



APPLICATION TO THE MINNESOTA PUBLIC UTILITIES COMMISSION FOR A ROUTE PERMIT AMENDMENT

Docket No. E002, ET2, E015, E017, ET6135/TL-09-1056

April 17, 2026

Submitted by
Northern States Power Company
Great River Energy
Minnesota Power
Otter Tail Power Company
Western Minnesota Municipal Power Agency

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List of Acronyms and Abbreviations

°F	degrees Fahrenheit
AIMP	Agricultural Impact Mitigation Plan
AMA	Aquatic Management Area
Applicants	Xcel Energy, Great River Energy, Minnesota Power, Otter Tail, and Western Minnesota
Application	Route Permit Application
ATV	all-terrain vehicle
BGEPA	Bald and Golden Eagle Protection Act
BMP	best management practice
BWSR	Minnesota Board of Water and Soil Resources
Commission	Minnesota Public Utilities Commission
DEED	Minnesota Department of Employment and Economic Development
EAW	Environmental Assessment Worksheet
EIS	Environmental Impact Statement
EJ	environmental justice
EMF	electric and magnetic field
EQB	Environmental Quality Board
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
GHG	greenhouse gases
GWP	global warming potential
IPaC	Information for Planning and Consultation
kV	kilovolt
MBTA	Migratory Bird Treaty Act
MCBS	Minnesota County Biological Survey
MDNR	Minnesota Department of Natural Resources
MISO	Midcontinent Independent System Operator, Inc.
MnDOT	Minnesota Department of Transportation
MPCA	Minnesota Pollution Control Agency
MTEP24	MISO 2024 Transmission Expansion Plan
NAC	Noise Area Classification
NDPSC	North Dakota Public Service Commission
NESC	National Electric Safety Code
NHIS	Natural Heritage Inventory System
NLEB	northern long-eared bat
NO ₂	nitrogen dioxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places

NWR	National Wildlife Refuge
OSA	Minnesota Office of the State Archaeologist
Otter Tail	Otter Tail Power Company
ppm	parts per million
Project	Bison to Alexandria 345 kV 2nd Circuit Transmission Project
PWI	Public Water Inventory
RCP	Representative Concentration Pathway
RIM	Reinvest in Minnesota
ROW	right-of-way
RRWP	Railroad Rights-of-Way Prairies
SCBB	Suckley's Cuckoo Bumble Bee
SHPO	State Historic Preservation Office
SNA	Scientific and Natural Area
SWCD	Soil and Water Conservation District
SWPPP	Stormwater Pollution Prevention Plan
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
Western Minnesota	Western Minnesota Municipal Power Agency
WIA	walk-in access
WMA	Wildlife Management Area
WPA	Waterfowl Production Area
WPFO	western prairie fringed orchid
WRF	western regal fritillary
Xcel Energy	Northern States Power Company, doing business as Xcel Energy

1 INTRODUCTION

Northern States Power Company, doing business as Xcel Energy (Xcel Energy), along with Great River Energy, Minnesota Power, Otter Tail Power Company (Otter Tail), and Missouri River Energy Services, on behalf of Western Minnesota Municipal Power Agency (Western Minnesota), (collectively, the Applicants) are filing this Route Permit Amendment Application (Application) to the Minnesota Public Utilities Commission (the Commission) to amend the Route Permit issued for the CapX2020 Fargo – St. Cloud 345 kilovolt (kV) Transmission Project.¹ This Applicants seek to add approximately 100 miles of a second 345 kilovolt (kV) transmission circuit on mostly existing double-circuit capable transmission structures between the existing Alexandria Substation in Alexandria, Minnesota, in Douglas County and the Minnesota/North Dakota border (Project)(Appendix A, Map 1). The existing 345 kV structures were previously permitted and constructed as double-circuit capable¹ as part of the CapX2020 Fargo–St. Cloud 345 kV Transmission Project (referred to herein as the “existing transmission line”).² The Commission ordered the existing transmission line to be constructed as double-circuit capable so that an additional 345 kV transmission line could be added to the existing structures in the future “to address future demand growth.”³

The Project will be located within the existing 150-foot transmission line right-of-way (ROW). While the Project largely consists of adding a second 345 kV circuit to the existing double-circuit transmission line structures, an estimated 107 new monopole structures, including 86 within Minnesota, are planned for specific locations along the route to accommodate required turns and highway crossings. As demonstrated by this Application, the Project will not result in significant changes in the human and

¹ The term “double-circuit capable” means that the structures are constructed such that they are able to accommodate two 345 kV transmission circuits but are initially constructed with only one of the two circuits.

² *In the Matter of the Application of Great River Energy, Northern States Power Company (d/b/a Xcel Energy) and Others for Certificates of Need for the CapX 345-kV Transmission Projects*, Docket No. ET2, E002, et al./CN-06-1115, Order Granting Certificates of Need with Conditions (May 22, 2009); *In the Matter of the Application for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project*, Docket No. E002, ET2/TL-09-1056, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER ISSUING AN HVTL ROUTE PERMIT TO XCEL ENERGY AND GREAT RIVER ENERGY (June 24, 2011).

³ *In the Matter of the Application of Great River Energy, Northern States Power Company (d/b/a Xcel Energy) and Others for Certificates of Need for the CapX 345-kV Transmission Projects*, Docket No. ET2, E002, et al./CN-06-1115, ORDER GRANTING CERTIFICATES OF NEED WITH CONDITIONS at 14 (May 22, 2009).

environmental impacts as compared to those that were evaluated in the original Route Permit Application and Environmental Impact Statement (EIS) for the existing transmission line (hereinafter, the original EIS).

The Project is the Minnesota portion of the Bison-Alexandria 345 kV Second Circuit Transmission Project which involves adding a new 345 kV transmission circuit on existing transmission line structures for approximately 136 miles from the existing Bison Substation near Fargo, North Dakota in Cass County to the existing Alexandria Substation in Alexandria, Minnesota in Douglas County. The Bison-Alexandria 345 kV Second Circuit Transmission Project represents a critical investment identified as part of the Midcontinent Independent System Operator, Inc.’s (MISO)⁴ Long-Range Transmission Planning Tranche 2.1 Portfolio, reflecting the region’s continued coordinated efforts to prepare the electric grid for a rapidly transforming energy landscape.

1.1 Project Need

Minnesota Statute § 216B.243, subd. 2 dictates that a Certificate of Need is required for a “large energy facility.” A large energy facility as defined in Minn. Stat. § 216B.2421, subd. 2(2) to include “any high-voltage transmission line with a capacity of 300 kV or more and greater than 1 mile in length in Minnesota.” The Commission issued a Certificate of Need for the existing transmission line on May 22, 2009, in Docket No. CN-06-1115.⁵ As part of its Certificate of Need Order, the Commission required the Applicants to obtain a Certificate of Need prior to stringing the second 345 kV circuit.⁶

⁴ MISO is a member-based non-profit regional transmission organization that is responsible for the planning and operation of transmission grid and wholesale energy market across 15 states and the Canadian province of Manitoba. MISO’s members include 48 transmission owners with more than 65,800 miles of transmission lines and \$34.5 billion in transmission assets that are under MISO’s functional control.

⁵ *In the Matter of the Application of Great River Energy, Northern States Power Company (d/b/a Xcel Energy) and Others for Certificates of Need for the CapX 345-kV Transmission Projects*, Docket No. ET2, E002, et al./CN-06-1115, ORDER GRANTING CERTIFICATES OF NEED WITH CONDITIONS at page 43 (May 22, 2009).

⁶ *In the Matter of the Application of Great River Energy, Northern States Power Company (d/b/a Xcel Energy) and Others for Certificates of Need for the CapX 345-kV Transmission Projects*, Docket No. ET2, E002, et al./CN-06-1115, ORDER GRANTING CERTIFICATES OF NEED WITH CONDITIONS at 28 (May 22, 2009) (“And, of course, the Upsized Alternative would not alter a utility’s duty to acquire a Certificate of Need before installing the additional 345 kV line.”).

The Applicants filed an application for a Certificate of Need to construct the Project on January 15, 2026, in Docket No. CN-25-116.⁷

The need for the Project is discussed in greater detail in the Certificate of Need Application but a summary of need for the Project is provided below.

In December 2024, MISO's Board of Directors reviewed and approved this Project within its 2024 Transmission Expansion Plan (MTEP24) report. The Project, designated as Project 19 in the MTEP24 report, is essential to ensuring that the regional transmission system is reliable, resilient, and cost-effective given generation resource mix transitions and rising demand for electricity in the coming years. Specifically, this Project is needed to address reliability issues on the existing transmission system in northern Minnesota and eastern North Dakota. This existing 345 kV system is at capacity, leading to thermal and voltage issues. The Project will help to resolve these issues by adding new 345 kV transmission lines to the system.

1.2 Project Schedule and Cost

The anticipated permitting and construction schedule for the Project is provided in Table 1-1. This schedule is based on information known as of the date of this filing and upon planning assumptions that balance the timing of implementation with the availability of crews, materials, and other practical and seasonal construction considerations. This schedule may be subject to adjustment and revision as further information is developed.

Table 1-1 Anticipated Project Schedule

Activity	Estimated Dates
Pre-application, Open Houses, and Outreach	Fourth Quarter 2025, Ongoing
Submission of Route Permit Application Amendment to Commission	Second Quarter 2026
Commission 10-day Comment Period on Route Permit Amendment Application	Second Quarter through Third Quarter 2026
Commission Issues Route Permit Amendment	Fourth Quarter 2026

⁷ *In the Matter of the Application for a Certificate of Need for the Bison to Alexandria Second Circuit 345 kV Transmission Line Project*, Docket No. E002, ET2, E015, E017, ET6135/CN-25-116, APPLICATION FOR A CERTIFICATE OF NEED (Jan. 15, 2026).

Activity	Estimated Dates
Survey and Transmission Line Design Begins	Third Quarter 2025
Other Federal, State, and Local approvals obtained	First Quarter 2028
Start Project Construction	July 2028
In-Service Date	June 2032

Table 1-2 provides estimates of total Project construction costs. These costs include all transmission line costs (including materials, associated construction, permitting and design costs, and risk reserves), substation modification costs (including materials, construction, permitting and design costs, and risk reserve), and ROW costs.

Table 1-2 Construction Cost Estimates

Project Components	Capital Expenditures ¹ (millions ²)
Bison–MN/ND State Line 345 kV Transmission Line	\$52
MN/ND State Line–Alexandria 345 kV Transmission Line	\$176
Bison Substation Modifications	\$10.6
Alexandria Substation Modifications	\$10.6
Total Project Costs	\$249.2³

¹ Capital Expenditures include allowance for funds used during construction.

² Prices shown are in 2025 dollars.

³ There may be differences between the sum of the individual component amounts and Total Project Costs due to rounding.

The Applicants note that Table 1-2 includes cost estimates in 2025 dollars (2025\$). These cost estimates will increase over time for any number of reasons, including, but not limited to, escalation, inflation, and commodity pricing, especially for these types of large-scale 345 kV transmission projects that have multi-year schedules

1.3 Project Ownership

The 345 kV transmission line between the Bison and Alexandria substations will be jointly owned by Xcel Energy, Great River Energy, Minnesota Power, Otter Tail, and Western Minnesota. Xcel Energy will be responsible for the construction of the proposed 345 kV transmission line.

The equipment and improvements required inside the Alexandria Substation will be owned solely by Western Minnesota. The equipment and improvements required inside the Bison Substation will be owned solely by Xcel Energy. Each party will be responsible for the construction and maintenance of its own substation.

1.4 Permittees

The Route Permit for the existing transmission line only lists Xcel Energy and Great River Energy as the permittees. The Applicants request that the Route Permit be amended such that Xcel Energy, Great River Energy, Minnesota Power, Otter Tail Power Company, and Western Minnesota Municipal Power Agency are all listed as permittees for the Project. Contact information for each utility is provided below.

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1.5 Route Permit Amendment Process

The Commission issued a Route Permit for the existing transmission line facility on June 24, 2011, in Docket No. ET2/TL-09-1056.⁸ Minnesota Statute § 216I.09, subd. 1 authorizes the Commission to amend a Route Permit issued by the Commission so long as the change “does not result in significant changes to the human or environmental impacts of the facility.”

A person that seeks to amend a Route Permit issued by the Commission must submit a written application that: (1) describes the alteration to be made or the amendment sought, and (2) explains why the request meets the eligibility criteria under Minnesota Statute § 216I.09, subd. 1.⁹ The Application must also describe any changes to the environmental impacts evaluated by the Commission as part of the initial permit approval.¹⁰

The Applicants propose to amend the Route Permit issued for the existing transmission line facility to authorize construction and operation of a second 345 kV circuit on the existing double-circuit capable structures.

The request meets the eligibility requirements because Minnesota Statute § 216I.09, subd. 1 allows the Commission to modify any provision or condition of a Route Permit issued by the Commission. The Applicants seek to modify the Route Permit for the existing transmission line to allow the construction and operation of a second 345 kV circuit.

As discussed in Section 3 of this Application, the Project is not expected to result in significant changes to the human and environmental impacts of the existing transmission line, which were previously evaluated in the original EIS.

The Commission is required to mail notice of receipt of a permit amendment application to those persons on the general list and to those persons on the Project

⁸ *In the Matter of the Application for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project*, Docket No. E002, ET2/TL-09-1056, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER ISSUING AN HVTL ROUTE PERMIT TO XCEL ENERGY AND GREAT RIVER ENERGY (June 24, 2011).

⁹ Minn. Stat. § 216I.09, subd. 2.

¹⁰ Minn. Stat. § 216I.09, subd. 2.

list.¹¹ The Commission is required to provide at least a 10-day period for interested persons to submit comments on the application or to request that the matter be brought to the Commission for consideration.¹² After the close of the comment period, the Commission will decide whether to approve the amendment request or to bring the matter to the Commission for consideration.¹³

1.6 Other Required Permits and Approvals

Regulatory approvals from the North Dakota Public Service Commission (NDPSC) are also required for the portion of the Bison-Alexandria 345 kV Second Circuit Transmission Project located in North Dakota. Xcel Energy plans to submit applications for a Certificate of Public Convenience and Necessity, along with an amendment to the Certificate of Corridor Compatibility and Route Permit obtained for the existing transmission line, to the NDPSC starting in the second half of 2026.

The Applicants will also be required to obtain other permits or approvals from local, state, and federal agencies prior to construction of the Project. A list of permits and other approvals that may be required for the Project in addition to the Route Permit Amendment are presented in Table 1-3. All required permits will be obtained prior to construction.

