

AGRICULTURAL IMPACT STATEMENT

**DATCP
#4559**

New Cylon 161 kV Substation
St. Croix County
PSC # 4220-CE-189



**WISCONSIN DEPARTMENT OF AGRICULTURE,
TRADE AND CONSUMER PROTECTION**

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New Cylon Substation

WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION

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LETTER TO THE READER

Dear Reader,

Through the Agricultural Impact Statement ("AIS") program, agricultural operations have the opportunity to provide feedback, document impacts, and suggest alternative solutions when their agricultural lands are affected by an entity with the potential powers of eminent domain. The AIS program also provides affected agricultural landowners time to gather information to make well informed decisions before a project begins. Lastly, the AIS program makes suggestions and recommendations to project initiators to promote project alternatives and management practices that would reduce potential impacts to agricultural lands and operations.

The AIS program also serves the needs of the project initiator by conducting the AIS analysis and publishing the statement within a timely manner as required by Wis. Stat. § 32.035. In addition, the AIS program provides a continuing presence throughout project development and oversight processes in order to support the interests of agricultural operations and the statewide priority to preserve prime farmland.

The Agricultural Impact Statement program and the WI Department of Agriculture, Trade and Consumer Protection are honored to provide this essential state service to the agricultural landowners and operators of the state.

Thank you

TABLE OF CONTENTS

Letter to the Reader	iv
TABLE OF CONTENTS.....	v
TABLES.....	vi
SUMMARY OF AGRICULTURAL IMPACT STATEMENT	1
AGRICULTURAL IMPACT STATEMENT RECOMMENDATIONS.....	3
Recommendations to Xcel Energy	3
AGRICULTURAL IMPACT STATEMENT	5
I. INTRODUCTION	5
1.1 State Authority	5
1.2 Department Authority.....	5
II. PROJECT DESCRIPTION.....	6
2.1 Project Purpose and Need	6
III. AGRICULTURAL SETTING	7
Farmland Preservation	7
Agricultural Enterprise Areas.....	8
Conservation Programs	9
Drainage Districts.....	9
IV. AGRICULTURAL IMPACTS	10
Farmland Acquisitions and Landowner Concerns.....	10
Landowner Concerns.....	11
Severance, Access and Wasteland	12
Prime Farmland and Soils	13
Drainage and Soil Health	15
V. REFERENCES	18
DISTRIBUTION LIST	20
Federal and State Elected Officials.....	20
Federal, State and Local Units of Government.....	20
News Media, Public Libraries and Repositories	20
Interest Groups, Entities and Individuals	21
APPENDICES.....	i
APPENDIX TABLE OF CONTENTS	ii
Appendix A: Layout of the Northern Prairie Solar Array and New Cylon Substation	iii
Appendix B: Appraisal and Compensation Process	v
Appendix C: Wisconsin’s Agricultural Impact Statement Statute.....	vi
I. Statutes Governing Eminent Domain.....	viii
II. Statutes Governing Access	xii
III. Statutes Governing Drainage	xiii
Appendix D: Additional Information Sources.....	xv

TABLES

Table 1: Agricultural soils impacted by the Project 14

FIGURES

Figure 1: Location of the proposed New Cylon Substation..... 2

Figure 2: Soil map units for the proposed site of Xcel Energy’s New Cylon Substation..... 15

SUMMARY OF AGRICULTURAL IMPACT STATEMENT

The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has prepared this Agricultural Impact Statement (AIS) #4559 for the proposed acquisition of land by Northern States Power-WI (NSP), doing business as Xcel Energy, in the Town of Cylon, St. Croix County, WI in Township 31 North, Range 16 West, Section 35. Xcel Energy proposes to establish a new electric distribution substation on the impacted agricultural land to provide serve as a Point of Interconnection (POI) for Northern Prairie Solar, LLC's (Northern Prairie) new 101.2 megawatt alternating current photovoltaic solar electric generation facility (referred to as "the Solar Project" in this report) in the Town of Cylon (Figure 1). Xcel Energy and Northern Prairie have entered into a Generation Interconnection Agreement (GIA) to bring power generated by the Solar Project onto the existing transmission grid.

NSP, doing work as Xcel Energy, is a public utility vested with the right of eminent domain, but plans to purchase an interest in parcel 006-1081-10-000 for the project site from Northern Prairie as part of the GIA; Xcel Energy has an existing Right-of-Way easement for the project area within Parcel ID 006-1083-70-000 (Monika Davis, Personal Communication, February 2023) for the benefit of Line W3209. Construction of the proposed substation will require approximately 10.5 acres. 10.22 acres of this will come from Parcel ID 006-1081-10-000 and .32 acres will come from Parcel ID 006-1083-70-000. Xcel Energy states that surrounding areas to the south and west of this project are likely to be used in developing the Solar Project and converted to industrial use (Xcel Energy 2023). The Solar Project has already been reviewed and approved by the PSC and WDNR, and can be found under PSC Docket Number [9815-CE-100](#). See Appendix A for the Solar Project's boundary.

In accordance with [Wis. Stat. §32.035](#), Xcel Energy has provided the Department with the necessary information and materials to conduct an AIS. The Department reached out to the agricultural landowners impacted by the proposed substation. In accordance with [Wis. Stat. §32.035\(4\)\(b\)](#), the Department has reviewed and analyzed Xcel Energy's materials and the landowners' concerns to assess the agricultural impacts of the proposed project. Through the AIS analysis, the Department offers a set of recommendations and conclusions to Xcel Energy to help mitigate impacts to the agricultural land and agricultural operations affected by the proposed substation.

