as any undesired sound. It is measured in units of decibels on a logarithmic scale. The A-weighted scale (“dBA”) is used to duplicate the sensitivity of the human ear.⁷² A three dBA change in sound is barely detectable to average human hearing, whereas a five dBA change is clearly noticeable. A 10 dBA change is perceived as a sound doubling in loudness. Noise perception is dependent on a number of factors, including wind speed, wind direction, humidity, and natural

⁷¹ SPA, pp. 45-46

⁷² MPCA. *A Guide to Noise Control in Minnesota*. (2015). <https://www.pca.state.mn.us/sites/default/files/p-gen6-01.pdf>.

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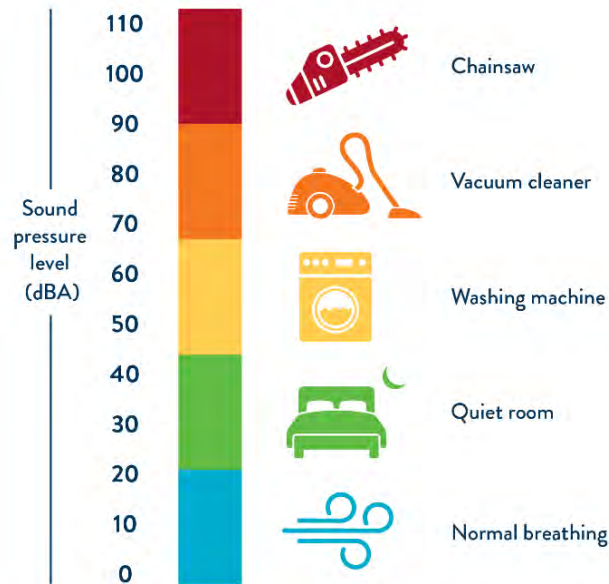
and built features between the noise source and the receptor. Figure 5 provides decibel levels for common indoor and outdoor activities.⁷³

In Minnesota, noise standards are based on *noise area classifications* (NAC) corresponding to the location of the listener, referred to as a receptor. NACs are assigned to areas based on the type of land use activity occurring at that location. Household units, designated camping and picnicking areas, resorts and group camps are assigned to NAC 1; recreational activities (except designated camping and picnicking areas) and parks are assigned to NAC 2; agricultural and related activities are assigned to NAC 3. A complete list is available at Minnesota Rule 7030.0050.

Noise standards are expressed as a range of permissible dBA over a one-hour period. L_{10} may be exceeded 10 percent of the time, or six minutes per hour, while L_{50} may be exceeded 50 percent of the time, or 30 minutes per hour. Standards vary between daytime and nighttime hours. There is no limit to the maximum loudness of a noise. Table 6 provides current Minnesota noise standards.

The MPCA noise standards are public health standards. That is, they protect people from noise generated by all sources at a specific time and place. The total sum of noise at a specific time and location cannot exceed the standards. The MPCA evaluates whether a specific noise source is in violation by determining if the source causes or significantly contributes to a violation of the standards.

Figure 5. Common Noise Levels



⁷³ Federal Aviation Administration (February 9, 2018) *Fundamentals of Noise and Sound*, retrieved from: https://www.faa.gov/regulations_policies/policy_guidance/noise/basics/.

Table 6. Noise Area Classifications (dBA)

Noise Area Classification	Daytime (7:00 a.m. to 10:00 p.m.)		Nighttime (10:00 p.m. to 7:00 a.m.)	
	L ₁₀	L ₅₀	L ₁₀	L ₅₀
1	65	60	55	50
2	70	65	70	65
3	80	75	80	75

Existing background noise sources in the local vicinity include the Blue Lake Peaking Plant, Blue Lake Substation, traffic on US Highway 269 and, to a lesser degree local roads, rail traffic, and nearby industrial operations.⁷⁴ As part of the work at the Blue Lake Peaking Plant in 2022, Xcel measured ambient sound at nearby residences south of US Highway 169. The ambient nighttime sound observed at two residences were measured at 64 and 70 dBA, with highway noise as the largest noise contributor.

POTENTIAL IMPACTS

The primary noise receptors are the local residences. The proposed project is in an industrial area and is near a railroad and US Highway 169. There are no residences within the site, the closest residences are located approximately 500 feet from the site boundary and 2,000 feet from the permanent infrastructure area.⁷⁵ Residences are in NAC 1. Noise receptors could also include individuals working outside in the project vicinity. Potential noise impacts from the project are associated with construction noise and operational noise.⁷⁶

Construction Noise from construction will be temporary in duration, limited to daytime hours and potentially moderate to significant depending in location. Xcel Energy indicates its intent to limit construction noise to daytime hours to the extent practicable.⁷⁷ Construction noise will vary depending upon the phase of construction and the equipment being used. Sound levels from grading equipment are not dissimilar from the typical tractors and larger trucks that frequent the adjacent businesses. Pile driving of the piers for BESS enclosures will also contribute to construction noise. The noise from construction activities would dissipate with distance and be audible at varying decibels, depending on the locations of the equipment and receptor.

⁷⁴ SPA, at p. 63

⁷⁵ SPA, at pp. 46, 59, Appendix E.

⁷⁶ SPA at p. 65

⁷⁷ SPA, p. 66

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Thus, this construction noise could exceed state noise standards at select times and locations. Exceedances would be short-term and confined to daytime hours. Even without an exceedance, noise impacts will occur.

Operation The primary noise sources during facility operation are the substation transformer, inverters and the cooling equipment in the BESS containers.⁷⁸ Unlike solar facilities, which do not operate during the night, BESS facilities can be expected to operate throughout the day, resulting in noise levels may vary throughout the day.

The applicant modeled noise levels from the facility using manufactures information for the substation transformer, 32 medium voltage transformers, two auxiliary transformers, and 128 Power Titan BESS containers. The applicant used manufacturers sound level data for the BESS containers and the medium voltage transformers, in-house calculations based on the unit's rated system voltage for the two auxiliary transformers, and industry-accepted sources for the substation transformers. The modeling estimates facility-only nighttime noise of 50 dBA, below the ambient noise of 64 and 70 dBA at the modeled residences. Because the modeled results are less than the ambient noise of 64 and 70 dBA at the modeled residences, primarily from highway traffic, the noise is not anticipated to be a significant contributor to total sound levels in the area and is not expected to have a perceptible impact at residences and other sensitive receptors.⁷⁹ Noise from routine maintenance activities is anticipated to be negligible to minimal. Noise from the electrical collection system is not expected to be perceptible. The noise analysis did not incorporate assumptions for battery augmentation that may require new BESS enclosures or new battery equipment.

4.3.2.1 MITIGATION

Sound control devices on vehicles and equipment (e.g., mufflers), conducting construction activities during daylight hours, and running vehicles and equipment only when necessary are common ways to mitigate noise impacts during construction. Xcel Energy indicates it will mitigate construction noise impacts by limited construction to daytime hours to the extent practicable and ensuring that equipment and vehicles are operated with functioning mufflers and noise control devices.⁸⁰

Xcel Energy has not proposed noise mitigation measures once the facility is operational. Additional mitigation measures to minimize noise during operation include selecting individual BESS units with lower noise levels, installing equipment silencers on BESS enclosures, installation of noise barriers (such as fences or berms), and operational limits. Xcel Energy's sound level study concluded that mitigation such as low noise equipment or sound walls may reduce noise from the project, but given the existing ambient noise from highway traffic, such measures would not effectively reduce noise experienced by residential receptors.⁸¹

⁷⁸ SPA, p. 65

⁷⁹ SPA, pp. 65-66 Appendix F, pp. 4-3 to 4-4

⁸⁰ SPA, p. 66

⁸¹ SPA, Appendix F, p. 4-4

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The DSP (**Appendix C**) includes permit conditions to minimize and mitigate noise impacts.

- Section 4.3.7 is a standard condition that requires the permittee to comply with noise standards established under Minnesota noise standards as defined under Minnesota Rule, part 7030.010 to 7030.0080, and to limit construction and maintenance activities to daytime hours to the extent practicable.
- Section 5.3 is a special condition that requires the permittee to file a pre-construction noise modeling and impact assessment summarizing results from noise propagation modeling using the selected equipment and final layout prior to construction of the facility. This condition also requires the permittee to file an updated noise impact assessment prior to modifying the permitted facility.
- Section 5.4 is a special condition that requires the permittee to file a proposed methodology for conduct of a post-construction noise study prior to construction of the project and to file the noise study within 18 months of operation. This section also clarifies that the project must be operated to comply with MPCA noise standards at all times and that the Permittee may be required to modify design or operation of the facility to comply with MPCA noise standards.

4.3.3 Cultural Values

The ROI for cultural values is the project area. The impact intensity is expected to be minimal and long-term. Because of the project's location in an industrial area and its relatively small size, development of the project will not change the character of the area., Construction and operation of the project is not anticipated to impact or alter the work and leisure pursuits of residents in the project area in such a way as to impact the underlying culture of the area.

Cultural values can be defined as shared community beliefs or attitudes that define what is collectively important to the group. These values provide a framework for individuals and community thought and action. Infrastructure projects believed inconsistent with these values can deteriorate community character. Those found consistent with these values can strengthen it. Projects often invoke varying reactions and can, at times, weaken community unity.

Individual and community-based renewable energy is becoming more valued across the nation. Utility scale renewable projects are also valued, but, at times, opposed by residents. In rural areas particularly, the highly visible, industrial look and feel of these projects can erode the rural feeling that is part of a residents' sense of place.

Cultural values can be informed by ethnic heritage. Prior to European settlement, the project area was home to the Mdewakanton band of the Dakota-Santee tribe.⁸² The Shakopee Mdewakanton

⁸² Scott County, 2040 Comprehensive Plan, <https://www.scottcountymn.gov/DocumentCenter/View/12631/Scott-County-2040-Comprehensive-Plan-?bidId=>, p. III-1

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Sioux Community (SMSC) is a federally recognized sovereign nation responsible for providing for the wellbeing of its members.⁸³

Current residents of in the project area derive primarily from European ancestry, although the county has seen growth in the proportion of people who identify as nonwhite.⁸⁴ Cultural values are also informed by work and leisure pursuits, as well as land use. Community events in the project area are usually tied to geographic features, seasonal/municipal events, and national holidays.

The City of Shakopee's comprehensive plan seeks to locate utilities in non-residential districts with access to streets that can accommodate heavy traffic.⁸⁵

POTENTIAL IMPACTS

Construction and operation of the project is not anticipated to impact or alter the work life and leisure pursuits of residents or visitors in the project area or affect land use in such a way as to impact the underlying culture or community unity of the area.

Because of the relatively small size of the project and the location in an industrial area impacts to cultural resources from the project are anticipated to be minimal.

MITIGATION

There are no conditions included in the DSP that directly address mitigation for impacts to cultural values. No mitigation is proposed.

4.3.4 Land Use and Zoning

The ROI for land use and zoning is the land control area. The impact intensity level is anticipated to be minimal. Land use impacts are anticipated to be long-term and localized. Although energy storage systems are not specifically addressed in local planning documents or zoning codes, the proposed facility is generally consistent with local land use ordinances and the City of Shakopee's Comprehensive Plan. After the project's useful life, the land control area could be restored to other planned land uses by implementing appropriate restoration measures. Impacts can be minimized.

Land use is the characterization of land based on what can be built on it and how the land is used. Zoning is a regulatory tool used by local governments (cities, counties, and some townships) to guide specific land uses within specific geographic areas. Land cover documents how much of a region is covered by forests, wetlands, impervious surfaces, agriculture, and other land and water types, including wetlands. Construction of the BESS will alter current and future land use and land cover in the land control area.

⁸³ Shakopee Mdewakanton Sioux Community, Frequently Asked Questions, <https://shakopeedakota.org/faqs/>

⁸⁴ Ibid. p. III-5

⁸⁵ City of Shakopee, *2040 Comprehensive Plan: Envision Shakopee*, <https://cld.bz/6lkEdse/158/> p. 155

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The National Land Cover Database provides “spatial reference and descriptive data for characteristics of the land surface” nationwide.⁸⁶ Currently the land cover at the site is a mixture of herbaceous, developed open space, and forested land.

A site permit from the Commission supersedes local zoning, building, or land use rules.⁸⁷ Though zoning and land use rules are superseded, the Commission’s site permit decision must be guided, in part, by consideration of impacts to local zoning and land use in accordance with the legislative goal to “minimize human settlement and other land use conflicts.”⁸⁸

Xcel Energy proposes to locate the project in the City of Shakopee’s Light Industrial Zone. The City’s Municipal Code does not specifically address BESS or energy storage facilities except in relation to solar energy systems.⁸⁹ Utility services (which include services supplying electric services to the general public), and utility service structures, defined as any building or structure necessary for the operation of public or private utility services, are a permitted use in the city of Shakopee’s Light Industry Zone.⁹⁰

The SMSC’s tribal lands are in Prior Lake and Shakopee. All land held by the SMSC is held communally by all members.⁹¹ The site is not on or adjacent to tribal lands; the nearest SMSC land is south of Dean Lake, approximately 1.5 miles south of the site boundary.⁹²

POTENTIAL IMPACTS

The project appears to be consistent with the types of permitted uses in Shakopee’s Light Industrial Zone, and the surrounding land uses.

Xcel Energy estimates that approximately 7.8 acres will be converted from its current landcover to impermeable surfaces the life of the facility.

MITIGATION

Minimizing land use impacts from energy storage facilities is primarily accomplished by locating the facilities consistent with adjacent land uses.

⁸⁶ U.S. Geological Survey. *The National Land Cover Database*. (February 2012), retrieved from: <http://pubs.usgs.gov/fs/2012/3020/fs2012-3020.pdf>.

⁸⁷ Minn. Stat. 216I.19, subd. 1, Minnesota Statutes [216E.10](#), subd. 1.

⁸⁸ Minn. Stat. 216I.05, subd. 11((a)(2); Minnesota Statutes [216E.03](#), subd. 7.

⁸⁹ ⁸⁹ City of Shakopee, 2022, *Municipal Code of the City of Shakopee, Minnesota, Section 151.002*, https://shakopee.municipalcodeonline.com/book?type=ordinances#name=151.002_Definitions

⁹⁰ City of Shakopee, 2022, *Municipal Code of the City of Shakopee, Minnesota, Section 151.045*, [https://shakopee.municipalcodeonline.com/book?type=ordinances#name=151.045_Light_Industry_Zone_\(I-1\)](https://shakopee.municipalcodeonline.com/book?type=ordinances#name=151.045_Light_Industry_Zone_(I-1))

⁹¹ Scott County, 2040 Comprehensive Plan. p. I-7

⁹² MnDOT, Shakopee Mdewakanton Sioux Tribal Government Map, 2024, <https://www.dot.state.mn.us/maps/gdma/data/maps/tribal/shakopee.pdf>

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Section 9.2 of the DSP (**Appendix C**) requires the permittee to remove all project-related infrastructure and restore and reclaim the site to pre-project conditions to the extent feasible. The applicant's draft decommissioning plan is found in Appendix E of the site permit application.

4.3.5 Property Values

The ROI for property values is the local vicinity. Impacts to property values within the local vicinity could occur; however, changes to a specific property's value are difficult to determine. Because of the project's location in an industrial area and the separation from residential areas, impacts to specific properties are expected to be negligible to minimal.

Impacts to property values can be measured in three ways: sale price, sales volume, and marketing time. These measures are influenced by a complex interaction of factors. Many of these factors are parcel specific, and can include condition, size, acreage, improvements, and neighborhood characteristics; the proximity to schools, parks, and other amenities; and the presence of existing infrastructure, for example, highways or transmission lines. In addition to property-specific factors, local and national market trends, as well as interest rates, can affect all three measures. The presence of an energy storage facility becomes one of many interacting factors that could affect a specific property's value.

Because each landowner has a unique relationship and sense of value associated with their property a landowner's assessment of potential impacts to their property's value is often a deeply personal comparison of the property "before" and "after" a proposed project is constructed. The landowner's judgments, however, do not necessarily influence the market value of a property. Professional property appraisers assess a property's value by looking at the property "after" a project is constructed. Moreover, potential market participants are likely to see the property independent of the changes brought about by a project; therefore, they do not take the "before" and "after" into account the same way a current landowner might. Staff acknowledges this section does not and cannot consider or address the fear and anxiety felt by landowners when facing the potential for negative impacts to their property's value.⁹³

POTENTIAL IMPACTS

Electrical generating facilities can impact property values. Often, negative effects result from impacts that extend beyond the project location. Examples include emissions, noise, and visual impacts. Unlike fossil-fueled electric generating facilities, the project would not generate emissions. Potential impacts from operational noise are possible. Aesthetic impacts will occur, but because the project is relatively low in height – as compared to a wind turbine or a smokestack – impacts would be localized.

Commission staff was unable to locate peer reviewed literature that addressed potential impacts to property values from stand-alone BESS.

⁹³Department of Commerce (2022) *Rights-of-way and Easements for Energy Facility Construction and Operation*, retrieved from: <https://apps.commerce.state.mn.us/eera/web/project-file/12227>

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Impacts to the value of specific properties within the project vicinity are difficult to determine but could occur. Considerations such as setbacks, benefits to the community, economic impact, noise, and screening could have an unpredictable range of influence over property value.

To the extent that negative impacts do occur they are expected to decrease with distance from the project. Aesthetic and noise impacts that might affect property values would be limited to residences and parcels in the project vicinity where the facility may be visible and where noise impacts from operation may occur. The project is located in an industrial area and separated from nearby residences by US Highway 169. Although there are homes within the local vicinity (1,600 feet of the site boundary), the nearest homes are located approximately 2,000 feet from the developed area.

Given the project's location in an industrial area and the distance from residences, impacts to property values are anticipated to be negligible to minimal.

MITIGATION

Impacts to property values can be mitigated by reducing aesthetic impacts and encumbrances to future land use. Impacts can also be mitigated through individual agreements with neighboring landowners. Such agreements are not within the scope of this EA.

4.3.6 Transportation and Public Services

The ROI for transportation and public services is the project area. Potential impacts to the electrical grid, roads and other utilities are anticipated to be short-term, intermittent, and localized during construction. Impacts to existing wells, septic systems, and railroads are not expected to occur. Construction of the project will require relocation of the access road to the Magellan pipeline valve site, but with proper marking to avoid work near underground utilities direct impacts to existing pipelines are not expected. Impacts to railroads and pipelines are not expected to occur. Overall, construction-related impacts are expected to be minimal, and are associated with possible traffic delays. During operation, negligible traffic increases would occur for maintenance. Impacts are unavoidable but can be minimized.

Public services are services provided by a governmental entity or by a regulated private entity to provide for public health, safety, and welfare.

Water and Wastewater: The City of Shakopee provides municipal water and wastewater services to the project area. The applicant has not identified any existing wells or septic fields on the site in its search of Minnesota Department of Health (MDH) and landowner records.⁹⁴

Electric Utilities: The primary electric provider in the project area is Shakopee Public Utilities, but Xcel Energy serves the immediate vicinity and many of the industrial users surrounding the project.⁹⁵

⁹⁴ SPA, p. 68

⁹⁵ Commission , *Electric Utility Service Areas Map*, <https://minnesota.maps.arcgis.com/apps/webappviewer/index.html?id=95ae13000e0b4d53a793423df1176514/>

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There are 10 transmission lines with capacities of between 100 and 345 kV within the site, all connecting to the Blue Lake Substation⁹⁶ In addition to the high voltage transmission lines, there are lower voltage electric distribution lines throughout the project area.

Pipelines: A Magellan natural gas pipeline is located within the site, but outside of the preliminary development area. An inactive Magellan pipeline travels under the site from the Magellan valve building (located the northeast portion of the site, outside the permanent infrastructure area). Xcel Energy owns a pipeline west of the site that terminates at the Blue Lake Peaking Plant.⁹⁷

Railroads: The Chicago, Milwaukee, St. Paul and Pacific Railroad is along the project's northern boundary, between the site and Highway 101. The project will avoid railroad property and railroad right of way (ROW).⁹⁸

Roads: The access to the site is off 70th Street South, along the western boundary of the site. 70th Street can be accessed from Highway 101, located approximately 0.4 miles north of the developed area U.S. Highway 169 is located just south of the site boundary, but the site is not accessible from US Highway 169.⁹⁹

Airports: The project is approximately 3.4 miles southeast of the Flying Cloud Airport and 14.5 miles southwest of the Minneapolis Saint Paul international Airport. To ensure safety, both the Federal Aviation Authority (FAA) and MnDOT office of Aeronautics have established guidelines for the location of structures near airports. The FAA has height restrictions for development near public airports and guidelines for placement of buildings and other structures near high frequency omnidirectional range navigation systems. MnDOT has zoning areas around public airports that restrict the area where buildings and other structures can be placed. The restricted area (influence area) can extend several miles for an airport boundary.¹⁰⁰ The project is located approximately 4,400 feet (0.8 miles) outside of the Flying Cloud Airport's influence area and 12.3 miles outside of the Minneapolis Saint Paul Airport's influence area.

POTENTIAL IMPACTS

Large energy projects can impact public services, such as buried utilities or roads. These impacts are usually temporary, for example, road congestion associated with material deliveries. Impacts can be long-term if they change the area in a way that precludes or limits public services.

⁹⁶ SPA, p. 69 and Figure 2.

⁹⁷ SPA, p 69; US Department of Transportation, National Pipeline Mapping System Public Viewer, <https://pvnpm.phmsa.dot.gov/PublicViewer/>

⁹⁸ SPA, p. 67

⁹⁹ SPA, pp. 66-67

¹⁰⁰ MnDOT, *Airport Influence Areas*, [Aviation: Airport Influence Map - Aeronautics - MnDOT](#)

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Water and Wastewater: Xcel Energy does not anticipate installing either a well or onsite septic system. Operations staff work out of the existing Blue Lake Generation Plant and will use the water and wastewater facilities at the plant.

Railroads: No impacts to railroads are anticipated. The project will avoid railroad property and railroad ROW.¹⁰¹

Roads: During construction workers and trucks delivering construction material and equipment will use the existing state, county, and township road system to access the project. Traffic during construction is estimated to be approximately 15 to 35 pickup trucks, cars, and/or other types of employee vehicles onsite during construction. Truck traffic to the site will vary by construction phase. Xcel Energy anticipates up to 15 semi-trucks per day will be used for delivery of facility the BESS components and three truck trips per day during the mechanical, electrical, and commissioning stage. Construction traffic will be perceptible to area workers and residents, but because the average daily traffic on the area is well below design capacity, this increased traffic is not expected to affect traffic function. Slow-moving construction vehicles may also cause delays on smaller roads; however, these delays should be minimal for the relatively short construction delivery period. Xcel Energy anticipates that overweight or oversized loads are unlikely but will obtain appropriate approvals for these loads prior to construction.¹⁰²

No impacts to roads are anticipated during the operation; negligible traffic increases would occur for maintenance.

Electric Utilities: No long-term impacts to utilities will occur because of the project. The Project will impact existing utilities during the interconnection of the project substation to the Blue Lake Substation.¹⁰³

Pipelines: Impacts to pipelines could occur during construction if existing pipelines are disturbed. The project will also require relocation of the existing access road to the Magellan valve station.

Air Safety: The project is located outside of designated airport influence areas. No impacts to regional aviation are anticipated from the project.

MITIGATION

Water and Wastewater: The project will not impact water and wastewater resources, and no mitigation measures are proposed.

Utilities: Section 4.3.5 of the DSP (**Appendix C**) is a standard permit condition that requires the permittee to minimize disruptions to public utilities. Disruptions can be minimized by scheduling and

¹⁰¹ SPA, p. 71

¹⁰² SPA, p. 71

¹⁰³ SPA, p. 72

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coordinating the required work to ensure that the work is done safely and does not cause widespread disruptions in electric service and reliability. Transmission outages must be coordinated through MISO.

The location of underground utilities can be identified using the Gopher State One Call system during engineering surveys and marking the underground utility locations prior to construction. If a utility is identified, the project component or the utility itself might need to be relocated if it cannot be successfully crossed. Relocation, as well as any necessary crossing, would need to be coordinated with the affected utility.

Railroads: As no impacts to existing railroads are anticipated, no mitigation is proposed.

Roads: New driveways, from 70th Street South may require permits from the City of Shakopee.

Section 4.3.5 and 4.3.19 require the permittee to develop a traffic management plan and advise road authorities of the roads it will use during construction and acquire necessary permits and approvals for oversize and overweight loads. Permitted fencing and vegetative screening cannot interfere with road maintenance activities, and the least number of access roads shall be constructed.

In addition to permit requirements for driveway access and the conditions of the draft site permit, the following practices can mitigate potential impacts:

- Pilot vehicles can accompany movement of heavy equipment.
- Deliveries can be timed to avoid traffic congestion and dangerous situations on the roadway.
- Traffic control barriers and warning devices can be used as necessary.
- Photographs can be taken prior to construction to identify pre-existing conditions. Permittees would be required to repair any damaged roads to preconstruction conditions.

4.3.7 Socioeconomics

The ROI for socioeconomics is the region. The impact intensity level is anticipated to be minimal and positive. Effects associated with construction will, overall, be short-term and minimal. Significant positive effects may occur for individuals. Impacts from operation will be long-term and negligible. Adverse impacts are not anticipated.

The project is in an area that is growing faster than the state of Minnesota as a whole (Table 7). Between 2000 and 2020, the population in Scott County grew by nearly 67 percent, compared to 15.9 percent for Minnesota as a whole. The population of Shakopee has more than doubled, increasing by 113 percent.

Table 7. Population Characteristics

Area	Total Population				Population Characteristics		
	2000 Census*	2020 Census*	% Change 2000 - 2020	2024 Estimate **	% Minority*‡	Median Household Income (\$)***	% Below Poverty Level ***
Minnesota	4,919,479	5,706,494	15.9	5,842,388	22.4	87,117	9.3
Scott County	89,498	150,928	68.6	157,576	22.3	\$117,064	5.6
Shakopee ¹⁰⁴	20,499	43,698	113.2	46,660	33.7	110,989	5.1

* U.S. Census Bureau, <https://data.census.gov/>; [Scott County, Minnesota - Census Bureau Search](#) , [Shakopee city, Scott ... - Census Bureau Search](#)

** 2022, Minnesota State Demographic Center, Population Data, Our Estimates, <https://mn.gov/admin/demography/data-by-topic/population-data/our-estimates/>

*** 2022 American Community Survey 5-year estimates

‡ Minority population includes all persons who do not self-identify as white alone.

The median incomes of both Scott County and Shakopee are substantially higher than for Minnesota as a whole. Scott County’s percentage of minority population is essentially the same as for Minnesota as a whole, while Shakopee has a substantially higher portion of its population that identify as minority. (Table 7).

In 2024, the sectors with the largest employment in Scott County were transportation and warehousing (15.8 percent), manufacturing (11.8 percent), accommodation and food services (11.5 percent) and health care and social assistance (9.7 percent).¹⁰⁵ Scott County is part of the Minnesota Department of Employment and Economic Development Region 11, which is in the Twin Cities Planning Region. Unemployment rates fluctuate with the economy, but the unemployment rate for Region 11 has consistently tracked lower than the state.¹⁰⁶ In 2024, Scott County had a slightly lower

¹⁰⁴ US Census, Population Profile - Shakopee City, Minnesota, [Shakopee city, Minnesota - Census Bureau Profile](#)

¹⁰⁵ Minnesota Department of Economic Employment and Development (DEED). County Profile: Scott County. (2024) https://mn.gov/deed/assets/052725_scott_tcm1045-407444.pdf,

¹⁰⁶ DEED. *Economic Development Region 11: Twin Cities, 2025 Regional Profile*. (2025), https://mn.gov/deed/assets/2025_TwinCities_tcm1045-133249.pdf

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unemployment rate (2.4 percent) than the state average (2.8 percent). The county also had a higher labor force participation rate (75.3 percent) than Minnesota as a whole (68.5 percent).¹⁰⁷

POTENTIAL IMPACTS

Potential impacts associated with construction will be positive, but minimal and short-term. Significant positive effects might occur for individuals. Impacts from operation will be long-term, positive, and minimal. The project will not disrupt local communities or businesses and does not disproportionately impact low-income or minority populations (see discussion of environmental justice in Section 4.3.8). Adverse impacts are not anticipated.