Table 1-3 Potential Permits/Compliance Requirements

Permit	Jurisdiction
Local Approvals	
Road Crossing/Right-of-way Permits	County, Township, City
Lands Permits	County, Township, City
Utility Permits	County, Township, City
Oversize / Overweight Permits	County, Township, City
Driveway/Access Permits	County, Township, City
Local/State/Federal Application for Water/Wetland Projects	BWSR

¹¹ Minn. Stat. § 216I.09, subd. 3

¹² Minn. Stat. § 216I.09, subd. 4.

¹³ Minn. Stat. § 216I.09, subd. 5.

Permit	Jurisdiction
State Approvals	
Certificate of Need	MPUC
Certification filing under the existing Certificate of Corridor Compatibility and Route Permit	NDPSC
Certificate of Public Convenience and Necessity	NDPSC
Threatened & Endangered Species Consultation	MDNR
License to Cross Public Waters	MDNR–Lands and Minerals
Construction Water Appropriation Permit	MDNR
Utility Permit	MnDOT
Driveway/Access Permits	MnDOT
Oversize/Overweight Permits	MnDOT
Wetland Conservation Act Exemption Concurrence	BWSR
Section 401 Water Quality Certification	MPCA
National Pollutant Discharge Elimination System Permit	MPCA
Cultural Resources Review	Minnesota State Historic Preservation Office
Federal Approvals	
Section 7 Consultation	USFWS
Section 10 Permit	USACE
Section 404 Permit	USACE
Notice of Proposed Construction (7460-1)	FAA
Notice of Actual Construction or Alteration	FAA
Farmland Protection Policy Act/Farmland Conversion Impact Rating	USDA/NRCS

Key: BWSR = Minnesota Board of Water and Soil Resources; FAA = Federal Aviation Administration; MDNR = Minnesota Department of Natural Resources; MnDOT = Minnesota Department of Transportation; MPCA = Minnesota Pollution Control Agency; MPUC = Minnesota Public Utilities Commission; NDPSC = North Dakota Public Services Commission; NRCS = Natural Resources Conservation Service; USACE = United States Army Corps of Engineers; USDA = United States Department of Agriculture; USFWS = United States Fish and Wildlife Service

2 PROJECT INFORMATION

The Project involves installing approximately 100 miles of a second 345 kV circuit on existing double-circuit capable structures that were initially installed as part of the CapX2020 Fargo–St. Cloud 345 kV Transmission Project.¹⁴ The Project extends from the Minnesota–North Dakota border in Holy Cross Township in Clay County to the Alexandria Substation (Line #0955) near Alexandria, Minnesota in Douglas County, crossing Clay, Wilkin, Otter Tail, Grant, and Douglas counties, Minnesota (Appendix A, Map 2). The Project is located within the existing 150-foot transmission line ROW and will use the existing double-circuit transmission line structures. An estimated 107 new monopole structures, including 86 within Minnesota, are planned for specific locations along the route to accommodate required turns and highway crossings where it was not necessary to install a second monopole during construction of the existing transmission line. Detailed route maps showing the locations of the proposed new monopole structures are shown in Appendix B, and engineering drawings are shown in Appendix C.

The Project has been designed to avoid and minimize environmental impacts, as helicopters are planned to be predominantly used to string the second circuit, significantly reducing land disturbance and environmental impacts compared to ground installation methods. During construction, impacts will be limited to use of temporary access roads, temporary structure work areas, temporary wire stringing sites, helicopter landing pads, and the installation of an estimated 107 new monopole structures (86 structures within Minnesota).

2.1 Project Area

The Project Area is defined as the existing transmission line’s 150-foot-wide ROW that is centered on the existing double-circuit capable transmission line structures. The Project Area encompasses approximately 1,911 acres located within Clay, Wilkin,

¹⁴ The CapX2020 Fargo – St. Cloud 345 kV Transmission Project included two segments originally constructed with one circuit on double-circuit capable structures. Those segments connect the Bison Substation to the Alexandria Substation, and the Alexandria Substation to the Quarry Substation. Only the Bison to Alexandria segment will be modified by the Project.

Otter Tail, Grant, and Douglas counties in Minnesota. Table 2- lists the counties, cities, and townships located within the Project Area.

Table 2-1 Counties, Cities, and Townships within the Project Area

County	City/Township Name	Type	Township	Range	Section
Clay	Holy Cross	Township	137	48	13-18
	Alliance	Township	137	47	13-18
	Barnesville	Township	137	46	13-18
	Humboldt	Township	137	45	18-20, 28-29, 33
Wilkin	Prairie View	Township	136	45	4, 9, 15-16, 22, 26-27,35
	Tanberg	Township	135	45	1-2, 12-13, 24
	Rothsay	City	135	45	25
Otter Tail	Trondhjem	Township	135	44	30-32
	Oscar	Township	134	44	4-5, 9, 15-16, 22-23, 26-27, 35-36
	Carlisle	Township	133	44	1
	Fergus Falls	Township	133	43	6-7, 17-20, 29, 32
	Fergus Falls	City	133	43	29, 32
	Buse	Township	132	43	5-6, 8-10, 14-15, 23, 25-26, 36
	Dane Prairie	Township	132	42	31-32
	Tumuli	Township	131	42	4-5, 9, 15-16, 22-23, 25-26, 36
Grant	Pomme de Terre	Township	130	42	1, 12
	Pelican Lake	Township	130	41	6-7, 18-21, 28, 33-35
	Erdahl	Township	129	41	1-2
Douglas	Evansville	Township	129	40	5-6, 8-9, 13-16, 21-24
	Brandon	Township	129	39	19-20, 28-29, 33-34
	Moe	Township	128	39	3-4, 10-13, 24
	La Grand	Township	128	38	19-21, 27-29, 34-36
	Alexandria	City	128	38	35

2.2 Land Acquisition

The Project will use the existing transmission line ROW, as well as existing access roads within the ROW, when practical. Any new access roads will be temporary and within the existing ROW. As such, additional land rights are not anticipated to be required to construct the Project, and the Applicants do not anticipate the need for further easement acquisition or negotiations with property owners.

The Applicants' ROW agents will work with landowners to address any short-term construction needs, impacts, or restoration.

If new or expanded ROW are determined to be necessary to construct the Project, the Applicants' ROW agents will identify all persons and entities that may have a legal interest in the identified real estate. The Applicants' ROW agents contact each property owner to describe the need for the transmission facilities and how the Project may affect each parcel. The Applicants' ROW agents also seek information from the property owner about any specific concerns that they may have with construction means and methods (e.g., access road or equipment laydown locations) for the Project.

To aid in the design of the Project, Applicants may request permission to enter the property to conduct preliminary survey and geotechnical work. During this process, the location of the proposed transmission line or substation facility may be staked with permission of the property owner.

The Applicants' ROW agents will discuss the construction schedule and construction requirements with affected property owners. Special consideration may be needed for fences, crops, or livestock. Fences and livestock may need to be moved; temporary or permanent gates may need to be installed; and crops may need to be harvested early. In each case, the ROW agents and construction personnel will coordinate these processes with the property owners.

To assist in determining the fair market value of the easement(s) needed for the lands to be crossed by the Project as well as the impact the easement may have on the market value of those parcels, land value data will be collected prior to construction. A fair market value offer will be developed that recognizes the impact of the easement to each parcel. If a negotiated easement agreement cannot be reached, the Applicants may

exercise eminent domain pursuant to Minnesota law, otherwise known as condemnation.

Typically before commencing a condemnation proceeding, the Applicants must obtain at least one appraisal and provide a copy to the property owner. The property owner may also obtain another property appraisal and the Applicants must reimburse the property owner for the cost of the appraisal according to the requirements and limits set forth in Minn. Stat. § 117.036. To start the formal condemnation process, the Applicants file a petition in the district court where the property is located and serves that petition to all owners with an interest in each of the properties identified in the petition.

If the district court grants the petition, the court then appoints a three-person condemnation commission that will determine a just compensation amount for the easement. The three people appointed to the condemnation commission must be knowledgeable of applicable real estate matters. The commissioners schedule a viewing of the property and then schedule a valuation hearing where the utilities and property owners offer their evidence, such as testimony by appraisers, as to the fair market value of the property interests required for the Project. The condemnation commission then makes an award as to the value of the property acquired for the easement and that award is filed with the court. Each party has the right to appeal the award to the district court for a jury trial. A jury trial typically occurs in the event of an appeal in which the jury considers the parties' evidence and renders a verdict. At any point in this process, the case can be dismissed if the parties reach a settlement.

There may be instances where a property owner elects to require the Applicants to purchase their entire property rather than acquiring only an easement for the transmission line. The property owner is granted this right under Minn. Stat. § 216I.21, subd. 4, which is sometimes referred to as the "Buy-the-Farm Statute." The Buy-the-Farm Statute applies only to transmission lines that are 200 kV or more; thus, the Buy-the-Farm Statute may apply to parcels crossed by the proposed 345 kV transmission lines.

2.3 Public Input and Involvement

The Applicants have a long history of working with landowners and in partnership with local communities to construct transmission line projects.

In-person open houses were held September 24 and September 25, 2025, in Fergus Falls, Alexandria, and Barnesville, Minnesota. One virtual open house was held on September 25, 2025. An additional open house was held on January 21, 2026 in Fargo, North Dakota.

The purpose of the open houses was to provide information to landowners and answer questions about the regulatory process and construction plans for the Project. There were approximately 12 attendees at the Fergus Falls open house, seven attendees at the Alexandria open house, five attendees at the Barnesville open house, and five attendees at the Fargo open house. Approximately four comments from the public were received from the open houses. While no direct opposition to the Project was relayed via public comment forms, one landowner requested that the Project be completed in late fall or winter (the comment did not specify the reason for this request). In general, landowners in attendance at the open house stated that avoiding impacts to natural resources was most important to them. Avoiding impacts to water and cultural resources, avoiding proximity to residences, avoiding interference with farm operations, and following existing infrastructure were also flagged as important considerations to the landowners who attended the open houses.

A copy of the Route Permit Amendment Application is available online at: the Commission's website: <https://mn.gov/puc/>. On the Commission's homepage, click on the eDockets link in the menu at the top of the page, click on "Go to eDockets" and then enter "09-1056" in "Docket #s" space.

A copy of the Route Permit Amendment Application is also available on the Project website: www.fargotoalexandria.com. A physical copy of this Application will also be available at the following libraries:

- Barnesville Public Library, 104 Front St. N., Barnesville, MN 56514
- Fergus Falls Public Library, 205 E. Hampden Ave., Fergus Falls, MN 56537

- Thorson Memorial Library, 117 Central Ave. N., P.O. Box 1040 Elbow Lake, MN 56531
- Douglas County Library, 720 Fillmore St., Alexandria, MN 56308
- West Fargo Public Library, 215 Third St. E., West Fargo, ND 58078
- Dr. James Carlson Library, 2801 32nd Ave. S., Fargo, ND 58103
- Kindred Public Library, 330 Elm St., Kindred, ND 58051

The public can review this Route Permit Amendment Application and submit comments to the Commission regarding the Project during the notice and comment period.

To subscribe to the Project’s dockets (Certificate of Need and/or Route Permit) and to receive email notifications when information is filed in the dockets, visit <https://mn.gov/puc/>, click on the “edockets” tab, then click on the “Subscribe to eDockets” button and follow the directions listed. For the docket number, enter “25-116” for the Certificate of Need and “09-1056” for the Route Permit Amendment.

To be placed on the Project’s mailing list, send an email to:

eservice.admin@state.mn.us or call (651) 201-2204. When sending an email or leaving a phone message, please include (1) mail preference (U.S. mail or email); and (2) the docket number (25-116 or 09-1056), full name, and complete mailing address or email. If you have questions about the state regulatory process, you may contact the Minnesota state regulatory staff listed below:

Minnesota Public Utilities Commission

Energy Infrastructure Permitting Staff

Cezar Panait

121 7th Place East, Suite 350

St. Paul, Minnesota 55101

651-201-2207

cezar.panait@state.mn.us

Please visit the Project website at: FargotoAlexandria@xcelenergy.com for more information. Project phone and email address are:

Project Phone Number: 1-701-420-1412

Project email address: FargotoAlexandria@xcelenergy.com

Public outreach material can be found in Appendix D.

2.4 Coordination with Minnesota Tribal Governments

The Applicants sent emails to specifically to tribal representatives on September 18, 2025 (see Appendix E). The emails introduced the Project and invited tribal representatives to the Project open houses.

Additionally, the Applicants mailed informational letters to tribal representatives on November 19, 2025 and March 2, 2026 (Appendix E). The letters introduced the Project again, provided information on how to subscribe to the Project docket, and offered opportunities to request a consultation meeting regarding the Project.

3 HUMAN AND NATURAL ENVIRONMENT

The human and environmental impacts of the existing transmission line facility was previously discussed in detail in the 2009 Route Permit Application¹⁵ and 2011 Final EIS¹⁶ prepared for the original Fargo to St. Cloud 345 kV Transmission Line Project. The discussion below provides a brief summary of existing resources and details anticipated additional potential human and environmental impacts from construction and operation of a second 345 kV circuit on the existing double-circuit capable structures. As detailed below, the Project will not result in any significant changes to the human or environmental impacts of the existing transmission line.

3.1 Human Settlement

3.1.1 Aesthetics (Minn. Stat. § 216I.05, subd. 4(2))

The existing transmission line structures are focal points in the open space character of the landscape crossed by the Project. The Project parallels existing transportation and utility rights-of-way, both generally considered pre-disturbed in nature, for most of its length.

As shown within Table 3-1, there are currently 51 residences within 500 feet of the existing centerline. The closest residence is 98 feet from the centerline (Appendix A, Map 3 and Appendix B).

Table 3-1 Proximity Residences to the Project

Distance from Centerline (feet)			Totals
75-150*	151-300	301-500	
2	11	38	51

* There are no residences within the right-of-way (75 feet of the centerline)

¹⁵ *In the Matter of the Application for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project*, Docket No. E002, ET2/TL-09-1056, FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER ISSUING AN HVTL ROUTE PERMIT TO XCEL ENERGY AND GREAT RIVER ENERGY (June 24, 2011).

¹⁶ *In the Matter of the Application for a Route Permit for the Fargo to St. Cloud 345 kV Transmission Line Project*, Docket No. E002, ET2/TL-09-1056, [FINAL ENVIRONMENTAL IMPACT STATEMENT](#) (Jan. 7, 2011).