The set of recommendations are located within the AIS Recommendation Section beginning on page 3. The AIS analysis begins on page 5 with information on the project located in Section II. The agricultural impacts of the project on the land can be found in Section III, landowner and operator concerns can be found in Section IV. Appendices for AIS #4559 contain information on

the appraisal and compensation process (Appendix B), a copy of Wisconsin’s agricultural impact statement statute (Appendix C) and various additional sources of related information for agricultural landowners and operators (Appendix D).

If Xcel Energy deviates from the planned voluntary acquisition, proposed use or scale of the acquired land, Xcel Energy shall re-notify the Department. The Department shall review the re-notification for new potential impacts to agricultural lands and may determine to generate an addendum to this AIS.

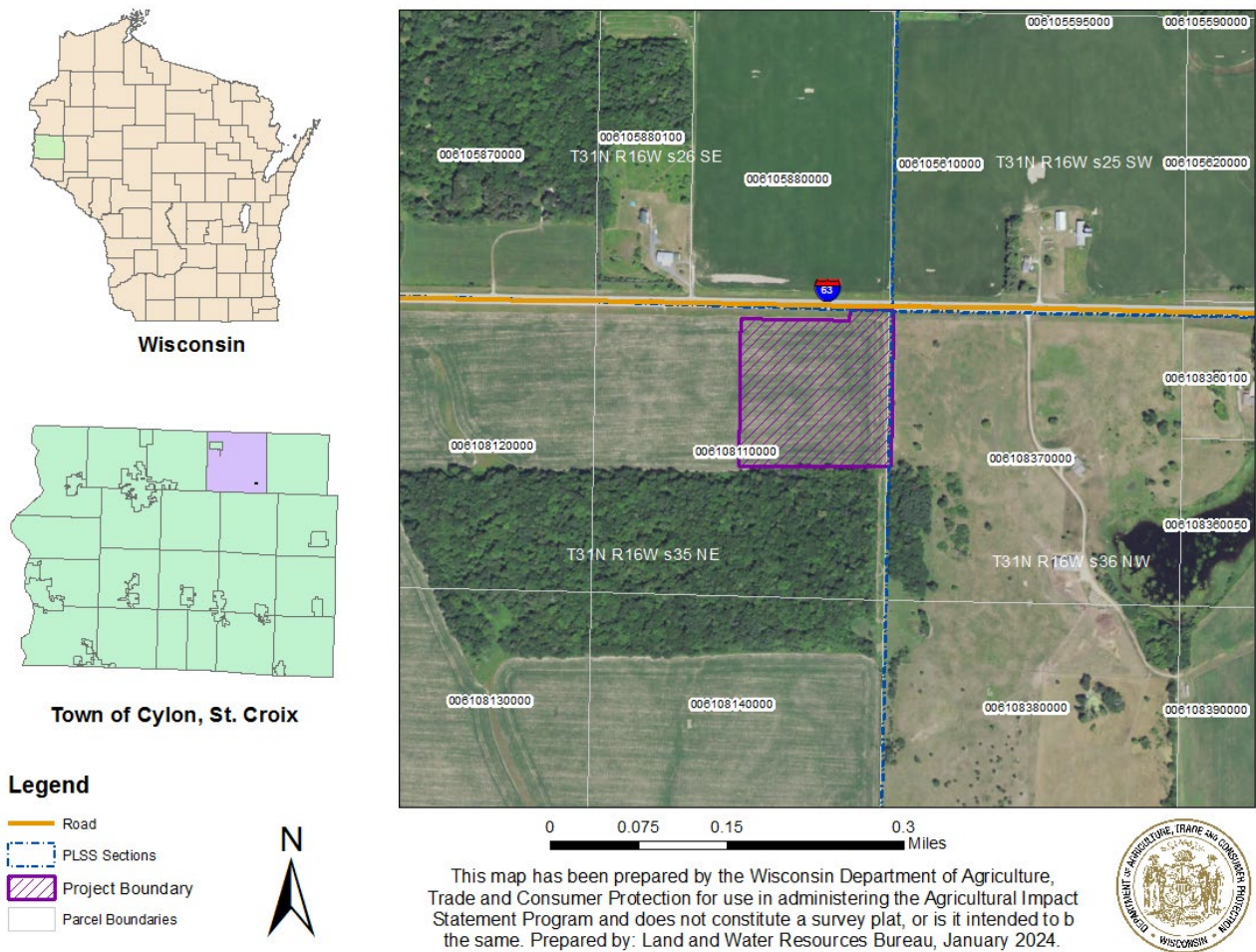


Figure 1: Location of the proposed acquisition in the Town of Cylon, St. Croix County, (Section 35, T31N, R16W) for the New Cylon Substation.

AGRICULTURAL IMPACT STATEMENT RECOMMENDATIONS

The Wisconsin Department of Agriculture, Trade and Consumer Protection (the Department) has reviewed and analyzed the materials provided by the Northern States Power-WI (NPS), doing business as Xcel Energy, regarding the proposed New Cylon Substation land acquisition. In accordance with [Wis. Stat. §32.035\(4\)\(b\)](#), the Department provides the following recommendations to Xcel Energy to help mitigate impacts to the agricultural land and agricultural operation affected by the proposed project. Xcel Energy has reviewed and acknowledged these recommendations.