The applicant anticipates the project will require an average of 30 workers on site, with peak levels of up to 80, during the construction phase, and three long-term personnel during the operations phase. Indirect economic benefits will occur from additional local spending on lodging, goods and services and local sales tax.¹⁰⁸

Construction of the project is likely to result in increased expenditures for lodging, food and fuel, transportation, and general supplies at local businesses during construction. The applicant indicates it plans to use union labor to construct the project and anticipates that general skilled labor is expected to be available in the Twin Cities metro area. Construction will require Minnesota licensed electricians because most of the assembly and wiring for the BESS equipment is considered electrical work under the Minnesota electrical code.¹⁰⁹

Xcel Energy anticipates that the project will have annual property tax payments of approximately \$three million to the City of Shakopee and Scott County over the anticipated twenty year life of the project.¹¹⁰ Unlike solar and wind facilities that pay a production tax based on energy generated, Xcel Energy will not pay a production tax because the facility does not generate power, it stores power.

The project will not remove any land from agricultural production and will not impact agricultural-related businesses.

MITIGATION

Section 8.5 of the DSP (**Appendix C**) requires quarterly reports concerning efforts to hire Minnesota workers.

Section 8.6 of the DSP requires the permittee, as well as its construction contractors and subcontractors, to pay no less than the prevailing wage rate.

¹⁰⁷ DEED. County Profile: Scott County. (2025) https://mn.gov/deed/assets/052725_scott_tcm1045-407444.pdf

¹⁰⁸ SPA, pp. 33, 71, 81

¹⁰⁹ SPA, pp. 80-81

¹¹⁰ SPA, p. 81

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As socioeconomic impacts are anticipated to be positive in the short term and insignificant over the long term operation of the project. No additional mitigation is proposed.

4.3.8 Environmental Justice

The ROI for environmental justice analysis is the region. The project is within an environmental justice community as defined by Minnesota Statute. However, it is not anticipated have disproportionately high and adverse human health or environmental effects on low-income, minority, or tribal populations. Potential impacts from construction of the project can be minimized with a community benefits agreement.

Environmental justice (EJ) means the “fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, implementation, and enforcement of environmental laws, regulations, and policies.”¹¹¹ The purpose of considering impact to environmental justice communities is to ensure that all people benefit from equitable levels of environmental protection and have the same opportunities to participate in decisions that might affect their environment or health. Minnesota defines an environmental justice area as meeting one or more of the following criteria:¹¹²

- (1) 40 percent or more of the area's total population is nonwhite;
- (2) 35 percent or more of households in the area have an income that is at or below 200 percent of the federal poverty level;
- (3) 40 percent or more of the area’s residents over the age of five have limited English proficiency; or
- (4) the area is located within Indian country, as defined in [United State Code, title 18, section 1151](#).

MPCA’s “Understanding Environmental Justice in Minnesota” web-based mapping tool was used to determine whether the project intersects any census tracts with EJ populations based on the definitions above.¹¹³ [Figure 6](#) shows the census tract where the project will be constructed.

¹¹¹ MPCA, Environmental Justice Website, <https://www.pca.state.mn.us/about-mpca/environmental-justice>.

¹¹² Minn. Stat. 216B.1691, subd. 1(e)

¹¹³ MPCA, Understanding environmental justice in Minnesota Mapping Tool, 2023. <https://experience.arcgis.com/experience/bff19459422443d0816b632be0c25228/page/Page/?views=EJ-areas>.

Figure 6. Census Tracts

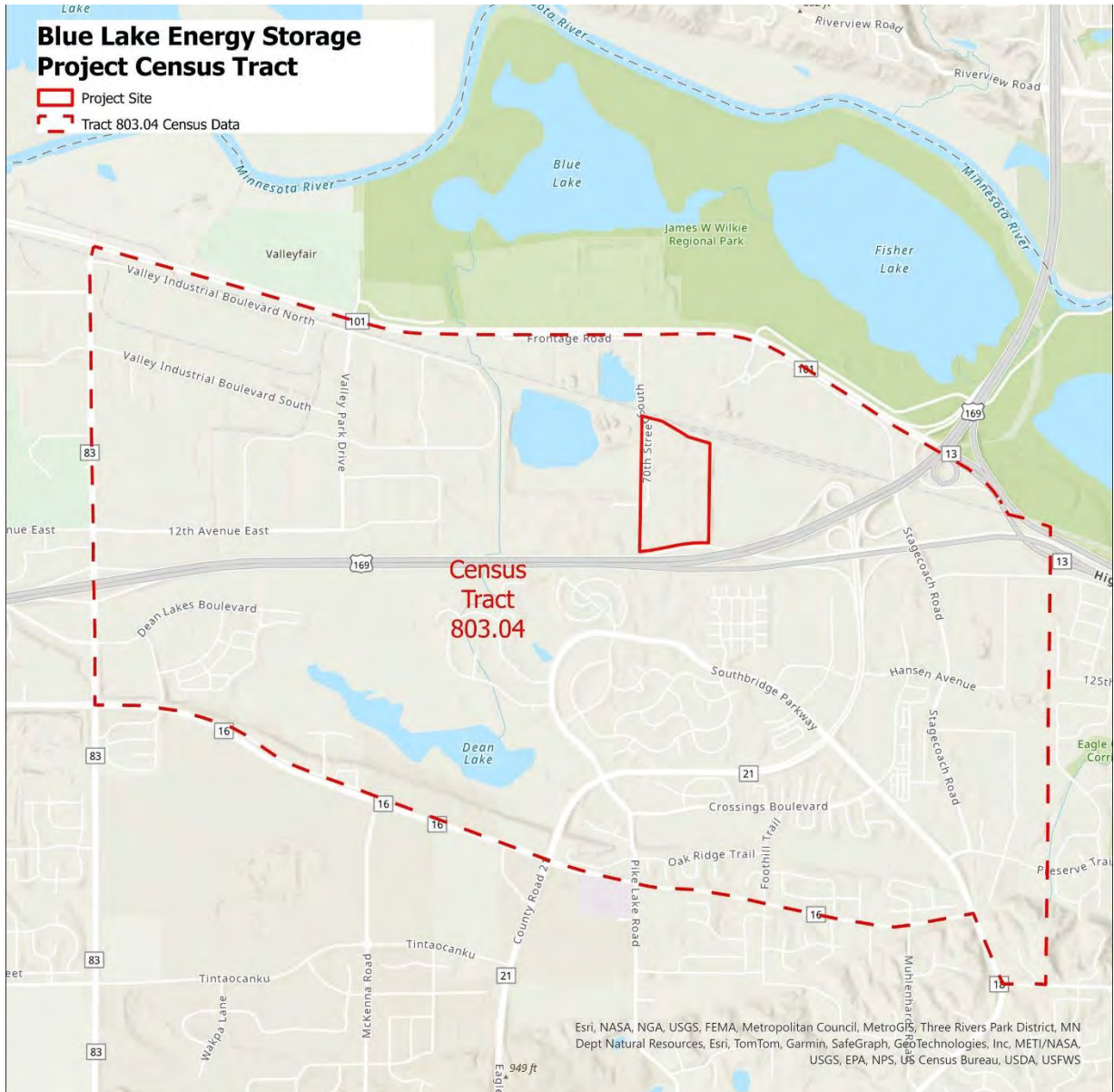


Table 8 provides data from the MPCA mapping tool to identify EJ communities in the project area. This tool uses information from the U.S. Census Bureau's five-year 2018-2022 American Community Survey data and tribal areas derived from the U.S. Census Bureau's 2023 Cartographic Boundary File and Minnesota Department of Transportation's Tribal Government in Minnesota.

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The MPCA defines “Environmental justice” as the right of communities of color, Indigenous communities, and low-income communities, to the enjoyment of a healthy environment and to fair treatment with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. “Environmental justice community” or “EJ community” means a people group or geographic location that experiences environmental justice related harms and risks.

Table 8. Low-Income and Minority Population Characteristics¹¹⁴

Project Census Tract	% Population Below 200% Poverty Level	% Nonwhite Population [‡]	% Population with Limited English	Indian Country?
Census Tract 803.04	15.0	42.6	8.6	No

[‡] Minority population includes all persons who do not self-identify as white alone.

POTENTIAL IMPACTS

Based on the MPCA’s mapping tool, as well as the project area population and demographics data, the proposed site is located within a census tract that is considered an EJ community. The nonwhite population of the census tract where the project is proposed is high enough to identify this tract an EJ area.

Potential EJ impacts from the project are primarily associated with construction. The project has the potential to impact the local community through aesthetics, noise and air quality by way of fugitive dust from construction vehicles. Traffic has the potential to also negatively impact the community. These impacts will be minimal to moderate and short-term. These impacts can be mitigated.

MITIGATION

The DSP (**Appendix C**) includes permit conditions to minimize and mitigate construction impacts.

- Section 4.3.7 requires the permittee to limit construction and maintenance activities to daytime working hours to the extent practical.
- Section 4.3.5 and 4.3.19 require the permittee to develop a traffic management plan and advise road authorities of the roads it will use during construction.

In addition to these mitigation measures, Xcel Energy indicates it is considering several additional mitigation measures for the project.¹¹⁵

¹¹⁴ MPCA, Understanding Environmental Justice in Minnesota, <https://experience.arcgis.com/experience/bff19459422443d0816b632be0c25228/page/Page/?views=EJ-areas>

¹¹⁵ SPA, pp. 51-52

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- Working with local school districts to identify school routes and commute times to minimize construction traffic along those roads during peak use;
- Using equipment haul roads that would avoid residential areas, schools, and peak commuter times, where possible;
- Implementing noise control measures during construction, if necessary;
- Complying with applicable air quality regulations;
- Reducing vehicle and equipment speed in construction work areas and on access roads to account for environmental conditions;
- Community engagement via City Officials, local tribal entities, and public meetings through Commission approval; and,
- Economic and workforce inclusion by hiring local craft labor.

One strategy that could incorporate Xcel Energy’s listed mitigation measures is the development of a community benefits agreement. These agreements, formed between the project owner and host community (city of Shakopee), can be tailored to support priorities unique to the host community. Project-specific community benefit agreements for energy project have been used in recent projects in rural areas, including in Minnesota.¹¹⁶ Community investment funds, grants to the host community, funding for community projects, scholarships, and training programs are all examples of collective benefits that can be included in benefits agreements as means to mitigate the impacts of energy infrastructure projects.

Section 5.6 of the DSP is a special condition that requires the permittee to establish a community benefit agreement with the city of Shakopee to mitigate potential environmental justice impacts from the project.

4.4 Human Health and Safety

Construction and operation of a BESS facility has the potential to impact human health and safety.

4.4.1 Electronic and Magnetic Fields

The ROI for EMF is the land control area. Impacts to human health from possible exposure to EMFs are not anticipated.

EMFs are invisible forces that result from the presence of electricity. They occur naturally and are caused by weather or the geomagnetic field. They are also caused by all electrical devices and found

¹¹⁶ Mallory Trope, Center for Rural Affairs, *Empowering Rural Development through Community Benefit Agreements* (2024), <https://www.cfra.org/sites/default/files/publications/Empowering%20Rural%20Development%20through%20Community%20Benefit%20Agreements%20WEB.pdf>

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wherever people use electricity. EMFs are characterized and distinguished by their frequency, that is, the rate at which the field changes direction each second. Electrical lines in the United States have a frequency of 60 cycles per second or 60 hertz, which is extremely low frequency EMF (“ELF-EMF”). The strength of an electric field decreases rapidly as it travels from the conductor and is easily shielded or weakened by most objects and materials.

Voltage on a conductor creates an electric field that surrounds and extends from the wire. Using water moving through a pipe as an analogy, voltage is equivalent to the pressure of the water moving through the pipe. The strength of the electric field is measured in kilovolts per meter (kV/m). Electric fields decrease rapidly as they travel from the conductor and are easily shielded or weakened by most objects and materials.

Current moving through a conductor creates a magnetic field that surrounds and extends from the wire. Using the same analogy, current is equivalent to the amount of water moving through the pipe. The strength of a magnetic field is measured in milliGauss (mG). Like electric fields, the strength of a magnetic field decreases rapidly as the distance from the source increases; however, unlike electric fields, magnetic fields are not easily shielded or weakened.

Table 9 provides examples of electric and magnetic fields associated with common household items. “The strongest electric fields that are ordinarily encountered in the environment exist beneath high voltage transmission lines. In contrast, the strongest magnetic fields are normally found very close to motors and other electrical appliances, as well as in specialized equipment such as magnetic resonance scanners used for medical imaging.”¹¹⁷

Table 9. Electric and Magnetic Field Strength of Common Household Objects¹¹⁸

Electric Field*		Magnetic Field**			
Appliance	kV/m	Appliance	mG		
	1 foot		1 inch	1 foot	3 feet
Stereo	0.18	Circular saw	2,100 to 10,000	9 to 210	0.2 to 10
Iron	0.12	Drill	4,000 to 8,000	22 to 31	0.8 to 2
Refrigerator	0.12	Microwave	750 to 2,000	40 to 80	3 to 8
Mixer	0.10	Blender	200 to 1,200	5.2 to 17	0.3 to 1.1

¹¹⁷ World Health Organization. *Radiation: Electromagnetic Fields, What are typical exposure levels at home and in the environment?* (2016). <https://www.who.int/news-room/questions-and-answers/item/radiation-electromagnetic-fields>

¹¹⁸ Ibid.

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Toaster	0.08	Toaster	70 to 150	0.6 to 7	< 0.1 to 0.11
Hair Dryer	0.08	Hair dryer	60 to 200	< 0.1 to 1.5	< 0.1
Television	0.06	Television	25 to 500	0.4 to 20	< 0.1 to 1.5
Vacuum	0.05	Coffee maker	15 to 250	0.9 to 1.2	< 0.1

* German Federal Office for Radiation Safety

** Long Island Power Institute

Health Studies In the late-1970s, epidemiological studies indicated a weak association between childhood leukemia and ELF-EMF levels. “Epidemiologists observe and compare groups of people who have had or have not had certain diseases and exposures to see if the risk of disease is different between the exposed and unexposed groups but does not control the exposure and cannot experimentally control all the factors that might affect the risk of disease.”¹¹⁹

Ever since, researchers have examined possible links between ELF-EMF exposure and health effects through epidemiological, animal, clinical, and cellular studies. To date, “no mechanism by which ELF-EMFs or radiofrequency radiation could cause cancer has been identified. Unlike high-energy (ionizing) radiation, EMFs in the non-ionizing part of the electromagnetic spectrum cannot damage DNA or cells directly,” that is, the ELF-EMF that is emitted from HVTLs does not have the energy to ionize molecules or to heat them.¹²⁰ Nevertheless, they are fields of energy and thus have the potential to produce effects.

“The few studies that have been conducted on adults show no evidence of a link between EMF exposure and adult cancers, such as leukemia, brain cancer, and breast cancer.”¹²¹

“Overall there is no evidence that exposure to ELF magnetic fields alone causes tumors. The evidence that ELF magnetic field exposure can enhance tumor development in combination with carcinogens is inadequate.”¹²²

“A number of scientific panels convened by national and international health agencies and the U.S. Congress have reviewed the research carried out to date. Most concluded that

¹¹⁹ National Institute of Environmental Health Sciences. *EMF: Electric and Magnetic Fields Associated with the Use of Electric Power*. (2002). https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf

¹²⁰ National Cancer Institute. *Magnetic Field Exposure and Cancer*. (2022). <http://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/magnetic-fields-fact-sheet>.

¹²¹ National Institute of Environmental Health Sciences. *Electric and Magnetic Fields*, (2024). <http://www.niehs.nih.gov/health/topics/agents/emf/index.cfm>.

¹²² World Health Organization. *Extremely Low Frequency Fields*. (2007). <http://www.who.int/peh-emf/publications/Comple DEC 2007.pdf?ua=1>, page 10.

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there is insufficient evidence to prove an association between EMF and health effects; however, many of them also concluded that there is insufficient evidence to prove that EMF exposure is safe.”¹²³

The Minnesota State Interagency Working Group on EMF Issues, comprised of staff from state agencies, boards, and Commission, was tasked to study issues related to EMF. In 2002, the group published *A White Paper on Electric and Magnetic Field Policy and Mitigation Options*, and concluded the following:

Some epidemiological results do show a weak but consistent association between childhood leukemia and increasing exposure to EMF... However, epidemiological studies alone are considered insufficient for concluding that a cause and effect relationship exists, and the association must be supported by data from laboratory studies. Existing laboratory studies have not substantiated this relationship..., nor have scientists been able to understand the biological mechanism of how EMF could cause adverse effects. In addition, epidemiological studies of various other diseases, in both children and adults, have failed to show any consistent pattern of harm from EMF.

The Department of Health concludes that the current body of evidence is insufficient to establish a cause and effect relationship between EMF and adverse health effects. However, as with many other environmental health issues, the possibility of a health risk cannot be dismissed.¹²⁴

Regulations and Guidelines Currently, there are no federal regulations regarding allowable ELF-EMF produced by power lines in the United States; however, state governments have developed state-specific regulations. For example, Florida limits electric fields to 2.0 kV/m and magnetic fields to 150 mG at the edge of the ROW for 161 kV transmission lines.¹²⁵ Additionally, international organizations have adopted standards for exposure to electric and magnetic fields (Table 10).

¹²³ State of Minnesota, State Interagency Working Group on EMF Issues (2002) *A White Paper on Electric and Magnetic Field (EMF) Policy and Mitigation Options*, https://apps.commerce.state.mn.us/eera/web/project_file?legacyPath=/opt/documents/EMF%20White%20Paper%20-%20MN%20Workgroup%20Sep%202002.pdf: page 1.

¹²⁴ *Id.*, page 36.

¹²⁵ Florida Department of State. *Rule 62-814.450 Electric and Magnetic Field Standards*. (2008). <https://www.flrules.org/gateway/ruleNo.asp?id=62-814.450>.

Table 10. International Electric and Magnetic Field Guidelines

Organization	Electric Field (kV/m)		Magnetic Field (mG)	
	Public	Occupational	Public	Occupational
Institute of Electrical and Electronics Engineers	5.0	20.0	9,040	27,100
International Commission on Non-Ionizing Radiation Protection	4.2	8.3	2,000	4,200
American Conference of Industrial Hygienists	—	25.0	—	10,000/1,000 ^a
National Radiological Protection Board	4.2	—	830	4,200

^a For persons with cardiac pacemakers or other medical electronic devices

POTENTIAL IMPACTS

Potential impacts are anticipated to be negligible and are not expected to negatively affect human health. Impacts will be long-term and localized but can be minimized. The primary sources of EMF from the facility will be from the buried electrical collection lines, the medium voltage transformers, and the gen-tie line between the project substation and the Blue Lake Substation. Because the batteries operate in DC, and DC electricity does not produce hertz, the batteries do not produce electric fields. The batteries do create a static magnetic field that rapidly degrades with distance ¹²⁶

MITIGATION

No health impacts from EMF are anticipated. EMF diminishes with distance from a conductor or inverter. The nearest home is approximately 2,000 feet from the Blue Lake substation and 2,025 from the nearest inverter. At these distances both electric and magnetic fields will dissipate to background levels. No additional mitigation is proposed.

4.4.2 Public Safety and Emergency Services

The ROI for public and work safety is the land control area. Like any construction project, there are risks for injuries from falls, equipment and vehicle use, electrical accidents, etc. Public risks involve electrocution. Electrocution risks could also result from unauthorized entry into the fenced area. The main safety hazard of a BESS is battery failure leading to thermal runaway which has the potential to spread to nearby batteries and containers, quickly presenting an emergency. Emergency response to fires or thermal runaway events at BESS facilities require specialized response. Potential impacts from construction are anticipated to be minimal. Potential impacts during operation are anticipated to be moderate to significant. Impacts would be short- and long-term and can be minimized.

¹²⁶ SPA, p. 58

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Like any construction project, there are risks. These include potential injury from falls, equipment and vehicle use, electrical accidents, etc. Construction might disturb existing environmental hazards on-site, for example, contaminated soils. In addition to the typical operational risks associated with an electric facility (falls, electrical accidents, etc..) battery storage facilities include a heightened risk of thermal runaway events and fires. During operation there are occupational risks similar to those associated with construction. Public risks would result from unauthorized entry into the facility.

Emergency services in the project area are provided by local law enforcement and emergency response agencies located in nearby communities. Law enforcement and public safety in the project area is provided by the Shakopee Police Department and the Mdewakanton Public Safety Department. Fire service is provided by the City of Shakopee Fire Department. Ambulance response is provided by Allina Health Management Medical Services. The nearest hospitals to the project, St. Francis Regional Medical Center and Farview Ridges Hospital, are less than 15 miles from the site.¹²⁷

POTENTIAL IMPACTS

The inflow of temporary construction personnel could increase demand for emergency and public health services. On the job injuries of construction workers requiring assistance due to slips, trips or falls, equipment use, or electrocution can create a demand for emergency, public health, or safety services that would not exist if the Project were not to be built. Although no road closures are anticipated during construction,¹²⁸ any temporary closures could impede police, fire, and other rescue vehicles access to the site of an emergency.

As with other industrial facilities, there is the potential for falls, fire or other industrial accidents once operational. The main safety hazard of a BESS is battery failure leading to thermal runaway which has the potential to spread to nearby batteries and containers, quickly presenting an emergency. The movement of electrons and lithium ions within the battery cell produces electricity as well as heat. Lithium-ion batteries are designed to allow heat to dissipate from the cell to maintain a controlled reaction. Thermal runaway is a phenomenon when a battery cell generates heat at a greater rate than the heat can dissipate from the cell, resulting in a cascading chemical reaction which produces additional heat. Thermal runaway events can result in extremely high temperatures, smoke, fire, and potentially ejection of gas, shrapnel, and particulates.¹²⁹ Although BESS are a relatively new technology, there is a growing body of research that informs industry standards minimize the potential for these types of incidents and mitigate potential safety concerns in the event of such incidents.

As discussed in [Section 2.1.3](#), There are two major types of lithium-ion battery technology used in BESS facilities. The chemistry of NMC batteries allows them to charge and discharge at higher rates (referred to as “energy density”) than LMC batteries. The ability to charge and discharge at high

¹²⁷ SPA, pp. 67-68

¹²⁸ SPA, p. 84

¹²⁹ UL Research Institutes (2021). *What is Thermal Runaway*, <https://ul.org/research/electrochemical-safety/getting-started-electrochemical-safety/what-thermal-runaway>

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rates made them a popular choice in early BESS projects. However, compared to LFP batteries, the NMC batteries have a lower thermal runaway temperature, creating increased risks and requiring enhanced monitoring. In comparison, LFP batteries have a higher thermal runaway temperature, making them more stable and less prone to fire. As a result of the relative thermal stability compared to NMC technology as well as decreased costs as the LFP technology matured, the energy storage industry has recently pivoted to LFP technology.

Emergency response to fires or thermal runaway events at BESS facilities require specialized response. Fires at BESS facilities present unique challenges to firefighters. Unlike other utilities or industrial sites, BESS facilities do not have a single point of disconnect and, although separate parts of the system can be disconnected, the batteries will remain energized.¹³⁰ Because of the gases that accumulate within containers during a thermal runaway event or fire, first responders should not approach or enter the containers. Because of the difficulty in extinguishing fires, the risk that some batteries will remain energized, and the potential exposure to toxic gas, the industry recommends that first responders monitor the event and allow fires to burn themselves out as the energy is depleted from the batteries.

MITIGATION

The project will be designed and constructed in compliance with applicable electric codes. Electrical inspections will ensure proper installation of all components, and the project will undergo routine inspection. Electrical work will be completed by trained technicians.

Construction is bound by federal and state Occupational Safety and Health Administration (OSHA) requirements for worker safety, and must comply with local, state, and federal regulations regarding installation of the facilities and qualifications of workers. Established industry safety procedures will be followed during and after construction of the project. Crews will be trained and briefed on safety issues, reducing the risk of injury. The project will be fenced to prevent unauthorized access.

Construction crews must comply with local, state, and federal regulations when installing the BESS components and associated facilities. This includes standard construction-related health and safety practices. This generally includes safety orientation and training, as well as daily/weekly safety meetings.

In addition to the use of the more stable LFP technology, Blue Lake's facility design uses modular containers that are tested by the manufacturer to ensure fire resistance. Modern BESS containers include explosion prevention systems to remove flammable gases during a thermal runaway event and relieve pressure to limit gas levels within the containers from reaching levels that can be flammable or explosive. The containers are spaced to minimize the potential for fire to spread to other containers. The BESS equipment is monitored remotely, tracking cell voltage and temperature

¹³⁰ American Clean Power, *Energy Storage Emergency Response Plan Template*, https://cleanpower.org/wp-content/uploads/gateway/2022/11/ACP_Energy_Storage_Emergency_Response_Plan_Template.pdf, pp.14-17

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to identify and isolate potential issues before they occur. The facility will also install fire detection systems at the containers to recognize incidents and disconnect and isolate failed equipment.

The National Fire Protection Association issued updated *NFPA 855 Standard for the Installation of Stationary Energy Storage Systems* in 2023 and will update again in 2026. The standard includes requirement for fire detection and suppression, explosion control, exhaust ventilation, gas detection, and thermal runaway.¹³¹

NFPA standards require BESS facilities to prepare a hazard mitigation analysis (HMA) detailing the results of the equipment testing and the risks associated with the technology prior to installation of the BESS

Public safety is addressed in several sections of the DSP (**Appendix C**):

- Section 4.3.27 requires the permittee to take several public safety measures, including landowner educational materials, appropriate signs and gates, etc.
- Section 5.5 is a special condition that requires the permittee to file a HMA detailing the testing results for the selected equipment and the risks associated with the technology at least 30 days prior to the pre-construction meeting.
- Section 8.12 of the DSP is a standard condition that requires permittees file an *Emergency Response Plan* with the Commission and local first responders prior to operation. As discussed above, the fire hazards associated with BESS facilities require additional training for first responders. Emergency response plans for BESS facilities require project-specific details on emergency response to incidents at the BESS. This includes BESS-specific training. The American Clean Power Association has developed an Emergency Response Plan template for BESS Facilities.¹³²
- Section 8.13 requires disclosure of extraordinary events, such as fires, etc.
- Section 9.1 requires a decommissioning plan prior to construction and updated every five years. Periodic updates of the plan will address the developing information on end-of-life issues related to batteries.

¹³¹ National Fire Protection Association, NFPA 85: Standard for the Installation of Stationary Energy Storage Systems, <https://www.nfpa.org/product/nfpa-855-standard/p0855code#2023-edition-details> The standard is available for purchase, the website highlights details of the updated edition.

¹³² American Clean Power Association, Energy Storage Emergency Response Plan Template

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4.5 Land-based Economies

ESS facilities can impact land-based economies by precluding or limiting land use for other purposes. Impacts to agriculture, forestry and mining are not anticipated. The project will have minimal impacts on tourism and recreation.

4.5.1 Tourism and Recreation

The ROI for recreation is the local vicinity and the ROI for tourism is the project area. The project is adjacent to Quarry Lake Park, which provides a variety of recreational resources. Impacts to the park during construction would primarily be from air quality, water quality from erosion and runoff, and aesthetics to visitors. Impacts to recreational opportunities and tourism are anticipated to be minimal and can be minimized.

In 2023, the leisure and hospitality industry in Scott County accounted for about \$546.5 million in gross sales and employed an estimated 6,992 people.¹³³ Scott County is the home to several historical, scenic, and entertainment destinations including Lakefront Music Festival, Murphy Hanrehan Park Reserve, Mystic Lake Casino, the Renaissance Festival, and Valleyfair Amusement Park.¹³⁴ Additional tourism destinations in the county are related to recreational activities including bird watching, fishing, hunting, boating, golfing, and snowmobiling.

Impacts to recreation can be direct or indirect. Direct impacts are impacts that directly impede the use of a recreational resource, for example, closing of a trail to facilitate project construction. Indirect impacts reduce the enjoyment of a recreational resources but do not prevent use, for example, aesthetic impacts visible from a scenic overlook.

The nearest park, Quarry Lake Park, is directly west from the site. The 111-acre park includes a quarry lake used for non-motorized boat use (including a kayak rental station), fishing, and water skiing. In addition to the lake, the park includes a playground, picnic structure, and paved trails, including the 3.25 mile Xcel Energy Mountain Bike Trail.¹³⁵

There are no wildlife management areas, Scientific and Natural Areas or state parks within one mile of the site. The closest Wildlife Management Area is the Raguet Wildlife Management Area, located approximately nearly 7 miles northwest of the site. The nearest snowmobile trail is the Tiger Bear Trail one mile west of the site (Figure 7).