3.1.1.1 Impacts

After construction, the addition of a second 345 kV circuit will result in minimal change to the visual landscape compared to existing conditions because the proposed Project, for the most part, involves stringing a second circuit on existing transmission structures. Visual alterations to the landscape occurred when the existing transmission line was constructed. Although the Project will involve installation of 86 new monopole structures within Minnesota, these structures will be installed within the existing ROW close to existing structures. Overall, the proposed Project will result in very minimal change to the aesthetics of the landscape as compared to the existing transmission line.

3.1.2 Cultural Values (Minn. Stat. § 216I.05, subd. 4(2))

Cultural values include those perceived community beliefs or attitudes in a given area which provide a framework for the unity of social groups. The communities within the Project Area regard their pioneer roots, the history of their settlement, and their predominately agricultural economy as important. Values within the region include individualism and loyalty to local businesses and service providers.

Manufacturing, retail, and service industries are the commercial strength of the region, equally supported by the extensive highly productive farming and dairy professions. The area has a diversified agricultural mix of livestock and crops including corn, soybeans, oats, sugar beets, poultry, swine, dairy and beef cattle. Manufacturing opportunities are centered on food and agriculture.

Attractions in the area include numerous state and federal conservation lands, some of which are available to visitors to these areas for hunting, trapping, wildlife viewing, and other recreational uses.

Community and county historical societies have recently embraced heritage tourism as an industry. Historic railroad corridors, National Register of Historic Places (NRHP)-recognized structures, districts, and museums provide excellent opportunities for recreation related to interests in heritage.

3.1.2.1 Impacts

Construction, operation, and maintenance of the Project is not expected to conflict with the cultural values in the Project Area. The Project Area is generally rural in nature with an agriculture-based economy and is anticipated to remain so after construction. Cultural values of the Project Area are not anticipated to be significantly impacted by construction of the Project and no additional cultural impacts are anticipated to result from stringing the second 345 kV circuit.

3.1.3 Displacement (Minn. Stat. § 216I.05, subd. 4(2))

The Project will be built within the existing transmission line ROW, and no additional ROW is necessary.

3.1.3.1 Impacts

The original EIS evaluated ROW impacts and mitigation associated with the existing transmission line. It is not anticipated that the Project will result in displacing existing residences or businesses since all work, including the placement of new monopole structures, will be within the existing ROW. The Project is not anticipated to displace any existing residences or businesses.

3.1.4 Socioeconomics (Minn. Stat. § 216I.05, subd. 4(2))

3.1.4.1 Population and Economic Profile

The Project Area intersects five counties in Minnesota including Clay, Douglas, Grant, Otter Tail, and Wilkin counties that are generally rural in nature. The cities of Fergus Falls and Alexandria are the largest cities within the Project Area. The northwestern terminus of the Project Area is west of the City of Barnesville in Clay County. The five counties within the Project Area combined comprise approximately three percent of the State of Minnesota's total population over the age of 16 years.

The unemployment rate within the Project Area ranges from a low of 1.7 percent in Douglas County to a high of 3.1 percent in Otter Tail County. Per capita annual income averages within the five counties that the Project Area crosses are below the state average of \$46,957 and range from a low of \$36,057 to a high of \$43,543. Education,

health care and social assistance is the primary labor category in all the five counties that the Project Area crosses, as well as in the State of Minnesota.

3.1.4.2 Local Economy and Labor Force

The Minnesota Department of Employment and Economic Development (DEED) 2022 Regional Profile for Northwest Region 4 (West Central) provides a summary of key labor market, employment, and industry trends and projections. Five of nine counties that comprise Region 4 are within the Project Area, including Clay, Douglas, Grant, Otter Tail, and Wilkin counties.

Based on the DEED Northwest Region 4 profile summary, Region 4 contains 7,088 business establishments that provided 88,630 jobs in 2021, representing 3.2 percent of total employment in the State of Minnesota. Otter Tail, Douglas, and Clay counties ranked highest in number of jobs, consisting of 22,114, 181,767, and 18,984 jobs in 2021, respectively. Health care and social assistance (16,445 jobs), manufacturing (12,966 jobs), retail trade (10,840 jobs), and education services (9,052) are the largest industry sectors in the region.

3.1.4.3 Impacts

The original EIS evaluated socioeconomic impacts anticipated to result from the construction of the existing transmission line. The Project will not require new ROW or displacements of existing businesses that would have the potential to impact businesses in proximity to the existing transmission line ROW. Project impacts to local businesses would be primarily construction-related and temporary, such as required labor and local expenditures. Potential economic benefits to local communities during construction may include employing personnel and using local material vendors as well as short-term benefits to local economies as workers will spend money on food, lodging and other services and supplies in the Project Area.

The Project will not have significant negative impacts to socioeconomics and no additional negative impacts are anticipated to result from stringing the second 345 kV circuit.

3.1.5 Environmental Justice (Minn. Stat. § 216I.05, subd. 4(2))

The Project Area is located within four environmental justice (EJ) communities within the 15 Census Tracts identified in the Minnesota Pollution Control Agency (MPCA) mapping tool that meet the criteria for low income, defined as 35 percent of households in the Census Tract have an income at or below 200 percent of the federal poverty level (Appendix A, Map 4). These EJ areas encompass portions of the City of Fergus Falls in Otter Tail County, City of Alexandria in Douglas County, and Pelican Lake Township in Grant County. No Census Tracts within the Project Area met the EJ criteria pertaining to limited English proficiency and people of color, and no federally recognized reservations or other tribal lands are located within the Project Area.

3.1.5.1 Impacts

Project impact to EJ communities would be temporary in nature and consist of construction-related impacts such as traffic detours, dust, odors, and noise. Temporary construction impacts would be experienced by all populations adjacent to the existing transmission line and would not disproportionately affect EJ populations. The Project would improve the reliability of electricity and is anticipated to generate positive economic impacts that would benefit all populations equitably. The Project will not have significant negative impacts to EJ populations.

3.1.6 Land Use and Zoning (Minn. Stat. § 216I.05, subd. 11 ((a)(2))

Land use in the vicinity of the Project is predominately agricultural and highway ROW. Because the proposed Project utilizes an existing transmission line corridor, there will be no significant change in the land cover or land use within the Project Area.

3.1.6.1 Impacts

The original EIS evaluated land use and zoning impacts resulting from the construction of the existing transmission line. The Project will not alter the existing land use of the surrounding area. The Project will not have significant negative impacts to land use or zoning.

3.1.7 Noise (Minn. Stat. § 216I.05, subd. 4(2))

3.1.7.1 Construction Noise

Construction activities for the transmission line installation will generate noise intermittently. These activities may result in temporary increases in noise that are noticeable at nearby residences before construction moves along to another section of the corridor. Typical equipment that will be used during construction includes helicopters, man lifts, cranes, dozers, forklifts, loaders, drill rigs, pickup trucks, dump trucks, and flatbed trucks. During stringing of the transmission lines, a helicopter will also be used to drop off workers and equipment at the top of structures as well as to facilitate stringing operations and will intermittently hover near structures.

The most intensive construction activity generating noise for a sustained amount of time will likely be foundation excavation using a drill rig and concrete trucks at the locations where new structures will be constructed. Noise sources will be loudest closer to construction activities and will decrease with distance. The Federal Highway Administration Roadway Construction Noise Model was used to estimate noise during foundation excavation, assuming that the construction equipment operating simultaneously would include a drill rig truck, dump truck, front end loader, concrete pump truck, and concrete mixer truck. During foundation excavations, sound levels are estimated to be 81 decibels at 50 feet away and drop to 63 decibels at 400 feet away.

3.1.7.2 Operational Noise

Transmission lines can produce noise during foggy, damp, or rainy conditions when there is significant moisture in the air. This is due to the corona effect and can result in a hissing or crackling sound being generated. When there is heavier rain, the sound generated by rainfall is usually louder than the noise from the transmission line which typically makes the corona noise inaudible. The amount of noise produced by the transmission line also depends on the type of conductor, voltage level, and transmission line geometry.

Noise generated by the transmission line was estimated using the Bonneville Power Administration Corona and Field Effects model. Typical audible noise was estimated for both the existing and proposed 345 kV circuits, assuming a 5% overvoltage installed

on the dominant structure type within the corridor. The addition of the second circuit is expected to result in a 4–6 dB increase over existing conditions. While this increase may be noticeable, it is generally perceived as well below a doubling of loudness.

During normal conditions, noise levels directly underneath the transmission line—with both existing and proposed circuits in operation—are estimated to be 52 decibels (dBA). Because the transmission line right-of-way is 150 feet wide, it is anticipated that transmission line sound levels would remain below 50 dBA at the edge of the right-of-way. Although transmission line noise may vary slightly along the corridor, it is anticipated to remain below applicable State standards at nearby residences.

3.1.7.3 Impacts

Noise during construction is expected to be temporary in nature and localized to where activities are occurring. Construction activities will also primarily occur during daytime hours, and nearby residents will be advised of the construction activity and schedule.

Maximum noise levels at 400 feet away from construction activities are expected to be 63 decibels. This noise would not violate any of Minnesota’s noise rules (Minn. Rules Ch. 7030) since the closest residence is within 355 feet of new transmission structures and noise levels would be less than 63 decibels when heard by the nearest residences.

The original EIS evaluated operational noise impacts resulting from the existing transmission line and identified potential mitigation requirements. The cumulative noise resulting from the combined operation of the existing transmission line and the proposed second circuit is not predicted to exceed the limits for the relevant Noise Area Classifications (NAC).¹⁷ Noise modeling indicates that the noise generated by the Project, including stringing the second 345 kV circuit, will not exceed the most stringent MPCA noise standards for NAC-1.

3.1.8 Public and Worker Safety (Minn. Stat. § 216I.05, subd. 4(2))

The Project will be designed to comply with local, state, National Electric Safety Code (NESC), and utility standards regarding clearance to ground, clearance to crossing utilities, clearance to buildings, strength of materials and ROW widths. Applicants’

¹⁷ See Minn. R. 7030.0050.

construction crews and/or contract crews will comply with local, state, NESC, and utility standards regarding installation of facilities and standard construction practices. Established utility and industry safety procedures will be followed after installation of the transmission line. This will include clear signage during all construction activities.

3.1.8.1 Impacts

The proposed transmission line will be equipped with protective devices (breakers and relays located where transmission lines are connected to substations) to safeguard the public in the event of an accident, or if the structure or conductor falls to the ground. The protective equipment will deenergize the transmission line should such an event occur. In addition, the substation facilities will be properly fenced and accessible only by authorized personnel.

Construction of the Project is expected to have a minimal effect on existing worker and public safety in the Project Area and operation of the second circuit will not cause a significant change to worker and public safety. The Applicants are currently working with MnDOT to mitigate impacts on MnDOT ROW, which may include moving or reconfiguring temporary workspaces (see Appendix E). The Applicants are also working with MnDOT to ensure safety and reliability of roads throughout the length of the Project during construction. Additionally, when crossing roads or railroads during stringing operations, guard structures will be utilized to eliminate traffic delays and provide safeguards for the public.

No significant negative impacts to public and worker safety are anticipated to result from the construction and operation of the Project.

3.1.9 Public Services (Minn. Stat. § 216I.05, subd. 4(2))

The Project is located within an existing transmission line right-of-way (ROW) that intersects with public infrastructure, including roads, railroads, pipelines, and other transmission and distribution facilities. Two hazardous liquid pipelines intersect and run parallel to the project at various locations, and one gas transmission line intersects the Project north of Fergus Falls. There are five railroad crossings all located along the Project from Fergus Falls north to the State line. The Project intersects existing electric transmission line infrastructure at 10 locations along its length (Appendix A, Map 5 and

Appendix B). Any required crossing permissions or agreements related to this existing infrastructure will be obtained from the applicable owners/operators.

3.1.9.1 Impacts

No significant adverse impacts to public services are anticipated from construction or operation of the Project. Temporary and localized disruptions may occur during construction, including minor traffic interruptions at road crossings and brief service interruptions associated with planned utility outages; however, these will be coordinated to minimize inconvenience and maintain service reliability.

The design and operating process of transmission lines requires specific standards and mitigation outlined in North American Electric Reliability Corporation, Federal Energy Regulatory Commission, and NESC requirements and guidance, which aid in the compatibility of new construction with existing utilities. While the Applicants will minimize disruptions to electrical service, existing transmission lines and substations may be temporarily taken out of service during construction of the Project. Construction work will be coordinated to avoid electric service outages and associated impacts. All existing utilities will be identified and marked prior to construction with help from the Gopher State One Call utility locate service

The stringing of the second 345 kV circuit will occur within the existing ROW and is not expected to result in additional or long-term impacts to public services beyond those described above.

3.1.10 Transportation (Minn. Stat. § 216I.05, subd 3(8))

The existing transportation network within the Project Area consists of state highways, county roadways, and local township roads (Appendix A, Map 5 and Appendix B). In addition, two railroads intersect the Project Area. A railroad owned by Otter Tail Valley Railroad Company generally follows the Interstate-94 (I-94) corridor and a segment of Burlington Northern Santa Fe Railroad extends along U.S. Highway 75, within the Project Area.

The Applicants will coordinate with the applicable road authorities regarding the planned use of haul routes that may require road improvements or traffic control measures during the construction period and obtain any overweight permits, road use

permits, and other approvals required. During construction, the Applicants will perform routine maintenance and roadway repairs associated with upkeep needed or damage resulting from the Project activities. In general, impacts on public services and transportation have been avoided through routing design including paralleling existing utility corridors and other linear infrastructure. Traffic may be temporarily impacted during construction in areas where helicopter work is occurring to ensure the safety of residents and vehicles by using a traffic break, or minor detours may occur for limited amounts of time, most likely one or two days.

Construction could create a minor increase in traffic from construction vehicles and material/equipment delivery along roadways; however, this increase would be temporary and traffic volumes would return to normal conditions after construction activities are completed. Transmission line construction and maintenance at crossing locations could also cause temporary delays if maintenance vehicles are present. To minimize overall impacts, the Applicants will limit vehicle traffic to the Project ROW and existing access roads used for installation of the first circuit, to the extent feasible. Any new access roads will be temporary and also within the existing ROW. Therefore, significant impacts from construction vehicles are not anticipated.

The use of helicopters to string the second circuit will limit impacts to public roads. Temporary impacts to public roads may occur due to transportation of materials and equipment. Some short-term traffic delays may occur during equipment delivery and hanging via helicopter, but these areas will be protected from the public. Road closures are not anticipated, rather a guide vehicle may be used, or minor detours may be implemented during construction.