Recommendations to Xcel Energy

- Xcel Energy should provide impacted agricultural landowners advanced notice of acquisition and construction schedules so that agricultural activities can be adjusted accordingly.
- Xcel Energy should consult with agricultural landowners and operators whom have historical knowledge of flooding and runoff problems, to ensure that storm water basins, vegetative berms, and other runoff management structures for the New Cylon Substation are adequate for anticipated storm water management requirements.
- Xcel Energy should consult the St. Croix County Community Development Department – Land Use & Conservation Division for applicable construction site erosion control and storm water management and permitting requirements to ensure construction proceeds in a manner that minimizes drainage issues and soil erosion originating from the Project site or lands impacted by Project site discharges.
- After construction is completed, Xcel Energy should carefully monitor for the emergence of drainage problems. If problems are observed that can be attributed to the Project’s construction, Xcel Energy and the landowner should work together to develop a mutually agreeable solution.

Recommendations to the Landowners

- Prior to the start of construction, landowners should identify for Xcel Energy where construction activities may interfere with farm operations or farming infrastructure including but not limited to drain tiles, wells, watering systems, drainage ditches, culverts, or fencing.

- After construction is completed, landowners should carefully monitor for the emergence of drainage problems. If problems are observed that can be attributed to construction of the substation, the landowner and Xcel Energy should work together to develop a mutually agreeable solution.
- If the Project design requires the relocation of any fencing on the boundary of Parcel 006-1083-70-000 for the Ellevold pasture, Xcel and the landowner should discuss fencing obligations and maintenance prior to construction.
- Landowners should consult the St. Croix County Community Development Department – Land Use & Conservation Division for applicable site erosion control and storm water management in anticipation of potential increased storm water runoff or soil erosion originating from the Project site.

AGRICULTURAL IMPACT STATEMENT

I. INTRODUCTION

The Wisconsin Department of Agriculture, Trade, and Consumer Protection (the Department) has prepared Agricultural Impact Statement (AIS) #4559 in accordance with [Wis. Stat. §32.035](#) for the proposed construction of an electric substation in the Town of Cylon located in St. Croix County, WI (Figure 1) by the Northern States Power-WI (NSP), doing business as Xcel Energy. Through the New Cylon Substation Project (“the Project”), Xcel Energy proposes to construct a substation pad, a 161 kV substation and associated facilities, access road, storm water detention basin in preparation for an electrical substation that will be a Point of Interconnection (POI) for Northern Prairie Solar, LLC’s new 101.2 megawatt alternating current photovoltaic solar electric generation facility (“the Solar Project”) (DATCP, 2024).

1.1 State Authority

The Public Service Commission of Wisconsin (PSC) is responsible for regulating the construction of electric public utilities and extensions of electric service in Wisconsin, which may include the construction of or modification to an existing substation. Xcel Energy has met a cost threshold of the project that requires PSC review authority. Xcel Energy applied for a Certificate of Authority (CA) from PSC in December 2023, under docket number [4220-CE-189](#).

NSP, doing business as Xcel Energy, furnishes electric light or power to the public in Wisconsin and is vested with the authority of eminent domain under [Wis. Stat. §32.02](#). Utilities vested with the power of condemnation, that propose projects impacting agricultural lands, are subject to Wisconsin’s AIS statute Wis. Stat. § 32.035 whether or not the land is taken.

1.2 Department Authority

In Wisconsin, in accordance with [Wis. Stat. §32.035](#), the Department (DATCP) prepares an AIS when a project involves the actual or potential exercise of eminent domain powers to acquire any interest in more than five acres of land from any agricultural operation. The AIS is designed to be an informational and advisory document that describes and analyzes the potential effects of a proposed project on agricultural operations and agricultural resources, but it cannot stop a project.

The AIS reflects the general objectives of the Department in its recognition of the importance of conserving vital agricultural resources and maintaining a healthy rural economy. The Department is not involved in determining whether or not eminent domain powers will be used or the amount of compensation to be paid for the acquisition of any property.

If the voluntary contract for the fee-simple acquisition by Xcel Energy proceeds, the 30-day waiting period for contract negotiations under Wis. Stat. §32.035(4)(d) is not applicable. Xcel Energy provided the Department with an agricultural impact notification (“AIN”), that complies with Wis.

Stat. §32.035(4)(d) for the Project. This AIN serves as the Department’s main reference document for the Project. Upon review of the AIN, the Department determined it would prepare this AIS for the Project.

If Xcel Energy deviates from the proposed site, Xcel Energy shall re-notify the Department. The Department shall review the re-notification for new potential impacts to agricultural lands and may determine to generate an addendum to this AIS.

Should Xcel Energy actualize its powers of condemnation for this acquisition, information on the appraisal and compensation process under eminent domain is provided within Appendix B. The full text of [Wis. Stat. §32.035](#) is included in Appendix C. Additional references to statutes that govern eminent domain and condemnation processes and other sources of information are also included in Appendices C and D.

II. PROJECT DESCRIPTION

2.1 Project Purpose and Need

The primary purpose for the Project is to serve as the Point of Connection (POI) for Northern Prairie Solar, LLC’s new 101.2 megawatt alternating current photovoltaic solar electric generation facility (Solar Project), which was approved by the PSC under [Docket number 9815-CE-100](#). Northern Prairie has submitted a request to PSC and DNR for a minor siting adjustment to the proposed location of the substation to the location in Figure 1 (Xcel Energy 2023). Impacts of the siting and construction of the Solar Project are outside the scope of this analysis. The New Cylon Substation will be owned and operated wholly by Xcel Energy.