¹³³ Explore Minnesota, *2023 leisure & hospitality industry data*, [2023 MN L&H Data_tcm1135-665060.pdf](#)

¹³⁴ Great Scott County, *Engaging Activities*, <https://www.greatscottcounty.org/live/activities/>

¹³⁵ City of Shakopee, *Quarry Lake Park*, https://www.shakopeemn.gov/business_detail_T11_R634.php; see also Xcel Energy Press Release, July 22, 2020 *Xcel Energy, Shakopee community pave way for new mountain bike park*, <https://newsroom.xcelenergy.com/news/xcel-energy-shakopee-community-pave-way-for-new-mountain-bike-park-MCD5NA7FONSBCSNBWC BOLKIA5NRM>

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during construction. Various sections of the DSP indirectly address impacts to recreation, such as noise, aesthetics, soils, etc., and, as a result, indirectly mitigate impacts to tourism.

The DSP (**Appendix C**) includes several conditions that help minimize and mitigate impacts from the project to recreational resources (in particular Quarry Lake Park).

- Section 4.3.8 requires the permittee to consider landowner input with respect to visual impacts and to use care to preserve the natural landscape.
- Section 4.3.11 of the DSP requires the permittee to “implement erosion prevention and sediment control practices recommended by the MPCA” and to obtain a construction stormwater (CSW) permit. This section also requires the permittee to implement erosion and sediment control measures, grade contours to provide for proper drainage, and restore all disturbed areas to pre-construction conditions.
- Section 4.3.28 requires the permittee to minimize lighting impacts by using shielded and downward facing light fixtures and using lights that minimizes blue hue.
- Xcel Energy proposes to develop a vegetative screening plan in coordination with the City of Shakopee to screen the project from adjacent properties and from public viewpoints including Quarry Park.¹³⁶ Section 5.1 of the DSP is a special condition requiring the permittee to develop a vegetative screening plan in coordination with the City and include the plan and certification of its distribution along with the site plan required by section 8.3 of the permit.

4.6 Archeological, Cultural, and Historic Resources

The ROI for archeological and historic resources is the project area. The impact intensity level is anticipated to be negligible to minimal. Impacts would be localized and can be mitigated through siting and an unanticipated discoveries plan.

Archeological resources are locations where objects or other evidence of archaeological interest exist, and can include aboriginal mounds and earthworks, ancient burial grounds, prehistoric ruins, or historical remains.¹³⁷ Historic resources are sites, buildings, structures, or other antiquities of state or national significance.¹³⁸

Construction and operation of Project has the potential to impact resources that have importance to American Indian Tribes with ties to the region. Siting of large energy facilities in a manner that respects historic and cultural ties to the land requires coordination with tribes.

¹³⁶ SPA, pp. 45-46

¹³⁷ Minnesota Statutes, Section. [138.31](#), subd. 14.

¹³⁸ Minnesota. Statutes, Section [138.51](#).

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POTENTIAL IMPACTS

Xcel Energy reports contacting the eleven Minnesota Tribal Nations' Tribal Historic Preservation Officers and the Minnesota Indian Affairs Council for additional information or comment on the project.¹³⁹

The applicant conducted a Phase I cultural resource field survey within the preliminary development area to identify previously recorded archaeological and historic architectural resources within the project on April 14, 2025. This review also examined records from the Minnesota State Historic Preservation Office (SHPO) and Minnesota Office of the State Archeologist for an area within one mile of the site boundary.

The literature review did not identify any previously recorded archaeological resources or National Register of Historic Places properties within one mile of the site.¹⁴⁰ As of the writing of this EA, the applicant is still discussing the findings of the review with SHPO.¹⁴¹ Xcel Energy has committed to creating an Unanticipated Discoveries Plan, which details the procedures should unrecorded or human remains be encountered during construction and operation of the project.¹⁴²

MITIGATION

Prudent siting to avoid impacts to archaeological and historic resources is the preferred mitigation. The DSP (**Appendix C**) contains several permit conditions intended to minimize impacts to archaeological and cultural resources:

- Section 4.3.20 is a standard permit condition that requires the permittee to avoid impacts to archaeological and historic resources where possible and to mitigate impacts where avoidance is not possible. If previously unidentified archaeological sites are found during construction, the permit requires the permittee to stop construction and contact SHPO to determine how best to proceed. Ground disturbing activity will stop, and local law enforcement will be notified should human remains be discovered. This section also requires the permittee to develop an Unanticipated Discoveries Plan outlining steps to be taken if previously unrecorded cultural resources or human remains are encountered during construction
- Section 5.7 requires the permittee to file correspondence from SHPO to ensure that SHPO recommendations on mitigation measures, including surveys, are in the record.

¹³⁹ SPA, p. 85 and Appendix C

¹⁴⁰ SPA, p. 84 and Appendix G

¹⁴¹ Response to Data Request 6, Appendix D; see also Xcel Energy, *Updated Appendix G – Phase I Archeological Survey*, December 10, 2025, eDocket ID: [202512-225729-01](#) and [202512-225729-02](#)

¹⁴² SPA, p. 85

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4.7 Natural Resources

The facility's impacts on natural resources are dependent upon many factors, such as how the project is designed, constructed, maintained, and decommissioned. Other factors, for example, the environmental setting, influence potential impacts. Impacts can and do vary significantly both within, and across, projects.

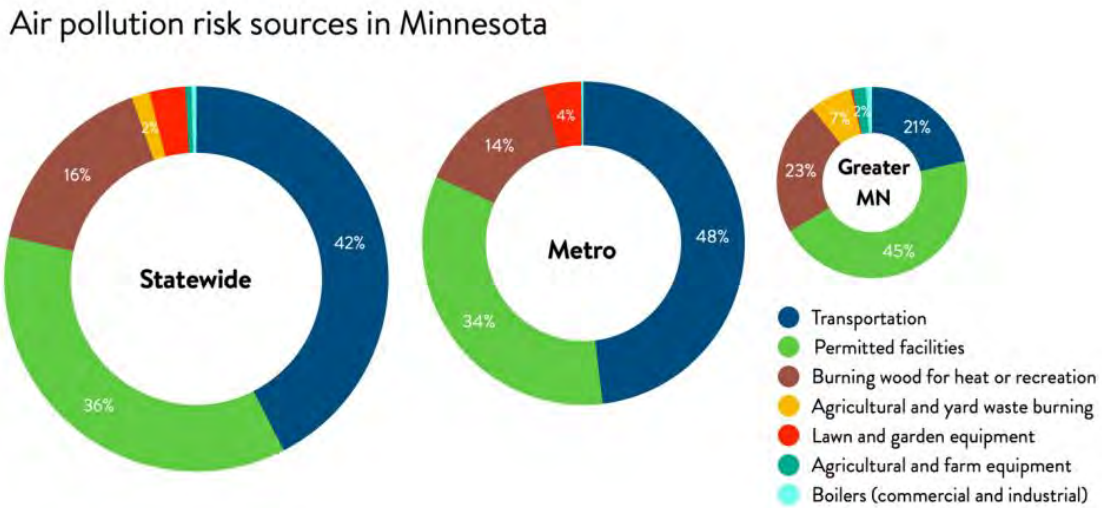
4.7.1 Air Quality

The ROI for air quality is the region. Potential impacts to air quality during construction would be intermittent, localized, short-term, and minimal. Impacts are associated with fugitive dust and exhaust. Impacts can be mitigated. Once operational, the BESS facility will not generate criteria pollutants or carbon dioxide. Negligible fugitive dust and exhaust emissions would occur as part of routine maintenance activities. Impacts are unavoidable and do not affect a unique resource. Impacts can be minimized.

Air quality is a measure of how pollution-free the ambient air is and how healthy it is for humans, other animals, and plants. Emissions of air pollutants will occur during construction and operation of new infrastructure for the project. Overall air quality in Minnesota has improved over the last 20 years, but current levels of air pollution still contribute to health impacts. As illustrated in **Figure 8**, today, most of our air pollution that can lead to health effects are transportation, permitted facilities, and wood burning for heat or recreation. Transportation has a much greater contribution to air pollution in the metro area than in greater Minnesota¹⁴³

¹⁴³ MPCA 2025. *The Air We Breathe: The State of Minnesota's Air Quality, January 2025 Report to the Legislature*, <https://www.pca.state.mn.us/sites/default/files/Iraq-1sy25.pdf>

Figure 8. Air Pollution Sources by Type¹⁴⁴



The nearest air quality monitor to the project is in Shakopee, Minnesota, approximately 4.1 mile west of the facility.¹⁴⁵ Between 2013 and 2023, air quality in the area (South Metro) has been considered “good” between 167 and 280 days of the year and moderate between 85 and 178 days. During this interval air quality was considered unhealthy for sensitive groups for one or two days in five years, with a notable increase in 2023, when air quality was considered unhealthy for sensitive groups on 15 days. The air in the area was unhealthy on one day in 2020, three days in 2021, and five days in 2023.¹⁴⁶ The increase in the number of days of moderate or worse air quality in 2021 and 2023 was statewide and largely attributable to drought conditions and wildfire smoke in the upper Midwest.¹⁴⁷

POTENTIAL IMPACTS

Minimal intermittent air emissions are expected during construction of the project. Air emissions associated with construction are highly dependent upon weather conditions and the specific activity occurring. For example, traveling to a construction site on a dry gravel road will result in more fugitive dust than traveling the same road when wet. Once operational, neither the generating facility nor the transmission line will generate criteria pollutants or carbon dioxide.

¹⁴⁴ The State of Minnesota’s Air Quality, January 2025 Report to the Legislature, <https://www.pca.state.mn.us/sites/default/files/lraq-1sy25.pdf>

¹⁴⁵ SPA, p. 86.

¹⁴⁶ MPCA. Annual AQI Days by Reporting Region, <https://data.pca.state.mn.us/views/Minnesotaairqualityindex/AQIExternal?%3Aembed=y&%3AisGuestRedirectFromVizportal=y>

¹⁴⁷ MPCA. 2025. *The Air We Breathe: The State of Minnesota’s Air Quality, January 2025 Report to the Legislature*, <https://www.pca.state.mn.us/sites/default/files/lraq-1sy25.pdf> pp. 12-13

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Motorized equipment will emit exhaust. This includes construction equipment and vehicles travelling to and from the project. Exhaust emissions, primarily from diesel equipment, would vary according to the phase of construction.

All projects that involve movement of soil, or exposure of erodible surfaces, generate some type of fugitive dust emissions. The project will generate fugitive dust from travel on unpaved roads, grading, and excavation.

Emissions associated with maintenance are dependent upon weather conditions and the specific activity occurring. Vehicle exhaust will be emitted during maintenance visits to the generating facility.

MITIGATION

Exhaust emissions can be minimized by keeping vehicles and equipment in good working order and not running equipment unless necessary. Watering exposed surfaces, covering disturbed areas, and reducing speed limits on-site are all standard construction practices.

Section 4.3.29 of the DSP (**Appendix C**) requires the permittee to use non-chloride dust control products during construction. The DNR advises against the use of dust suppression agents containing chloride, as it does not break down and may accumulate to levels that are toxic to wildlife and plants

Several sections of the draft site permit indirectly mitigate impacts to air quality, including sections related to soils, vegetation removal, restoration, and pollution and hazardous wastes.

4.7.2 Geology and Groundwater

The ROI for geology and groundwater is the land control area. Impacts to geology are not expected. Impacts to domestic water supplies are not expected. Localized impacts to groundwater resources are not expected.

Minnesota is divided into six groundwater provinces based on bedrock and glacial geology. The project site is within Province 3, the Karst province, which can be characterized as having thin glacial sediments overlying thick and extensive bedrock prone to karst features such as sinkholes, and caves. In this province, groundwater is typically derived from bedrock aquifers below the glacial sediment cover. Groundwater is generally readily available, but water quality is susceptible to pollution from surface activity because fractures and sinkholes can form passageways that funnel water and contaminants quickly from the surface to groundwater.¹⁴⁸

The bedrock underlying the Quaternary glacial sediments in Scott County consists of sedimentary rocks ranging in age from the Precambrian to the Upper Ordovician. Within the site, deposits over bedrock surfaces range in depth from 0 feet to over 75 feet deep. If the bedrock is exposed or very

¹⁴⁸ DNR, Minnesota Groundwater Provinces (2021)

https://www.dnr.state.mn.us/waters/groundwater_section/mapping/provinces.html

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close to the surface, minimal excavation may be needed. Based on preliminary geotechnical evaluations, the bedrock is at least 20 feet deep.¹⁴⁹

The risk for karst in the site is considered low. Susceptible geologic features, including sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions are not present in the local vicinity.¹⁵⁰

Groundwater in Minnesota is largely a function of local geologic conditions that determine the type and properties of aquifers. The site is underlain by the Cambrian-Ordovician aquifer system which is recharged as water from the surficial aquifer system moves downward. The depth to the water table within the site ranges from zero to 30 feet, with an average depth of 10 to 20 feet.¹⁵¹

The MDH maintains the Minnesota Well Index, which provides basic information (e.g., location, depth, geology, construction, and static water level) for wells and borings drilled in Minnesota.¹⁵² The index did not identify any wells within the site. The 102 wells (sealed and unsealed) within the project area are predominantly domestic wells and monitoring wells, with the remaining wells used for “other” purposes.¹⁵³ According to data from the Minnesota Well Index, the wells in the project area vary in depth from zero to 465 feet.

Under the Safe Drinking Water Act, each state is required to develop and implement a Wellhead Protection Program to identify the land and recharge areas contributing to public supply wells and prevent the contamination of drinking water supplies. Public and non-public community water supply source-water protection in Minnesota is administered by the MDH. A wellhead protection area (WHPA) encompasses the area around a drinking water well where contaminants could enter and pollute the well. The site is located outside of any WHPA. The closest WHPA is the Shakopee WHPA located approximately 0.5 miles west of the site.

A Drinking Water Supply Management Areas (DWSMA) is a clearly defined geographic area around a WHPA outlined by clear boundaries like roads. The DWSMA is managed by a wellhead protection plan, typically by the city. The MDH assigned vulnerability ratings to each DWSMA based on factors including geologic sensitivity, well construction, maintenance and use. The Shakopee DWSMA is classified as high, moderate, and low vulnerability.¹⁵⁴

¹⁴⁹ Response to Data Request 4, Appendix D

¹⁵⁰ SPA, p. 95

¹⁵¹ SPA, pp. 96-97

¹⁵² MDH (2024.) *Minnesota Well Index*
<https://www.health.state.mn.us/communities/environment/water/mwi/index.html> .

¹⁵³ SPA, pp. 87-88

¹⁵⁴ SPA, p. 98

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POTENTIAL IMPACTS

Potential impacts to geology and groundwater can occur directly or indirectly. Impacts to geological resources are likely to be minimal to moderate, depending on if excavation of bedrock is required.

Direct impacts to groundwater associated with construction, for example, structure foundations that could penetrate shallow water tables or groundwater usage are not anticipated.¹⁵⁵

Indirect impacts could occur through spills or leaks of petroleum fluids or other contaminants that contaminate surface waters which could ultimately contaminate groundwater. The disturbance of soil and vegetative cover could affect water quality in groundwater resources.

Geotechnical soil borings will be completed by the applicant as preliminary project design and engineering advances; this information will be assessed for potential impacts to geologic resources.¹⁵⁶

MITIGATION

Stormwater management is important to ensure that BESS components maintain their integrity and that rainwater and surface runoff drain away from the project components in a way that does not adversely affect existing drainage systems, roads, or nearby properties. Appropriate permanent stormwater management measures, including minimizing the area of impervious surfaces at the site to reduce the volume and velocity of the stormwater runoff and the establishment of multiple stormwater ponds, will address drainage from the newly established impervious areas.

Geotechnical soil testing will determine final installation process for the foundation structures. Similarly, the perimeter fence may require concrete foundations in some locations.

Because the project will disturb more than one acre, Xcel Energy must obtain a CSW Permit from the PCA. The CSW Permit will identify BMPs for erosion prevention and sediment control. As part of the CSW Permit, Xcel Energy will also develop a SWPPP that describes construction activity, temporary and permanent erosion and sediment controls, BMPs, permanent stormwater management that will be implemented during construction and through the life of the project. Implementation of the protocols outlined in the SWPPP will minimize the potential for soil erosion and detail stormwater management methods during construction and operation of the facility.

Xcel Energy will install secondary containment for the project substation's main power transformer to contain any potential spills or leaks of transformer oil or other fluids and prevent impacting the groundwater. An SPCCP will be required by the United State Environmental Protection Agency for construction and operation of the transformer.¹⁵⁷

¹⁵⁵ SPA, p. 99

¹⁵⁶ SPA, p. 96

¹⁵⁷ SPA, p. 100

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Section 4.3.11 of DSP (**Appendix C**) requires the permittee to obtain a MPCA CSW Permit and implement the BMPs for erosion prevention and sediment control. Impacts to groundwater can also be minimized by mitigating impacts to and soils and surface waters as discussed in Sections 4.7.3 and 4.7.4.

Any new wells require notification to MDH and would be constructed by a well borer licensed by MDH. If any previously unmapped wells are discovered, Xcel Energy will coordinate with MDH on how to proceed.

Disturbance to groundwater flow from construction activities are not anticipated. Any dewatering required during construction will be managed in accordance with the SWPPP and discharged to the surrounding area, thereby allowing it to infiltrate back into the ground to minimize potential impacts. If dewatering of more than 10,000 gallons per day or 1,000,000 gallons per year, a Water Appropriations Permit from DNR is required.¹⁵⁸

4.7.3 Soils

The ROI for the soils is the land control area. Impacts to soils will occur during construction and decommissioning of the project. The impact intensity level is expected to be minimal. Potential negative impacts will occur over both the short- and long-term. Isolated moderate to significant negative impacts associated with high rainfall events could occur. Impacts can be mitigated.

The soils of Scott County are primarily deep, dark-colored soils formed in silty glacial lacustrine sediments and loamy glacial till, reflecting the county's glacial history and variable topography.¹⁵⁹

The soils deposited in the area (**Table 11**) are typically sandy soils, with a small amount of muck and fine sandy loam. A small portion of the site (6.6%) is listed as farmland of statewide importance, the rest of the site is considered not prime farmland.

¹⁵⁸ SPA, p. 99

¹⁵⁹ SPA, p. 100

Table 11. Soil Types in Facility Land Control Area¹⁶⁰

Map Unit Symbol	Map Unit Name	Farmland Classification	Hydric Rating	Acres
Dg	Duneland	Not Prime Farmland	Non-hydric	4.7
la	Isanti fine sandy loam	Not Prime Farmland	Predominantly hydric	5.0
INT	Water, intermittent	Not Prime Farmland	Non-hydric	1.1
PaA	Klossner muck, 0 to 1 percent slopes	Farmland of statewide importance	Hydric	4.5
ZaB	Sartell fine sand, 2 to 6 percent slopes	Not Prime Farmland	Predominantly non-hydric	3.2
ZaC2	Sartell fine sand, 6 to 12 percent slopes	Not Prime Farmland	Non-hydric	49.7
	Facility Total			68.2

POTENTIAL IMPACTS

The impact intensity level is expected to be low to moderate. Primary impacts to soils include compaction from construction equipment, soil profile mixing during grading and pole auguring, rutting from tire traffic, and soil erosion. Impacts to soils are likely to be greatest with the below-ground electrical collection system. Potential impacts will be positive and negative, and short- and long-term. Isolated moderate to significant negative impacts associated with high rainfall events could occur.

Construction of the facility will disturb approximately 12 acres within the land control area. As with any ground disturbance, there is potential for soil compaction and erosion. Heavy rainfall events during construction or prior to establishment of permanent vegetation, increase the risk that significant sedimentation and erosion could occur.

Soil cover and management at the facility will change from forested to a mixture of impervious and pervious surfaces. The permanently developed area within the site (approximately eight acres in total) will be covered with crushed rock, while the remainder of the site will be a mixture of native groundcover plantings or already existing energy infrastructure. Soil health will likely improve for the portion of the site that is revegetated with native perennial vegetation for the operating life of the project.

MITIGATION

Several sections of the DSP (**Appendix C**) address soil-related impacts.

- Section 4.3.9 requires protection and segregation of topsoil.

¹⁶⁰ SPA, Table 5.5-4

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- Section 4.3.10 requires the permittee to minimize soil compaction.
- Section 4.3.11 requires the permittee to obtain a MPCA CSW Permit and implement the BMPs within for erosion prevention and sediment control.
- Section 5.8 requires the permittee to develop a VMP that defines how the land control area will be revegetated and monitored over the life of the project. Appropriate seeding rates and timing of revegetation will stabilize soils and improve overall soil health. Xcel Energy has included a draft VMP as Appendix D of its site permit application.

4.7.4 Surface Water and Floodplains

The ROI for surface water resources is the land control area. The impact intensity level is anticipated to be minimal. Direct impacts to surface waters are not expected. Indirect impacts to surface waters might occur. These impacts will be short-term, of a small size, and localized. Impact can be mitigated.

Large electric power facilities have the potential to impact surface water resources and floodplains. These projects could directly impact water resources and floodplains if these features cannot be avoided through project design. These projects may also indirectly impact surface waters and floodplains through construction activities which move, remove, or otherwise handle vegetative cover and soils. Changes in vegetative cover and soils can change runoff and water flow patterns.

The project is in the Minnesota River – Shakopee Watershed.¹⁶¹ There are no lakes, rivers, or other watercourses that cross the project site. The nearest waterbody is Quarry Lake, located approximately 275 feet west of the site boundary and 500 feet west of the preliminary development area. The nearest public water inventory (PWI) watercourse is an unnamed stream, located approximately 2,700 feet west of the site. The nearest PWI water body is Fisher Lake, located approximately 3,000 feet north of the site.¹⁶²

Floodplains are flat, or nearly flat, land adjacent to a river or stream that experiences occasional or periodic flooding. It includes the floodway, which consists of the stream channel and adjacent areas that carry flood flows, and the flood fringe, which includes areas covered by the flood, but which do not experience a strong current. Floodplains prevent flood damage by detaining debris, sediment, water, and ice. The Federal Emergency Management Agency (FEMA) delineates floodplains and determines flood risks in areas susceptible to flooding. The base flood that FEMA uses, known as the 100-year flood, has a one percent chance of occurring during each year. The DNR also oversees the national flood insurance program for the state of Minnesota. Floodplains are also regulated at the local level. There are no mapped floodplains within the site.¹⁶³

Under Section 303(d) of the Clean Water Act, states are required to assess all waters of the state to determine if they meet water quality standards, list waters that do not meet standards and update the list biannually and conduct total maximum daily load studies to set pollutant-reduction goals

¹⁶¹ Minnesota DNR, Minnesota's watershed basins. <https://www.dnr.state.mn.us/watersheds/map.html>

¹⁶² SPA, p. 102

¹⁶³ SPA, p. 103

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needed to restore waters to the extent that they meet water quality standards for designated uses. The list, known as the 303(d) list, is based on violations of water quality standards. The MPCA has jurisdiction over determining 303(d) waters in the State of Minnesota. There are no waters listed by the MPCA as impaired waters within one mile of the project. The nearest impaired water to the site is Cascade Creek, listed as impaired for fish bioassessment and turbidity, is approximately 1.6 miles southeast of the site.¹⁶⁴

POTENTIAL IMPACTS

The project is designed to avoid direct impacts to surface waters by avoiding siting away from surface waters.

Construction of the project creates a potential for indirect impacts if sediment or fugitive dust created by excavation, grading, vegetation removal, and construction traffic reaching nearby surface waters.

MITIGATION

Standard construction management practices, including, but not limited to containment of excavated soils, protection of exposed soils, stabilization of restored soils, and controlling fugitive dust, would minimize the potential for eroded soils to reach surface waters.

Best management practices to minimize the impact on surface waters will be utilized as a part of the SWPPP, including but not limited to sediment control, revegetation plans, and management of exposed soils to prevent sediment from entering waterbodies.

Section 4.3.11 of the DSP (**Appendix C**) requires the permittee to “implement erosion prevention and sediment control practices recommended by the MPCA” and to obtain a CSW Permit. This section also requires the permittee to implement erosion and sediment control measures, grade contours to provide for proper drainage, and restore all disturbed areas to pre-construction conditions. Xcel Energy will also develop a SWPPP that complies with MPCA rules and guidelines. The SWPPP describes construction activity, temporary and permanent erosion and sediment controls, BMPs, permanent stormwater management that will be implemented during construction and through the life of the project. Implementation of the protocols outlined in the SWPPP will minimize the potential for soil erosion during construction.

4.7.5 Wetlands

The ROI for wetlands is the site. There is one wetland within the site, but the outside of the preliminary development area. Since the project was sited to avoid wetlands, no direct impacts to wetlands are anticipated from the project. With proper construction management practices, indirect impacts to offsite wetlands can be avoided.

Wetlands are areas with hydric (wetland) soils, hydrophytic (water-loving) vegetation, and wetland hydrology (inundated or saturated during much of the growing season). Wetland types include

¹⁶⁴ SPA, pp. 93-94

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marshes, swamps, bogs, and fens. Wetlands vary widely due to differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors.¹⁶⁵

Wetlands are important to the health of waterways and communities that are downstream. Wetlands can be one source of hydrology in downstream watercourses and water bodies, detain floodwaters, recharge groundwater supplies, remove pollution, and provide fish and wildlife habitat. Wetland health also has economic impacts because of their key role in fishing, hunting, agriculture, and recreation. These large infrastructure projects could temporarily or permanently impact wetlands if these features cannot be avoided through project design. During construction, temporary disturbance of soils and vegetative cover could cause sediment to reach wetlands which could in turn affect wetland functionality.

The applicant's consultant completed a field delineation at the site in June 2024. The consultant evaluated potential wetland areas for the presence of hydric soils, wetland hydrology, and hydrophytic vegetation. The National Wetland Inventory (NWI) data identified forested and emergent wetlands within the northern portion of the property. The field delineation determined the forested wetlands from the NWI were not wetlands due to the lack of hydrophytic vegetation. One wetland was delineated within the emergent wetland from the NWI. The location of this wetland is within the site but is not within the preliminary development area. The results of this wetland delineation were approved by the City of Shakopee.¹⁶⁶

POTENTIAL IMPACTS

Although there are wetlands within the site, there are no wetlands within the preliminary development area. As such, construction and operation of the facility will not create direct impacts to wetlands. There may be potential for temporary, short-term impacts to wetlands outside the site if there is erosion resulting from construction.

MITIGATION

The project has been sited to avoid wetlands delineated to date.

BMPs identified in the SWWP will minimize potential for sediment to reach offsite wetlands during construction.

Section 4.3.13 of the DSP (**Appendix C**) generally prohibits placement of the BESS or associated facilities in public waters and public waters wetlands. The permit condition does allow for electric collector or feeder lines to cross or be placed in public waters or public waters wetlands subject to permits and approvals by the DNR and the United States Army Corps of Engineers, and local units of government as implementers of the WCA.

¹⁶⁵ USEPA. 2022. *What is a Wetland* <https://www.epa.gov/wetlands/what-wetland>

¹⁶⁶ SPA, Appendix I

4.7.6 Vegetation

The ROI for vegetation is the land control area. The facility will convert the existing herbaceous and forested landcover to a mixture of impermeable surface and perennial vegetation for the life of the project. Potential impacts of the facility can be mitigated through development of a VMP.

The project is in the Big Woods (222 Mb) subsection of the Eastern Broadleaf Forest Province. Prior to European settlement vegetation in the project area was primarily woodland and maple-basswood forests. Most of this subsection is used for cropland and pasture, while 10 to 15 percent of the subsection remains upland forest or wetland.¹⁶⁷ The site has herbaceous and barren land covering approximately 41 percent of the total land control area. Developed land within the site also covers roughly 41 percent of the total land control area. Table 12 shows the land cover type usage by acre.