The Applicants initiated consultation with MnDOT to ensure that construction and operation of the Project is done safely and in accordance with applicable state rules and regulations. Consultations with MnDOT began in July 2025 and are ongoing (see Appendix E).

3.1.10.1 Impacts

The original EIS evaluated impacts to the transportation network associated with the construction and operation of the existing transmission line. The Project would not result in significant adverse impacts to the transportation network as improvements

would be limited to the existing transmission line and access roads, and no permanent impacts the traffic operations would result. Impacts to the rail system are also not anticipated from Project related activities. If any potential impacts to the rail system arise during Project activities, the Applicants will consult with the rail system owner to minimize those potential impacts.

If road closures cannot be avoided, the Applicants will work with the federal, state, and county agencies to develop appropriate mitigation measures to minimize impacts on public services and transportation. Mitigation measures could include avoiding construction during hours of peak use, detours, signage, and ensuring access to public service infrastructure is not restricted. Several temporary workspaces intersect with MnDOT ROW. The Applicants will continue to consult with MnDOT to mitigate temporary impacts and verify coordination with MnDOT on highway construction activities occurring simultaneously with the Project. The Project will not result in significant negative impacts to transportation.

3.1.11 Recreation (Minn. Stat. § 216I.05, subd. 4(2))

Recreational opportunities in the Project Area include outdoor recreational trails, use of public lands and parks, snowmobiling, hunting and fishing, boating, camping, and participation in local area events. Several types of formally managed and regulated lands are present within the Project Area, including Waterfowl Production Areas (WPAs), state trails, and conservation easement areas (Appendix A, Map 6 and Appendix B).

3.1.11.1 Impacts

The original EIS evaluated potential impacts to recreational facilities and public lands resulting from the construction and operation of the existing transmission line. The Project will not result in additional ROW acquisition and is not expected to result in additional impacts to existing recreational opportunities. During construction, temporary closures to recreational trails and snowmobile trails may occur. To mitigate temporary impacts to recreational trails/lands and snowmobile trails, the Applicants will coordinate with local agencies and local snowmobile clubs prior to construction. The Project will not result in significant negative impacts to recreation.

3.1.12 Airports, Landing Strips, and Airplane Safety (Minn. Stat. § 216I.05, subd. 4(2))

There are no public or private airports within the Project Area (AirNav n.d.). However, two airports are located approximately one mile from the Project Area (Appendix A, Map 5). The Fergus Falls Municipal Airport is approximately one mile west of the Project Area at station 472 and the Alexandria Municipal Airport/Chandler Field is approximately one mile north of the Alexandria Substation. One new monopole structure is anticipated to be installed 1 mile east of Fergus Falls Municipal Airport. Four new monopole structures are anticipated to be installed within the MnDOT Airport Influence Area for the Alexandria Municipal Airport/Chandler Field.

3.1.12.1 Impacts

The original EIS evaluated impacts to airports resulting from the construction and operation of the existing transmission line. The existing transmission line was constructed in compliance with all FAA requirements and height restrictions. The Applicants consulted with MnDOT Aviation Planning in October 2025, and no significant impacts airports, landing strips and airplane safety were identified (Appendix E). The Applicants will continue to coordinate with MnDOT, as necessary, to address any Project-related concerns for aviation activities as the Project progresses. In addition, the Applicants will coordinate with the Federal Aviation Administration, as needed, to complete any required obstruction evaluations and airspace analyses.

The Project is not expected to result in significant negative impacts to aviation resources.

3.1.13 Electric and Magnetic Fields and Stray Voltage (Minn. Stat. § 216I.05, subd. 11(1))

Electric and magnetic fields (EMF) are present around any electrical device. EMF depends on the voltage (electric fields) and current (magnetic fields) of the transmission line. The intensity of the electric field is proportional to the voltage of the line, while the intensity of the magnetic field is proportional to the current flow along the conductors.

Stray voltage is a condition that can potentially occur on a property or on the electric service entrances to structures from distribution lines connected to these structures—not transmission lines as proposed here. Transmission lines do not, by themselves, create stray voltage because they do not connect directly to businesses or residences. Transmission lines, however, can induce voltage on a distribution circuit that is parallel and immediately under the transmission line. If the proposed transmission lines parallel or cross distribution lines, appropriate mitigation measures can be taken to address any induced voltages. For additional information regarding stray voltage, please see the Minnesota Stray Voltage Guide that is available online at www.minnesotastrayvoltageguide.com or contact your electric utility provider.

3.1.13.1 Impacts

The original EIS evaluated potential EMF impacts from the operation of the existing transmission line. No public health or safety impacts from EMF were anticipated from the existing transmission line and, therefore, no mitigation was proposed. EMF calculations are provided in Appendix F. Even with the addition of the second circuit, the estimated electric fields were calculated to be below 4.0 kilovolts per meter (kV/m) and are well under the Commission’s electric field limit of 8.0 kV/m. Similarly, magnetic fields were calculated to be below 98 milligauss (mG). If the proposed transmission lines run parallel to or cross distribution lines, appropriate mitigation measures can be taken to address any induced voltages. The Applicants will design, construct, and operate the Project in accordance with applicable codes, manufacturer specifications, and required setbacks. The Project is not expected to result in significant negative public health or safety.

3.2 Land-Based Economies

3.2.1 Agriculture (Minn. Stat. § 216I.05, subd. 4(3))

Given that the Project proposes to string the new 345 kV transmission line on existing transmission line infrastructure, impacts to agricultural production will be largely avoided. Minor permanent impacts on agricultural land may occur during construction due to pole placement required for the 86 new monopole structures within existing ROW. Temporary impacts during construction may include soil compaction, disruption of agricultural practices (e.g., center pivot irrigation), and crop damages within the

corridor and access roads to the corridor through cropland at proposed structure locations from vehicle usage at locations of access to the ROW and other work areas.

3.2.1.1 Impacts

The original EIS evaluated impacts to agricultural land and mitigation measures associated with the construction and operation of the existing transmission line. Impacts to agricultural fields and production have already been minimized through avoidance and routing the first 345 kV circuit along field edges and other existing linear infrastructure (e.g., roads, transmission lines). As part of the Route Permit Application for the original Fargo to St. Cloud 345 kV Transmission Line Project, an Agricultural Impact Mitigation Plan (AIMP) was prepared that identified measures to avoid, mitigate, repair, and/or compensate for agricultural impacts from the construction of the existing transmission line. An updated AIMP is provided as Appendix G.

Construction of the current Project will be limited to the existing ROW and access roads, and will be primarily temporary in nature. Minimal permanent impacts associated with the estimated 107 structures (86 structures within Minnesota) would result from the Project. These permanent impacts could include loss of agricultural land for crop production and maneuvering issues for agricultural equipment. Additional impacts are expected to be minimal due to the small footprint of the temporary workspaces and limited new permanent structures. The Applicants will maintain landowner access to agricultural fields, storage areas, structures, and other agricultural facilities during construction to the extent practicable. If irrigation systems or drain tiles are present, the Applicants will work with landowners to avoid these systems to the extent practicable. When avoidance isn't possible the Applicants will work with landowners and/or abide by any regulatory requirements to minimize impacts to impacts irrigations systems and/or drain tiles.

Crop production on some portion of agricultural lands may be temporarily interrupted for one growing season while transmission line facilities are constructed, and permanently interrupted where new structures are installed. The Applicants will compensate landowners for impacts on crops resulting from the construction, operation, and maintenance of the Project, including soil compaction, that may result from these activities. Crop access may also be limited during construction in areas of

temporary workspaces; however, farmers would be reimbursed for crop damage as applicable. The Project will not have significant negative impacts to agriculture.

3.2.2 Forestry (Minn. Stat. § 216I.05, subd. 4(3))

The Project is located primarily in grassland and cultivated land and some limited forested areas adjacent to farmsteads, waterways, and within Minnesota Department of Natural Resources (MDNR) managed lands (Appendix A, Map 7). Commercial forestry operations are not common in the Project Area due to the lack of forested areas. A review of the MDNR's Forest Inventory determined that no forest stands are present within the Project Area (MDNR 2025 Appendix A, Map 6). No commercial forestry operations have been identified in the Project Area based upon review of publicly available data.

3.2.2.1 Impacts

The original EIS evaluated impacts to forestry resources resulting from the construction and operation of the existing transmission line. Impacts to forested areas were minimized the extent feasible during the original routing of the existing transmission line. Active forestry operations, including commercial timber harvest, woodlots, or other forestry resources do not occur within the Project Area. Impacts to vegetation, including wooded areas within the Project Area, are discussed in Section 3.4.7. The Project is not anticipated to result in significant negative impacts to forestry resources.

3.2.3 Tourism (Minn. Stat. § 216I.05, subd. 4(3))

Tourism in the Project Area centers around outdoor recreational opportunities, such as snowmobiling, hunting and fishing, boating, camping, and other activities. As described in Section 3.1.11, several federal and state managed lands are present within the Project Area, including WPAs, state trails, and conservation easement areas that provide outdoor recreational opportunities.

3.2.3.1 Impacts

The original EIS evaluated potential impacts to tourism, which determined that no significant impacts to tourism were anticipated from the construction and operation of

the existing transmission line. The Applicants will consult with managers of federal and state and managed lands prior to construction regarding the Project schedule and access road locations in order to avoid impacts to recreation and tourism activities. The Project is not anticipated to result in significant negative impacts to tourism.

3.2.4 Mining (Minn. Stat. § 216I.05, subd 4(3))

Smaller sand, gravel, and stone quarry operations are found within the Project Area, and a few active and inactive aggregate operations are identified near the Project Area (MnDOT 2025; United States Geological Survey [USGS] n.d.); however, there are no mining operations within the Project Area. The mined sand and gravel material are primarily used for making concrete for highways, roads, bridges, and buildings. The Project is anticipated to avoid these mining resources, and no impacts to mining are anticipated.

3.2.4.1 Impacts

The original EIS evaluated potential impacts to aggregate resources, which determined that no significant impacts were anticipated. The Project Area is not located within immediate proximity of any mines, nor is it anticipated to have any effects on existing mining operations. The Project is not anticipated to result in significant negative impacts to mining.

3.3 Archaeological and Historic Resources (Minn. Stat. § 216I.05, subd 4(4))

Cultural resources, including archaeological sites and historic architectural resources, provide important information about the history of human occupation and alteration of the landscape over time. Archaeological resources include any location that contains material remains of past human life or activities, or other places and/or items that possess cultural importance to individuals or a group. Historic architectural resources include standing structures, such as buildings and bridges, as well as historic districts and landscapes.

Background research on known cultural resources was conducted in September 2025 by requesting information from the Minnesota State Historic Preservation Office (SHPO) as well as reviewing the Minnesota Office of the State Archaeologist (OSA) Portal for archaeological sites. Data regarding known cultural resources identified

through previous professional cultural resources surveys and reported archaeological sites and historic architectural resources were reviewed. A Phase Ia cultural resources literature review report is currently being prepared for the Project and will support the Phase I cultural resources field survey strategy and subsequent reports to be submitted to Minnesota SHPO for review and concurrence prior to construction.

3.3.1 Impacts

The original EIS evaluated potential impacts and mitigation measures to archaeological resources associated with the construction and operation of the existing transmission line. The Applicants reviewed OSA, SHPO, and NRHP records to identify known archaeological, above-ground historic resources, burial/sites and cemeteries for the Project Area.

Eight previously recorded archaeological sites are located within the Project Area and 29 previously recorded archaeological sites within a one-mile buffer of the Project Area. Of the eight archaeological sites, three are considered unevaluated and will require additional investigation, while five are considered not eligible for the NRHP. The archaeological sites within the Project Area represent locations of precontact habitation and tool manufacture and use, and post-contact Euro-American farmsteads.

Five additional archaeological sites designated as burial sites also occur within the one mile buffer of the Project Area. None of these sites are located within or adjacent to the areas of proposed ground disturbance.

Twenty-three previously recorded above-ground historic resources are located within the Project Area and 49 previously recorded above-ground historic resources are located within a 0.25-mile buffer. Within the Project Area, four resources have been determined to be eligible for listing in the NRHP, 12 resources have been determined not eligible for listing in the NRHP, and seven resources have not been evaluated.

Effects to archaeological resources and historic properties will be avoided and minimized by using the existing structure locations, hanging the second circuit via helicopter, minimizing workspace, and minimizing ground disturbance. In areas that require new structures, a small amount of ground disturbance is anticipated for the installation of the new structures. Aside from these new structures, the incremental

viewshed impacts for historic properties for most of the Project are anticipated to be minimal as the Project will be using existing infrastructure to run the second circuit.

The Applicants are planning to conduct field surveys in areas of proposed ground disturbance with the potential to contain previously unrecorded cultural resources. If archaeological or historic architectural resources are identified as a result of field surveys, the Applicants will work with the Minnesota SHPO to identify measures to avoid, minimize, or mitigate effects to these resources if any are determined listed or eligible for listing in the NRHP.

If archaeological resources are discovered during construction, ground disturbing activity will be halted in that location, the OSA will be notified, and appropriate measures will be developed in conjunction with the OSA to assess and protect the resource. Additionally, if unanticipated human remains or burial resources are discovered during construction, they will be reported to the State Archaeologist and the Minnesota Indian Affairs Council per Minn. Stat. § 307.08 and construction will cease in that area until adequate mitigation measures have been developed between the Applicants and the State Archaeologist.

The Applicants will work with Minnesota SHPO to identify suitable mitigation measures based on the results of field surveys. Given the limited amount of ground disturbance coupled with the use of existing infrastructure, unanticipated discovery plan, and construction measures, the Project is not expected to result in significant negative impacts to archaeological or historic resources and no additional impacts are anticipated.

3.4 Natural Environment

3.4.1 Land Cover (Minn. Stat. § 216I.05, subd. 4(5))

The landscape crossed by the Project Area is a mixture of agriculture, farmsteads, fallow fields, roads, and gently rolling hillside topography that transitions to steep slopes, high hills, and lakes towards the Alexandria Substation (MDNR n.d.a, 2025a). The Project is primarily located in sparsely populated rural areas of western and central Minnesota, where the landscape is mostly flat to rolling agricultural lands and can be classified as rural open space. Elevations within the Project Area are shown in

Appendix A, Map 8. A significant portion of the Project follows the I-94 highway. Based on review of the USGS National Land Cover Database, the predominant land cover category throughout the Project Area is cultivated crops followed by developed land. Table 3-2 presents the acres of each land cover category within the Project Area (i.e., the existing 150-ft ROW), and Appendix A, Map 7 illustrates the land cover over the Project Area.