Xcel Energy is planning to site the new electric substation on land currently under agricultural production. In accordance with [Wis. Stat. §32.035\(3\)](#), Xcel Energy has provided an agricultural impact notification (AIN) to the Department that serves as the main reference document for the Project and the project need (DATCP, 2024). The proposed substation would be located in the Town of Cylon in the NE ¼ of the NE ¼ on Township 31 North, Range 16 West, in Section 35.

To construct the proposed electric substation, Xcel Energy will acquire 10.5 acres, which will be used to accommodate the substation site shown in

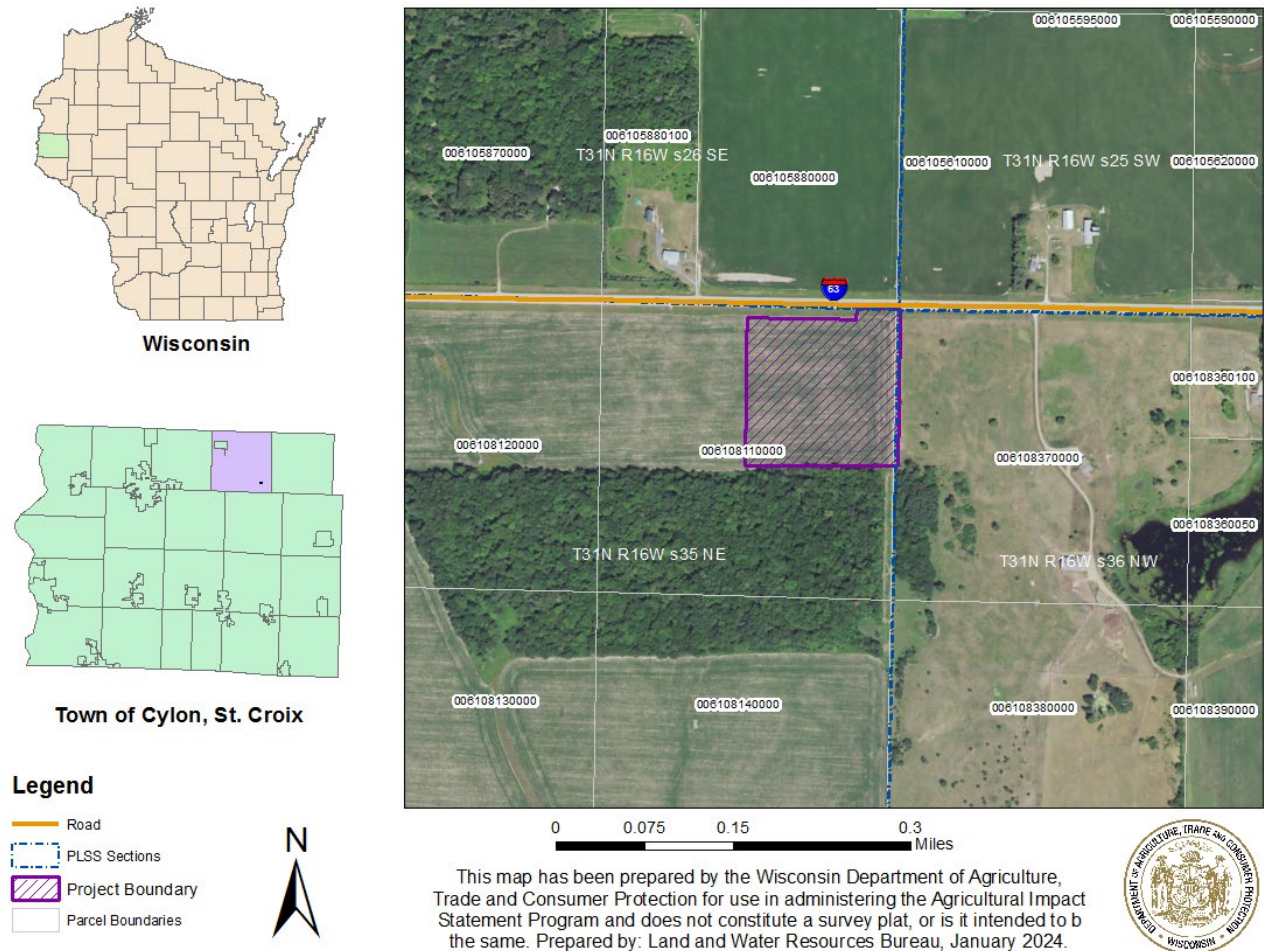


Figure 1. As proposed, the substation will be sited on a 2.4 acre gravel pad. The substation will have a design life of 40 years and a 0.8 acre storm water detention basin, a permanent access road, a power transformer, circuit breakers, power and static poles.

The proposed electric substation will be connected to an existing transmission line, owned by the Xcel Energy, which is adjacent to the Project. Xcel Energy is planning for construction of the facility to commence in late summer of 2024 and conclude in late 2025, with the Solar Project finishing around the same time (DATCP, 2024).

III. AGRICULTURAL SETTING

Farmland Preservation

Wisconsin’s farmland preservation (FP) program provides local governments and landowners with tools to aid in protecting agricultural land for continued agricultural use and to promote activities that support the larger agricultural economy. Lands that are planned for farmland preservation by

the county and included in a certified zoning district or located within an Agricultural Enterprise Area (AEA) are afforded land use protections intended to support agriculture, and are eligible for the farmland preservation tax credit.