Table 12. Existing Land Cover by Area¹⁶⁸

Land Cover Type	Acres		
	Land Control Area	Preliminary Development Area	Permanent Infrastructure Area
Barren Land	14.83	2.34	1.14
Deciduous Forest	4.23	1.29	1.29
Developed, High Intensity	1.14	0.01	0.01
Developed, Low Intensity	6.52	1.52	0.60
Developed, Medium Intensity	11.17	1.31	0.12
Developed, Open Space	8.78	2.20	1.42
Emergent Herbaceous Wetlands	2.16	--	--
Hay/Pasture	2.77	1.76	1.27
Herbaceous	13.13	1.27	1.76
Woody Wetlands	3.45	0.16	0.16
Total	68.17	11.86	7.76

POTENTIAL IMPACTS

Construction of the facility will eliminate vegetative cover and create impermeable surfaces at the access road and the developed area of the facility. Xcel Energy estimates that approximately 7.8 acres will be converted to impermeable surfaces the life of the facility. Removal of vegetative cover

¹⁶⁷ DNR (n.d.) Big Woods Subsection, <https://www.dnr.state.mn.us/ecs/222Mb/index.html>

¹⁶⁸ National Land Cover Dataset, 2019

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exposes soils and could result in soil erosion. Temporary or permanent removal of vegetation also has the potential to affect wildlife habitat.

Following construction, Xcel Energy plans to reestablish areas where non-native vegetation was removed using Minnesota state seed mix, which is a non-native grassland mix. Xcel Energy indicates it plans to reestablish areas where native vegetation was removed with appropriate native seed mixes. Once established, vegetation would be maintained using best practice guidance for establishing and maintaining the re-vegetated areas.¹⁶⁹

Construction activities could introduce or spread invasive species and noxious weeds and the early phases of site restoration and seeding of native species can result in populations of non-native and invasive species on site.

MITIGATION

Several sections of the DSP (**Appendix C**) address impacts to vegetation:

- Section 4.3.15 requires the permittee to minimize the number of trees removed.
- Section 4.3.17 requires the permittee to employ BMPs to avoid potential introduction and spread of invasive species and to file an Invasive Species Management Plan prior to construction.
- Section 4.3.18 requires the permittee to take all reasonable precautions to prevent the spread of noxious weeds during construction.
- Section 5.6 is a special condition that requires the permittee to develop a VMP that defines how the land control area will be revegetated and monitored over the life of the project. Appropriate seeding rates and timing of revegetation will stabilize soils and improve overall soil health. Xcel Energy has included a draft VMP as Appendix C of its site permit application.

4.7.7 Wildlife and Habitat

The ROI for non-avian wildlife and their habitats is the land control area, the ROI for birds is the local vicinity. Impacts to large wildlife species, for example, deer, will be negligible. Significant negative impacts could occur to individuals during construction and operation of the project. While a portion of the site will be covered by crushed rock, a portion of the land control area will provide native habitat for the life of the project. The project does not contribute to significant habitat loss or degradation or create new habitat edge effects. Potential impacts can be mitigated in part through design and BMPs. The impact intensity level is expected to be minimal.

The project landscape is mostly vegetative cover (59 percent) which provides varied habitats for wildlife. Developed areas (41 percent) in the site provides less suitable habitat for wildlife.

Wildlife utilizing the land control area are common species associated with limited natural vegetation, impervious surfaces and barren land. Mammals, reptiles, amphibians, and insects are

¹⁶⁹ SPA, Appendix D (Draft Vegetative Management Plan)

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present. These species include raccoon, coyote, red fox, gray fox, striped skunk, thirteen-lined squirrel, white-tailed deer, American toad, garter snake, and northern leopard frog.

Avian species common to the site include the American crow, eastern bluebird, mourning dove, wild turkey, and common raptors such as the red-tailed hawk. Common waterfowl like Canada geese and mallards may use the site for foraging.

The Project is located within the Mississippi Flyway, which is a major north-south migration route and within Eastern Tallgrass Prairie Bird Conservation Region. Field investigations in March 2026 identified minimal nesting habitat within the site and no stick nests observed. The limited forest habitat within the site represents suitable habitat for migratory birds, however, there is much greater habitat to the north of the site, along the Minnesota River. There are no waterfowl feeding and resting areas within one mile of the site. The northern portion of the site overlaps with the Lower Minnesota River Valley Important Bird Area (IBA), designated by the National Audubon Society. While the land control area overlaps this IBA, no permanent infrastructure will be built within this IBA.¹⁷⁰

POTENTIAL IMPACTS

The impact intensity level is expected to be minimal. Impacts could be positive or negative and depend on species type. Potential impacts will be short- and long-term and can be mitigated.

Non-Avian Wildlife Individuals will be displaced to adjacent habitats during construction. Because the land control area does not provide critical habitat, this should not impact life cycle functions, for example, nesting. Direct significant impacts to individuals might occur, that is, small species might be crushed or otherwise killed during construction. Population level impacts are not anticipated.

The project's fencing does create the potential for wildlife impacts. Although deer can jump many fences, they can become tangled in both smooth and barbed-wire fences, especially if the wires are loose or installed too closely together.¹⁷¹ Predators can use fences to corner and kill prey species.¹⁷² Because of the project's relatively small footprint the overall impact is anticipated to be minimal.

Plastic erosion control netting is frequently used for erosion control during construction and landscape projects and can negatively impact wildlife populations. Wildlife entanglement and death

¹⁷⁰ SPA, pp. 108-109

¹⁷¹ Colorado Division of Wildlife. *Fencing with Wildlife in Mind*. (2009). <https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf>, p.. 3.

¹⁷² Marcel Huijser, et al. *Construction Guidelines for Wildlife Fencing and Associated Escape and Lateral Access Control Measures*. (April 2015). http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP25-25%2884%29_FR.pdf, page 27.

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from plastic netting and other plastic materials has been documented in birds, fish, mammals, and reptiles.¹⁷³

Birds: Bird injuries or mortality may occur due to lack of fencing visibility. Local avian species, such as grouse, pheasants, and some raptors may be vulnerable to fence collisions.

Habitat: There are no DNR wildlife management areas, scientific and natural areas, migratory waterfowl feeding and resting areas, or USFWS Waterfowl Production areas within one mile of the site.

Following construction and restoration, a portion of the site will provide native grassland habitat for the life of the project. This change might be attractive to some species, and not others. Overall, the project does not contribute to significant habitat loss or degradation or create new habitat edge effects.

MITIGATION

Several sections of the DSP (**Appendix C**) specify measures that will minimize impacts to wildlife:

- Section 4.3.30 requires the applicant to use wildlife-friendly erosion control.
- Section 8.14 requires permittees to report “any wildlife injuries and fatalities” to the Commission on a quarterly basis.

Other potential mitigation measures include:

- Checking open trenches and removing any wildlife caught in trenches before backfilling mitigates impacts.
- Once permanent vegetation is established, restricting mowing from April 15 to August 15 will improve the potential for ground nesting habitat.

4.7.8 Rare and Unique Resources

The ROI for rare and unique resources is the local vicinity. The impact intensity level is anticipated to be minimal, as the project avoids identified areas of species occurrence and preferred habitat. Impacts can be mitigated.

Construction and operation of large energy facilities may adversely impact rare and unique resources through the taking or displacement of individual plants or animals, invasive species introduction, and habitat loss. Conversely, for some types of projects, sites can be managed to provide habitat. For example, the introduction of native vegetation into a landscape otherwise dominated by cultivated row crops could create habitat for pollinators, such as the rusty patched bumble bee.

¹⁷³ DNR. *Wildlife-friendly Erosion Control*. (2013). <http://files.dnr.state.mn.us/eco/nongame/wildlife-friendly-erosion-control.pdf>.

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The Minnesota DNR classifies rare plant or animal communities across the state. These include Scientific and Natural Areas, High Conservation Value Forest, Minnesota Biological Survey (MBS) Native Plant Communities, and MBS Sites of Biodiversity Significance

The Division of Ecological and Water Resources within DNR manages the Natural Heritage Information System (NHIS), “provides information on Minnesota’s rare plants, animals, native plant communities, and other rare features. The NHIS is continually updated as new information becomes available and is the most complete source of data on Minnesota’s rare or otherwise significant species, native plant communities, and other natural features. Its purpose is to foster better understanding and conservation of these features.”¹⁷⁴ NHIS data includes federally endangered, threatened, or candidate plant species, and endangered or threatened animal species. The system also includes state endangered, threatened, or special concern species. The NHIS database provides a useful source of information, but not the sole source for identifying these resources, as some areas have not been extensively surveyed.

The USFWS provides information for use in National Environmental Policy Act documents and reviews and provides comments on these documents. Through this process, the USFWS seeks to ensure that impacts to plant and animal resources are adequately described, and necessary mitigation is provided. One such resource is the distribution lists of federally listed threatened, endangered, and candidate species by county.

POTENTIAL IMPACTS

Natural Communities

The MBS systematically collects, interprets, and provides baseline data on the distribution and ecology of rare plants, rare animals and native plant communities.¹⁷⁵ There is an MBS site located within the project site. The Dean’s Lake MBS site covers a little less than half of the land control area and has a rank of “High”. Within this MBS, there are three zones of Native Plant Communities (NPC), listed as Dry Barrens Oak Savanna (Southern), Oak Subtype. There are no native prairies identified at the site.¹⁷⁶

Xcel Energy conducted a supplemental species and habitat survey on September 26, 2025.¹⁷⁷ This survey observed many non-native and problematic species including common buckthorn, bouncing bet, spotted knapweed, and Siberian elm. Furthermore, the area is characterized by moderate to significant disturbed habitats. There were no rare or unique species identified by this survey. DNR reviewed the survey and concluded that impacts to state-listed species are not anticipated.¹⁷⁸

¹⁷⁴ DNR (n.d.) *Natural Heritage Information System*, <http://www.dnr.state.mn.us/nhnrp/nhis.html>

¹⁷⁵ DNR. *Minnesota County Biological Surveys*, <http://www.dnr.state.mn.us/eco/mcbs/index.html>

¹⁷⁶ SPA, p. 113

¹⁷⁷ Response to Data Request 5, **Appendix D**

¹⁷⁸ Response to Data Request 5, **Appendix D**

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Rare Species

Northern Long Eared Bat (*Myotis septentrionalis*)

The Northern Long Eared Bat (NLEB) is a federally listed species and state listed species of concern. During the winter this species hibernates in caves and mines, and during the active season (approximately April-October) it roosts underneath bark or in cavities or crevices of both live and dead trees. The spread of white-nose syndrome across the eastern United States has become the major threat to the species. The preferred mitigation strategy to avoid impacts to the NLEB is avoidance of tree-clearing to the extent possible. When tree clearing is necessary, it should be done outside the pup rearing season from June 1 to July 31 and outside the active NLEB season from April 1 to October 31. Xcel Energy anticipates further coordination with USFWS for concurrence that the project is unlikely to adversely affect the NLEB based on general lack of high-quality or otherwise suitable habitat.¹⁷⁹

Tri-colored bat (*Perimyotis subflavus*)

The tri-colored bat, also known as the eastern pipistrelle, is proposed for listing under the Endangered Species Act and is a state-listed species of concern. The USFWS proposed listing the species as endangered in September 2022. The species has been found regularly, though in low numbers, in caves and mines in the southeastern part of the state.¹⁸⁰ The species may roost in trees within the site during their active season (April – September). There are no known tri-colored bat maternity roost trees or hibernaculum in Scott County, but the species may still occur within or near the project area.¹⁸¹ Xcel Energy anticipates further coordination with USFWS for concurrence that the project is unlikely to adversely affect the tricolored bat based on general lack of high-quality or otherwise suitable habitat.¹⁸²

Rusty Patched Bumble Bee (*Bombus affinis*)

The rusty patched bumble bee (RPBB) is a federally listed endangered species known to occur in Scott County.¹⁸³ RPBBs have been observed in a variety of habitats including prairies, woodlands, marshes, agricultural landscapes, parks and gardens. The species requires areas that provides nectar and pollen from a diverse array of flowers, undisturbed nesting sites in proximity to food source and overwintering sites for hibernating queens. Xcel Energy anticipates further coordination with USFWS for concurrence that the project is unlikely to adversely affect the RPBB based on general lack of high-quality or otherwise suitable habitat.¹⁸⁴

¹⁷⁹ Id.

¹⁸⁰ DNR, Rare Species Guide, Tricolored bat <https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=AMACC03020>

¹⁸¹ SPA, p. 102

¹⁸² SPA, p. 113

¹⁸³ USFWS, Environmental Conservation Online System, <https://ecos.fws.gov/ecp/species/9383>

¹⁸⁴ SPA, p. 113

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Monarch Butterfly (*Danaus plexippus*)

The monarch butterfly is a federal candidate species. The species is common throughout Minnesota during summer months and is most frequently found in habitats where milkweed and native plants are common, including roadside ditches, open areas, wet areas, and urban gardens.¹⁸⁵ Xcel Energy received a no-effect determination for the monarch butterfly on April 4, 2025.¹⁸⁶

Whooping Crane (*Grus americana*)

Whooping cranes is designated as a non-essential experimental population in Wisconsin and consultation is not necessary for individual that occur outside a National Wildlife Refuge or a National Park.

Bald Eagles

In Minnesota, the bald eagle nesting season is generally January through early July. Bald eagles are primarily found near rivers, lakes, and other waterbodies in remote and, more recently, within metropolitan areas.¹⁸⁷

Bald eagles are afforded additional protections under the Bald and Golden Eagle Protection Act, which is administered by the USFWS. Bald eagle incidental take permits and nest removal permits are voluntary permits, meaning a project proposer must make the determination to pursue a permit based on the respective risk of their project's potential to take a bald eagle.

Bald eagles typically nest in mature trees near large lakes or streams. Although there is a forested area within the site, the location and the trees are not suitable nesting habitat for bald eagles. More suitable habitat is located north of the project along the Minnesota River. Mitigation measure may include setbacks from nests, timing restriction for construction activities, and possibly seeking a USFWS permit for removal of a nest. For this project, impacts to the bald eagle are not anticipated.

State Listed Species

The Louisiana broomrape is a state listed threatened species. It is common in the Great Plains but is very rare in Minnesota and in states further east. In Minnesota, it occurs in prairies and savannas, primarily in sandy soils or shallow stony soils over bedrock.¹⁸⁸ The survey conducted by the applicant on September 26, 2025, resulted in no observation of the Louisiana broomrape, therefore impacts are not anticipated. DNR reviewed the survey and determined that no impacts to state-listed species are anticipated, and no further surveys are requested.¹⁸⁹

Other state listed species of special concern include:

¹⁸⁵ DNR, Monarch Butterfly, n.d., <https://www.dnr.state.mn.us/insects/monarchbutterfly.html>

¹⁸⁶ SPA, p. 113

¹⁸⁷ DNR, *Bald Eagles in Summer*, n.d., <https://www.dnr.state.mn.us/birds/eagles/summer.html>

¹⁸⁸ DNR, *Louisiana Broomrape*, n.d., <https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=PDORO04071>

¹⁸⁹ Response to Data Request 5, Appendix D

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- Forster's Tern (*Sterna forsteri*)
- Gophersnake (*Pituophis catenifer*)
- Lark Sparrow (*Chonestes grammacus*)
- Plains Hog-nosed Snake (*Heterodon nasicus*)
- Plains Pocket Mouse (*Perognathus flavescens*)
- Regal Fritillary (*Argynnis idalia*)
- Rhombic Evening Primrose (*Oenothera rhombipetala*)

MITIGATION

Techniques for minimizing impacts to wildlife and vegetation also minimize impacts to rare species. Avoiding identified areas of species occurrence or preferred habitat is the preferred mitigation measure.

Xcel Energy has committed to the following mitigation measures for impacts to the MBS and NPC sites:¹⁹⁰

- Siting the project within largely disturbed habitat with no recorded presence of rare or protected species.
- Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of invasive species.
- Use effective erosion prevention and sediment control measures.
- Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible.

4.7.9 Climate Change

The project has the potential to shift energy production in Minnesota and the upper Midwest toward carbon-free sources. Construction emissions will have a short-term negligible increase in greenhouse gases that contribute to climate change. The project's design incorporates design elements that minimize impacts from the increase in extreme weather events such as increase flooding, storms, and heat wave events that are expected to accompany a warming climate.

Climate change refers to any significant change in measures of climate lasting for an extended period. Greenhouse gases (GHG) are gaseous emissions that trap heat in the atmosphere and contribute to climate change. These emissions occur from natural processes and human activities. The most common GHGs emitted from human activities include carbon dioxide, methane, and nitrous oxide.

4.7.9.1 POTENTIAL IMPACTS

Construction activities will result in short-term increases in GHG emissions from the combustion of fossil fuels in construction equipment and vehicles.

¹⁹⁰ Response to Data Request 5, Appendix D

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Total GHG emissions for project construction are estimated to be approximately 707 tons of carbon dioxide (CO₂).¹⁹¹ The project's construction emissions are an insignificant amount relative to Minnesota's overall emissions of approximately 126 million tons in 2022.¹⁹² Potential impacts due to construction GHG emissions are anticipated to be negligible.

Once operational, the project will generate minimal GHG emissions. Emissions that do occur would result from vehicle usage to and from the facility for maintenance and operation. GHG emissions for project operation are estimated to be approximately 5.6 tons of CO₂ annually.¹⁹³

To the extent that the storage provided by the project reduces curtailment of generation from renewable resources such as wind and solar, it could reduce the use carbon-fueled power plants (e.g., coal, natural gas) that might step in to meet demand and reduce GHG from those sources.

A warming climate is expected to cause increased flooding, storms, and heat wave events. These events, especially an increased number and intensity of storms, could increase risks to the project. More extreme storms also mean more frequent heavy rainfall events. Climate and weather impacts are considered in the design of the facility and include impacts from extreme storms such as stormwater runoff, strong winds and hail.

The FEMA National Risk Index¹⁹⁴ rates Scott County as having "relatively moderate" hazard risk overall, with higher risk for losses due to winter weather, heat waves and tornados. The project is not sited within a floodplain and thus has low risk for flood damage.¹⁹⁵

When widely deployed, BESS systems can enable greater integration of renewable energy and maintain grid stability and provide backup power during extreme weather events.

MITIGATION

Mitigation to reduce emissions during construction is discussed in the Air Quality section of this EA. Strategies to reduce emissions include keeping vehicles in good working order, which will reduce the amount GHG emissions from diesel or gasoline.

Project developers can employ location, design, and construction strategies to mitigate impacts resulting from a warmer, wetter, and more energetic climate by:

- Avoiding sites with high probability for extreme weather events to the extent possible.

¹⁹¹ SPA, Appendix H

¹⁹² MPCA, n.d., Minnesota Greenhouse Gas Inventory, <https://data.pca.state.mn.us/views/Greenhousegasemissionsdata/TotalGHGemissionsgoals?%3Aembed=y&%3AisGuestRedirectFromVizportal=y> (accessed October 31, 2025)

¹⁹³ SPA, Appendix H

¹⁹⁴ FEMA National Risk Index. <https://hazards.fema.gov/nri/>

¹⁹⁵ SPA, p. 91

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- Designing facility components to withstand snow loads as well as stronger storms and winds.
- Designing the project's stormwater system to prevent flooding during heavy rainfall events.
- Designing the project's electrical collection system to be resistant to flooding damage.

The BESS enclosures selected for the project are designed to withstand wind, flood, blizzard, and hail events. Final design will include a safety factor for snow and wind loads for components and equipment pads. Unlike wind turbines or solar panels mounted on tracking systems, BESS enclosures are stationary and do not need to be stowed during high winds or hail.

The preliminary site plan includes a stormwater drainage basin to reduce stormwater runoff from the site. Final site design will ensure the site will meet state and county requirement for reducing runoff and treating stormwater.

4.8 Unavoidable Impacts

Resource impacts are unavoidable when an impact cannot be avoided even with mitigation strategies.

Potential impacts and the possible ways to mitigate against them were discussed earlier in this chapter. However, even with mitigation strategies, certain impacts cannot be avoided. Most adverse unavoidable impacts are associated with construction; therefore, they would be temporary.

Unavoidable adverse effects associated with construction of the project (in some instances a specific phase of construction) would last through construction and include:

- Fugitive dust.
- Noise disturbance to nearby residents and recreationalists.
- Visual disturbance to nearby residents and recreationalists.
- Soil compaction and erosion.
- Vegetative clearing.
- Disturbance and temporary displacement of wildlife, as well as direct impacts to wildlife inadvertently struck or crushed.
- Minor amounts of marginal habitat loss.
- Possible traffic delays.

Unavoidable adverse impacts associated with the operation would last as long as the life of the project, and include:

- Visual impacts of the project.
- Noise disturbance to nearby residents.
- Injury or death of birds and mammals from fencing.

4.9 Irretrievable or Irreversible Impacts

Resource commitments are irreversible when it is impossible or very difficult to redirect that resource to a different future use; an irretrievable commitment of resources means the resource is not recoverable for later use by future generations.

Irreversible and irretrievable resource commitments are primarily related to project construction, including the use of water, aggregate, hydrocarbons, steel, concrete, wood, and other consumable resources. Some, like fossil fuel use, are irretrievable. Others, like water use, are irreversible. Still others might be recyclable in part, for example, the raw materials used to construct batteries and enclosures would be an irretrievable commitment of resources, excluding those materials that may be recycled at the end of useful life. The commitment of labor and fiscal resources to develop, construct, and operate the project is considered irretrievable.

4.10 Resource Topics Receiving Abbreviated Analysis

Resource topics that will have negligible impacts from the project and that do not impact the Commission's site permit decision receive less study and analysis.

Many environmental factors and associated impacts from a project are analyzed during the environmental review process. However, if impacts are negligible and will not impact the permit decision, those resource impacts receive less study and analysis. The following resource topics meet this threshold, which is based on information provided by the applicant, field visits, scoping comments, environmental analysis, and staff experience with similar projects.

4.10.1 Displacement

Displacement can occur when residences or other buildings are located within a proposed site or right-of-way. If the buildings would potentially interfere with the safe operation of a project, they are typically removed from the site or ROW and relocated. Displacements from large energy facilities are rare and are more likely to occur in heavily populated areas where avoiding all residences and businesses is not always feasible than in rural areas where there is more room to adjust site boundaries or ROWs to accommodate the proposed energy facility.

There are no residences, business, or structures such as barns or sheds located within the site, and none will be displaced by the project. No mitigation is proposed.

4.10.2 Communications

Electronic interference from the proposed project is not anticipated. The project area is served by several AM and FM radio stations and digital television channels. There are no radio, microwave, or television towers located within the site. Landline telephone service to the project area is provided by Citizens Communications Company, Frontier Communications and Qwest Corporation. Mobile service Cellular phone service in the service area is provided by national carriers.

Global Positioning System (GPS) Electronic interference associated with communications infrastructure is related to a phenomenon known as corona. Impacts are not expected, because anticipated electric fields are below levels expected to produce significant levels of corona.

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Because the BESS facilities are relatively low (less than 20 feet), they are well below the line of site used in many communication system signals. Electronic interference associated with communications infrastructure and devices including agricultural navigation systems is related to a phenomenon known as corona. Impacts are not expected, because anticipated electric fields are below levels expected to produce significant levels of corona.

Section 4.3.21 of the DSP (**Appendix C**) requires the permittee to take whatever action is feasible to restore or provide equivalent reception should interference occur to “radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices” as a result of the project. Additional mitigation is not proposed.

4.10.3 Agriculture

There are no lands used for agricultural purposes within the land control area. Impacts to agricultural uses will not occur and no mitigation is proposed.

4.10.4 Forestry

Active forestry operations, including commercial timber harvest, woodlots, or other forestry resources do not occur within the land control area. Impacts to forestry operations will not occur and no mitigation is proposed.

4.10.5 Mining

Construction of the project will require the use of sand and aggregate for backfill and access roads. The demand for sand and gravel will be temporary and is not expected to require new or expanded sand or aggregate operations. Impacts to mining will not occur and no mitigation is proposed.

4.11 Cumulative Potential Effects

Cumulative potential effects result from the incremental effects of a project in addition to other projects in the environmentally relevant area.

Minnesota Rule 4410.0200, subpart 11a, defines “cumulative potential effects,” in part, as the “effect on the environment that results from the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects ... regardless of what person undertakes the other projects or what jurisdictions have authority over the project.”

The “environmentally relevant area” includes locations where the potential effects of the project coincide with the potential effects of other projects to impact the elements studied in this EA.

Consideration of cumulative potential effects is intended to aid decision-makers so that they do not make decisions about a specific project in a vacuum. Effects that may be minimal in the context of a single project may accumulate and become significant when all projects are considered.

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4.11.1 Analysis Background

The ROI for cumulative potential effects varies across elements and is consistent with the ROI identified in Potential Impacts and Mitigation throughout this document. Cumulative potential effects—where they coincide—increase or decrease the breadth of the impact to the resources and elements studied in Potential Impacts and Mitigation. This may or may not change the impact intensity level assigned to the resource or element.

Cumulative potential effects are impacts to the environment that results from “the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned or for which a basis of expectation has been laid, regardless of what person undertakes the other projects or what jurisdictions have authority over the projects.”¹⁹⁶

The “environmentally relevant area” includes locations where the potential effects of the project coincide with the potential effects of other projects to impact the elements studied in this EA. Generally, this area includes the ROI for the different resource elements.

Commission staff used online resources from MnDOT,¹⁹⁷ the Environmental Quality Board,¹⁹⁸ Scott County,¹⁹⁹ the City of Shakopee,²⁰⁰ and contacted Xcel Energy²⁰¹ to identify foreseeable projects. Reasonably foreseeable projects are identified in Table 13.

Cumulative effects are discussed here for projects that are reasonably foreseeable in the next five years in the project area. It is assumed that the construction-related impacts of these projects are short-term, for example, construction impacts will cause local disturbances, such as increased noise levels, and traffic delays/and reroutes. Thus, the discussion here is focused on the potential long-term impacts of these projects.

Where cumulative effects are anticipated, a written description is provided. Where cumulative potential effects are not anticipated no further analysis is provided. For the purposes of this EA, actions that have occurred in the past and their associated impacts are considered part of the existing environmental and were analyzed in this section.

¹⁹⁶ Minn. R. 4410.0200, subp. 11a

¹⁹⁷ MnDOT, Construction Projects, Plans and Studies, December 8, 2025, <https://www.dot.state.mn.us/roadwork/#gsc.tab=0>

¹⁹⁸ Minnesota Environmental Quality Board Environmental Review Projects Interactive Map, <https://pca-gis02.pca.state.mn.us/EQB/>

¹⁹⁹ Scott County, Department of Roads and Transportation, Future Projects and Studies, (n.d) <https://www.scottcountymn.gov/508/Future-Projects-Studies>

²⁰⁰ City of Shakopee, Current Development https://www.shakopeemn.gov/business_development/current_development.php

²⁰¹ Appendix D, response to Question 3

Table 13. Current and Reasonably Foreseeable Future Projects

Project	Location	Anticipated Timeframe	Description
Magellan Pipeline alternative access road to existing metering station.	Shakopee, within project site.	2026-2027	The project will require relocation of the existing access road to the Magellan metering station. Magellan Midstream Partners, L.P. plans to construct an alternate access road. Plans are not final, but based on Xcel Energy’s understanding, the new access road will be similar in width and construction materials to the existing road and likely located along the eastern and northern edge of the parcel.
Blue Lake Generating Facility	Shakopee, within project site.	2026 - 2031	Xcel Energy plans to remove two non-operational fuel tanks at the Blue Lake Generating Plant.
County Highway 17 Reconstruction	Shakopee, approximately 2 miles west of project	2027	Reconstruction of County Highway 17 (Marshall Road) between CN 82 and CH 42 to improve safety and mobility in northern Scott County
Metropolitan Council Odor Control Project	Shakopee, northwest of project	2026	The Metropolitan Council will construct an odor control structure and accessory structure at its existing Blue Lake Wastewater Treatment Plant.
Mystic Lake Amphitheater Project at Canterbury Park	Shakopee, approximately 2 miles west of project	2025 - 2026	Development of 48 acres for a 19,000 person amphitheater.

4.11.2 Human Settlement

Cumulative potential effects on human settlements are anticipated to be moderate. Some projects would have positive effects on human settlements by improving transportation and safety, while the Mystic Lake Amphitheater is expected to increase use of Canterbury Park. Cumulative impacts of industrialization of an already industrialized area within an EJ community will be incremental and can be mitigated.