Table 3-2 Land Cover within the Project Area

Land Cover Category	Acres	Percent of Project Area
Cultivated Crops	1,153.7	60.4
Developed	421.9	22.1
Hay/Pasture	223.9	11.7
Emergent Herbaceous Wetlands	76.0	4.0
Open Water	15.1	0.8
Deciduous Forest	9.1	0.5
Herbaceous Land	5.8	0.3
Woody Wetlands	3.8	0.2
Barren Land	2.2	0.1
Total	1,911.5	100

Source: Dewitz 2023

3.4.1.1 Impacts

The original EIS evaluated impacts and mitigation to existing land cover, including forest and agricultural land, resulting from the construction and operation of the existing transmission line. The Project is not expected to significantly change current land cover in the existing ROW. New monopoles will have minimal additional impact, and adding a second circuit on existing transmission infrastructure will not overall alter land cover within the established ROW. The Project is not expected to result in significant negative impacts to land cover.

3.4.2 Air Quality (Minn. Stat. § 216I.05, subd. 4(5))

During operation, transmission lines may produce ozone and nitrous oxide through the corona effect.

The corona effect is an electrical discharge resulting from the breakdown or ionization of air within a few centimeters of transmission line conductors and hardware and can produce ozone and nitrous oxide in the air surrounding the conductor. Usually, some imperfection, such as a sharp edge, a protrusion on hardware, a scratch on a conductor, or water is necessary to cause corona.

Ozone also forms in the lower atmosphere from lightning discharges and from reactions between solar ultraviolet radiation and air pollutants, such as hydrocarbons from auto emissions. The natural production rate of ozone is directly proportional to temperature and sunlight and inversely proportional to humidity. Thus, humidity or moisture, the same factor that increases corona discharges from transmission lines, inhibits the production of ozone. Ozone is a very reactive form of oxygen molecules and combines readily with other elements and compounds in the atmosphere. Because of its reactivity, ozone is relatively short-lived.

Currently, both the state and federal governments have ambient air quality standards regarding permissible concentrations of ozone and nitrogen dioxide (NO₂) for ozone that are similarly restrictive. The 2015 ozone national standard is 0.070 parts per million (ppm) on an eight-hour averaging period (40 Code of Federal Regulations Part 50). The State of Minnesota standard is 0.070 ppm based on the fourth-highest eight-hour daily maximum average in one year (Minnesota Rule 7009.0080). Nitrous oxide is regulated indirectly through state and federal standards for NO₂. Emissions associated with the Project would be negligible and would not exceed the ozone or NO₂ ambient air quality standards.

3.4.2.1 Impacts

The original EIS evaluated potential air quality impacts, which determined that adverse impacts would be minimal because of the temporary and intermittent nature of exhaust emissions and dust generated during construction. The Project will result in short-term intermittent and temporary emissions of criteria pollutants during construction. These emissions generally include dust generated from soil disturbing activities, such as earthmoving and wind erosion associated with ROW clearing and construction, combustion emissions from construction machinery engines, and indirect emissions attributable to construction workers using equipment for construction and commuting

to and from work sites during construction. These emissions would be dependent upon weather conditions, the amount of equipment at any specific location, and the period of operation required for construction at that location. Air pollutants from the construction equipment will be localized and temporary.

Dust generated during construction would be minimized through standard dust control measures such as applying water to exposed soils and limiting the duration of exposed soils caused by construction to the extent possible. Exhaust emissions may be mitigated during construction through standard best practices such as minimizing unnecessary vehicle and machinery idling. After construction is complete, fugitive dust would not adversely affect adjacent landowners as impacted surfaces would be revegetated. Fugitive dust and vehicle/equipment exhaust emissions will be localized, occur over a short duration during construction, and will not result in impacts to specific receptors.

During operation of the line, air emissions would be minimal. A small amount of ozone is created due to corona from the operation of transmission lines. A corona signifies a loss of electricity, so the Applicants have engineered the transmission lines to limit corona. The production rate of ozone due to corona discharges decreases with humidity and less significantly with temperature. Rain causes an increase in ozone production but also accelerates the decay of ozone. Ozone production by high-voltage transmission lines is not detectable during fair weather above ambient conditions. Ozone production under wet-weather conditions is detectable with special efforts but is still considered insignificant. Design of the transmission line also influences ozone production rate. The production rate decreases significantly as the conductor diameter increases and is greatly reduced for bundled conductors over single conductors. The production rate of ozone increases with applied voltage. The emission of ozone from the operation of a transmission line of the voltages proposed for the Project is not anticipated to have a significant impact on the environment.

The Project is not expected to result in significant negative impacts to air quality.

3.4.3 Greenhouse Gases (Minn. Stat. § 216I.05, subd. 4(6))

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.

GHG emissions are quantified for construction and operational emissions using U.S. EPA's Simplified Greenhouse Gas Calculator tool and the most recent guidance from the Minnesota Environmental Quality Board (EQB): *Environmental Assessment Worksheet (EAW) Guidance: Developing a Carbon Footprint and Incorporating Climate Adaptation and Resilience* (2024) in accordance with the Commission's *Draft Application Guidance for Large Energy Infrastructure Facilities in Minnesota* (2025). Table 3-3 shows the emission categories considered for the carbon footprint calculations.

Table 3-3 Emission Categories for Carbon Footprint Calculations

Category	Scope	Project Phase	Type of Emissions
Direct Emissions	Scope 1	Construction	Combustion (Mobile Sources)
	Scope 1	Operations	Combustion (Mobile Sources)

Table 3-4 provides a summary of GHG emissions expected to be generated by the construction and operation of the Project. Emissions are presented in tons per year of carbon dioxide equivalent, which considers each GHG's global warming potential (GWP). The most recent GWP for each GHG is used, based on the Intergovernmental Panel on Climate Change. Detailed emission calculations are provided in Appendix G (Greenhouse Gas Analysis Calculations).

Table 3-4 Project Greenhouse Gas Emissions

Scope	Source	GHG Emissions (CO ₂ e short tons/year) ¹
Scope 1	Construction – Mobile Sources	130.1
Scope 1	Operations – Mobile Sources	0.3
Total		130.4

Key: GHG = greenhouse gas; CO₂e = carbon dioxide equivalent

Notes: ¹ Construction emissions are annualized over the life of the Project, estimated to be 50 years.

3.4.3.1 Construction Emissions

GHG emissions from construction are associated with fuel combustion in mobile construction equipment, a helicopter used to string the lines, and on-road vehicles. Construction equipment assumptions are based on equipment utilized for a similar recent transmission improvements project. The specific equipment used during construction of the Project will be determined during final design and confirmed by the construction contractor. The GHG analysis is based on an estimated duration of construction of 44 weeks.

For on-road vehicles (commuting construction workers), emissions are calculated assuming nine Ford F150 XL pickup trucks traveling approximately 200 miles per day for seven days per week throughout the 44-week construction period, and emission factors from the U.S. EPA's Emission Factors Hub.

For off-road vehicles, the quantity and horsepower of cranes, backhoes, loaders, etc. is based on information provided by Xcel Energy from similar previous projects. The default fuel consumption rate of 0.05 gallons per horsepower-hour is used to determine the fuel usage for all equipment (based on the California South Coast Air Quality Management District California Environmental Quality Act Air Quality Handbook, Table A9-3E)¹⁸. Similar to the on-road vehicles, emission factors from the Emission Factors Hub are used to calculate GHG emissions. Per EQB's Revised EAW Guidance, construction emissions are divided by the lifetime of the development/land use, estimated to be 50 years.

A Hughes 500D helicopter will be used to string the lines. Emissions from the helicopter are calculated based on an estimated average usage of 20 gallons per hour of aviation gasoline and usage of 10 hours per day for 5 days per week and 44 weeks per year. Emission factors for the helicopter were calculated using the Emission Factors Hub.

¹⁸ The Emission Factors Hub does not include default fuel consumption rate for offroad construction equipment. The new Environmental Quality Board (EQB) Climate Calculator tool provides values for off-road construction equipment of an average of approximately 7,500 BTU/hp-hr. Diesel has a heat input of approximately 139,500 BTU/gal. Dividing 7500 BTU/hp-hr by 139,500 BTU/gal yields approximately 0.05 gal/hp-hr. Therefore, the 0.05 gal/hp-hr fuel usage is on par with the EQB Climate Calculator.

Additional emissions from an all-terrain vehicle (ATV) are included and are based on the following:

- Average gasoline usage: 20 miles per gallon
- Average speed: 30 miles per hour
- Usage per day/week: 2 hours per day/3 days per week
- ATV emissions are calculated using the Emission Factors Hub.

3.4.3.2 Operational Emissions

After construction is completed, routine operations and maintenance of the lines will be performed using a drone, which has zero direct GHG emissions. Every five years, two pickup trucks will be used to inspect the lines. Emissions from the two trucks are estimated by assuming 200 miles per day each and only one day of inspection is needed.

3.4.3.3 Net Lifetime Emissions

Assuming a 50-year Project life, the total emissions from the Project including emissions from construction are approximately 6,510 short tons of carbon dioxide equivalent.

3.4.3.4 Impacts

GHG emissions from construction of the Project are expected to be minor, and principally arising from the construction equipment used. The Project would expand transmission capacity and support access to diverse energy generation sources. As such, the Project may result in a decrease in GHG emissions by allowing more renewable energy to be distributed to more end-users. The direct emissions from the construction and operation of the Project will be offset by the overall GHG reductions associated with the Project. The Project is not expected to result in significant negative impacts as a result of the emission of GHGs.

3.4.4 Climate Change and Resilience (Minn. Stat. § 216I.05, subd. 4(6))

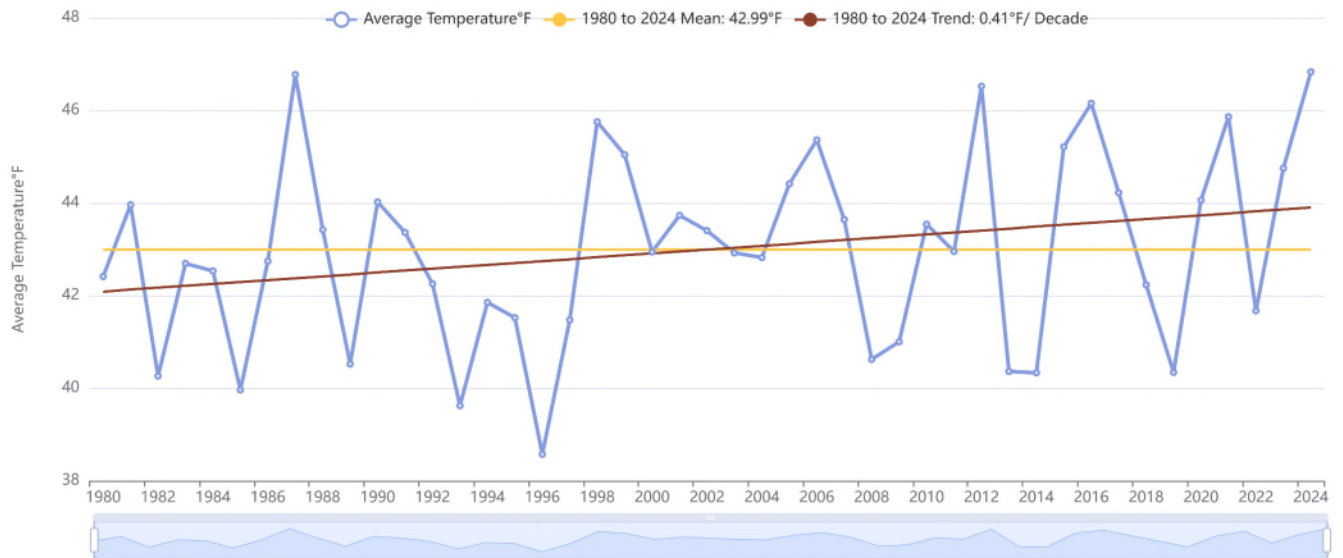
In general, Minnesota is anticipated to experience an increase in temperature, precipitation, and more frequent extreme precipitation events resulting from climate change. Between 1895 and 2020, annual average temperatures have risen three degrees Fahrenheit and precipitation has increased by an average of 3.4 inches in Minnesota (MDNR. 2025l). In Minnesota, the highest average temperature increases have historically occurred during the winter. Since 1895, temperatures during the winter have increased at a rate two to three times higher than during the summer. Current climate warming trends, most notably during the winter, are anticipated to continue (MDNR 2025a).

Heavy rain events have become more frequent in Minnesota and more intense. From 1973 to 2021, Minnesota experienced 16 mega-rain events with a notable increase since 2000 (MDNR 2024). Of these 16 events, three occurred in the 1970s, one in the 1980s, one in the 1990s, six mega-rain events occurred in the 2000s, four in the 2010s, and one in 2020 (MDNR. 2025m). Thus, between 2000 to 2021, more than twice as many mega-rain events occurred compared to the prior 27 years (1973 to 1999) (MDNR. 2025m).

Given the extent of the Project Area, climate trends for the Project Area were reviewed based on the applicable Climate Division, West Central. Climate trends for the West Central Climate Division parallel the overall statewide trends, indicating Minnesota's climate is becoming warmer and wetter.