Farmland Preservation Planning

St. Croix County's current FP plan was certified by the Department in 2012 and must be recertified prior to December 31, 2024. FP plans are a land use planning tool to establish a local vision for agricultural preservation, agricultural development and agricultural enterprises at the county level. The criteria for land planned for FP in St. Croix County includes lands with soils designated by the USDA-NRCS as Prime Farmlands and Farmlands of Statewide Importance, or lands, not otherwise excluded, with soils classified as Land Capability Class I, II, or III.

The Project is within St. Croix County's FP plan area (St. Croix County 2012).

Farmland Preservation Zoning

The Town of Cylon has adopted county zoning, which includes a certified FP zoning district. The certified FP zoning district for the Town of Cylon is the AG-1 Agricultural and Farmland Preservation Zoning district (DATCP, 2021). This zoning district restricts covered lands to agricultural uses and uses compatible with agriculture and is certified to be consistent with the state's Farmland Preservation Law, Chapter 91. At the time of this analysis, Parcel ID 006-1081-10-000 is zoned AG-1 (Xcel Energy 2023).

This zoning designation allows agricultural landowners to receive Farmland Preservation zoning district incentives such as income tax credits, while ensuring the land remains in agricultural use. Development of the substation would impact the land use and may require a rezone unless approval is granted through the PSC or through a conditional use permit under Wis. Stat. § 91.46(4) for a transportation, communications, pipeline, electric transmission, utility or drainage use, to remain in the district from St. Croix County.

Agricultural Enterprise Areas

AEAs are community-led efforts to establish designated areas important to Wisconsin's agricultural future. This designation highlights the importance of the area for local agriculture and further supports local farmland preservation and agricultural development goals. Designation as an AEA also enables eligible landowners to enter into FP agreements. Through an FP agreement, a landowner agrees to voluntarily restrict the use of his/her land to agriculture for fifteen years in exchange for eligibility for the farmland preservation tax credit. A review of the Department's AEA program shows that the Project does not fall within a designated AEA boundary (DATCP 2021).

Prior to 2009, owners of eligible farmland could sign 10 to 25-year farmland preservation agreements outside of AEA boundaries. There are no effective pre-2009 farmland preservation agreements located in the Town of Cylon, St. Croix County.

Conservation Programs

Voluntary conservation programs such as the USDA Conservation Reserve Enhancement Program (CREP) and the USDA Conservation Reserve Program (CRP) are financial incentive programs to help agricultural landowners meet their conservation goals. The USDA and the Department jointly administer the CREP program in Wisconsin.

Conservation Reserve Enhancement Program

The CREP program pays eligible agricultural landowners enrolled within the program to install filter strips along waterways or to return continually flooded fields to wetlands while leaving the remainder of the adjacent land in agricultural production. To be eligible for CREP payments, a recipient must have agricultural lands in crop production that are within 150 ft. of a stream or water body or 1,000 ft. from a grassland project area (DATCP, 2019a).

A review of the Department's CREP records indicated that the proposed Xcel Energy acquisition for the new substation would not directly impact any current CREP fields or easements.

Conservation Reserve Program

The CRP program is a land conservation program administered by the Farm Service Agency of the USDA. In exchange for a yearly rental payment, eligible agricultural landowners enrolled in the program agree to remove highly erodible land from agricultural production and plant resource-conserving plant species such as grasses or trees that will improve environmental health and quality (USDA, 2019). Eligible agricultural landowners must possess lands with the potential for long-term improvements to water quality, prevent soil erosion or establish beneficial wildlife habitats according to the USDA Environmental Benefits Index (USDA, 2019).

CRP enrollment information is privileged to the USDA and CRP program participants, as such the Department cannot independently verify if any of the impacted agricultural parcels are enrolled within the CRP program. However, the Department recommends that Xcel Energy reaches out to the landowners to verify if they are in a CRP program that would be affected by lands acquired for the construction of the substation.

Drainage Districts

Drainage districts are local governmental entities governed under Wis. Stat. Ch. 88 and organized under a county drainage board and for the primary purpose of draining of lands for agricultural use (DATCP, 2019b). Landowners who benefit from drainage pay assessments to cover the cost to construct, maintain, and repairing the district's drains. According to the Department, approximately 190 active districts exist within 27 of Wisconsin's 72 counties (DATCP, 2019b).

A review of the Department's Drainage Program database indicates that St. Croix County does not have an organized drainage district that could be impacted by the substation project (DATCP 2022b).

IV. AGRICULTURAL IMPACTS

In addition to being a key component of [Wis. Stat. §32.035](#), documenting the agricultural impacts of a project provides the project initiator and the agricultural landowner the opportunity to better understand the project in its own right as well as learn how the project will impact agriculture. Furthermore, the documentation of agricultural impacts by agricultural landowners and operators creates the opportunity for them to consider alternatives that may reduce impacts to agricultural lands. The Department has used information provided by Xcel Energy for this AIS to analyze the potential agricultural impacts of Xcel Energy's acquisition to site a new substation. The analysis of agricultural impacts and conclusions drawn from the analysis form the basis of the Department's recommendations within the AIS Recommendation Section above.