4.11.3 Public Health and Safety

Cumulative potential effects on public health and safety are anticipated to be minimal to moderate. Impacts on public health and safety as a result of the project are anticipated to be moderate to significant (Section 4.44.3.8). The addition of battery storage facilities introduces potential public safety hazards from thermal runaway events. Response to thermal runaway events and fires at BESS facilities requires specialized training. Employing best practices in facility design and operation, including identifying hazards and developing training for emergency responders can mitigate potential impacts

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4.11.4 Land-based Economies

Cumulative potential effects on land-based economies are anticipated to be minimal to moderate. Most of the foreseeable projects are in developed areas or along roadways and are not expected to impact land-based economies. The Mystic Lake Amphitheater is expected to increase visitors to the area

4.11.5 Archaeological and Historical Resources

Because archaeological resources are unidentified, cumulative potential effects are unknown. With proper mitigation measures, impacts to these resources can be minimized.

4.11.6 Natural Resources

Cumulative potential effects on the natural environment are anticipated to be minimal to moderate. The foreseeable projects are in developed areas or along roadways resulting in minimal loss of high-quality habitat. Impacts are limited along roadways by the use of existing infrastructure ROW. Wildlife might be inadvertently harmed or killed during construction. Long term and permanent impacts include a greater risk of bird electrocution or collision due to increased transmission lines on the landscape. Potential impacts can be mitigated. The overall impact intensity level is expected to remain minimal.

4.11.7 Rare and Unique Resources

Cumulative potential effects on rare and unique natural resources are uncertain. Although there are rare and unique species in the project area ([Section 4.11.7](#)), the identified projects are improvements in developed areas or along existing roadways that generally do not provide habitat for rare and unique species, nor do they typically support rare communities.

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Chapter 5
Sources

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Appendix A

Scoping Decision



In the Matter of the Application of Northern States Power Company d/b/a Xcel Energy for an up to 135.5 MW Battery Energy Storage System Site Permit for the Blue Lake Battery Energy Storage Project in Scott County, Minnesota.

**ENVIRONMENTAL ASSESSMENT
SCOPING DECISION**

DOCKET NO. E002/ESS-25-214

The above matter has come before the Executive Secretary of the Minnesota Public Utilities Commission (Commission) for a decision on the scope of the environmental assessment (EA) to be prepared for Xcel Energy's proposed 135.5 megawatt (MW) Blue Lake battery energy storage system project in Shakopee in Scott County, Minnesota. The Commission is reviewing this application under [Minnesota Statute 216E \(2023\)](#) and [Minnesota Rule Chapter 7850](#).

Project Description

On June 20, 2025, Xcel Energy submitted a site permit application to the Commission for the Blue Lake Energy Storage Project.¹ Xcel Energy proposes to construct and operate a battery energy storage system (BESS) with a nominal power rating of up to 135.5 MW alternating current (AC) with approximately 542 megawatt-hours (MWh) of energy capacity on a site of approximately 11.9 acres in the city of Shakopee in Scott County, Minnesota. In addition to battery energy storage enclosures, the facility will also include inverters and transformers, electrical feeder lines, a project substation, one or more stormwater drainage basins, and fencing surrounding the perimeter of the facility. The facility will be connected to the electric grid through a 115 kilovolt tap line of less than 500 feet between the project substation and Xcel Energy's adjacent Blue Lake Substation.²

Xcel Energy filed a generator interconnection agreement (GIA) application for the project with the Midcontinent Independent System Operator (MISO) in May 2024 and anticipates signing a GIA in early the second quarter of 2025.³

Xcel Energy anticipates that construction on the project will begin in early 2026 and be completed in time to begin operating in the second quarter of 2027.⁴ Xcel Energy anticipates capital costs of approximately \$211 million to construct the facility and annual operating costs of approximately \$3 to 5 million, not including battery augmentation.⁵

¹ Xcel Energy, *Application for a Site Permit for the Blue Lake Energy Storage Project*, June 20, 2025, 2024, eDockets Numbers [20256-220093-02](#), [20256-220093-03](#), [20256-220093-04](#), [20256-220093-05](#), [20256-220093-06](#), [20256-220093-07](#), [20256-220093-08](#), [20256-220093-09](#), [20256-220093-11](#), [20256-220093-12](#), [20256-220093-13](#), [20256-220093-14](#), 20256-220093-15 (Trade Secret), [20258-222516-01](#), and [20258-222516-03](#) [herein after Site Permit Application or SPA]).

² SPA, pp. 14-17

³ SPA, p. 17

⁴ SPA, p. 9

⁵ Xcel Energy, *Completeness Reply Comments*, July 18, 2025, eDockets Number [20257-221145-01](#)

Project Purpose

Xcel Energy indicates that the project will help meet its need for approximately 600 MW of energy storage capacity by 2030 and provide renewable energy integration, grid support and resilience, and improved power quality.⁶

Regulatory Background

In Minnesota, no person may construct an energy storage system (ESS), defined as a facility capable of operating at a capacity of 10 MW or more⁷ without a site permit from the Commission.⁸ The proposed project will have a nominal power rating of up to 135.5 MW AC and therefore requires a site permit from the Commission. As an ESS facility, the site permit application qualifies for Commission review under the alternative permitting process described in Minnesota Statute 216E.04.⁹

The project does not require a certificate of need from the Commission because the Project is exempt under Minn. Stat. 216B.243, subd. 8(9).

Commission Energy Infrastructure Permitting (EIP) staff will prepare an EA for the project. An EA contains an overview of the resources affected by the project. It also discusses potential human and environmental impacts and possible mitigation measures.¹⁰ Under the alternative permitting process, an EA is the only required state environmental review document.

Scoping Process

Scoping is the first step in the environmental review process. The scoping process has two primary purposes: (1) to gather public input as to the impacts and mitigation measures to study in the EA and (2) to focus the EA on those impacts and mitigation measures that will aid in the Commission's decision on the site permit application.

Staff use the information gathered during scoping to inform the content of the EA. EIP staff gathered input on the scope of the EA through public meetings and an associated comment period. This scoping decision identifies the impacts and mitigation measures that will be analyzed in the EA.

Public Information and Scoping Meetings

EIP staff held a remote access public information and scoping meeting on September 10, 2025, and a public meeting in Shakopee, Minnesota on September 11, 2025. There were no attendees at either the remote access or in-person meeting.¹¹

Written Public Comments

A comment period ending on September 25, 2025, provided the public with an opportunity to provide input on the scope of the EA.

⁶ SPA, p. 6

⁷ Minnesota Statute 216E.01, subd. 3a.

⁸ Minnesota Statute 216E.03, subd. 1.

⁹ Minnesota Statute 216E.04, Subd. 2 (noting those projects that are eligible to proceed under an alternative permitting process).

¹⁰ Minnesota Statute 216E.04, subd. 5, Edition Year 2023; Minn. Rule 7850.3700, subp. 4, Published 2024.

¹¹ Oral Comments on the Scope of Environmental Assessment, eDockets Number [202510-223469-01](https://www.dockets.mn.gov/dockets/202510-223469-01)

The Minnesota Department of Natural Resources (DNR) was the only commenter during the scoping period. DNR's Natural Heritage Review of the project identified several rare species and significant natural features that may be impacted by the project including a site of biodiversity significance with a high ranking and several state and federally listed species, including Louisiana broomrape, Gophersnake, Lark sparrow, bats, and the Rusty Patched Bumblebee. The DNR comments recommended mitigation measures to minimize impacts on the identified resources including additional surveys, timing construction to avoid disturbing species, and construction practices that minimize ground disturbance. DNR's comments also included recommendations on project lighting, dust control, and erosion control.¹²

On October 21, the Commission issued an order authorizing that the EA evaluate solely the site proposed by Xcel Energy in its application.¹³

HAVING REVIEWED THE MATTER, consulted with EIP staff, and in accordance with Minnesota Rule 7850.3700, I hereby make the following scoping decision:

MATTERS TO BE ADDRESSED

The EA will describe the project and the human and environmental resources of the project area. It will provide information on the potential impacts of the project as they relate to the topics outlined in this scoping decision and possible mitigation measures. It will identify impacts that cannot be avoided and irretrievable commitments of resources, as well as permits from other government entities that may be required for the project. The EA will discuss the relative merits of the proposed project site with respect to the siting factors in Minnesota Rule 7850.4100.

The issues outlined below will be analyzed in the EA for the project. This outline is not intended to serve as a table of contents for the document itself.

I. GENERAL DESCRIPTION OF THE PROJECT

- A. Project Description
- B. Project Purpose
- C. Project Costs
- D. Project Schedule

II. REGULATORY FRAMEWORK

- A. Site Permit
- B. Environmental Review
 - Scoping Process
 - Proposed Site
 - Environmental Assessment
- C. Public Hearing

¹² MNDNR comment, September 24, 2025, eDockets Number. [20259-223282-01](#), [20259-223282-02](#), and [20259-223282-03](#)

¹³ Commission, Order, October 21, 2025, eDockets Number [202510-224126-01](#)

- D. Site Permit Decision
- E. Other Permits and Approvals

III. ENGINEERING, DESIGN, AND CONSTRUCTION

- A. Battery Energy Storage System (batteries, enclosures, transformers)
- B. Substation and Transmission Intertie
- C. Associated Facilities

IV. OPERATION AND DECOMMISSIONING

- A. Maintenance
- B. Vegetation Management
- C. Repowering and Decommissioning

V. AFFECTED ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATIVE MEASURES

The EA will include a discussion of the human and environmental resources potentially impacted by the project. Potential impacts of the project will be described and characterized. Based on the impacts identified, the EA will describe mitigation measures that could reasonably be implemented to reduce or eliminate the identified impacts. The EA will describe any unavoidable impacts resulting from implementation of the project.

Data and analyses will be commensurate with the level of impact for a given resource and the relevance of the information to consider mitigation measures. EIP staff will consider the relationship between the cost of data and analyses and the relevance and importance of the information in determining the level of detail of information to be prepared for the EA. Less important material may be summarized, consolidated, or simply referenced.

If relevant information cannot be obtained within timelines prescribed by statute and rule, the costs of obtaining such information is excessive, or the means to obtain it is unknown, EIP staff will include in the EA a statement that such information is incomplete or unavailable and the relevance of the information in evaluating potential impacts or alternatives.

- A. Environmental Setting
- B. Human Settlements
 - 1. Noise
 - 2. Aesthetics
 - 3. Displacement
 - 4. Property Values
 - 5. Zoning and Land Use Compatibility (land use classification, tax revenue)
 - 6. Cultural Values
 - 7. Transportation and Public Services
- C. Socioeconomics
 - 1. Environmental Justice
 - 2. Local Economies (employment, taxes)
- D. Public Health and Safety
 - 1. Electric and Magnetic Fields
 - 2. Emergency Services
- E. Land Based Economies

1. Agriculture
 2. Forestry
 3. Mining
 4. Recreation and Tourism
- F. Archaeological and Historic Resources (unanticipated discoveries)
- G. Natural Environment
1. Water Resources (wetlands, surface waters, groundwater)
 2. Soils
 3. Geology
 4. Flora
 5. Fauna
 6. Air Quality
 7. Climate Change and Design for Resilience
- H. Threatened, Endangered, and Rare and Unique Natural Resources (Louisiana broomrape, Gophersnake, Lark sparrow, bats, and the Rusty Patched Bumblebee, and native plant communities)
- I. Cumulative Potential Effects
- J. Adverse Impacts that Cannot be Avoided
- K. Irreversible and Irretrievable Commitments of Resources

ISSUES OUTSIDE THE SCOPE OF THE EA

The EA will not address following topics:

- The need for the project, including questions of size, type, timing, and alternative system configurations.
- Any site other than the site proposed by Xcel Energy in its site permit application.
- Any impacts related to the manufacture of the elements of the project including batteries, battery storage units, concrete, fuel used for construction vehicles, etc.
- The manner in which landowners are compensated for the project.

SCHEDULE

The EA is anticipated to be completed and available in December 2025. Upon completion, it will be noticed and made available for review. Public hearings will be noticed and held in the project area after issuance of the EA. Comments on the EA may be submitted into the hearing record.

Signed this 24th day of October, 2025

STATE OF MINNESOTA
MINNESOTA PUBLIC UTILITIES COMMISSION



Sasha Bergman, Executive Secretary

Blue Lake Energy Storage Project Overview Map

Service Layer Credits: NAIP Imagery: Source: Esri, USDA FSA Hybrid Reference Layer (US Edition); Esri Community Maps Contributors, Metropolitan Council, MetroGIS, Three Rivers Park District, © OpenStreetMap, Microsoft, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METINASA, USGS, EPA, World Imagery (Prelim); Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



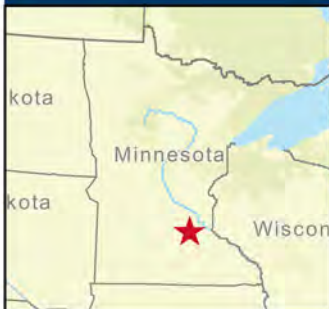
Source: ESRI, USGS, USDoD, Northern States Power Company, Burns & McDonnell Engineering Company Issued: 6/11/2025

Appendix B

Maps



Blue Lake BESS Project - Zoning Districts



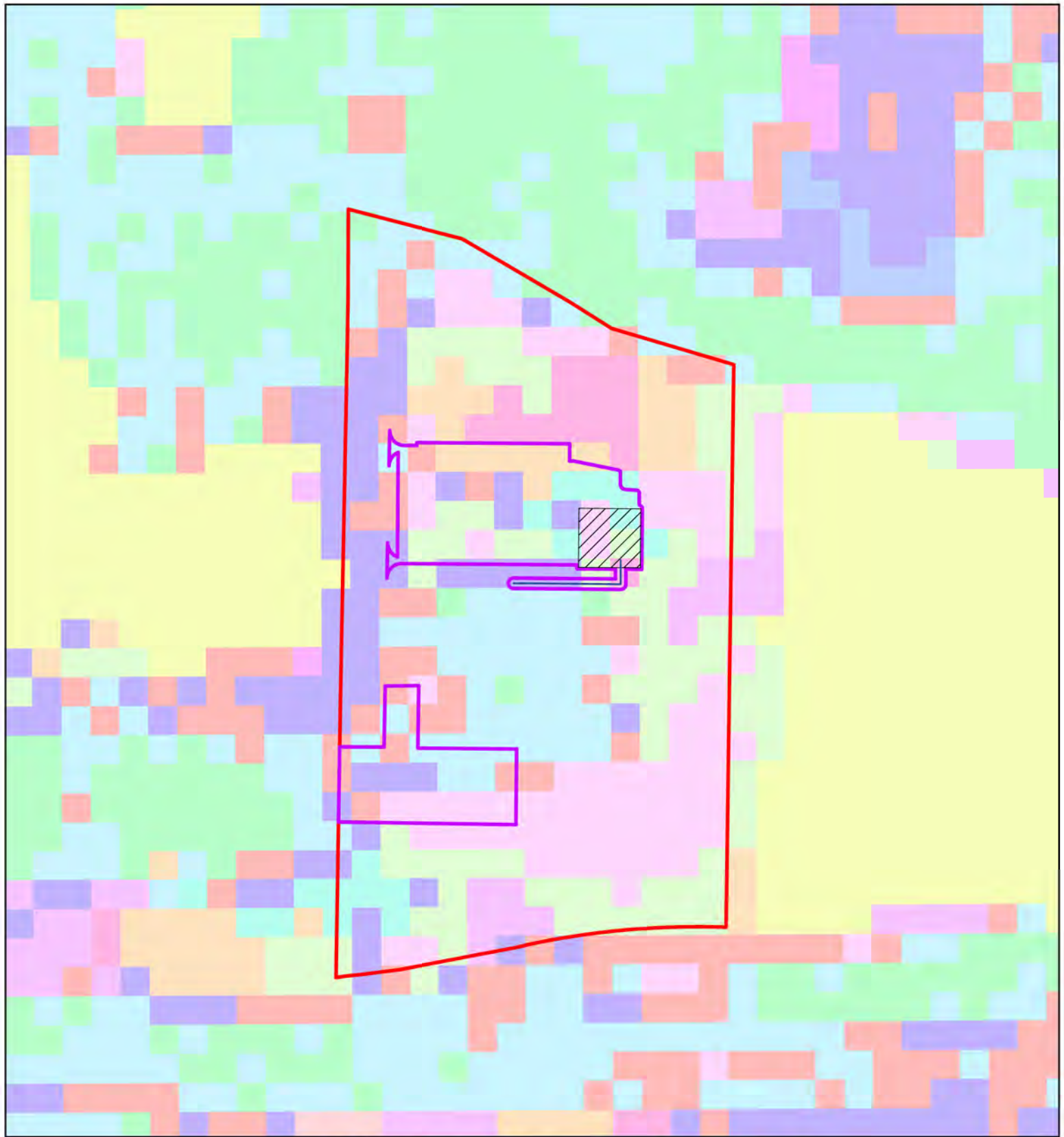
Project	Project Site	Community Commercial	Major Recreation
Zone Description	Heavy Industrial	Park and Open Space	Planned Residential
	Highway Business	Light Industrial	Urban Residential
	Agricultural Preservation	Low Density Residential	

N
↑

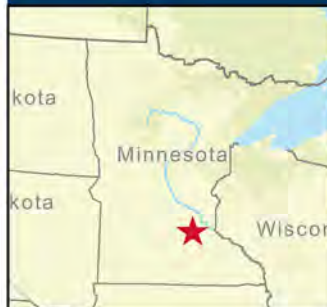
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PUBLIC UTILITIES COMMISSION



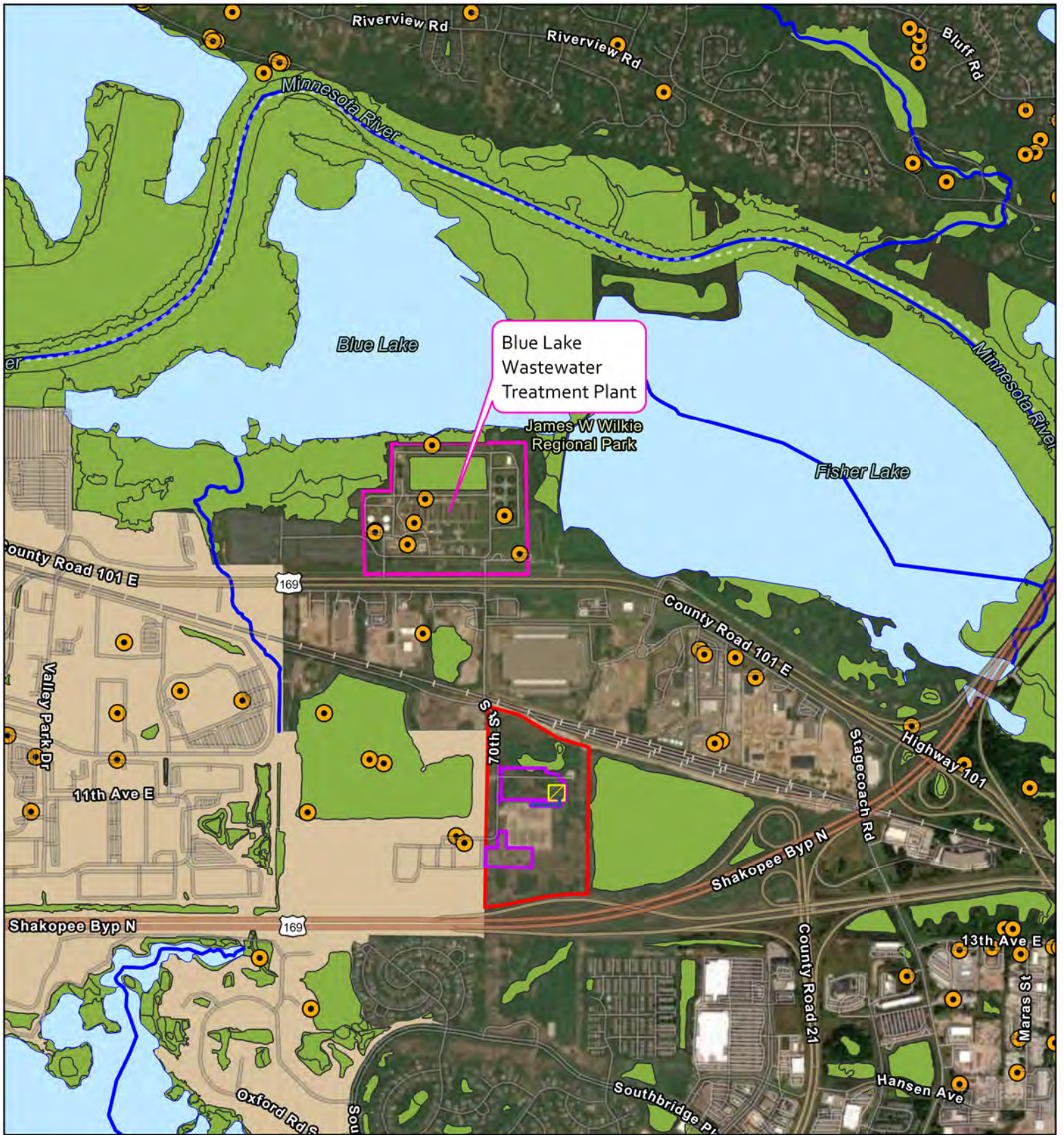
Blue Lake BESS Project - National Land Cover Dataset



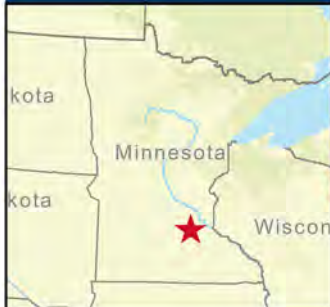
Proposed Project Tap Line	Developed, Low Intensity	Shrub/Scrub
Project Substation	Developed, Medium Intensity	Grassland/Herbaceous
Preliminary Development Area	Developed, High Intensity	Pasture/Hay
Project Site	Barren Land (Rock/Sand/Clay)	Woody Wetlands
Land Cover Class	Deciduous Forest	Emergent Herbaceous Wetlands
Open Water	Evergreen Forest	
Developed, Open Space	Mixed Forest	

MILES

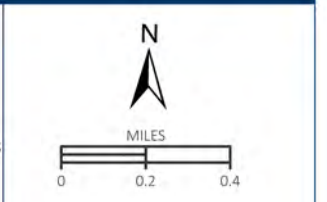
MINNESOTA
PUBLIC UTILITIES COMMISSION

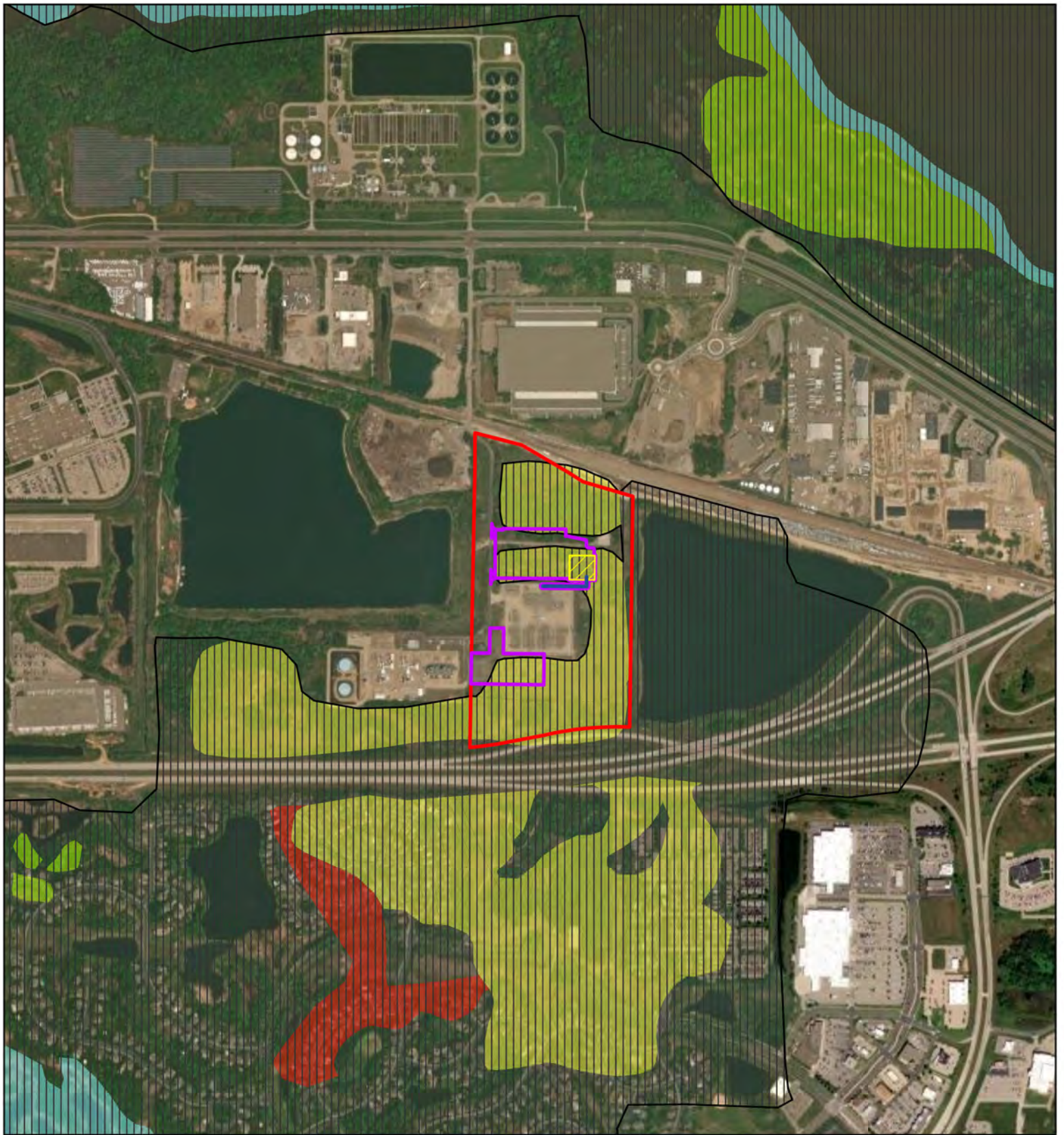


Blue Lake BESS Project - Water Resources

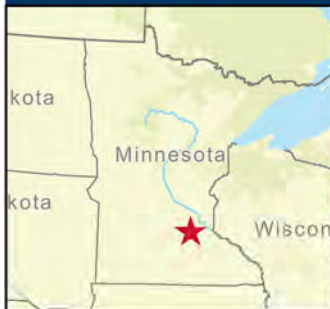


-  Minnesota Well Inventory
-  Proposed Project Tap Line
-  Project Substation
-  Preliminary Development Area
-  Project Site
-  Public Water Watercourse
-  Public Waters Basins
-  National Wetland Inventory
-  Drinking Water Supply Management Areas
-  Wastewater Treatment Plant





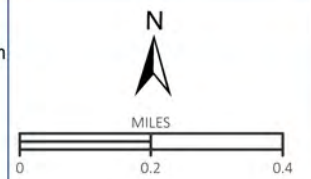
Blue Lake BESS Project - Natural Resources



- Project**
- Proposed Project Tap Line
 - Project Substation
 - Preliminary Development Area
 - Project Site

- MBS Sites of Biodiversity Significance**
- High

- DNR Native Plant Communities**
- Fire-Dependent Forest/Woodland System
 - Marsh System
 - Upland Prairie System
 - Wet Meadow/Carr System



Appendix C

Proposed Draft Site Permit

STATE OF MINNESOTA PUBLIC UTILITIES COMMISSION

SITE PERMIT FOR
BLUE LAKE BATTERY ENERGY STORAGE SYSTEM

AN ENERGY STORAGE SYSTEM

IN

Scott County

ISSUED TO

NORTHERN STATES POWER dba XCEL ENERGY

PUC DOCKET NO. **E002/ESS-25-214**

In accordance with the requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850 this site permit is hereby issued to:

Northern States Power dba Xcel Energy

Northern States Power dba Xcel Energy is authorized by this site permit to construct and operate the Blue Lake Battery Energy Storage Project, a battery Energy Storage System with a nominal power rating of up to 135.5 megawatt (MW) alternating current with approximately 542 megawatt hours of energy capacity on a site of approximately 8 acres in the City of Shakopee in Scott County Minnesota.