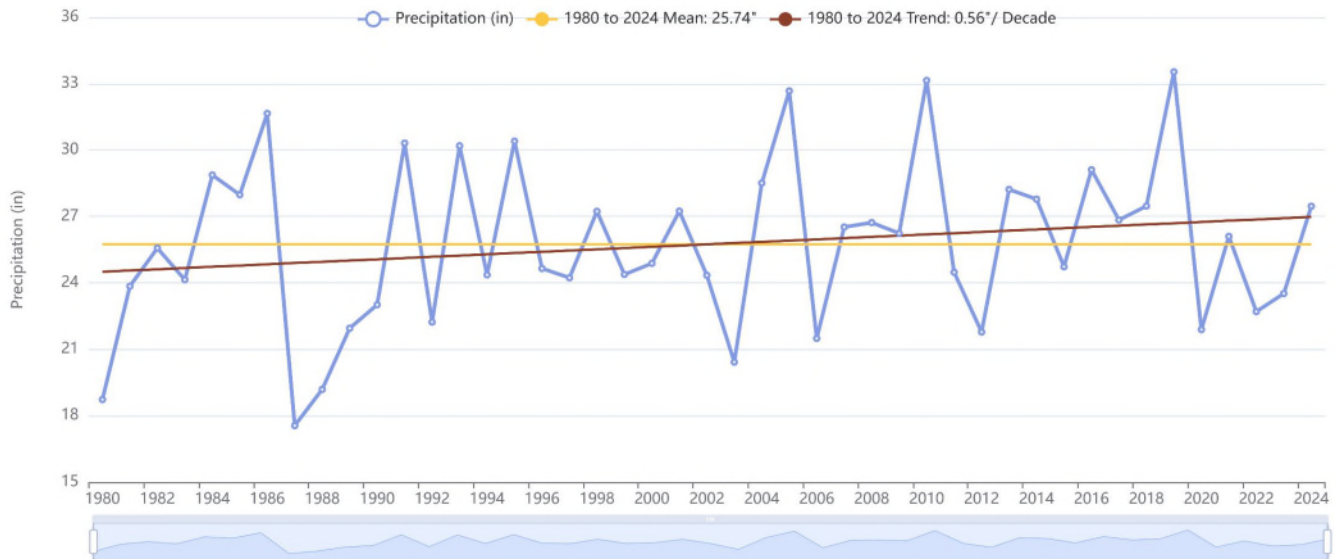
Exhibit 3.1 and Exhibit 3-2 illustrate historical average annual temperature and precipitation trends from 1980 to 2024, respectively (MDNR 2025b). During this time period, the West Central Climate Division experienced an average annual temperature increase of 0.41 degrees Fahrenheit (°F) per decade and an annual precipitation increase of 0.56 inches per decade (MDNR 2025b).

Exhibit 3-1 Historical Annual Average Temperature in West Central Climate Division (1980 – 2024)



(MDNR 2025b)

Exhibit 3-2 Historical Annual Average Precipitation in West Central Climate Division (1980 – 2024)

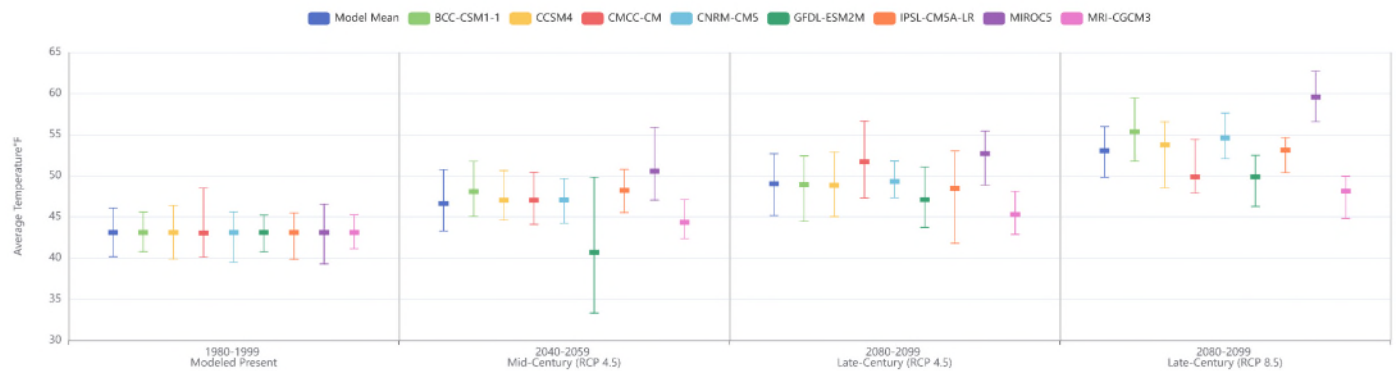


(MDNR 2025b)

Projected climate trends indicate that temperatures within the Project Area would continue to increase. Exhibit 3-3 illustrates projected temperatures for the West Central Climate Division. Several climate models are shown in the projected temperature analysis. The model average (shown in blue) illustrates the average of all models included in the analysis. Exhibit 3-3 shows the modeled present condition, mid-century (2040-2059) at Representative Concentration Pathway (RCP) 4.5, late-century (2080-2099) at RCP 4.5, and late-century (2080-2099) at RCP 8.5. RCP is a greenhouse gas concentration scenario used by the Intergovernmental Panel on Climate Change in the fifth assessment report. RCP 4.5 is an intermediate scenario in which emissions decline after peaking around 2040 and RCP 8.5 represents a worst-case scenario in which emissions continue rising through the 21st century.

Under the RCP 4.5 scenario, the annual temperature is anticipated to increase within the Project Area from a modeled present mean of 43.1°F (1980-1999) model mean of 46.6°F and a late-century (2080-2099) model mean of 49.0°F. Under the RCP 8.5 worst-case scenario, the Project Area would experience a late-century (2080-2099) model mean temperature of 53.0°F.

**Exhibit 3-3
Projected Temperatures for West Central Climate Division**

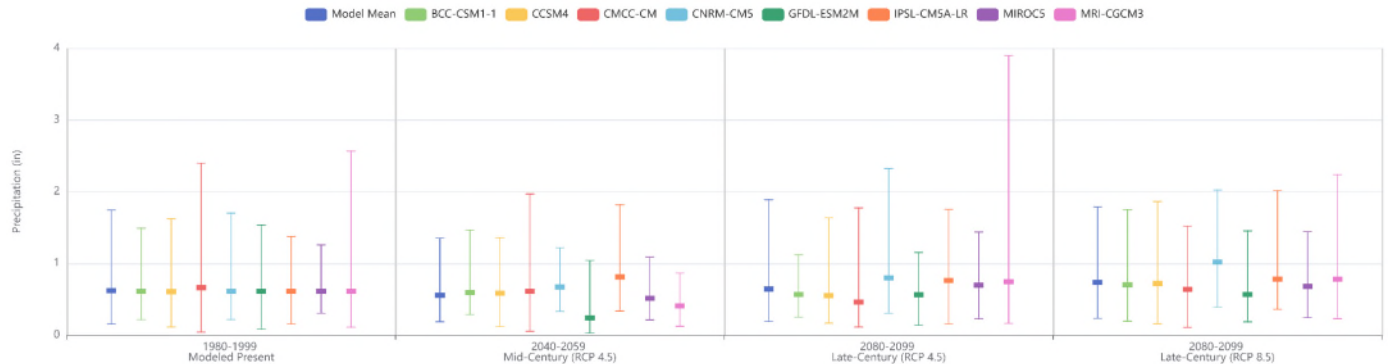


(MDNR 2025b)

Exhibit 3-4 presents projected average annual precipitation for the West Central Climate Division. Under the RCP 4.5 scenario, the annual precipitation is anticipated to increase within the Project Area from a modeled present mean of 25.6 inches (1980-1999) to a mid-century (2040-2059) model mean of 26.2 inches and a late-century (2080-2099) model mean of 26.5 inches. Under the RCP 8.5 worst-case scenario, the

West Central Climate Division West Central Climate Division would experience a late-century (2080-2099) model mean precipitation of 28.8 inches. In comparison to the modeled present mean (1980-1999), the late century (2080-2099) modeled mean annual precipitation would increase by approximately 3.5 percent under the RCP 4.5 scenario and increase by approximately 12.5 percent under the RCP 8.5 scenario.

Exhibit 3-4 Projected Precipitation for West Central Climate Division



(MDNR 2025b)

3.4.4.1 Impacts

Climate trends indicate Minnesota is becoming wetter and projected to experience an increase in heavy rain events, resulting in an increase in flood risk. The existing transmission line ROW intersects regulated floodplain and floodway areas. The Project is not expected to effect on flood elevations within the Project Area. New structures proposed in floodplains are not expected to impact the overall function of floodplains or drainage patterns. The Project is not anticipated to require tree clearing and would result in negligible increases in impervious surface area associated with the installation of approximately 107 new monopole structures (86 structures within Minnesota) along the existing transmission line ROW. Therefore, the Project would not exacerbate the increased risk of flooding associated with projected climate trends. To reduce the potential impacts of climate change the transmission lines would be built to meet or exceed local, state, and NESC standards consistent with the Applicants' criteria for ambient weather conditions. The Applicants will design the top of concrete for the structure foundations to be one foot above the 100-year floodplain elevation anywhere structures are installed in areas prone to flooding. If flooding were to exceed the 100-year flood level, the structures and foundations are expected to resist the flood

loads. Geotechnical studies would also be performed, which would indicate water table levels during drilling. In areas with fluctuating water tables and near floodplains, the Applicants would design the foundation assuming that the water table is at the ground surface. Two of the new monopole structures are located within a floodplain. The Project would improve the resiliency of the existing transmission system by addressing reliability issues as the existing 345 kV transmission system is approaching its capacity, leading to thermal and voltage issues. Increasing the capacity of the existing transmission system will improve resiliency and reliability of the system and accommodate diverse energy sources.

The Project is not expected to result in significant negative impacts to climate change.

3.4.5 Soils (Minn. Stat. § 216I.05, subd. 4(5))

Soils within the existing transmission line ROW are generally loamy, silty clay loam, sandy loam, or clay loam, typically used for agricultural purposes, and range from very poorly drained to well-drained (USDA NRCS 2019). There is prime farmland, prime farmland if drained, and/or farmland of statewide importance located within the ROW. Construction and operation of this Project are not anticipated to result in additional impacts to soil not already discussed in the Route Permit Application and the original EIS.

3.4.5.1 Impacts

The original EIS evaluated soil disturbance impacts resulting from the construction of the existing transmission line. To minimize further soil compaction and ground disturbance, the Applicants will hang the second circuit on existing structures via helicopter. With the exception of new structure locations, most impacts will be temporary and limited to soil disturbance from construction vehicle traffic. Impacts on soils are dependent, to some extent, on the conditions of the soil surface at the time of construction. Construction activities that occur on wet soils tend to have longer lasting impacts, regardless of the soil type.

Equipment traffic may compact the soil, potentially reducing the porosity in the soil and percolation rates, which could lead to increased runoff. The Applicants will decompact disturbed soils in agricultural areas to facilitate crops in subsequent years and to minimize runoff.

During construction, the Applicants' construction contractor will implement a Stormwater Pollution Prevention Plan (SWPPP) and best management practices (BMPs) as required by the MPCA to avoid and minimize impacts to soil resources to the extent practicable. Those BMPs include, but are not limited to:

In order to minimize potential impacts to soils, the Applicants (through their construction contractor) will:

- install sediment controls (silt fence, sediment control logs, etc.) where required;
- utilize matting pads to minimize soil compaction;
- use vehicle tracking BMPs where vehicles leave the Project Area,
- reseed and mulch disturbed areas in accordance with the Vegetation Management Plan (VMP; Appendix I), and
- decompact soils in agricultural lands to support future farming practices.

With the proper safeguards and protective measures implemented as described above and within the AIMP (Appendix G), the Project is not expected to result in significant negative impacts to soils.

3.4.6 Surface Water and Wetlands (Minn. Stat. § 216I.05, subd. 4(5))

The potential impacts of the Project on basins, wetlands, waters, watercourses, and floodplains are discussed in detail below.

3.4.6.1 Basins

The Project Area predominantly falls within the Red River Basin and Minnesota Basin with a smaller section overlapping the Mississippi Headwaters Basin (MDNR 2025c). Within these basins, the Project Area intersects several major watersheds (Table 3-5). Appendix A, Map 9 & Map 10 depicts the major watersheds in the Project Area.

Table 3-5 Major Watersheds within the Project Area

Watershed	Acres	Percentage of Project Area
Buffalo River	460.3	24.1
Pomme de Terre River	378.1	19.8
Otter Tail River	329.0	17.2
Chippewa River	303.3	15.9
Upper Red River of the North	292.1	15.3
Long Prairie River	147.6	7.7
Sauk River	1.0	0.1
Total	1,911.4	100.0

3.4.6.2 Waters and Watercourses

The MDNR Public Water Inventory (PWI) was reviewed to identify public waters and watercourses within the Project Area (MDNR 2026; Appendix A, Map 9 and Appendix B). The Project Area crosses 17 public waters or watercourses at 20 locations including the Pomme de Terre River, Deerhorn Creek, Pelican Creek, Red River, Otter Tail River, Chippewa River, Whiskey Creek, Long Prairie River, Pelican River, and the South Branch of the Buffalo River. No designated trout streams are within the ROW.

The Applicants have worked to avoid and minimize impacts to PWI watercourses and basins. Within the Project Area, two public water basins and two intermittent public water streams will be crossed.

3.4.6.3 Wetlands

A Level 1 desktop determination was conducted for the Project Area to assess the presence of wetlands. A Level 1 desktop determination is a routine, offsite method of identifying potential wetland areas, types, and approximate boundaries without

conducting an on-site inspection. Multiple resources were reviewed during the offsite determination including the MDNR PWI, United States Fish and Wildlife Service's (USFWS) National Wetlands Inventory, previously determined wetland boundaries from the original CapX2020 Fargo – St. Cloud Transmission Project review, MDNR 2-foot LiDAR scans, United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey data, and multiple years of USDA National Agriculture Imagery Program imagery (Appendix A, Map 10 and Appendix B). Many of the wetlands found along the Project Area are associated with basins, natural drainageways, and streams. Table 3-6 provides the acres of desktop determined wetlands by classification within the Project Area.

Table 3-6 Wetland Acreage by Cowardin Classification within Project Area

Cowardin Classification	Wetland (acres)
PEM/Palustrine Emergent	210.7
PFO/Palustrine Forested	1.5
PUB/Palustrine Unconsolidated Bottom	6.5
PSS/Palustrine Scrub Shrub	4.2
Total	222.9

3.4.6.4 Floodplains

The Federal Emergency Management Agency (FEMA) designates areas likely to experience flooding during various rainfall events. FEMA 100-year and 500-year floodplains along with regulated floodways were reviewed to determine the presence of floodplains and floodways within temporary workspaces. The Project intersects with approximately 52 acres of 100-year floodplain and 13 acres of 500-year floodplain (as detailed in Appendix B maps).

3.4.6.5 Impacts

The original EIS evaluated water resources, wetlands, and floodplains impacts and mitigation requirements resulting from the construction of the existing transmission line. Nine of the 86 new structures are currently designed to be constructed in desktop determined wetlands and one structure is currently located in a public waters wetland

Temporary impacts to waterbodies may occur during site access. These impacts will be mitigated as discussed below.

Impacts to wetlands are expected to be temporary and will result from the use of timber matting at workspaces during construction. Following completion of construction, affected areas will be restored to pre-construction conditions without loss of hydrological function. Appropriate permits and approvals from the U.S. Army Corps of Engineers (USACE), MDNR, and the MPCA will be obtained prior to the start of construction.