Farmland Acquisitions and Landowner Concerns

Xcel Energy's new substation project will require a fee simple acquisition of a parcel of agricultural land, estimated to be 10.22 acres subdivided from parent parcel IDs 006-1081-10-000 owned by the Laton N. Henderson Family Trust/Erickson Family Irrevocable Trust. The project design will require .32 acres of land from 006-1083-70-000 owned by Scott B. and Mary E. Ellevoid. Xcel Energy has an existing Right-of-Way easement for the project area within Parcel ID 006-1083-70-000 (Monika Davis, Personal Communication, February 2023) for the benefit of Line W3209. The following section documents information submitted as a part of the AIN by Xcel Energy. The information helps inform the Department's analysis of agricultural impacts to specific agricultural landowners and agricultural lands in general.

Xcel Energy notes that all 10.5 acres of the Project site will be converted from agricultural use to industrial use. Project designs for the Solar Project show that lands to the west of the Project area are expected to be sited with an Operations and Maintenance Facility as well as solar array panels. Lands to the south of the Project area are identified as a projected solar panel and inverter exclusion zone. Lands to the east of the Project area are not projected for land use conversion under the Solar Project. See Appendix A for a boundary map of the substation and the Solar Project.

Xcel Energy

Within the AIN submitted to the Department, Xcel Energy stated the CPCN application for the Solar Project initially included an alternative site for the substation that was north of Highway 63/64. However, the alternative site had adjacent wetlands, constraining layout options and necessitated a

longer access road from the highway to the facility. Xcel Energy requested the Solar Project relocate the substation site to a location free of wetlands and closer to the highway (DATCP, 2024). On October 27, 2023, Northern Prairie submitted a request to PSC and DNR for a minor siting adjustment under docket 9815-CE-100 to relocate the substation site to the location discussed herein (Northern Prairie 2023). Xcel Energy indicated that the proposed location provides more efficient connections for future needs of the utility. A “no build” option would not allow the renewable energy generated by the Solar Project to be transmitted on the existing electrical transmission grid, leading Xcel Energy to dismiss this option (DATCP 2024).

Landowner Concerns

The Department attempted to contact the two affected landowners for comment on the substation impacts on their agricultural operation. One of the two landowners responded.

Scott Ellevold

Scott Ellevold’s farm operation consists of 152 acres of combined cropland, pasture, homes and farm buildings, and wetlands, including 40 acres that comprises of Parcel ID 006-1083-70-000. From this parcel, .32 acres on his northwestern boundary will be utilized by Xcel for the Project. The land near this acquisition is fenced pastureland.

Mr. Ellevold documented concerns about the potential water run off crossing on to his property, potential pollution of chemicals from storm water runoff from the Project affecting his pasturelands. The project is subject to a construction site storm water general permit under Wis. Admin. Code NR 216 for ground disturbance in excess of one acre. In accordance with NR 216, the project requires a site specific erosion control plan and storm water management plan. The storm water management plan must include provisions for long-term maintenance and management practices to control the impacts from storm water runoff. Permanent facilities in the project site design include an approximately .8 acre storm water retention pond. Xcel’s application for a CA also indicates that that they have collaborated with the Solar Project on a potential vegetative buffer consisting of wildlife shrubs to be sited on a small berm on the east side of the Project. Native shrub species may contribute positively to storm water infiltration (DNR, 2024). During construction and restoration, an Xcel environmental inspector will monitor re-vegetation and restoration activities to ensure that they proceed in accordance with NR 216 permit conditions (Xcel Energy, 2023). See also *Drainage and Soil Health* in subsequent analysis.

Xcel Energy should consider the following measures:

- Consult with agricultural landowners who have historical knowledge of flooding and runoff problems, to ensure that storm water basins, vegetative berms, and other runoff management structures for the New Cylon Substation are adequate for anticipated storm water management requirements.

The landowner should document existing site conditions at the western boundary of their pasture adjacent to the project. After construction is completed, landowners should carefully monitor for the emergence of drainage problems. If problems are observed that can be attributed to construction of the substation, the landowner and Xcel Energy should work together to develop a mutually agreeable solution.

Additionally, Mr. Ellevold posed concern about construction of the Project affecting his fence line and subsequently the ability to use his adjacent pasture lands. Xcel Energy should provide the agricultural landowner advanced notice of construction schedules so that agricultural activities can be adjusted accordingly. Landowners should consult with Xcel Energy if the project will impact existing agricultural fences and disclose their location prior to construction. Under Wisconsin Eminent Domain Statute Wis. Stat. § 32.09, the impacted landowner shall be compensated for the cost of fencing reasonably necessary to separate land taken from remainder of land. Xcel Energy has an existing Right-of-Way easement for the project area within Parcel ID 006-1083-70-000 (Monika Davis, Personal Communication, February 2023) for the benefit of Line W3209. Under Wisconsin's fence law, [Wis. Stat. § 90.03](#), adjoining landowners share the responsibility for maintaining a fence between their property when either uses the land for farming or grazing. If the acquisition from Parcel 006-1083-70-000 requires the relocation of any fencing for the Ellevold pasture, Xcel and the landowner should discuss fencing obligations and maintenance prior to construction.

Severance, Access and Wasteland

The acquisitions of agricultural property can result in agricultural parcel severance, removal of existing field access points and potentially the creation of wastelands and uneconomic remnant parcels. The circumstances (i.e. loss of access, severance, wasteland etc.) surrounding the impacts to each impacted remnant agricultural parcel are unique, thus some agricultural parcels may remain economically viable, while others may not. The following analysis will document the potential for severance, loss of access and potential creation of wastelands and uneconomic remnant parcels for agricultural parcel IDs 006-1081-10-000 and 006-1083-70-000.