The energy storage system shall be constructed and operated within the site identified in this site permit and in compliance with the conditions specified in this site permit.

This site permit shall expire 30 years from the date of this approval.

Approved and adopted this ____ day of [Month, Year]

BY ORDER OF THE COMMISSION

Sasha Bergman,
Executive Secretary

To request this document in another format such as large print or audio, call 651-296-0406 or 800-657-3782 (voice). Persons with a hearing or speech impairment may call using their preferred Telecommunications Relay Service or email consumer.puc@state.mn.us for assistance.

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Attachment 3 – Site Permit Maps

DRAFT SITE PERMIT

1 SITE PERMIT

The Minnesota Public Utilities Commission (Commission) hereby issues this site permit to Northern States Power Company dba Xcel Energy (Permittee) pursuant to Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. This site permit authorizes the Permittee to construct and operate a battery energy storage system with a nominal power rating of up to 135.5 megawatt (MW) alternating current (AC) with approximately 542 megawatt hours of energy capacity in Scott County (Blue Lake Battery Energy Storage System, henceforth known as Project). The energy storage system shall be constructed and operated within the site identified in this site permit and in compliance with the conditions specified in this site permit.

1.1 Pre-emption

Pursuant to Minn. Stat. § 216E.10, this site permit shall be the sole site approval required for the location, construction, and operation of the energy storage system and this site permit shall supersede and preempt all zoning, building, or land use rules, regulations, or ordinances promulgated by regional, county, local and special purpose governments.

2 PROJECT DESCRIPTION

Xcel Energy proposes to construct and operate a battery energy storage system with a nominal power rating of up to 135.5 MW AC with approximately 542 megawatt-hours of energy capacity on a site of approximately 8 acres in the city of Shakopee in Scott County, Minnesota. In addition to battery energy storage enclosures, the facility will also include inverters and transformers, electrical feeder lines, a project substation, one or more stormwater drainage basins, and fencing surrounding the perimeter of the facility. The facility will be connected to the electric grid through a 115 kilovolt tap line of less than 500 feet between the project substation and Xcel Energy's adjacent Blue Lake Substation

The Project is located in the following:

<u>County</u>	<u>Township Name</u>	<u>Township</u>	<u>Range</u>	<u>Section</u>
<u>Scott</u>	<u>Shakopee</u>	<u>115 N</u>	<u>22 W</u>	<u>2, 11</u>

2.1 Project Ownership

At least 14 days prior to the pre-construction meeting, the Permittee shall file a description of its ownership structure, identifying, as applicable:

- (a) the owner(s) of the financial and governance interests of the Permittee;

- (b) the owner(s) of the majority financial and governance interests of the Permittee's owners; and
- (c) the Permittee's ultimate parent entity (meaning the entity which is not controlled by any other entity).

The Permittee shall notify the Commission of:

- (a) a change in the owner(s) of the majority* financial or governance interests in the Permittee; or
- (b) a change in the owner(s) of the majority* financial or governance interests of the Permittee's owners; or
- (c) a sale which changes the ultimate parent entity of the Permittee

*When there are only co-equal 50/50 percent interests, any change shall be considered a change in majority interest.

In the event of an ownership change, the new Permittee must provide the Commission with a certification that it has read, understands, and is able to comply with the conditions of this permit.

3 DESIGNATED SITE

The site designated by the Commission for the Project is depicted on the site maps attached to this site permit (Designated Site). The site maps show the approximate location of the energy storage system and associated facilities within the Designated Site and identify a layout that seeks to minimize the overall potential human and environmental impacts of the Project, as they were evaluated in the permitting process.

The Designated Site serves to provide the Permittee with the flexibility to make minor adjustments to the layout to accommodate requests by landowners, local government units, federal and state agency requirements, and unforeseen conditions encountered during the detailed engineering and design process. Any modification to the location of a photovoltaic tracker row or associated facility shall be done in such a manner as to have human and environmental impacts that are comparable to those associated with the layouts on the maps attached to this site permit. The Permittee shall identify any modifications in the Site Plan pursuant to Section 8.3.

4 GENERAL CONDITIONS

The Permittee shall comply with the following conditions during construction and operation of the energy storage system over the life of this site permit.

4.1 Site Permit Distribution

Within 30 days of issuance of this site permit, the Permittee shall provide all affected landowners with a copy of this site permit and the complaint procedures. An affected landowner is any landowner or designee that is within or adjacent to the permitted site. In no case shall a landowner receive this site permit and complaint procedures less than five days prior to the start of construction on their property. The Permittee shall also provide a copy of this site permit and the complaint procedures to the applicable regional development commissions, county environmental offices, and city and township clerks. The Permittee shall file with the Commission an affidavit of its site permit and complaint procedures distribution within 30 days of issuance of this site permit.

4.2 Access to Property

The Permittee shall notify landowners prior to entering or conducting maintenance within their property, unless otherwise negotiated with the landowner. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Minnesota Department of Commerce (Department of Commerce)~~ or Commission staff.

4.3 Construction and Operation Practices

The Permittee shall comply with the construction practices, operation and maintenance practices, and material specifications described in the permitting record for this Project unless this site permit establishes a different requirement in which case this site permit shall prevail.

4.3.1 Field Representative

The Permittee shall designate a field representative responsible for overseeing compliance with the conditions of this site permit during construction of the Project. This person shall be accessible by telephone or other means during normal business hours throughout site preparation, construction, cleanup, and restoration.

The Permittee shall file with the Commission the name, address, email, phone number, and emergency phone number of the field representative at least 14 days prior to the pre-construction meeting. The Permittee shall provide the field representative's contact information to affected landowners, local government units and other interested persons at least 14 days prior to the pre-construction meeting. The Permittee may change the field representative at any time upon notice to the Commission, affected landowners, local government units and other interested persons. The Permittee shall file with the Commission

an affidavit of distribution of its field representative's contact information at least 14 days prior to the pre-construction meeting and upon changes to the field representative.

4.3.2 Site Manager

The Permittee shall designate a site manager responsible for overseeing compliance with the conditions of this site permit during the commercial operation and decommissioning phases of the Project. This person shall be accessible by telephone or other means during normal business hours for the life of this site permit.

The Permittee shall file the name, address, email, phone number, and emergency phone number of the site manager with the Commission within 14 days prior to the pre-operation meeting. The Permittee shall provide the site manager's contact information to landowners within or adjacent to the Project Boundary, local government units and other interested persons at least 14 days prior to the pre-operation meeting. The Permittee may change the site manager at any time upon notice to the Commission, landowners within or adjacent to the Project Boundary, local government units, and other interested persons. The Permittee shall file with the Commission an affidavit of distribution of its change to the site manager's contact information within 14 days of the change to the site manager.

4.3.3 Employee Training - Site Permit Terms and Conditions

The Permittee shall train and educate all employees, contractors, and other persons involved in the construction and ongoing operation of the energy storage system of the terms and conditions of this site permit. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce~~ Commission staff.

4.3.4 Independent Third-Party Monitoring

Prior to any construction, the Permittee shall propose a scope of work and identify an independent third-party monitor to conduct Project construction monitoring on behalf of the ~~Department of Commerce~~ Commission. The scope of work shall be developed in consultation with and approved by ~~the Department of Commerce~~ Commission staff. This third-party monitor will report directly to and will be under the control of the ~~Department of Commerce~~ Commission, with costs borne by the Permittee. ~~Department of Commerce staff shall keep records of compliance with this section and will ensure that status reports detailing the construction monitoring are filed with the Commission in accordance with scope of work approved by the Department of Commerce.~~

The Permittee shall file with the Commission the approved scope of work and the name, address, email, and telephone number of the third party-monitor at least 14 days prior to

beginning construction and upon any change in contact information that may occur during construction of the Project.

The Permittee shall keep records of compliance with this section and shall file status reports detailing the construction monitoring in accordance with the approved scope of work.

4.3.5 Public Services, Public Utilities, and Existing Easements

During Project construction, the Permittee shall minimize any disruption to public services or public utilities. To the extent disruptions to public services or public utilities occur these shall be temporary, and the Permittee shall restore service promptly. Where any impacts to utilities have the potential to occur the Permittee shall work with both landowners and local entities to determine the most appropriate mitigation measures if not already considered as part of this site permit.

The Permittee shall cooperate with county and city road authorities to develop appropriate signage and traffic management during construction. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.6 Temporary Workspace

The Permittee shall select temporary workspace and equipment staging areas that limit the removal and impacts to vegetation. The Permittee shall not site temporary workspace in wetlands or native prairie as defined in sections 4.3.13 and 4.3.14. The Permittee shall site temporary workspace to comply with standards for development of the shorelands of public waters as defined in Section 4.3.13. The Permittee shall obtain temporary easements outside of the authorized Project Boundary from affected landowners through rental agreements. Temporary easements are not provided for in this site permit.

4.3.7 Noise

The Permittee shall comply with noise standards established under Minn. R. 7030.0010 to 7030.0080, at all times and at all appropriate locations during operation of the Project. The Permittee shall limit construction and maintenance activities to daytime working hours to the extent practicable.

4.3.8 Aesthetics

The Permittee shall consider input pertaining to visual impacts from landowners and the local unit of government having direct zoning authority over the area in which the Project is located.

The Permittee shall use care to preserve the natural landscape, minimize tree removal and prevent any unnecessary destruction of the natural surroundings in the vicinity of the Project during construction and operation.

4.3.9 Topsoil Protection

The Permittee shall implement measures to protect and segregate topsoil from subsoil on all lands utilized for Project construction unless otherwise negotiated with affected landowner.

4.3.10 Soil Compaction

The Permittee shall implement measures to minimize soil compaction of all lands during all phases of the Project's life and shall confine compaction to as small an area as feasible. The Permittee shall use soil decompaction measures on all lands utilized for Project construction and travelled on by heavy equipment (*e.g.*, cranes and heavy trucks), even when soil compaction minimization measures are used.

4.3.11 Soil Erosion and Sediment Control

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) Construction Stormwater Program. If construction of the Project disturbs more than one acre of land or is sited in an area designated by the MPCA as having potential for impacts to water resources, the Permittee shall obtain a National Pollutant Discharge Elimination System/State Disposal System Construction Stormwater Permit from the MPCA that provides for the development of a Stormwater Pollution Prevention Plan that describes methods to control erosion and runoff.

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the Project shall be returned to pre-construction conditions.

4.3.12 Public Lands

In no case shall the energy storage system and associated facilities including foundations, access roads, underground cable, and transformers, be located in the public lands identified in Minn. R. 7850.4400, subp. 1, or in federal waterfowl production areas. Photovoltaic tracker

rows and associated facilities shall not be located in the public lands identified in Minn. R. 7850.4400, subp. 3, unless there is no feasible and prudent alternative.

4.3.13 Wetlands and Water Resources

The Permittee shall not place the energy storage system or associated facilities in public waters and public waters wetlands, as shown on the public water inventory maps prescribed by Minnesota Statutes Chapter 103G, except that electric collector or feeder lines may cross or be placed in public waters or public waters wetlands subject to permits and approvals by the Minnesota Department of Natural Resources (DNR) and local units of government as implementers of the Minnesota Wetlands Conservation Act. The Permittee shall locate the energy storage system and associated facilities in compliance with the standards for development of the shorelands of public waters as identified in Minn. R. 6120.3300, and as adopted, Minn. R. 6120.2800, unless there is no feasible and prudent alternative.

The Permittee shall construct in wetland areas during frozen ground conditions, to the extent feasible, to minimize impacts. When construction during winter is not possible, wooden or composite mats shall be used to protect wetland vegetation. The Permittee shall contain and manage soil excavated from the wetlands and riparian areas in accordance with all applicable wetland permits. The Permittee shall access wetlands and riparian areas using the shortest route possible in order to minimize travel through wetland areas and prevent unnecessary impacts.

The Permittee shall restore wetland and water resource areas disturbed by construction activities to pre-construction conditions in accordance with the requirements of applicable state and federal permits or laws and landowner agreements. The Permittee shall meet the USACE, DNR, Minnesota Board of Water and Soil Resources, and local government wetland and water resource requirements.

4.3.14 Native Prairie

The Permittee shall not place the energy storage system or associated facilities in native prairie, as defined in Minn. Stat. § 84.02, subd. 5, unless addressed in a prairie protection and management plan and not located in areas enrolled in the Native Prairie Bank Program. The Permittee shall not impact native prairie during construction activities unless addressed in a prairie protection and management plan.

The Permittee shall prepare a prairie protection and management plan in consultation with the DNR if native prairie, as defined in Minn. Stat. § 84.02, subd. 5, is identified within the Project Boundary. The Permittee shall file the prairie protection and management plan with the Commission at least 30 days prior to submitting the Site Plan required by Section 8.3 of this site

permit. The prairie protection and management plan shall address steps that will be taken to avoid impacts to native prairie and mitigation to unavoidable impacts to native prairie by restoration or management of other native prairie areas that are in degraded condition, by conveyance of conservation easements, or by other means agreed to by the Permittee, the DNR, and the Commission.

4.3.15 Vegetation Management

The Permittee shall disturb or clear vegetation within the Designated Site only to the extent necessary to assure the safe construction, operation, and maintenance of the Project. The Permittee shall minimize the number of trees removed within the Designated Site specifically preserving to the maximum extent practicable windbreaks, shelterbelts, and living snow fences.

4.3.16 Application of Pesticides

The Permittee shall restrict pesticide use to those pesticides and methods of application approved by the MDA, DNR, and the U.S. Environmental Protection Agency (EPA). Selective foliage or basal application shall be used when practicable. All pesticides shall be applied in a safe and cautious manner so as not to damage adjacent properties including crops, orchards, tree farms, apiaries, or gardens. The Permittee shall contact the landowner at least 14 days prior to pesticide application on their property. The Permittee may not apply any pesticide if the landowner requests that there be no application of pesticides within the landowner's property. The Permittee shall provide notice of pesticide application to landowners and beekeepers operating known apiaries within three miles of the pesticide application area at least 14 days prior to such application. The Permittee shall keep pesticide communication and application records and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.17 Invasive Species

The Permittee shall employ best management practices to avoid the potential introduction and spread of invasive species on lands disturbed by Project construction activities. The Permittee shall develop an Invasive Species Prevention Plan and file it with the Commission at least 14 days prior to the pre-construction meeting. The Permittee shall comply with the most recently filed Invasive Species Prevention Plan.

4.3.18 Noxious Weeds

The Permittee shall take all reasonable precautions against the spread of noxious weeds during all phases of construction. When utilizing seed to establish temporary and permanent vegetative cover on exposed soil the Permittee shall select site-appropriate seed certified to be

free of noxious weeds. To the extent possible, the Permittee shall use native seed mixes. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.19 Roads

The Permittee shall advise the appropriate governing bodies having jurisdiction over all state, county, city, or township roads that will be used during the construction phase of the Project. Where practical, existing roadways shall be used for all activities associated with construction of the Project. Oversize or overweight loads associated with the Project shall not be hauled across public roads without required permits and approvals.

The Permittee shall locate all perimeter fencing and vegetative screening in a manner that does not interfere with routine road maintenance activities and allows for continued safe travel on public roads.

The Permittee shall construct the fewest number of site access roads required. Access roads shall not be constructed across streams and drainage ways without the required permits and approvals. Access roads shall be constructed in accordance with all necessary township, county or state road requirements and permits.

The Permittee shall promptly repair private roads or lanes damaged when moving equipment or when accessing construction workspace, unless otherwise negotiated with the affected landowner. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.20 Archaeological and Historic Resources

The Permittee shall make every effort to avoid impacts to archaeological and historic resources when constructing the Project. In the event that a resource is encountered, the Permittee shall consult with the State Historic Preservation Office (SHPO) and the State Archaeologist. Where feasible, avoidance of the resource is required. Where not feasible, mitigation must include an effort to minimize Project impacts on the resource consistent with SHPO and State Archaeologist requirements.

Prior to construction, the Permittee shall train workers about the need to avoid cultural properties, how to identify cultural properties, and procedures to follow if undocumented cultural properties, including gravesites, are found during construction. If human remains are encountered during construction, the Permittee shall, in accordance with Minn. Stat. Ch. 307 (Private Cemeteries Act), immediately halt construction and promptly notify local law enforcement and the State Archaeologist. The Permittee shall not resume construction at such

location until authorized by local law enforcement or the State Archaeologist. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

The Permittee shall develop an Unanticipated Discoveries Plan (UDP) to identify guidelines to be used in the event previously unrecorded archeological or historic properties, or human remains, are encountered during construction, or if unanticipated effects to previously identified archaeological or historic properties occur during construction. This is in addition to and not in lieu of any other obligations that may exist under law or regulation relating to these matters. The UDP shall describe how previously unrecorded, non-human burial, archaeological sites found during construction shall be marked and all construction work must stop at the discovery location. The Permittee shall file the UDP with the Commission at least 14 days prior to the preconstruction meeting

4.3.21 Interference

If interference with radio or television, satellite, wireless internet, GPS-based agriculture navigation systems or other communication devices is caused by the presence or operation of the Project, the Permittee shall take whatever action is necessary to restore or provide reception equivalent to reception levels in the immediate area just prior to the construction of the Project. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.22 Drainage Tiles

The Permittee shall avoid, promptly repair, or replace all drainage tiles broken or damaged during all phases of the Project's life. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.23 Restoration

The Permittee shall restore the areas affected by construction of the Project to the condition that existed immediately before construction began to the greatest extent possible. The time period to complete restoration may be no longer than 12 months after the completion of construction. Restoration shall be compatible with the safe operation, maintenance, and inspection of the Project. Within 60 days after completion of all restoration activities, the Permittee shall file with the Commission a Notice of Restoration Completion.

4.3.24 Cleanup

The Permittee shall remove and properly dispose of all construction waste and scrap from the right-of-way and all premises on which construction activities were conducted upon completion of each task. The Permittee shall remove and properly dispose of all personal litter, including bottles, cans, and paper from construction activities daily.

4.3.25 Pollution and Hazardous Wastes

The Permittee shall take all appropriate precautions to protect against pollution of the environment. The Permittee shall be responsible for compliance with all laws applicable to the generation, storage, transportation, clean up and disposal of all waste generated during construction, restoration, and operation of the Project.

4.3.26 Damages

The Permittee shall fairly restore or compensate landowners for damage to crops, fences, private roads and lanes, landscaping, drain tile, or other damage sustained during construction. The Permittee shall keep records of compliance with this section and provide them upon the request of ~~Department of Commerce staff or~~ Commission staff.

4.3.27 Public Safety

The Permittee shall provide educational materials to landowners within and adjacent to the Designated Site and, upon request, to interested persons about the Project and any restrictions or dangers associated with the Project. The Permittee shall also implement any necessary safety measures such as placing warning signs and gates for traffic control or restricting public access. The Permittee shall file with the Commission an affidavit of its public safety notifications at least 14 days before the pre-construction meeting.

The Permittee shall submit the location of all underground facilities, as defined in Minn. Stat. § 216D.01, subd. 11, to Gopher State One Call following the completion of the construction of the Project and shall file with the Commission confirmation of this provision upon its submission to Gopher State One.

4.3.28 Facility Lighting

The Permittee shall use shielded and downward facing lighting and LED lighting that minimizes blue hue.

4.3.29 Dust Control

The Permittee shall utilize non-chloride products for onsite dust control during construction.

4.3.30 Wildlife Friendly Erosion Control

The Permittee shall use only “bio-netting” or “natural netting” types of erosion control materials and mulch products without synthetic (plastic) fiber additives or malachite green dye.

4.3.31 Site Identification

The Permittee shall mark the energy storage system with a clearly visible identification number and/or street address.

4.4 Collector and Feeder Lines

The Permittee may use overhead or underground collector and feeder lines to carry power from an internal Project interconnection point to the energy storage system. The Permittee shall place overhead and underground collector and feeder lines that parallel public roads within the public right-of-way or on private land immediately adjacent to the road. The Permittee shall obtain approval from the landowner or government unit responsible for the affected right-of-way.

The Permittee shall locate collector and feeder lines in such a manner as to minimize interference with agricultural operations including but not limited to existing drainage patterns, drain tile, future tiling plans, and ditches. The Permittee shall place safety shields on all guy wires associated with overhead collector and feeder lines. The Permittee shall submit the engineering drawings of all collector and feeder lines with the Site Plan pursuant to Section 8.3.

4.5 Other Requirements

4.5.1 Safety Codes and Design Requirements

The Permittee shall design the energy storage system and associated facilities to meet or exceed all relevant local and state codes, the National Electric Safety Code, and North American Electric Reliability Corporation requirements. This includes standards relating to clearances to ground, clearance to crossing utilities, clearance to buildings, strength of materials, clearances over roadways, right-of-way widths, and permit requirements. The Permittee shall keep records of compliance with these standards and provide them upon the request of ~~Department of Commerce or~~ Commission staff.

4.5.2 Other Permits and Regulations

The Permittee shall comply with all applicable state statutes and rules. The Permittee shall obtain all required permits for the Project and comply with the conditions of those permits unless those permits conflict with or are preempted by federal or state permits and regulations.

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the Commission an Other Permits and Regulations Submittal that contains a detailed status of all permits, authorizations, and approvals that have been applied for specific to the Project. The Other Permits and Regulations Submittal shall also include the permitting agency name; the name of the permit, authorization, or approval being sought; contact person and contact information for the permitting agency or authority; brief description of why the permit, authorization, or approval is needed; application submittal date; and the date the permit, authorization, or approval was issued or is anticipated to be issued.

The Permittee shall demonstrate that it has obtained all necessary permits, authorizations, and approvals by filing an affidavit stating as such and an updated Other Permits and Regulations Submittal prior to commencing Project construction. The Permittee shall provide a copy of any such permits, authorizations, and approvals at the request of ~~Department of Commerce staff or~~ Commission staff.

5 SPECIAL CONDITIONS

The special conditions shall take precedence over other conditions of this permit should there be a conflict.

5.1 Visual Screening Plan

The Permittee shall develop a site-specific Visual Screening Plan. The Visual Screening Plan shall be designed and managed to mitigate visual impacts to adjacent properties and public viewpoints. The Visual Screening Plan shall at a minimum include: (a) objectives for screening of adjacent properties and public viewpoints; and (b) a description of the types of trees and shrub species to be used, the location of plantings, and plans for installation, establishment, and maintenance. The location of trees and shrubs included in the Visual Screening Plan that are located within the Permittee's site control shall be included in the Site Plan filed under Section 8.3. The Permittee is required to maintain and ensure the successful growth, health, and maintenance of the vegetation for 3 years.

At least 14 days prior to the pre-construction meeting, the Permittee shall file:

1. the Visual Screening Plan;

2. documentation of coordination with landowners adjacent to the project site and with entities having public viewpoints; and
3. an affidavit of its distribution of the Visual Screening Plan to landowners adjacent to the project site and entities having public viewpoints.

5.2 Battery Augmentation

The Permittee shall notify the Commission of scheduled augmentation at least 30 days prior to commencing augmentation activities. In its filing, the Permittee shall describe the number and types of batteries included in the augmentation. The Permittee shall indicate the location of the augmentation on the project Site Plan. In its filing the Permittee shall demonstrate compliance with the noise impact assessment submitted to the Commission as required in Section 5.2 of this permit.

5.3 Pre-construction Noise Modeling and Impact Assessment

The Permittee shall file a noise impact assessment at least 14 days prior to the pre-construction meeting. The noise impact assessment shall summarize the results from noise propagation modeling that incorporates noise inputs from the selected equipment and the facility layout shown in the site plans required in Section 8.3 of this permit. The permittee shall file an updated noise impact assessment including any revisions to selected equipment or facility layout prior to any modifications to the facility over its operating life.

5.4 Noise Studies and Noise Mitigation

The Permittee shall file a proposed methodology for the conduct of a post-construction noise study at least 14 days prior to the pre-construction meeting. The Permittee shall develop the post-construction noise study methodology in consultation with Commission staff. The Permittee must conduct the postconstruction noise study and file with the Commission the completed post-construction noise study within 18 months of commencing commercial operation. The BESS facilities and associated facilities shall be placed and operated such that the Permittee shall, at all times, comply with noise standards established by the MPCA. Operation of the facility shall be modified, or project components shall be removed from service if necessary to comply with these noise standards.

5.5 Hazard Mitigation Analysis

The Permittee shall file a Hazard Mitigation Analysis detailing the results of the equipment testing, and the risks associated with the technology, along with an affidavit of distribution of the Hazard Mitigation analysis to emergency responders with jurisdiction over the project, at least 30 days prior to the pre-construction meeting.

5.6 Community Benefit Agreement

The Permittee shall enter into a Community Benefit Agreement with the city of Shakopee that mitigates environmental justice impacts to the community. The Permittee shall keep records of its agreement and provide them upon the request of Commission staff.

5.7 State Historic Preservation Office Recommendations

The Permittee shall file correspondence from the State Historic Preservation Office (SHPO) containing recommendations for surveys or other mitigation measures related to the Project promptly upon receipt by the Permittee.

5.8 Vegetation Management Plan

The Permittee shall develop a vegetation management plan (VMP), in coordination with Commission staff and the Vegetation Management Working Group, using best management practices established by the DNR and BWSR. The Permittee shall file the VMP and documentation of the coordination efforts between the Permittee and the coordinating agencies with the Commission at least 14 days prior to the pre-construction meeting. The VMP must include the following:

- (a) management objectives addressing short term (year 0-5, seeding and establishment) and long term (year 5 through the life of the Project) goals;
- (b) a description of planned restoration and vegetation management activities, including how the site will be prepared, timing of activities, how seeding will occur (e.g., broadcast, drilling, etc.), and the types of seed mixes to be used;
- (c) a description of how the site will be monitored and evaluated to meet management goals; (d) a description of the management tools used to maintain vegetation (e.g., mowing, spot spraying, hand removal, fire, grazing, etc.), including the timing and frequency of maintenance activities;
- (e) identification of the third-party (e.g., consultant, contractor, site manager, etc.) contracted for restoration, monitoring, and long-term vegetation management of the site;
- (f) identification of on-site noxious weeds and invasive species (native and non-native) and the monitoring and management practices to be utilized; and
- (g) a marked-up copy of the Site Plan showing how the site will be revegetated and that identifies the corresponding seed mixes. Best management practices should be followed concerning seed mixes, seeding rates, and cover crops.

6 DELAY IN CONSTRUCTION

If the Permittee has not commenced construction or improvement of the site within four years after the date of issuance of this site permit the Permittee shall file a Failure to Construct Report and the Commission shall consider suspension of this site permit in accordance with Minn. Stat. § 216I.24.

7 COMPLAINT PROCEDURES

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the Commission the complaint procedures that will be used to receive and respond to complaints. The complaint procedures shall be in accordance with the requirements of Minn. R. 7829.1500 or Minn. R. 7829.1700, and as set forth in the complaint procedures attached to this site permit.

Upon request, the Permittee shall assist ~~Department of Commerce staff or~~ Commission staff with the disposition of unresolved or longstanding complaints. This assistance shall include, but is not limited to, the submittal of complaint correspondence and complaint resolution efforts.

8 COMPLIANCE REQUIREMENTS

Failure to timely and properly make compliance filings required by this site permit is a failure to comply with the conditions of this site permit. Compliance filings must be electronically filed with the Commission.

8.1 Pre-Construction Meeting

Prior to the start of construction, the Permittee shall participate in a pre-construction meeting with ~~Department of Commerce staff and~~ Commission staff to review pre-construction filing requirements, scheduling, and to coordinate monitoring of construction and site restoration activities. Within 14 days following the pre-construction meeting, the Permittee shall file with the Commission a summary of the topics reviewed and discussed and a list of attendees. The Permittee shall indicate in the filing the anticipated construction start date.

8.2 Pre-Operation Meeting

At least 14 days prior to commercial operation of the Project, the Permittee shall participate in a pre-operation meeting with ~~Department of Commerce staff and~~ Commission staff to coordinate field monitoring of operation activities for the Project. Within 14 days following the pre-operation meeting, the Permittee shall file a summary of the topics reviewed and discussed and a list of attendees with the Commission.

8.3 Site Plan

At least 14 days prior to the pre-construction meeting, the Permittee shall file with the ~~Department of Commerce-Commission~~ and the counties where the Project will be constructed with a Site Plan that includes specifications and drawings for site preparation and grading; specifications and locations of the energy storage system and associated facilities; and procedures for cleanup and restoration. The documentation shall include maps depicting the Designated Site, energy storage system, and associated facilities layout in relation to that approved by this site permit.