A USACE Nationwide Permit is anticipated to serve as the primary authorization. To support permitting and project planning, the Applicants have completed a Level 1 desktop determination to delineate the boundaries of wetlands and waterbodies within the Project Area. This assessment was conducted to conservatively estimate impact acreages, refine the design to minimize impacts, determine regulatory jurisdiction, and ensure that all necessary regulatory approvals and permits are secured.

The Project may require transmission line structures be placed within FEMA designated 100-year or 500-year floodplains. The floodplain would be temporarily disturbed from construction site access and the placement of construction access. The contractor will utilize MPCA Construction Stormwater BMPs¹⁹ such as slope stabilization and perimeter protection to reduce impacts to the floodplain. The placement of transmission line structures in floodplains is not anticipated to alter the flood storage capacity of the floodplains based on the minimal size of individual transmission line structures. In addition, the proposed structures will be designed to be capable of accommodating increased flood elevations that could result from climate change.

Once the Project is completed, there will be no significant impact on surface water quality because wetland impacts will be avoided and minimized, disturbed soil will be restored to previous conditions or better, and vegetation will be reseeded using approved seed mixes as detailed in the Project VMP in Appendix I. The Applicants will

¹⁹ [Construction stormwater best management practices | Minnesota Stormwater Manual](#)

seek applicable permits from the Section 401 certification from the MPCA and/or a Public Waters Permit from the MDNR.

The Applicants will maintain sound water and soil conservation practices as required by the MPCA Construction Stormwater Permit²⁰ during construction and operation of the Project to protect topsoil and adjacent water resources and minimize soil erosion. Construction will be completed according to National Pollutant Discharge Elimination System and SWPPP requirements.

With the proper safeguards and protective measures implemented as described above, the Project will not have significant negative impacts to surface waters or wetlands.

3.4.7 Vegetation (Minn. Stat. § 216I.05, subd. 4(5))

Most of the Project is within the Red River Valley and North Central Glaciated Plains Sections of the Prairie Parkland Province. A smaller portion of the Project towards the Alexandria Substation crosses the Minnesota and NE Iowa Morainal Section of the Eastern Broadleaf Forest Province.

Ecological land classification sections are further broken down into subsections. Appendix A, Map 11 depicts the ecological classification system subsections in relation to the Project.

The Project Area predominately falls within the Red River Prairie and Minnesota River Prairie subsections. Both subsections were dominated by tallgrass prairie and wet prairie.

As a result of European settlement and farming in the 1800s, most of the historic prairies and hardwood forests across the Project Area have been converted to agriculture. The dominant plant species grown in the agricultural areas are corn (*Zea mays*) and soybeans (*Glycine max*); in the grazed areas, dominant vegetation also includes introduced grasses such as smooth brome (*Bromus inermis*).

²⁰ [Construction stormwater program | Minnesota Stormwater Manual](#)

Wetlands are ecologically important and are typically found in isolated pothole wetlands or in association with rivers and streams. Wet prairie and meadow/carr communities are typically encountered in southern Minnesota. Dominant plant species include slough sedge (*Carex atherodes*), tussock sedge (*C. stricta*), or aquatic sedge (*C. aquatilis*). Common forbs include spotted Joe pye weed (*Eupatorium maculatum*), great water dock (*Rumex orbiculatus*), and water smartweed (*Persicaria amphibia*), and shrubs such as red-osier dogwood (*Cornus sericea*) and willows (*Salix* spp.) (MDNR 2005k). Invasive species, particularly purple loosestrife (*Lythrum salicaria*) and reed canary grass (*Phalaris arundinacea*) often degrade wetland communities.

Noxious weeds are regulated under Minnesota Statutes, Chapter 18. Noxious weeds can rapidly overtake native vegetation and severely degrade habitat quality. Cropland suffers losses in productivity following noxious weed infestations. Noxious weeds can be introduced to new areas through propagating material like roots or seeds transported by contaminated construction equipment. Disturbed soil surfaces allow noxious weeds to establish and out-compete existing vegetation.

The Minnesota Noxious Weed List identifies noxious weeds in one of four categories, Prohibited-Eradicate, Prohibited-Control, Restricted, and Specially Regulated Plants. The Prohibited-Eradicate noxious weed category includes noxious weeds that must be eradicated on all lands within the state and currently contains 16 species. The Prohibited-Control category includes noxious weeds that must be controlled on all lands within the state and at a minimum, the 16 species on the prohibited-control list must be controlled in a way that prevents spread of these species by seed or vegetative means. The restricted noxious weeds category includes noxious weeds and their propagating parts that may not be imported, sold, or transported in the state and currently contains 19 species. The Specially Regulated Plants category includes six noxious weeds that may be native or non-native species that have demonstrated economic value but also have the potential to cause harm in uncontrolled environments. Species-specific management plans or rules that define the use and management requirements for these plants must be developed by the Commissioner of Agriculture for each plant designated as Specially Regulated. The Commissioner must also take measures to minimize the potential for harm caused by these plants.

Within Minnesota, county boards can designate noxious weeds within the county's jurisdiction. These designations must be approved by the Minnesota Department of Agriculture, and the county is responsible for developing the County Noxious Weed List and enforcement. Within the Project Area, Clay County has developed a County Noxious Weed List that includes bull thistle (*Cirsium vulgare*), kochia (*Bassia scoparia*) and musk thistle (*Carduus nutans*) (MDA 2025); Douglas, Grant, Wilkin, and Otter Tail counties do not have separate county noxious weed lists.

3.4.7.1 Impacts

The original EIS evaluated impacts to vegetation resulting from the construction and operation of the existing transmission line. Transmission lines have the potential to impact vegetation through the removal or disturbance of vegetation or from soil compaction during construction and later during maintenance activities, possible introduction of noxious weeds or invasive species, or by changes in habitat (e.g., soils, water flows) that adversely impact plant growth. Most of the ROW is located within an existing, previously cleared transmission line corridor that has been maintained by the Applicants for over a decade. Additional selective vegetation clearing (i.e., individual trees or small areas of shrubs) will only occur in areas deemed necessary for construction access or work spaces. Where vegetation clearing is not needed, existing vegetation will remain untouched.

Construction and maintenance activities also have the potential to result in the introduction or spread of noxious weeds. The proposed design described below will effectively minimize impacts such that the Project will not significantly impact vegetation resources. The Applicants will use BMPs to limit the spread of invasive species through maintenance equipment and vehicles through:

- Cleaning equipment prior to starting construction,
- Early detection of invasive species,
- Limiting traffic through weed infested areas, if possible,

- If unable to avoid weed infested areas, cleaning mowers and bladed equipment before moving to other sections of the Project Area, and
- Reseed non-agricultural areas with appropriate MnDOT seed mixes for roadsides, uplands, and/or wetlands as applicable. If landowners request specialized seed mixes used on their parcels, the Applicants will pay for those seed mixes.

These and other measures are detailed in Appendix I (Vegetation Management Plan).

With the proper safeguards and protective measures implemented as described above, the Project is not expected to result in significant negative impacts to vegetation and no minimal impacts are anticipated.

3.4.8 Fauna (Minn. Stat. § 216I.05, subd. 4(5))

Wildlife throughout the Project Area consists of birds, mammals, fish, reptiles, amphibians, mussels, and insects, both resident and migratory, which use the area habitat for forage, shelter, breeding, or as a stopover during migration. While agricultural land uses are an important component of wildlife resources in the Project Area, land managed to promote wildlife habitat can provide for higher species diversity and larger populations than surrounding intensively used landscapes (Appendix A, Map 12).

Game species populations are managed by the MDNR and are an important part of Minnesota's recreation and rural economy. Ringed neck-pheasant (*Phasianus colchicus*) populations are near or above their 10-year average, while gray partridge (*Perdix perdix*) populations are below their 10-year average. Whitetail deer (*Odocoileus virginianus*) populations are greater than their 10-year average, as are the populations of cottontail rabbits (*Sylvilagus floridanus*). Jackrabbits (*Lepus townsendii*) remain well below their long-term average, while mourning doves (*Zenaid macroura*) are near their 10-year average (Woodley 2024). Open water and hardwater fishing take place on many lakes and rivers in and near the Project Area. Trout streams, designated and managed by the MDNR, are characterized by high water quality and are stocked throughout the year for different species and seasons. The nearest trout stream is located 2.75 miles away from the Project Area.

The MDNR administers Minnesota Walk-In Access (WIA) sites to allow public access to private lands, and the Minnesota Board of Water and Soil Resources (BWSR), in coordination with local Soil and Water Conservation Districts (SWCD) (BWSR 2019), administers Reinvest in Minnesota (RIM) sites to restore wetlands and native grasslands on private property. In addition to these resources serving as private conservation easements, they are often used for upland bird and waterfowl hunting. The Applicants reviewed these resources as part of the Project.

Recreation opportunities in WIA sites are limited to hunting during legal hunting seasons from September 1 to March 31 each year. The Applicants anticipate scheduling construction such that the majority of construction activities should not occur during the legal hunting season, minimizing impacts on WIA sites.

3.4.8.1 Impacts

The original EIS evaluated impacts and mitigation measures resulting from the construction and operation of the existing transmission line. Wildlife are not likely to be negatively affected by this Project due to the temporary nature of ground disturbing activities, limited new permanent structures along existing ROW, and the predominance of cultivated land in the Project Area. Any impacts, temporary or permanent, are unlikely to affect the population levels of wildlife in or near the Project Area.

Raptors, waterfowl, and other bird species may be affected by the construction of new monopoles and dead-end structures, as well as during line installation. Due to the presence of existing transmission lines, the Project's additional lines, which will be configured at the same height as the three planes of the existing lines, are not anticipated to significantly impact these species. Electrocution of large birds, such as raptors, occurs when birds with large wingspans come in contact with either two conductors or a conductor and a grounding device. The Applicants' transmission line design standards provide adequate spacing to reduce the risk of raptor electrocution. Species' population reproductive success is not likely to be impacted.

Independent of the risk of electrocution, birds could be injured by colliding with transmission line structures and conductors. The risk of collision is influenced by several factors including habitat, flyways, foraging areas, and bird size. The incidence of birds colliding with transmission lines is also influenced by the number of horizontal planes in which the conductors are strung. The project proposes to install new transmission lines at the same height as the three planes of the existing transmission lines.

Construction impacts to these areas will be minimized to the greatest extent practicable in coordination with the MDNR. While construction of the Project may result in temporary wildlife displacement and limited habitat loss, operational impacts are not anticipated. Short-term disturbances to wildlife may occur within the immediate construction area, with the extent of displacement varying by species. Because the Project primarily involves installing a second circuit on existing structures, habitat fragmentation and long-term habitat impacts are not expected. Temporary effects on fauna may occur in areas associated with access roads, temporary workspaces, and locations where new structures will be installed.

With the proper safeguards and protective measures implemented as described above, the Project is not expected to result in significant negative impacts to fauna.

3.4.9 Threatened and Endangered Species (Minn. Stat. § 216I.05, subd 4(5))

3.4.9.1 Federally Listed Species

The USFWS Information for Planning and Conservation System (IPaC) database was reviewed in February 2026 to obtain a list of federally listed species, proposed species, candidate species, and/or designated critical habitat that may occur within the Project Area (Appendix E). The IPaC results identified one endangered species, one proposed endangered species, two threatened species, and two proposed threatened species as potentially present in the vicinity of the Project Area (Table 3-7; USFWS 2026). The IPaC noted that designated critical habitat for the Dakota skipper (*Hesperia dacotae*) and monarch butterfly (*Danaus plexippus*) is not intersected by the Project Area.

Table 3-7 Federally Listed Species Potentially Present in the Project Area

Scientific Name	Common Name	Federal Status
<i>Myotis septentrionalis</i>	Northern long-eared bat	Endangered
<i>Danaus plexippus</i>	Monarch butterfly	Proposed Threatened
<i>Bombus suckleyi</i>	Suckley's cuckoo bumble bee	Proposed Endangered
<i>Hesperia dacotae</i>	Dakota skipper	Threatened
<i>Argynnis idalia occidentalis</i>	Western regal fritillary	Proposed Threatened
<i>Platanthera praeclara</i>	Western prairie fringed orchid	Threatened

3.4.9.1.1 Impacts

The original EIS evaluated impacts to federally listed species and mitigation measures associated with the existing transmission line. Potential additional impacts resulting from the Project were evaluated as part of this Route Permit Amendment. In August 2025, the Applicants began consultations with USFWS to gather input on federal species, preliminary effect determinations, as well as early avoidance, minimization, and mitigation measures to be considered during stringing activities. The formal IPaC was prepared for USFWS review with the appropriate determination keys (Appendix E). As described in further detail below, at this time impacts to federally listed species are not expected. The Applicants determined the avoidance and minimization efforts detailed below will result in no impacts to federally listed species, therefore further consultation with USFWS is not required (Appendix E).

Northern Long-eared Bat

The northern long-eared bat (NLEB; *Myotis septentrionalis*) is listed as federally endangered and a state-special concern species. Most of the ROW has been previously cleared in connection with the construction and vegetation management of the existing transmission line, and there is limited suitable NLEB habitat adjacent to the ROW. USFWS verified the Applicants' determination that the Project is not likely to adversely affect the NLEB, and further consultations are not needed (Appendix E).

Monarch Butterfly

The monarch butterfly (*Danaus plexippus*) is a federally proposed threatened species. The Project Area primarily consists of agricultural land and roadside ROW. These areas are mostly not suitable habitat, such as native or upland prairies, for monarch butterflies. However, in other portions of the Project Area that are not as heavily used by humans, monarch butterflies may be encountered. Therefore, the likelihood of encountering monarch butterflies within the Project Area is low to medium.

Although species with a proposed listing are not protected by the take prohibitions of Section 9 of the Endangered Species Act (ESA), federal agencies must still confer with USFWS if their action will jeopardize the continued existence of a proposed species. Given the extent and nature of the temporary impacts associated with the Project, the continued existence of the monarch butterfly is not likely to be impacted. The Applicants will further reduce any potential impacts to the monarch butterfly by coordinating with the VMP Working Group and MnDOT for an appropriate native seed mix to use during restoration activities within their ROW.

Suckley's Cuckoo Bumble Bee

Suckley's Cuckoo Bumble Bee (SCBB; *Bombus suckleyi*) is a federally proposed endangered species. Although there is suitable foraging and potential nesting habitat for the SCBB's host species within the Project Area, given the limited and temporary nature of disturbance associated with the Project, which will be restored after as best as practicable to pre-construction conditions, adverse impacts to this species are not anticipated to occur.