Severance

Severing an agricultural parcel to accommodate a project effectively splits the existing parcel into two or more smaller parcels. Severing an agricultural parcel may remove existing access points, create agricultural wastelands, or uneconomic remnant parcels, can at times divide the operation of a farm and may result in farmland conversion.

Based on preliminary boundaries of the Project and the Solar Project, the location of the substation is unlikely to sever Parcel IDs 006-1081-10-000 and 006-1083-70-000 into two or more remnant agricultural fields.

Access

Acquisitions of farmland may remove existing points of access and entrances utilized by agricultural operations to access their remaining farmland.

Under the proposed project design, acquisitions from Parcel ID 006-1081-10-000 will be converted from agricultural use.

Parcel ID 006-1083-70-000 contains an access point for the existing agricultural operation that will not be impacted by the Project.

Wasteland

Acquisitions that sever farmland frequently create small remnant fields that may be difficult to access or are irregularly shaped. Small remnant fields that are irregularly shaped can make it difficult for agricultural equipment to navigate and reduce the amount of tillable acres, thus creating undeveloped land ([Wis. Stat. § 70.32\(2\)\(a\)\(5\)](#)) or what is commonly referred to as wasteland. This in turn reduces agricultural productivity and decreases the economic viability of the land. Furthermore, as remnant fields decrease in size the proportion of wasteland (a result of narrow fields and sharp corners) increases, which further influences the fields overall productivity and economic viability.

The proposed project design is not anticipated to create agricultural wasteland.

Prime Farmland and Soils

The proposed acquisition and construction of the New Cylon Substation will impact up to approximately 10.5 acres of agricultural lands and soils. The soils impacted by the proposed project were cataloged by soil map unit and soil texture using the Department's prime farmland soils GIS layer. These soils were analyzed for impacts to soils designated as prime farmland, prime farmland if drained, or farmland of statewide importance (Table 1). Prime farmland is designated by the USDA according to section 622.3 of the National Soil Survey Handbook (USDA, 2017) and is based on the ability of the land and soil to produce crops. Definitions of prime farmland, prime farmland if drained, and farmlands of statewide importance are provided under Table 1.

Table 1: Soils impacted by the proposed Xcel Energy acquisition for new electric substation. Adjusted total acres reflect measured GIS acres for the proposed acres acquired.

Soil Texture	Prime Farmland* (acre)	Prime Farmland if Drained [?] (acre)	Farmland of Statewide Importance [?] (acre)	Not Prime Farmland [?] (acre)	Total (acre)
Silt Loam	10.5	0.0	0.0	0.0	10.5
<i>Project Total</i>					10.5
<p>*Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and may be utilized for cropland, pastureland, rangeland, forest land, or other lands excluding urban built-up land or water. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management.</p> <p>[?]Prime farmland if drained, indicates that if farmland is drained it would meet prime farmland criteria.</p> <p>[?]Farmlands of statewide importance are set by state agency(s). Generally, these farmlands are nearly prime farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce yields high as prime farmlands under proper conditions.</p> <p>[?]Not Prime farmland, indicates farmland is neither prime farmland nor of designated importance.</p>					

All of the agricultural land impacted by the proposed fee simple acquisition holds some level of Federal or State priority designation. Specifically, the USDA has designated the approximately 10.5 acres as prime farmland (Table 1, Figure 2). Across the impacted agricultural parcel, the soil consists of silt loam textured soils of various soil series. Silt loam soils are medium-textured soils (Cornell, 2017) with good soil structure, possess an ideal ability to hold onto water without becoming excessively wet and are usually best suited for crop production (UW-Extension, 2005). This soils analysis shows that Excel Energy’s proposed New Cylon Substation project has the potential to permanently remove both high quality soils and prime farmland from production.