The Permittee may not commence construction until the earlier of (i) 30 days after the pre-construction meeting or (ii) until the Commission staff has notified the Permittee in writing that it has completed its review of the documents and determined that the planned construction is consistent with this site permit.

If the Commission notifies the Permittee in writing within 30 days after the pre-construction meeting that it has completed its review of the documents and planned construction, and finds that the planned construction is not consistent with this site permit, the Permittee may submit additional and/or revised documentation and may not commence construction until the Commission has notified the Permittee in writing that it has determined that the revised construction plan documentation is consistent with this site permit.

If the Permittee intends to make any significant changes in its Site Plan or the specifications and drawings after submission to the Commission, the Permittee shall notify the Commission ~~the Department of Commerce,~~ and county staff at least five days before implementing the changes. No changes shall be made that would be in violation of any of the terms of this site permit.

8.4 Status Reports

The Permittee shall file with the Commission monthly Construction Status Reports beginning with the pre-construction meeting and until completion of restoration. Construction Status Reports shall describe construction activities and progress, activities undertaken in compliance with this site permit, and shall include text and photographs.

If the Permittee does not commence construction of the Project within six months of this site permit issuance, the Permittee shall file with the Commission Pre-Construction Status Reports on the anticipated timing of construction every six months beginning with the issuance of this site permit until the pre-construction meeting. The status updates shall include information on the Project's Midcontinent Independent System Operator (MISO) interconnection process, if applicable.

8.5 Labor Statistic Reporting

The Permittee shall file quarterly Labor Statistic Reports with the Commission within 45 days of the end of the quarter regarding construction workers that participated in the construction of the Project. The Labor Statistic Reports shall:

- (a) detail the Permittee's efforts and the site contractor's efforts to hire Minnesota workers; and
- (b) provide an account of:
 - i. the gross number of hours worked by or full-time equivalent workers who are Minnesota residents, as defined in Minn. Stat. § 290.01, subd. 7;
 - ii. the gross number of hours worked by or full-time equivalent workers who are residents of other states, but maintain a permanent residence within 150 miles of the Project; and
 - iii. the total gross hours worked or total full-time equivalent workers.

The Permittee shall work with its contractor to determine the suitable reporting metric. The report may not include personally identifiable data.

8.6 Prevailing Wage

The Permittee, its contractors, and subcontractors shall pay no less than the prevailing wage rate as defined in Minn. Stat. § 177.42 and shall be subject to the requirements and enforcement provisions under Minn. Stat. §§ 177.27, 177.30, 177.32, 177.41 to 177.435, and 177.45. The Permittee shall keep records of contractor and subcontractor pay and provide them at the request of ~~Department of Commerce or~~ Commission staff.

8.7 In-Service Date

At least three days before the Project is to be placed into service, the Permittee shall notify the Commission of the date on which the Project will be placed into service and the date on which construction was completed.

8.8 As-Builts

Within 90 days after completion of construction, the Permittee shall submit to the Commission copies of all final as-built plans and specifications developed during the Project construction.

8.9 GPS Data

Within 90 days after completion of construction, the Permittee shall submit to the Commission, in the format requested by the Commission, geo-spatial information (*e.g.*, ArcGIS compatible map files, GPS coordinates, associated database of characteristics) for all structures associated with the Project.

8.10 Annual Report

The Permittee shall, by February 1st following each complete or partial year of Project operation, file a report with the Commission on the monthly availability of the facility including:

- (a) the installed nameplate capacity of the permitted facility;
- b) the monthly and annual availability of the facility;
- (c) the operational status of the facility and any major outages, major repairs, battery augmentation, or performance improvements occurring in the previous year; and
- (d) any other information reasonably requested by the Commission.

The Permittee shall file this information in a format recommended by the Commission. This information shall be considered public and must be filed electronically.

8.11 Right of Entry

The Permittee shall allow Commission designated representatives to perform the following, upon reasonable notice, upon presentation of credentials and at all times in compliance with the Permittee's site safety standards:

- (a) To enter upon the facilities easement of the property for the purpose of obtaining information, examining records, and conducting surveys or investigations.
- (b) To bring such equipment upon the facilities easement of the property as is necessary to conduct such surveys and investigations.
- (c) To sample and monitor upon the facilities easement of the property.
To examine and copy any documents pertaining to compliance with the conditions of this site permit.

8.12 Emergency Response

The Permittee shall prepare an Emergency Response Plan (ERP) in consultation with the emergency responders having jurisdiction over the Project prior to construction. The Permittee shall file the ERP, along with any comments from emergency responders to the Commission at least 14 days prior to the pre-construction meeting and a revised ERP, if any, at least 14 days prior to the pre-operation meeting. At least 14 days prior to the pre-operation meeting the

Permittee shall file with the Commission an affidavit of the distribution of the ERP to emergency responders and Public Safety Answering Points (PSAP) with jurisdiction over the Project. The Permittee shall obtain and register the Project address or other location indicators acceptable to the emergency responders and PSAP having jurisdiction over the Project.

8.13 Extraordinary Events

Within 24 hours of discovery of an occurrence, the Permittee shall notify the Commission of any extraordinary event. Extraordinary events include but shall not be limited to fires, acts of sabotage, collector or feeder line failure, and injured worker or private person. The Permittee shall, within 30 days of the occurrence, file a report with the Commission describing the cause of the occurrence and the steps taken to avoid future occurrences.

8.14 Wildlife Injuries and Fatalities

The Permittee shall report any wildlife injuries and fatalities to the Commission quarterly.

9 DECOMMISSIONING AND RESTORATION

9.1 Decommissioning Plan

The Permittee shall comply with the provisions of the most recently filed and accepted Decommissioning Plan. The initial version of the Decommissioning Plan was submitted for this Project as ~~{Identify Decommissioning Plan, e.g., Appendix XX to Appendix E of the Site Permit Application}~~. The Permittee shall file an updated Decommissioning Plan incorporating comments and information from the permit application process and any updates associated with the final construction plans with the Commission at least fourteen 14 days prior to the pre-construction meeting. The Permittee shall update and file the Decommissioning Plan with the Commission every five years following the commercial operation date.

The Decommissioning Plan shall provide information identifying all surety and financial securities established for decommissioning and site restoration. The Decommissioning Plan shall provide an itemized breakdown of costs of decommissioning all Project components, which shall include labor and equipment.

The Permittee shall also submit the Decommissioning Plan to the local unit of government having direct zoning authority over the area in which the Project is located. The Permittee shall ensure that it carries out its obligations to provide for the resources necessary to fulfill its requirements to properly decommission the Project at the appropriate time. The Commission may at any time request the Permittee to file a report with the Commission describing how the Permittee is fulfilling this obligation.

9.2 Site Final Restoration

Upon expiration of this site permit or upon termination of operation of the Project, the Permittee shall have the obligation to dismantle and remove from the site all Project components in accordance with the most recently filed and accepted decommissioning plan. To the extent feasible, the Permittee shall restore and reclaim the site to pre-project conditions. Landowners may require the site be returned to agricultural production or may retain restored prairie vegetation, or other land uses as agreed to between the landowner and the Permittee. All access roads shall be removed unless written approval is given by the affected landowner requesting that one or more roads, or portions thereof, be retained. All such agreements between the Permittee and the affected landowner shall be filed with the Commission prior to commencing restoration activities. The Permittee shall restore the site in accordance with the requirements of this condition and file a Notification of Final Restoration Completion to the Commission within 18 months of termination of operation of the Project.

10 COMMISSION AUTHORITY AFTER SITE PERMIT ISSUANCE

10.1 Expansion of Designated Site Boundaries

No expansion of the site boundary described in this site permit shall be authorized without the approval of the Commission. The Permittee may submit to the Commission a request for a permit amendment for a change in the boundary of the site for the Project. The Commission will respond to the requested change in accordance with applicable statutes and rules.

10.2 Periodic Review

The Commission shall initiate a review of this site permit and the applicable conditions at least once every five years. The purpose of the periodic review is to allow the Commission, the Permittee, and other interested persons an opportunity to consider modifications in the conditions of this site permit. No modification may be made except in accordance with applicable statutes and rules.

10.3 Modification of Conditions

After notice and opportunity for hearing this site permit may be modified or amended for cause, including but not limited to the following:

- (a) violation of any condition in this permit;
- (b) endangerment of human health or the environment by operation of the Project; or
- (c) existence of other grounds established by rule.

10.4 More Stringent Rules

The issuance of this site permit does not prevent the future adoption by the Commission of rules, orders, or permit conditions more stringent than those now in existence and does not prevent the enforcement of these more stringent rules, orders, or permit conditions against the Permittee.

11 SITE PERMIT AMENDMENT

This site permit may be amended at any time by the Commission. Any person may request an amendment of the conditions of this site permit by submitting a request to the Commission in writing describing the amendment sought and the reasons for the amendment. The Commission will mail notice of receipt of the request to the Permittee. The Commission may amend the conditions after affording the Permittee and interested persons such process as is required under Minn. Stat. § 216I.09.

12 TRANSFER OF SITE PERMIT

The Permittee may request at any time that the Commission transfer this site permit to another person or entity (transferee). In its request, the Permittee must provide the Commission with:

- (a) the name and description of the transferee;
- (b) the reasons for the transfer;
- (c) a description of the facilities affected; and
- (d) the proposed effective date of the transfer.

The transferee must provide the Commission with a certification that it has read, understands and is able to comply with the plans and procedures filed for the Project and all conditions of this site permit.

The transferee must provide the Commission with the name and contact information for the site manager, as described in Section 4.3.2, and either a current version with eDocket reference, or a revised version of the following:

- (a) complaint procedures, as described in Section 7 and Attachment 1;
- (b) ERP, as described in Section 8.12; and
- (c) Decommissioning Plan, as described in Section 9.1.

The Commission may authorize transfer of the site permit after affording the Permittee, the transferee, and interested persons such process as is required under Minn. Stat. § 216I.13.

13 REVOCATION OR SUSPENSION OF SITE PERMIT

The Commission may initiate action to revoke or suspend this site permit at any time. The Commission shall act in accordance with the requirements of Minn. Stat. § 216I.24, to revoke or suspend this site permit.

14 EXPIRATION DATE

This site permit shall expire 30 years after the date this site permit was approved and adopted.

DRAFT SITE PERMIT

Appendix D

Responses to Data Requests

- Not-Public Document – Not For Public Disclosure
 Public Document – Not-Public Data Has Been Excised
 Public Document

Xcel Energy Information Request No. 1
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission Energy Infrastructure Permitting
Requestor: Suzanne Steinhauer
Date Received: October 30, 2025

Question: Costs

Xcel Energy filed cost information as protected information in its site permit application and re-iterated that the information was appropriately filed as trade secret in its July 18, 2025, reply comments on application completeness. While noting its position that public cost information is not required for applications to be considered complete, Xcel Energy did provide a high-level estimate of both capital costs (approximately \$211 million) and operating costs (approximately \$3-5 million per year exclusive of augmentation costs).¹

As noted in Commission’s Energy Infrastructure Permitting (EIP) staff’s supplemental comments filed July 24, 2025, applications for other recent energy storage systems have provided cost information and environmental review documents for recent energy storage and solar facilities have included very general capital cost breakdowns.²

Please provide the following information:

- a. Are there any updates to the anticipated annual operating costs from the July 18, 2025, estimate?
- b. Please provide a general operating cost breakdown. If Xcel Energy prefers, cost may be represented in a range for each cost category and for the total estimated costs. EIP staff, suggests the following cost categories presented in Table 1, which are consistent with cost information in recent Environmental Assessments.

Table 1. Estimated Capital Costs

Project Component	Estimated Cost (\$ millions)
Engineering & Design	
Procurement	
Construction	
Development expense (land acquisition & permitting)	
Interconnection (preliminary)	
Financing	
Contingency (optional)	
Total Project Cost	

¹ Xcel Energy, July 18, 2025, Completeness Reply Comments, eDocket ID: 20257-221145-01

² EIP Staff, July 24, 2025, Supplemental Comments on Application Completeness, eDocket ID: 20257-221378-01

Response:

- a) At this time, there are no changes to the estimated Project annual operating costs from those provided on July 18, 2025.

- b) As noted in our Completeness Reply Comments, the high-level estimate of capital costs for the Project is approximately \$211 million and operating costs are approximately \$3-5 million per year exclusive of augmentation costs. Appendix K to the Site Permit Application also contains nonpublic data regarding Project costs. Minn. R. 7850.1900, subp. 1.H. does not require an applicant to publicly disclose project cost information, rather that it provides “*a cost analysis of the large electric power generating plant at each proposed site, including the costs of constructing and operating the facility that are dependent on design and site*”. The high-level capital and operating cost estimates previously provided comply with Minn. R. 7850.1900, subp. 1.H.

The release of more detailed cost information could have a detrimental impact on Xcel Energy by furnishing potential competitors with insights that are not otherwise readily ascertainable. Public disclosure may enable competitors to reverse engineer the Company’s pricing methodology and key assumptions, including unit-cost build-ups (labor, materials, equipment), EPC and

subcontractor margins, contingency and risk allocations, supply-chain and logistics allowances, and escalation curves, potentially allowing them to undercut bids or tailor proposals to exploit the Company's revealed cost structure. It may also impair the Company's negotiating position with vendors and contractors by revealing willingness-to-pay thresholds and historical pricing, facilitating "price matching" behavior, which in turn could increase costs borne by customers and change competitive procurement outcomes. The Company protects this information through formal confidentiality and disclosure to third parties only under non-disclosure agreements or protective orders. Where filings are necessary, the Company employs redaction protocols and seeks protective treatment consistent with Commission practice to avoid inadvertent public release.

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: December 9, 2025

- Not-Public Document – Not For Public Disclosure
- Public Document – Not-Public Data Has Been Excised
- Public Document

Xcel Energy Information Request No. 2
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission Energy Infrastructure Permitting
Requestor: Suzanne Steinhauer
Date Received: October 30, 2025

Question:

Schedule

- a. Are there any updates to the project schedule described in Section 1.3 of the site permit application (pp. 9 – 10)?
- b. In Section 2.3 of the application (p. 17) indicates that Xcel Energy expects to sign a Generator Interconnection Agreement in second quarter of 2025. Please provide an update on the status of the Generator Interconnection Agreement.

Response:

- a. The Project schedule provided in Section 1.3 of the Site Permit Application remains unchanged and accurate.
 - b. Xcel Energy and the Midcontinent Independent System Operator, Inc. executed a Generator Interconnection Agreement for the Project on October 31, 2025.
-

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: November 12, 2025

- Not-Public Document – Not For Public Disclosure
- Public Document – Not-Public Data Has Been Excised
- Public Document

Xcel Energy Information Request No. 3
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission Energy Infrastructure Permitting
Requestor: Suzanne Steinhauer
Date Received: October 30, 2025

Question:

Cumulative Impacts

The Environmental Assessment will address the cumulative potential effects of the proposed Blue Lake Energy Storage Project as it relates to current and future projects that might reasonably be expected to affect the same environmental resources.

Minnesota Rule 4410.0200, subp. 11a defines cumulative potential effects as impacts to the environment that result from “the incremental effects of a project in addition to other projects in the environmentally relevant area that might reasonably be expected to affect the same environmental resources, including future projects actually planned or for which a basis of expectation has been laid, regardless of what person undertakes the other projects or what jurisdictions have authority over the projects.”

Please provide a brief overview of Xcel Energy projects anticipated over the next five years in the general project area. EIP staff is also seeking this information from local governments, the Environmental Quality Board project database, and the Minnesota Department of Transportation.

Response:

Aside from the proposed Blue Lake Energy Storage Project, Xcel Energy is aware of the following known or potential projects within or immediately adjacent to the Project area:

- Magellan Midstream Partners, L.P. is planning to construct an alternative access road to maintain access to their existing metering station, which is immediately east of the Project area. It is Xcel’s understanding that plans for this alternative access road are not yet finalized but it is understood the access road would generally be of the same width, material, and characteristics of the existing access road and potentially be sited along the eastern and northern edges of parcel in which the Project is sited.
- The existing Xcel Energy owned Blue Lake Generating Facility plans to remove two existing non-operational fuel storage tanks on the western edge of the

facility area. There will be no change of the existing facility footprint as a result of the storage tank removals. The timing of this removal is not yet finalized but is anticipated to occur within the next five years. No other construction activities are anticipated at the Blue Lake Generating Facility within the next five years.

The existing Xcel Energy owned Blue Lake Substation is immediately south of the Project, and no construction activities are anticipated within the next five years from the interconnection of the Project. The Project does not involve expansion of the substation.

Xcel Energy is unaware of any additional third-party projects in the immediate Project vicinity to occur within the next five years.

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: November 12, 2025

- Not-Public Document – Not For Public Disclosure
- Public Document – Not-Public Data Has Been Excised
- Public Document

Xcel Energy Information Request No. 5
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission, EIP
Requestor: Suzanne Steinhauer
Date Received: October 31, 2025

Question:

Unique and Rare Resources

In their comments on September 25, 2025, the DNR asked that the EA provide information on the impacts and mitigation of the Minnesota Biodiversity Site (MBS) and Native Plant Community (NPC) that is within the proposed site. The same comments also request the EA to discuss impacts to state listed threatened species Louisiana broomrape.¹

The application recognizes the MBS and NPC but doesn't describe any impacts or mitigations. The Louisiana broomrape was not originally identified in the area but seems to have been identified later and as such, impacts and mitigations were not discussed for this species.

Please provide the following information:

- a. Impacts and mitigations for the MBS and NPC.
- b. Impacts and mitigations for the Louisiana broomrape.

¹ DNR, September 25, 2025, Natural Heritage Review Letter, 20259-223282-01 (through -03)

Response:

- a. On September 26, 2025, a supplemental species and habitat survey was conducted within the Project site, which evaluated the presence of the MBS and NPC communities. The summary report was not completed at the time of Site Permit application submittal and is provided as Attachment A. Regarding the MBS, the summary report concluded "*woodland areas on the Project site are characterized as low-quality Dry Barrens Oak Savanna (Southern) (Ups14a2) Oak subtype.*" This is supported by the observation of both native and invasive species throughout the Project site, but no rare or unique species were observed. Similarly, regarding the NPC, the summary report denotes that patches of sand prairie communities were observed within the Project site, but

the Project site is characterized by moderately to significantly disturbed habitats with large infestations of non-native and problematic species. Reviewing the results of the summary against the MBS biodiversity significance ranks descriptions, it is believed the MBS area likely ranks as being of “Below” biodiversity significance per DNR categories because it has moderately disturbed native plant communities but lacks occurrences of rare species. For these reasons, it is believed overall impacts are considered minor.

Proposed mitigation measures include:

- Siting the Project within largely disturbed habitat with no recorded presence of rare or protected species.
 - Following review of the summary report, concurrence from DNR that no rare or protected species or habitat are present.
 - Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of invasive species.
 - Use effective erosion prevention and sediment control measures.
 - Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible.
- b. A DNR certified rare plant surveyor conducted a presence/absence survey for the Louisiana broomrape within the Project site on September 26, 2025. This survey and its protocols were communicated to the MDNR prior to commencing. The surveyor did not find this species to be present anywhere within the Project site. The results of this survey were summarized in a report and provided to the MDNR on November 12, 2025 and is provided as Attachment A to this response. Accordingly, no impacts or mitigative measures are proposed.

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: November 21, 2025



**XCEL BLUE LAKE BATTERY ENERGY
STORAGE PROJECT HABITAT
ASSESSMENT AND RARE PLANT SURVEY
REPORT**

November 12, 2025

Prepared for:
Xcel Energy

Prepared by:
Stantec Consulting Services Inc.

Stantec Project Number: 227707955

The conclusions in the Report titled Xcel Blue Lake Project Rare Plant Survey are Stantec's professional opinion, as of the time of the Report, and concerning the scope described in the Report. The opinions in the document are based on conditions and information existing at the time the scope of work was conducted and do not take into account any subsequent changes. The Report relates solely to the specific Project for which Stantec was retained and the stated purpose for which the Report was prepared. The Report is not to be used or relied on for any variation or extension of the Project, or for any other project or purpose, and any unauthorized use or reliance is at the recipient's own risk.

Stantec has assumed all information received from Xcel (the "Client") and third parties in the preparation of the Report to be correct. While Stantec has exercised a customary level of judgment or due diligence in the use of such information, Stantec assumes no responsibility for the consequences of any error or omission contained therein.

This Report is intended solely for use by the Client in accordance with Stantec's contract with the Client. While the Report may be provided to applicable authorities having jurisdiction and others for whom the Client is responsible, Stantec does not warrant the services to any third party. The report may not be relied upon by any other party without the express written consent of Stantec, which may be withheld at Stantec's discretion.

Reviewed by:  _____
Signature

Scott Krych, Senior Ecologist

Printed Name

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1 Background

Stantec Consulting Services Inc. (Stantec) was hired by Xcel Energy to conduct a habitat assessment and rare plant species survey for the Blue Lake Battery Energy Storage Project (Project) in Shakopee, Minnesota. The Project is centred on Latitude 44.78807, Longitude 93.42664, Scott County, Minnesota. The Project site evaluated is depicted in Figure 1. Due to the urgency of the Project timeline, a review of protected species was conducted using Stantec's Minnesota's Conservation Explorer (MCE) license and a survey was conducted prior to receiving a response from the Minnesota Department of Natural Resource (DNR) Natural Heritage Information System (NHIS) staff. The Project's urgency precluded review of a survey plan prior to conducting surveys. However, that survey plan was submitted to the DNR on September 24, 2025. Subsequent feedback from Minnesota DNR NHIS staff may require that the report be updated with additional information and resubmitted for review.

2 Regulatory Framework

2.1 Endangered And Threatened Species

Threatened and endangered species are protected at the federal level under the Endangered Species Act of 1973 (ESA). The federal ESA protects listed species and their habitats. No species protected under the ESA occur within the site.

Minnesota's Endangered Species Statute (Minnesota Statutes, Section 84.0895) requires the DNR to adopt rules designating species meeting the statutory definitions of Endangered and Threatened species. The resulting list of Endangered, Threatened, and Special Concern Species (TES) are codified as Minnesota Rules, Chapter 6134. The Endangered Species Statute also authorizes the DNR to adopt rules that regulate treatment of species designated as endangered and threatened. These regulations are codified as Minnesota Rules, Parts 6212.1800 to 6212.2300. TES species, as defined by the DNR as endangered, threatened, and special concern are defined as:

- Minnesota Endangered Species: is a plant or animal species that is threatened with extinction throughout all or a significant portion of its range in Minnesota.
- Minnesota Threatened Species: is a plant or animal species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range in Minnesota.
- Minnesota Special Concern Species are species that are not endangered or threatened, but are extremely uncommon in Minnesota, or have unique or highly specific habitat requirements and deserve careful monitoring of their status. Species on the periphery of their range that are not listed as threatened may be included in this category, along with those species that were once threatened or endangered but now have increasing or protected, stable populations.

2.2 Rare Plant Associations

The Project is located within the Minnesota and Northeast Iowa Morainal Section of the Eastern Broadleaf Forest Province. This Section of deciduous forest, woodland and prairie lies in a band that stretches from Polk County in the northwest part of the state to the Minnesota/Iowa border. The majority of this Section consists of uneven moraines deposited along the eastern margin of the Des Moines lobe during the last glaciation. Presettlement vegetation was dictated by moisture, nutrient availability, and the fires that accompanied those fluctuations. The characteristic sandy soils and vegetation communities on the Project were deposited by loads carried by the Glacial River Warren. The Minnesota River occupies the lowest portion of this glacial river valley and has developed floodplain and terrace forests along its path. Native plant communities within this Section includes Fire-Dependent Forest or Woodlands, Upland Prairie, Mesic Hardwood Forests, Wet Prairies, Wet Meadow Carr, Marshes, and Rich Fens.

Upland prairie and woodland areas on the Project are characterized by variety of trees and areas maintained as open land for the purpose of transmission lines, roads and transfer stations. Prior to development of this site, the area was likely characterized as a Dry Barrens Oak Savanna and Upland Prairie communities with oaks and openings which were dominated by prairie grasses and forbs.

3 Methodology

Prior to conducting field survey work, Stantec identified state-listed TES with potential to occur at the site. Table 1 lists potential species based on TES occurrences in the DNR NHIS database within one mile of the Project. Additional potential species were identified based on the Project location and aerial-imagery review of potential habitats, as well as species identified in reports for similar previous efforts in the area. Species in Table 1 were identified for review by accessing the MCE.

Table 1 - List of TES with potential to occur at the Project site

SCIENTIFIC NAME	COMMON NAME	SURVEY PERIOD	MN STATUS
TES documented in the vicinity of the site:			
<i>Oenothera rhombipetala</i>	Rhombic Evening Primrose	June - October	SC
Other TES with potential to be at the site:			
<i>Orobanche ludoviciana</i> var. <i>ludoviciana</i>	Louisiana broomrape	June - October	THR
Potential Rare Natural Communities			
<i>Dry Barrens Oak Savanna (Southern) Oak Subtype (Ups14a2)</i>	Oak Savanna	April - October	High

Based on the list of TES plants with potential to occur at the site and the seasonal timing of Project initiation, Stantec determined to conduct a fall visit to search for fall-blooming species as well as a site-wide habitat evaluation. Field work began in September 2025 to enable detection of TES most likely observable at that time.

Stantec Senior Ecologists Paul Bockenstedt and Scott Krych conducted an on-foot, intuitive meander survey on September 26, 2025, to search for species identified in Table 1. The September survey included walking the entire Project site to search for protected species. Habitats with potential to host rare plants were more thoroughly searched by walking transects generally separated by no more than 50 feet, and more closely in circumstances where vertical vegetation structure required more detailed visual inspection.

Information gathered during the September field visit included collecting general notes on habitat composition and structure and compiling a plant species list to generally characterize habitats (Appendix A). Rare plant populations were documented if present, utilizing iPad-based ArcGIS Online Field Maps with spatial accuracy of 20 feet or less when encountered. Data gathered on rare plant population context followed the DNR "Guidance on Documenting and Collecting Rare Plants."

4 Results

The results section includes a description of the extent of survey efforts, summary of findings, characterization of key land cover areas and survey information related to TES listed in Table 1.

4.1 Survey Methods

Stantec made a concerted effort to view all areas of existing land cover with the potential for supporting TES plant species during the field visit in September 2025.

Vegetation was cataloged and examined during a searcher directed evaluation of the site. Where existing plant communities occur on the Project, pedestrian surveys examining species composition and ecological niche conditions where protected species may occur received focused search efforts.

4.2 Land Cover

The Project site is characterized by moderately to significantly disturbed habitats. The entire site exhibited some level of disturbance from road construction, facility construction, ATV or maintenance vehicle use, existing transmission line structures and right-of-way maintenance.

Patches of woodland and sand prairie communities occurred on the Project site. Areas within the center of the transmission line corridor and in open areas are dominated by shrubs or shrub height trees such as pin oak (*Quercus ellipsoidal*), bur oak (*Quercus macrocarpa*), green ash (*Fraxinus pennsylvanica*),

Siberian elm (*Ulmus pumila*), and red raspberry (*Rubus ideaus*). Grasses and forbs at the include smooth brome (*Bromus inermis*), Kentucky bluegrass (*Poa pratensis*), spotted knapweed (*Centaurea stoebe*), Canada thistle (*Cirsium arvense*), yellow sweetclover (*Mellilotus officinalis*), and native species such as big bluestem (*Andropogon gerardii*), little bluestem (*Scizachyrium scoparium*), panic grass (*Panicum virgatum*), side-oats grama (*Bouteloua cirtipendula*), blue grama (*Bouteloua gracilis*), prairie sandreed (*Calamovilfa longifolia*), purple lovegrass (*Eragrostis spectabilis*), Scribner's panic grass (*Dicanthelium oligosanthes*), openings are dominated by these species and harbor several native forbs such as leadplant (*Amorpha canescens*), hairy yellow aster (*Heterotheca villosa*), silky prairie clover (*Dalea villosa*), purple prairie clover (*Dalea purpurea*), bird's foot coreopsis (*Coreopsis palmata*), and hoary puccoon (*Lithospermum canescens*). Much of the site is affected by large infestations of non-native and problematic species that include common buckthorn (*Rhamnus cathartica*), bouncing bet (*Saponaria officinales*), spotted knapweed (*Centaurea stoebe*), and Siberian elm.