Dakota Skipper

The Dakota skipper (*Hesperia dacotae*) is a federally threatened and state-endangered species. The Project Area is primarily agricultural land and roadside ROW. A review of the MDNR Natural Heritage Inventory System (NHIS) licensed data did not indicate Dakota skipper species occurrences within the Project Area. One MDNR mapped northern wet prairie intersects the Project Area (MDNR 2026b); however, this feature is a narrow strip on either side of a railroad between a highway and agricultural field with no impacts anticipated. Several native prairie fragments are also in proximity to

the Project Area, but outside the boundary of work and therefore will not be impacted by construction. The likelihood of Dakota skipper occurrence within the Project Area is low due to limited native prairie and the large amount of cultivated agricultural land use which is not habitat.

According to IPaC and a review of the Dakota Skipper Habitat Suitability Model (Barnes et al. 2023), the Project Area does not overlap any critical habitat identified for this species and avoids most of the potentially suitable habitat identified for the species.

Western Regal Fritillary

The western regal fritillary (WRF; *Argynnis idalia occidentalis*) is a federally proposed threatened species and state-special concern species. The Project Area is primarily agricultural land and roadside ROW. A review of the MDNR NHIS licensed data did not indicate WRF species occurrences within the Project Area. One MDNR mapped northern wet prairie of moderate quality intersects the Project Area. Original surveys from 1990 documented prairie cordgrass (*Spartina pectinata*), Canada blue-joint (*Calamagrostis canadensis*), sedges (*Carex* spp.), and smooth brome as dominant species within this community. Several native prairie fragments are also in proximity to the Project Area. The likelihood of WRF occurrence within the Project Area is low due to the large amount of cultivated agricultural land use, which is not habitat, and limited native prairie.

Although species with a proposed listing are not protected by the take prohibitions of Section 9 of the ESA, federal agencies must still confer with USFWS if their action will jeopardize the continued existence of a proposed species. While one northern wet prairie of moderate quality is within the ROW, no impacts are proposed within this community. Given the lack of suitable native prairie habitat identified within the Project Area, no impacts to the WRF are anticipated.

Western Prairie Fringed Orchid

The western prairie fringed orchid (WPFO; *Platanthera praeclara*) is a federally threatened and state-endangered species. The Project Area is primarily agricultural land and roadside ROW. A review of the MDNR NHIS licensed data did not indicate WPFO species occurrences within the Project Area. One MDNR mapped northern wet prairie

of moderate quality intersects the Project Area, however, original surveys from 1990 did not report any WPFO occurrences. Additionally, no Project impacts are proposed within this community.

Given the lack of suitable native prairie habitat identified within the Project Area, no impacts to the WPFO are anticipated.

Bald Eagles

Bald eagles (*Haliaeetus leucocephalus*) are protected by both the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). The 1940 BGEPA (16 U.S.C. § 668-668C) specifically prohibits the taking or possession of, and commerce in, bald and golden eagles (*Aquila chrysaetos*), either alive or dead, or any part, nest, or egg of these eagles. Taking includes disturbances to eagles that cause or are likely to cause injury, decrease in productivity, and nest abandonment by interfering with breeding, feeding, or sheltering.

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. Nests are large, 6-8 feet across, and commonly found in tall trees. Human disturbance near nests may cause eagles to abandon their nests and young (MDNR n.d.b).

While bald eagles may occur within the Project Area (USFWS 2026), no bald eagle nests are known to occur within the Project Area or within the 660-foot nesting buffer recognized by the USFWS (2007). If an eagle nest is found to occur within or near the Project Area, the Applicants will review the Project's proximity to the nest and follow USFWS guidelines as practicable, such as avoiding work between January and July, working with USFWS and MDNR to mitigate impacts, and applying for an applicable USFWS nest disturbance permit as needed.

3.4.9.2 State-Listed Species

The original EIS evaluated impacts to state-listed species and mitigation measures associated with the construction and operation of the existing transmission line. Potential additional impacts resulting from the Project were evaluated as part of this

Route Permit Amendment. The Minnesota NHIS database was reviewed for state-listed threatened and endangered species that may occur within the Project Area. All MDNR NHIS data reviews were conducted under license number 2024-057 via the Applicants' environmental consultant, Stantec Consulting Services Inc (Appendix E). Table 3-8 lists the state-listed threatened and endangered species that may occur within the Project Area.

Table 3-8 State-Listed Species Potentially Present Within Project Area

Common Name	Scientific Name	Status	
		State	Federal
Birds			
Henslow's Sparrow	<i>Centronyx henslowii</i>	END	SOC
Lark Sparrow	<i>Chondestes grammacus</i>	SC	–
Wilson's Phalarope	<i>Phalaropus tricolor</i>	THR	–
Marbled Godwit	<i>Limosa fedoa</i>	SC	–
Greater Prairie Chicken	<i>Tympanuchus cupido</i>	SC	SOC
Mollusks			
Fluted shell	<i>Lasmigona costata</i>	THR	–
Black Sandshell	<i>Ligumia recta</i>	SC	–
Fish			
Pugnose Shiner	<i>Miniellus anogenus</i>	THR	–
Least Darter	<i>Etheostoma microperca</i>	SC	–
Amphibians			
Great Plains Toad	<i>Anaxyrus cognatus</i>	SC	–
Plants			
Small White Lady's-slipper	<i>Cypripedium candidum</i>	SC	–
Sea Naiad	<i>Najas marina</i>	SC	–
Spiral Ditchgrass	<i>Ruppia cirrhosa</i>	SC	–

Key: END = Endangered, THR = Threatened, SC = Special Concern, SOC = Species of Concern

The Applicants are undergoing the formal NHIS review by the MDNR through their Minnesota Conservation Explorer viewer. An NHIS letter was received from MDNR on November 12, 2025 (Appendix E) On March 24, 2026, the Applicants sent a letter to MDNR regarding the Project's potential impacts to state protected resources (Appendix E).

3.4.9.2.1 Impacts

Potential impacts to federally protected species are discussed above. Overall, impacts to state-listed species are not anticipated from the Project due to the limited and temporary nature of impacts, and the Applicants' avoidance, minimization, and early coordination efforts with the MDNR.

The following additional measures were recommended by MDNR (Appendix E):

- Henslow's sparrow and lark sparrow—The MDNR states that disturbance to suitable habitat (uncultivated and unmowed grasslands) should be avoided during the breeding season (May 15 to July 15). If necessary, the Applicants will survey areas of suitable habitat using a MDNR-certified surveyor and avoid impacting suitable habitat between May 15 and July 15 where Henslow's sparrow or lark sparrow are confirmed to be present.
- Wilson's phalarope and marbled godwit—The MDNR states that disturbance to suitable habitat (wet meadows, grassy marshes, edges of shallow inland waters) must be avoided during the breeding season (mid-May through July). If necessary, the Applicants will survey areas of suitable habitat using a MDNR-certified surveyor and avoid impacting suitable habitat between May 15 and July 31 where any Wilson's phalarope and marbled godwit are confirmed to be present.
- Greater prairie chicken— If necessary, the Applicants will survey areas of suitable habitat using an MDNR-certified surveyor. It is recommended that Project activities should be delayed until after 9 AM from April 1 through May 15 where the species is confirmed to be present.
- Great Plains toad—The Applicants will use wildlife-friendly erosion control materials to minimize impacts to this species.

- Fluted shell, black sandshell, pugnose shiner, and least darter—The MDNR states that effective erosion and sediment control must be used to preserve water quality. No in-water work is proposed for the Project, so impacts to these species are not expected. Additionally, to avoid non-point source discharges, the Applicants will implement sediment and erosion control devices.
- Small white lady’s-slipper, sea naiad, and spiral ditchgrass—The MDNR states that the following minimization measures are recommend to avoid or minimize impacts to special concern plants. The Applicants will comply with the following items as outlined by the MDNR:
 - Implement erosion prevention and sediment control measures,
 - Follow BMPs to prevent the spread of invasive species,
 - Operate within already disturbed areas, to the extent practicable, and
 - Use mulches, topsoils, and seed mixes free of noxious weeds.
- State-listed birds – The MDNR states that several state-listed birds have been documented in the proximity of the Project Area in association with wetlands, ponds, and lakes. The Applicants will follow the MDNR recommendation of using bird diverters on overhead powerlines near lakes and rivers to avoid collision with the electrified lines.

With MDNR recommended safeguards and protective measures implemented as described above, the Project is not expected to result in significant negative impacts to threatened and endangered species.

3.4.10 Rare and Unique Resources (Minn. Stat. § 216I.05, subd. 4(8))

Designated habitat or conservation areas include managed lands such as USFWS WPAs, National Wildlife Refuges (NWRs), and various conservation easements. These resources provide habitat for native vegetation, wildlife, and rare and unique resources. Native prairies commonly occur along railroads; these areas have been inventoried by the MDNR and are listed as state-designated Railroad Rights-of-Way Prairies (RRWP). The Project intersects several USFWS WPAs along I-94 in Douglas, Grant, and Otter Tail counties that are part of the Fergus Falls

Wetland Management District; one RRWP and three BWSR RIM conservation easements (Appendix A, Map 13 and Appendix B). Eight new structures are planned within the WPAs, and two new structures are planned within a BWSR RIM easement. No NWRs are within the Project Area.

Wildlife Management Areas (WMAs) and Scientific and Natural Areas (SNAs) in Minnesota are managed by the MDNR to promote wildlife and game species. Aquatic Management Areas (AMAs) protect aquatic wildlife and fish species by conserving lakes, rivers, and the surrounding land areas. The MDNR Shallow Lakes Program manages many PWI (PWI less than 15 feet deep for wildlife resources including waterfowl). Two shallow lakes are intersected by the Project Area. No WMAs, SNAs, or AMAs are intersected by the Project Area (Appendix A, Map 13 and Appendix B).

Ecologically significant areas regulated by the MDNR include MDNR-designated Minnesota County Biological Survey (MCBS) biodiversity significance and rare native habitats and communities. Areas with moderate diversity significance are those containing significant occurrences of rare species and/or moderately disturbed native plant communities and landscape with a strong potential for recovery. Areas with high biodiversity significance contain sites with very good quality occurrences of the rarest plant communities and/or important functional landscapes (e.g., calcareous fens). Areas with outstanding biodiversity significance contain the best occurrence of the rarest species; the most outstanding example of the rarest native plant communities, and/or the largest, most intact functional landscapes present in Minnesota. MCBS data were reviewed to determine if there were areas with moderate, high, or outstanding biodiversity significance in the Project Area. One site of moderate diversity significance in Clay County is intersected by the Project Area for approximately 0.6-acres (Appendix A, Map 13 and Appendix B).

3.4.10.1 Impacts

As shown in Appendix A, Map 13 and Appendix B, several sites of biodiversity significance overlap or are in the vicinity of the Project. Additionally, one lake of outstanding biodiversity significance is crossed by the Project Area, and 13 calcareous fens are in the vicinity of the Project Area but not crossed by the Project. The closest calcareous fen to the Project, the Rothsay Prairie – Prairie View 33 (ID: 7070), is located

approximately 1.78 miles southwest of the Project. (MDNR 2026a, Appendix A, Map 13).

One MDNR Native Prairie is intersected by the Project Area, but no work is planned within this resource (Appendix A, Map 13 and Appendix B). Project activities are not expected to impact sensitive native prairie resources, as only helicopter stringing of the second circuit is anticipated at this location.

Three BWSR RIM sites intersect with the Project Area in Clay, Wilkin, and Otter Tail counties (Appendix A, Map 13 and Appendix B). This includes two new structures proposed within the RIM in Wilkin County. The Applicants will consult with BWSR and Clay, Wilkin, and Otter Tail County SWCDs to develop appropriate avoidance and minimization measures as applicable, and to ensure that minor temporary impacts during construction have no material adverse impact on the RIM resources.

The original EIS evaluated potential impacts to rare and unique natural resources and mitigation measures associated with the construction and operation of the existing transmission line. The existing transmission line was routed to minimize impacts to rare and unique resources. The current Project design will use the same route, and will therefore also minimize impacts to rare and unique resources. The Applicants have consulted with the MDNR for the Project and affected Project Area, to ensure applicable permits and crossing methods are used during construction, and direct effects to these sites are not anticipated as new project infrastructure is not proposed within these areas (Appendix E). While MCBS sites will be avoided, the MDNR has suggested pro-forma avoidance and mitigation measures to be considered by the Applicants as applicable:

- Minimize vehicular disturbance in MCBS sites (no parking, stockpiles, etc.),
 - Response: The Applicants will not disturb MCBS sites
- Conduct work on frozen ground,
 - Response: The Applicants will not disturb MCBS sites

- Utilize sediment and erosion control devices,
 - Response: The Applicants will utilize erosion and sediment control devices throughout the Project Area
- Inspect and clean equipment to prevent invasive species introductions or spread,
 - Response: The Applicants will implement this practice Project-wide during construction
- Revegetate with native species, and
 - Response: The Applicants will use MnDOT approved seed mixes for various land cover types (uplands, roadside, wetland, etc.)
- Use weed-free soils, mulch, and seed mixes.
 - Response: The Applicants will utilize weed-free soils and mulch as needed (although not anticipated), and seed mixes will be MnDOT approved mixes.

The MDNR consultation letter indicates that there are three areas ranked as Areas with Potential Local Conservation Value near the Project Area, but each of these areas are below the state's minimum threshold for biodiversity significance (Appendix E).

The MDNR consultation letter also indicates that a Lake of Outstanding Biological Significance, Lake Latoka, overlaps the Project. Impacts to this resource are not anticipated given that there will be no direct work in the lake; work in this area would be limited to overhead helicopter stringing of the second circuit. With regards to this resource, the MDNR does recommend the use of effective erosion prevention and sediment control devices near the lake. The Applicants will utilize and maintain erosion sediment and control devices near the lake and throughout the Project Area.

With the proper safeguards and protective measures implemented as described above, the Project is not expected to result in significant negative impacts to rare and unique resources.

4 CONCLUSION

The Project was reviewed for human and environmental resources and evaluated against the criteria found in Minnesota Statute § 216I.05. The proposed Route Permit Amendment is not anticipated to result in any significant changes to the impacts to the human and environmental resources already identified in the application and the original EIS for the existing transmission line. The Applicants request that the Commission grant the proposed Route Permit Amendment to authorize construction of the Project.

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