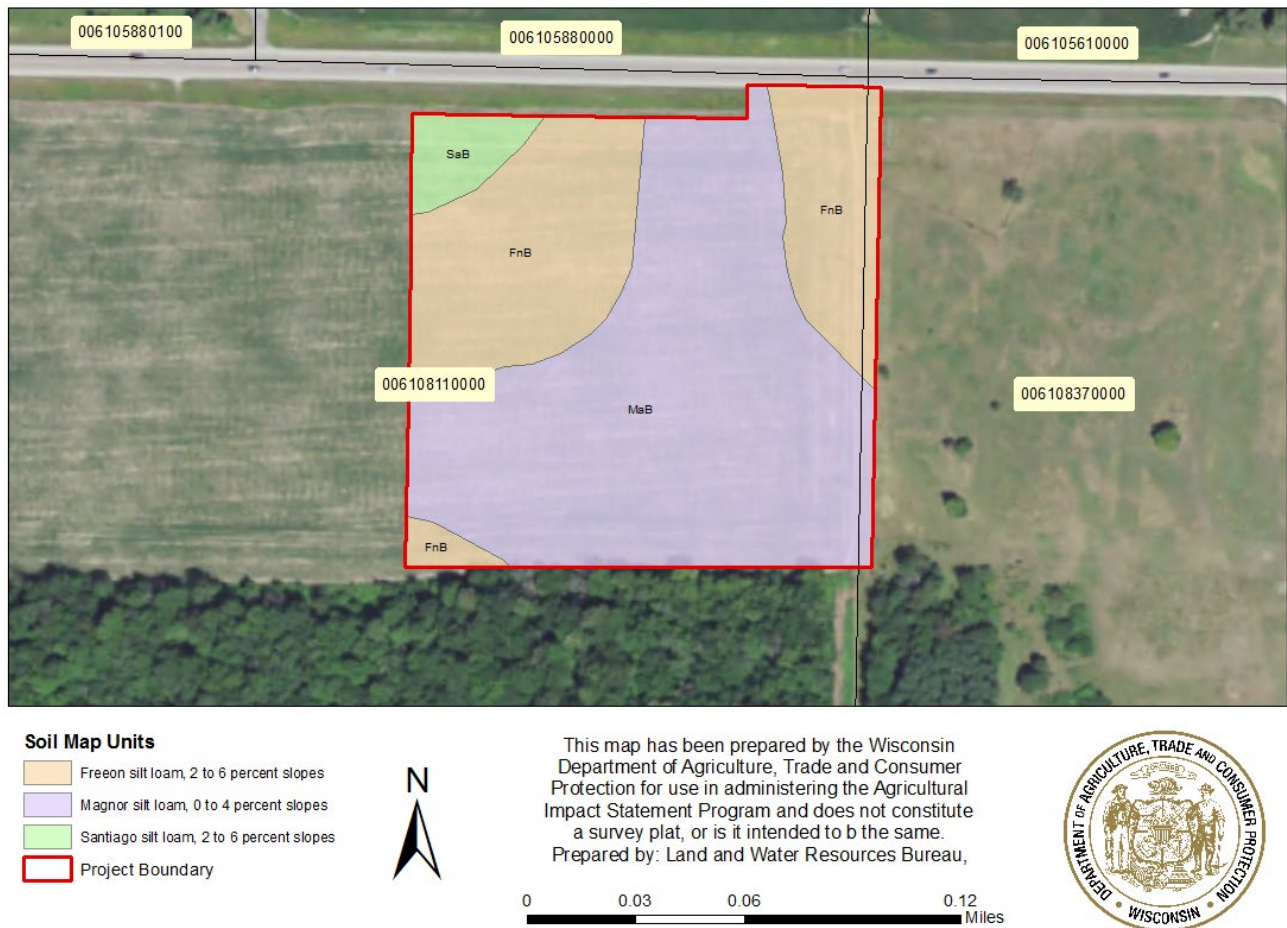


Figure 2: Soil map units for the proposed site of Xcel Energy’s New Cylon Substation project, in the Town of Cylon, in St. Croix County (NE ¼ NE ¼, Township 31 North, Range 16 West, and Section 35).

Drainage and Soil Health

Maintaining proper field drainage and preserving soil health is vital to the success of an agricultural operation. If drainage is impaired, water can settle in fields and cause substantial damage, such as reducing soil health, harming or killing crops and other vegetation, concentrating mineral salts, flooding farm buildings, or causing hoof rot and other diseases that affect livestock. Soil structure, texture, organic matter and microorganisms are all important factors that influence soil health (Wolkowski and Lowery, 2008).

A topographic review of the proposed substation boundary suggests the majority of the proposed project boundary is generally flat. That said, the northwestern side of the Project area slopes downward toward the southeastern corner, with a change of elevation around 5 feet. According to the Public Service Commission of Wisconsin, new electrical substations require a stable and level ground surface to be constructed on (PSC, 2013).

The substation's site plan will dictate where grading and/or filling may be required to establish a stable and level surface for the new substation as well as any practices that may be required to capture or mitigate runoff from gravel pads, concrete foundations and access roads. The practice of grading may require the removal of topsoil, which will affect organic matter, nutrient and water holding capacity of the land. Grading of soils to prepare a construction site may increase soil compaction which can lower the holding capacity for water, resulting in runoff and or other drainage issues if unmanaged (USDA-NRCS, 2000).

Xcel Energy should consider consulting the St. Croix County Community Development Department – Land and Water Conservation program to ensure that construction proceeds in a manner to minimize drainage issues and soil erosion. Landowners should also consider consulting the St. Croix County Community Development Department – Land Use & Conservation Division for applicable site erosion control and storm water management, such as planting cover crops, in anticipation of potential increased storm water runoff or soil erosion originating from the Project site.

In the unincorporated areas of St. Croix County, land disturbance activities are subject to the county storm water management and erosion control ordinance, except in towns that have adopted a site erosion control and storm water management zoning ordinance under Wis. Stat. § 60.627. The Town of Cylon has a Land Division Ordinance that regulates the design, construction and installation of roads, storm water management and erosion control, however this does not have specific restrictions to utility development (Town of Cylon 2007). The Town of Cylon Land Division Ordinance specifies that Land divisions shall comply with theirs and the county's ordinances. Land in the Town of Cylon is under the authority of the St. Croix County Land Division ordinance, which is more comprehensive in nature. Chapter 17 of St. Croix County's Land Use and Development Code of Ordinances regulates land disturbance restrictions, storm water management, and erosion and sediment control plans and standards ([St. Croix County 2017](#)).

Xcel Energy should consider taking the following measures:

- Where runoff and concentrated overland flow may leave the project site and onto of agricultural parcel 006-1083-70-000: install a vegetated buffer, berm, or other control practice to mitigate soil erosion or negative drainage impacts to the receiving agricultural soils.
- Consult the St. Croix County Community Development Department – Land Use & Conservation Division for applicable construction site erosion control and storm water management requirements and permits to ensure that construction proceeds in a manner to minimize drainage issues and soil erosion for surrounding agricultural lands.

Landowners should consider the following measure:

- Consult St. Croix County Community Development Department – Land Use & Conservation Division for applicable site erosion control and storm water management in anticipation of potential increased storm water runoff or soil erosion originating from the Project site.