Woodland areas on the Project site are characterized as low quality Dry Barrens Oak Savanna (Southern) (Ups14a2) Oak subtype. The woodland canopy was dominated by bur oak and northern pin oak with eastern red cedar (*Juniperus virginiana*) and quaking aspen (*Populus tremuloides*). Oak canopy cover was generally moderate with species such as green ash, Siberian elm, hackberry (*Celtis occidentalis*) and common buckthorn being abundant. The shrub layer was highly variable in cover, ranging from sparse to moderately thick, that included chokecherry (*Prunus virginiana*), prickly ash (*Zanthoxylum americanum*), red raspberry, and common buckthorn being locally abundant.

4.3 Species survey information

This section includes summaries of survey information for each species targeted for survey conducted during the September 26, 2025 surveys.

4.3.1 LOUISIANA BROOMRAPE (OROBANCHE LUDOVICIANA VAR. LUDOVICIANA)

The DNR states that "*Orobanche ludoviciana* occurs in habitats classified as northern dry prairie and southern dry prairie (including dunes), and in northern dry savanna and southern dry savanna, particularly in areas with excessively drained, loose and sandy or gravelly soil. These habitats tend to have sparse vegetation dominated by grasses and well drained (droughty) soils. Habitats are not always pristine natural areas, though they seem to be dominated by native prairie species even though species diversity may be low. Typical associates include *Artemisia* spp., hairy golden aster, dotted blazing star, blue grama, and other dry prairie species."

Several areas within the Project site harbor soil, host plant associates and conditions consistent with the presence of *Orobanche ludoviciana*. However, no occurrences of this species were detected during the September review of the site. Another site south of the Project in Scott County with known populations of this species was evaluated the same day and *O. ludoviciana* was present and blooming at that site. Therefore, the timing of surveys on the Project site should be considered acceptable.

4.3.2 RHOMBIC EVENING PRIMROSE (*OENOTHERA RHOMBIPETALA*)

This species was not identified during our review of the Project site. However, the presence of sand substrates provides potential for the species to occur. This biennial occurs exclusively in dry and loose sand in sand savannas, sand prairies, and dunes, where vegetation is sparse. The plants typically grow in full sunlight, though there may be scattered oak trees or oak groves in the vicinity, especially bur, northern pin oak among others.

The Project site where sand occurs were examined but none were found within the Project.

5 Conclusions

No federally protected species were observed during the Project evaluation conducted by Stantec ecologists on September 26, 2025. Additionally, none of the species protected by the State of Minnesota identified in Table 1 were found on the Project after searches conducted during appropriate flowering dates for both *Orobanche ludoviciana* and *Oenithera rhombipetala*.

Appendix A Plant Species Lists

Scientific Name	Common Name	Frequency Encountered
<i>Achillea millefolium</i>	common yarrow	Rarely
<i>Ageratina altissima</i> var. <i>altissima</i>	white snakeroot	Abundant
<i>Alliaria petiolata</i>	garlic mustard	Occasional
<i>Ambrosia artemissifolia</i>	common ragweed	Abundant
<i>Ambrosia psilostachya</i>	western ragweed	Abundant
<i>Amorpha canescens</i>	leadplant	Occasional
<i>Andropogon gerardii</i>	big bluestem	Infrequent
<i>Anemone cylindrica</i>	long-headed thimbleweed	Rarely
<i>Antennaria plantaginifolia</i>	plantain-leaved pussytoes	Rarely
<i>Apocynum cannabinum</i>	American hemp	Infrequent
<i>Aralia nudicaulis</i>	wild sarsaparilla	Infrequent
<i>Artemisia ludoviciana</i> subsp. <i>ludoviciana</i>	white sage	Occasional
<i>Asclepias syriaca</i>	common milkweed	Occasional
<i>Asclepias verticillata</i>	whorled milkweed	Occasional
<i>Berteroa incana</i>	hoary alyssum	Abundant
<i>Bouteloua cirtipendula</i>	side-oats grama	rarely
<i>Bouteloua gracilis</i>	blue grama	Occasional
<i>Botrypus virginianum</i>	rattlesnake fern	Rarely
<i>Brachyelytrum erectum</i>	bearded shorthusk	Occasional
<i>Bromus inermis</i>	smooth brome	Infrequent
<i>Bromus tectorum</i>	cheatgrass	Rarely
<i>Calamovilfa longifolia</i> var. <i>longifolia</i>	prairie sandreed	Occasional
<i>Canabus sativa</i>	hemp	Infrequent
<i>Carex blanda</i>	charming sedge	Infrequent
<i>Carex brevior</i>	short sedge	Occasional
<i>Carex umbellata</i>	parasol sedge	Rarely
<i>Celtis occidentalis</i>	hackberry	Rarely
<i>Cenchrus longispinus</i>	sandbur	Rarely
<i>Centaurea stoebe</i> subsp. <i>micranthos</i>	spotted kanpweed	abundant
<i>Circaea lutetiana</i> var. <i>canadensis</i>	common enchanter's nightshade	Abundant
<i>Cirsium altissimum</i>	tall thistle	Rarely
<i>Comandra umbellata</i>	bastard toadflax	Rarely
<i>Coreopsis palmata</i>	bird's foot coreopsis	Rarely
<i>Coronilla varia</i>	crownvetch	Rarely
<i>Cyperus schweinitzii</i>	Schweinitz's nut sedge	Occasional
<i>Dalea purpurea</i> var. <i>purpurea</i>	purple prairie clover	Rarely
<i>Dalea villosa</i> var. <i>villosa</i>	silky prairie clover	Occasional
<i>Cystopteris fragilis</i>	fragile fern	Infrequent

Scientific Name	Common Name	Frequency Encountered
<i>Dicanthelium oligosanthes</i>	Scribner's panic grass	Occasional
<i>Diervilla lonicera</i>	bush honeysuckle	Occasional
<i>Dioscorea villosa</i>	wild yam	Infrequent
<i>Eragrostis spectabilis</i>	purple lovegrass	occasional
<i>Erechtites hieraciifolius</i> var. <i>hieraciifolius</i>	pilewort	Infrequent
<i>Erigeron annuus</i>	annual fleabane	Rarely
<i>Erigeron strigosus</i>	daisy fleabane	Rarely
<i>Euphorbia esula</i>	leafy spurge	Abundant
<i>Euphorbia glyptosperma</i>	ridge-seeded spurge	Rarely
<i>Euphorbia maculata</i>	prostrate hairy spurge	Rarely
<i>Euthamia graminifolia</i>	grass-leaved goldenrod	Infrequent
<i>Fallopia scandens</i>	false buckwheat	Occasional
<i>Fragaria virginiana</i>	common strawberry	Few
<i>Fraxinus pennsylvanica</i>	green ash	Rarely
<i>Geranium carolinianum</i>	Carolina cranesbill	Rarely
<i>Hackelia virginiana</i>	Virginia stickseed	Occasional
<i>Hedeoma hispida</i>	mock pennyroyal	rarely
<i>Helianthemum bicknellii</i>	hoary frostweed	Rarely
<i>Helianthus annuus</i>	common sunflower	Rarely
<i>Heterotheca villosa</i>	hairy golden aster	Occasional
<i>Impatiens capensis</i>	spotted touch-me-not	Infrequent
<i>Juniperus virginiana</i> var. <i>virginiana</i>	eastern red cedar	Abundant
<i>Kochia scoparia</i> subsp. <i>scoparia</i>	summer cypress	Rarely
<i>Koeleria macrantha</i>	junegrass	Occasional
<i>Lechea stricta</i>	prairie pinweed	Rarely
<i>Lespedeza capitata</i>	round-headed bushclover	Rarely
<i>Liatris aspera</i>	rough blazing star	Rarely
<i>Lithospermum canescens</i>	hoary puccoon	Occasional
<i>Lonicera tatarica</i>	tartarian honeysuckle	Abundant
<i>Lotus corniculatus</i>	bird's-foot trefoil	Rarely
<i>Maianthemum stellatum</i>	starry false Solomon's seal	Rarely
<i>Mollugo verticillata</i>	carpetweed	Rarely
<i>Monarda fistulosa</i>	wild bergamot	Rarely
<i>Morus alba</i>	white mulberry	Occasional
<i>Muhlenbergia mexicana</i>	Mexican muhly grass	Occasional
<i>Muhlenbergia racemosa</i>	marsh muhly grass	Occasional
<i>Nepeta cataria</i>	catnip	Rarely
<i>Panicum virgatum</i>	switchgrass	Occasional
<i>Parthenocissus vitacea</i>	woodbine	Occasional
<i>Pascopyrum smithii</i>	western wheatgrass	Occasional
<i>Penstemon grandiflorus</i>	large-flowered beard tongue	Rarely
<i>Physalis heterophylla</i> var. <i>heterophylla</i>	clammy ground cherry	Occasional

Scientific Name	Common Name	Frequency Encountered
<i>Populus tremuloides</i>	quaking aspen	Occasional
<i>Potentilla recta</i>	rough-fruited cinquefoil	Occasional
<i>Prunus americana</i>	wild plum	Rarely
<i>Prunus virginiana</i>	chokecherry	Abundant
<i>Quercus ellipsoidalis</i>	northern pin oak	Occasional
<i>Quercus macrocarpa</i>	bur oak	Abundant
<i>Rhamnus cathartica</i>	common buckthorn	Occasional
<i>Rhus glabra</i>	common buckthorn	Occasional
<i>Rubus idaeus var. strigosus</i>	red raspberry	Occasional
<i>Rudbeckia hirta var. pucherrima</i>	black-eyed Susan	Rarely
<i>Saponaria officinalis</i>	bouncing bet	Occasional
<i>Sambucus racemosa var. pubens</i>	red-berried elder	Infrequent
<i>Schizachyrium scoparia</i>	little bluestem	infrequent
<i>Scutellaria leonardii</i>	Leonard's skullcap	Rarely
<i>Setaria pumila subsp. pumila</i>	yellow foxtail	Occasional
<i>Silene nivea</i>	snowy campion	Occasional
<i>Smilax lasioneura</i>	common carrion flower	Rarely
<i>Solidago canadensis</i>	Canada goldenrod	Occasional
<i>Solidago gigantea</i>	giant goldenrod	Occasional
<i>Solidago nemoralis</i>	gray goldenrod	Rarely
<i>Sorghastrum nutans</i>	Indian grass	Rarely
<i>Spartina pectinata</i>	prairie cordgrass	Rarely
<i>Spiraea tomentosa var. rosea</i>	steeplebush	Rarely
<i>Sporobolus cryptandrus</i>	sand dropseed	Rarely
<i>Symphotrichum ericoides</i>	heath aster	Rarely
<i>Symphotrichum oolentangiense</i>	skyblue aster	Infrequent
<i>Toxicodendron radicans subsp. negundo</i>	common poison ivy	Infrequent
<i>Trifolium repens</i>	white clover	Rarely
<i>Ulmus pumila</i>	Siberian elm	Infrequent
<i>Verbascum thapsus</i>	common mullein	Occasional
<i>Verbena hastata</i>	blue vervain	Infrequent
<i>Viola palmata</i>	bird's-foot violet	Rarely
<i>Vitis riparia</i>	wild grape	Infrequent
<i>Zanthoxylum americanum</i>	prickly ash	Rarely

Appendix B Representative Photos

For select photos as noted in captions.



Photo 1 – Portion of the site with sandy soils dominated by native grasses and sedges. Looking southeast (photo taken 9/26/25).



**Photo 2 – Another portion of the site with sandy soils dominated by native grasses and forbs.
(photo taken 9/26/25).**



**Photo 3 – Area searched for rare species showing sandy substrate, native grasses and forbs.
(photo taken 9/26/24)**



Photo 4 – Area maintained as transmission line (photo taken 9/26/25)



Photo 5 – Portion of site adjacent to transmission station searched for rare species (photo taken 9/26/25)



Photo 6 – Open area searched for target species adjacent to forest/woodland edge. (Photo taken 9/26/25)



Photo 7 – Portion of the site showing wooded communities present on the site. No rare species were observed at this location. 9/26/25



Photo 8 – Area on site exhibiting exposed sandy soils (photo taken on 9/26/2025).



Photo 9 – Another portion of the site exhibiting native grassland community. Looking south (photo taken 9/26/2025).



**Photo 10 – Plant community structure under transmission line on southern half of the site.
Looking east (photo taken on 9/26/2025).**



Photo 11 - Plant community structure on southern half of the Project. Looking west (photo taken on 9/26/2025).

- Not-Public Document – Not For Public Disclosure
- Public Document – Not-Public Data Has Been Excised
- Public Document

Xcel Energy Information Request No. 6
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission, EIP
Requestor: Suzanne Steinhauer
Date Received: November 12, 2025

Question:

State Historic Preservation Office Coordination

Please provide an update of Xcel Energy’s consultation with the State Historic Preservation Office (SHPO). Please include Xcel Energy’s correspondence with SHPO, including concurrence with Phase 1 findings, and any recommendations. If Xcel Energy has not yet received concurrence from SHPO, please provide an estimate of when that is expected.

Response:

Xcel Energy emailed SHPO with the Phase I cultural resources report for the Project on August 26, 2025. Xcel Energy inquired with SHPO on November 14, 2025 about status of their review of this report. They responded that a response had been provided in October 2025, but neither Xcel Energy, nor their consultants, had any record of receiving a response. SHPO provided the response again on November 16, 2025. SHPO’s response letter requested additional information regarding shovel test information to complete their review. SHPO’s response letter is provided as Attachment A. A copy of email records is provided as Attachment B.

Xcel Energy anticipates providing SHPO a response with the requested supplemental shovel testing information by December 5, 2025.

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: November 21, 2025



October 14, 2025

Tyler Beemer
Siting and Land Rights Agent
Burns & McDonnell
tbeemer@burnsmcd.com

RE: Blue Lake Energy Storage Project
T115 R33 S2 & S11, Scott County
SHPO Number: 2025-1687

Dear Tyler Beemer:

Thank you for the opportunity to comment on the above referenced project. We understand that this project will require a Minnesota Public Utilities Commission site permit. Therefore, the submitted information has been reviewed pursuant to the responsibilities given the State Historic Preservation Office by the Minnesota Historic Sites Act (138.665-666). If this project will be located on non-federal public land, the project will also be subject to review under the Minnesota Field Archaeology Act.

We have reviewed the submitted letter report, *Phase I Archeological Survey for the Proposed Blue Lake Energy Storage Project in Scott County, Minnesota* (May 5, 2025, Burns & McDonnell). Unfortunately, we are unable to complete our review at this time. Please provide the shovel test forms and/or a narrative of the results of the shovel testing. We assume that the sediment from shovel tests was screened through 1/4-inch hardware mesh.

If you have any general questions regarding our review of this project, please contact me at kelly.graggjohnson@state.mn.us. For questions regarding archaeology, please contact Lucy Harrington, Environmental Review Archaeologist, at lucy.harrington@state.mn.us.

Sincerely,

Kelly Gragg-Johnson

Kelly Gragg-Johnson
Environmental Review Specialist

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

AN EQUAL OPPORTUNITY AND SERVICE PROVIDER

From: Beemer, Tyler

Sent: Sunday, November 16, 2025 7:15 PM

To: Harrington, Lucy (She/Her/Hers) (ADM) <Lucy.Harrington@state.mn.us>

Cc: Manthey Mimbach, Kathleen (ADM) <Kathleen.MantheyMimbach@state.mn.us>; GraggJohnson, Kelly (ADM) <kelly.graggjohnson@state.mn.us>

Subject: RE: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

Lucy,

I'm not seeing anything in my records for this. I'll work with the cultural resources team to respond with requested information.

Thanks,

Tyler

From: Harrington, Lucy (She/Her/Hers) (ADM) <Lucy.Harrington@state.mn.us>

Sent: Sunday, November 16, 2025 11:18 AM

To: Beemer, Tyler <tbeemer@burnsmcd.com>

Cc: Manthey Mimbach, Kathleen (ADM) <Kathleen.MantheyMimbach@state.mn.us>; GraggJohnson, Kelly (ADM) <kelly.graggjohnson@state.mn.us>

Subject: RE: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

Tyler,

I'm not sure what happened here but in our records, we have documented that we sent the attached response in October. Did you not receive this letter?

Lucy

Lucy Harrington (she/her) | Environmental Review Archaeologist

State Historic Preservation Office
Minnesota Department of Administration
50 Sherburne Avenue, Suite 203
Saint Paul, Minnesota 55155
(651) 201-3283 | lucy.harrington@state.mn.us

Sent: Friday, November 14, 2025 10:41 PM

To: MN_ADM_ENV Review SHPO <ENReviewSHPO@state.mn.us>

Subject: RE: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

The Minnesota Public Utilities Commission has requested we inquire with SHPO staff regarding the anticipated timing of the below request for cultural resource review for the proposed Blue Lake battery energy storage system project in Shakopee, MN. Attached is the SHPO review form and phase I cultural resource report provided in August.

Respectfully,

Tyler Beemer, PWS, CMWP \ Burns & McDonnell

Environmental Services

952-491-9470

tbeemer@burnsmcd.com \ burnsmcd.com

5600 American Blvd W, Suite 300, Bloomington, MN 55437

From: MN_ADM_ENV Review SHPO <ENReviewSHPO@state.mn.us>
Sent: Tuesday, August 26, 2025 11:44 AM
To: Beemer, Tyler <tbeemer@burnsmcd.com>
Subject: Automatic Reply: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

Thank you for contacting the Minnesota State Historic Preservation Office via the Environmental Review Program mailbox. **If you've submitted a project review request, this message serves as confirmation that we have received your email. Your submittal will be initially reviewed and assigned a project reviewer. A team member may reach out with questions or if your submittal is incomplete.**

Please continue to send projects for review to ENReviewSHPO@state.mn.us. General environmental review inquiries can also be sent to ENReviewSHPO@state.mn.us where your request will be redirected to the appropriate SHPO team member.

Sincerely,

Environmental Review Program Team
State Historic Preservation Office
Minnesota Department of Administration

For information on submitting projects for review, please visit the [Environmental Review Program Website](#).

From: Beemer, Tyler
Sent: Tuesday, August 26, 2025 11:43 AM
To: ENReviewSHPO@state.mn.us
Cc: Schaffer, Jacob R <jrschaffer@burnsmcd.com>; Clitty, Jordan R <jordan.r.clitty@xcelenergy.com>; Schindler, Kate D <kathleen.schindler@xcelenergy.com>
Subject: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

This email serves as a project review request on behalf of Xcel Energy and their proposed Blue Lake battery energy storage system project in Shakopee, MN. Attached to this email is the SHPO review form and phase I cultural resource report. The project is currently being reviewed by the MN Public Utilities Commission under docket #25-214 for a Site Permit.

Respectfully,

Tyler Beemer, PWS, CMWP \ Burns & McDonnell

Environmental Services

952-491-9470

tbeemer@burnsmcd.com \ burnsmcd.com

5600 American Blvd W, Suite 300, Bloomington, MN 55437

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SUPPLEMENT

Xcel Energy Information Request No. 5
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission, EIP
Requestor: Suzanne Steinhauer
Date Received: October 31, 2025

Question:

Unique and Rare Resources

In their comments on September 25, 2025, the DNR asked that the EA provide information on the impacts and mitigation of the Minnesota Biodiversity Site (MBS) and Native Plant Community (NPC) that is within the proposed site. The same comments also request the EA to discuss impacts to state listed threatened species Louisiana broomrape.¹

The application recognizes the MBS and NPC but doesn't describe any impacts or mitigations. The Louisiana broomrape was not originally identified in the area but seems to have been identified later and as such, impacts and mitigations were not discussed for this species.

Please provide the following information:

- a. Impacts and mitigations for the MBS and NPC.
- b. Impacts and mitigations for the Louisiana broomrape.

¹ DNR, September 25, 2025, Natural Heritage Review Letter, 20259-223282-01 (through -03)

Response:

- a. On September 26, 2025, a supplemental species and habitat survey was conducted within the Project site, which evaluated the presence of the MBS and NPC communities. The summary report was not completed at the time of Site Permit application submittal and is provided as Attachment A. Regarding the MBS, the summary report concluded "*woodland areas on the Project site are characterized as low-quality Dry Barrens Oak Savanna (Southern) (Ups14a2) Oak subtype.*" This is supported by the observation of both native and invasive species throughout the Project site, but no rare or unique species were observed. Similarly, regarding the NPC, the summary report denotes that patches of sand prairie communities were observed within the Project site, but

the Project site is characterized by moderately to significantly disturbed habitats with large infestations of non-native and problematic species. Reviewing the results of the summary against the MBS biodiversity significance ranks descriptions, it is believed the MBS area likely ranks as being of “Below” biodiversity significance per DNR categories because it has moderately disturbed native plant communities but lacks occurrences of rare species. For these reasons, it is believed overall impacts are considered minor.

Proposed mitigation measures include:

- Siting the Project within largely disturbed habitat with no recorded presence of rare or protected species.
 - Following review of the summary report, concurrence from DNR that no rare or protected species or habitat are present.
 - Inspect and clean all equipment prior to bringing it to the site to prevent the introduction and spread of invasive species.
 - Use effective erosion prevention and sediment control measures.
 - Revegetate disturbed soil with native species suitable to the local habitat as soon after construction as possible.
- b. A DNR certified rare plant surveyor conducted a presence/absence survey for the Louisiana broomrape within the Project site on September 26, 2025. This survey and its protocols were communicated to the MDNR prior to commencing. The surveyor did not find this species to be present anywhere within the Project site. The results of this survey were summarized in a report and provided to the MDNR on November 12, 2025 and is provided as Attachment A to this response. Accordingly, no impacts or mitigative measures are proposed.

Supplemental Response:

On December 1, 2025, the MDNR responded that the report contains sufficient information to make a determination regarding no anticipated impacts to state-listed species, and no further surveys are requested (Attachment B).

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: November 21, 2025

SUPPLEMENT: December 9, 2025

From: [MN_NHIS_Reports \(DNR\)](#)
To: [Krych, Scott](#)
Cc: [Beemer, Tyler](#); [Staskowski, Nicole](#); [Bockenstedt, Paul](#); [Joyal, Lisa \(DNR\)](#); [Henning-Randa, Bridget \(DNR\)](#)
Subject: RE: Xcel Blue Lake Rare Species Survey
Date: Monday, December 1, 2025 1:09:37 PM
Attachments:

EXTERNAL - STOP & THINK before opening links and attachments.

Hi Scott,

Thank you for submitting the attached survey report regarding the Xcel Blue Lake Battery Energy Storage Project (MCE 2025-00330). The report contains sufficient information to make a determination regarding impacts to state-listed species and no further surveys are requested. Given that the survey results were negative, impacts to state-listed species are not anticipated and a Permit to Take is not needed. Should project activity impact area change to include additional suitable habitat, additional surveys may be needed.

Any questions, please let me know.

Thank you,

Becky

From: Krych, Scott <scott.krych@stantec.com>
Sent: Wednesday, November 12, 2025 2:39 PM
To: MN_NHIS, Reports (DNR) <reports.nhis@state.mn.us>; Drake, James F (DNR) <James.F.Drake@state.mn.us>; Horton, Becky (DNR) <becky.horton@state.mn.us>
Cc: Beemer, Tyler <tyler.beemer@xcelenergy.com>; Staskowski, Nicole <nicole.staskowski@stantec.com>; Bockenstedt, Paul <Paul.Bockenstedt@stantec.com>
Subject: Xcel Blue Lake Rare Species Survey

This message may be from an external email source.

Do not select links or open attachments unless verified. Report all suspicious emails to Minnesota IT Services Security Operations Center.

Hi Becky and James,

I am forwarding the results of our rare plant survey report for the Xcel Blue Lake Battery Energy Storage Project in Shakopee, MN. The results of our site review and surveys are attached in PDF format. No target or other rare species were discovered during our September site review. Please feel free to contact myself or Paul Bockenstedt (paul.bockenstedt@stantec.com) should you have any questions.

Thanks,

Scott Krych

Associate, Senior Ecologist

Direct: 1(612) 247-5218
scott.krych@stantec.com

Stantec
2080 Wooddale Drive Suite 100
Woodbury MN 55125-2920

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Xcel Energy Information Request No. 6
Docket No.: E002/ESS-25-214
Response To: Minnesota Public Utilities Commission, EIP
Requestor: Suzanne Steinhauer
Date Received: November 12, 2025

Question:

State Historic Preservation Office Coordination

Please provide an update of Xcel Energy’s consultation with the State Historic Preservation Office (SHPO). Please include Xcel Energy’s correspondence with SHPO, including concurrence with Phase 1 findings, and any recommendations. If Xcel Energy has not yet received concurrence from SHPO, please provide an estimate of when that is expected.

Response:

Xcel Energy emailed SHPO with the Phase I cultural resources report for the Project on August 26, 2025. Xcel Energy inquired with SHPO on November 14, 2025 about status of their review of this report. They responded that a response had been provided in October 2025, but neither Xcel Energy, nor their consultants, had any record of receiving a response. SHPO provided the response again on November 16, 2025. SHPO’s response letter requested additional information regarding shovel test information to complete their review. SHPO’s response letter is provided as Attachment A. A copy of email records is provided as Attachment B.

Xcel Energy anticipates providing SHPO a response with the requested supplemental shovel testing information by December 5, 2025.

Preparer: Tyler Beemer
Title: Consultant
Department: Siting and Land Rights North
Telephone: 952-491-9470
Date: November 21, 2025



October 14, 2025

Tyler Beemer
Siting and Land Rights Agent
Burns & McDonnell
tbeemer@burnsmcd.com

RE: Blue Lake Energy Storage Project
T115 R33 S2 & S11, Scott County
SHPO Number: 2025-1687

Dear Tyler Beemer:

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Sincerely,

Kelly Gragg-Johnson

Kelly Gragg-Johnson
Environmental Review Specialist

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

AN EQUAL OPPORTUNITY AND SERVICE PROVIDER

From: Beemer, Tyler

Sent: Sunday, November 16, 2025 7:15 PM

To: Harrington, Lucy (She/Her/Hers) (ADM) <Lucy.Harrington@state.mn.us>

Cc: Manthey Mimbach, Kathleen (ADM) <Kathleen.MantheyMimbach@state.mn.us>; GraggJohnson, Kelly (ADM) <kelly.graggjohnson@state.mn.us>

Subject: RE: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

Lucy,

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Thanks,

Tyler

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Sent: Sunday, November 16, 2025 11:18 AM

To: Beemer, Tyler <tbeemer@burnsmcd.com>

Cc: Manthey Mimbach, Kathleen (ADM) <Kathleen.MantheyMimbach@state.mn.us>; GraggJohnson, Kelly (ADM) <kelly.graggjohnson@state.mn.us>

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Lucy Harrington (she/her) | Environmental Review Archaeologist

State Historic Preservation Office
Minnesota Department of Administration
50 Sherburne Avenue, Suite 203
Saint Paul, Minnesota 55155
(651) 201-3283 | lucy.harrington@state.mn.us

Sent: Friday, November 14, 2025 10:41 PM

To: MN_ADM_ENV Review SHPO <ENReviewSHPO@state.mn.us>

Subject: RE: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

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Respectfully,

Tyler Beemer, PWS, CMWP \ Burns & McDonnell

Environmental Services

952-491-9470

tbeemer@burnsmcd.com \ burnsmcd.com

5600 American Blvd W, Suite 300, Bloomington, MN 55437

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Sent: Tuesday, August 26, 2025 11:44 AM
To: Beemer, Tyler <tbeemer@burnsmcd.com>
Subject: Automatic Reply: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

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Environmental Review Program Team
State Historic Preservation Office
Minnesota Department of Administration

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From: Beemer, Tyler
Sent: Tuesday, August 26, 2025 11:43 AM
To: ENReviewSHPO@state.mn.us
Cc: Schaffer, Jacob R <jrschaffer@burnsmcd.com>; Clitty, Jordan R <jordan.r.clitty@xcelenergy.com>; Schindler, Kate D <kathleen.schindler@xcelenergy.com>
Subject: SHPO Project Review Request - Xcel Energy Blue Lake Battery Energy Storage Project

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