Appendix F

Agriculture Impact Mitigation Plan (AIMP)

Xcel Energy
Docket No. E-002/GS-23-217
August 2023

Agricultural Impact Mitigation Plan

Sherco Solar 3 Project

Northern States Power

Company Sherburne County,

Minnesota

May 2023

414 Nicollet Mall
Minneapolis, MN 55401

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Table 1. Abbreviations and Definitions

AC	alternating current
BMPs	best management practices
BWSR	Minnesota Board of Water and Soil Resources
decompaction	Treatment which relieves soil compaction by introducing air space into the soil.
drain tile	Typically, a below-ground system that removes excess water from the soil.
GIS	Geographic Information System
GPS	global positioning system
kV	kilovolt
LCC	Land Capability Class
MDA	Minnesota Department of Agriculture
MNDNR	Minnesota Department of Natural Resources
MW	megawatt
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSP	Northern States Power
Plan or AIMP	Agricultural Impact Mitigation Plan
Project / Project Site	Sherco Solar 3 Project
Project Footprint	Area within the Solar Project Area where Xcel Energy proposes to build the Solar Project facilities.
PUC	Public Utilities Commission
PV	photovoltaic
SCADA	Supervisory Control and Data Acquisition
Solar Project Area	Approximately 1700-acre area of privately-owned land for which Xcel Energy has leases to allow siting and construction of the Solar Project.
SSURGO	Soil Survey Geographic Database
SWPPP	Storm Water Pollution Prevention Plan

1.0 Introduction

Northern States Power Company, doing business as Xcel Energy, is developing a 250 megawatt (MW) solar project on approximately 1780 acres in Sherburne County, Minnesota (Sherco Solar 3 Project or Project; Figure 1). The Project will be constructed, owned, and operated by Xcel Energy.

The purpose of this Agricultural Impact Mitigation (the Plan or AIMP) is to identify measures that Xcel Energy and its contractors will take to avoid, and/or repair impacts that may result from the construction, operation, and eventual decommissioning of the Project that could have potential negative agricultural impacts.

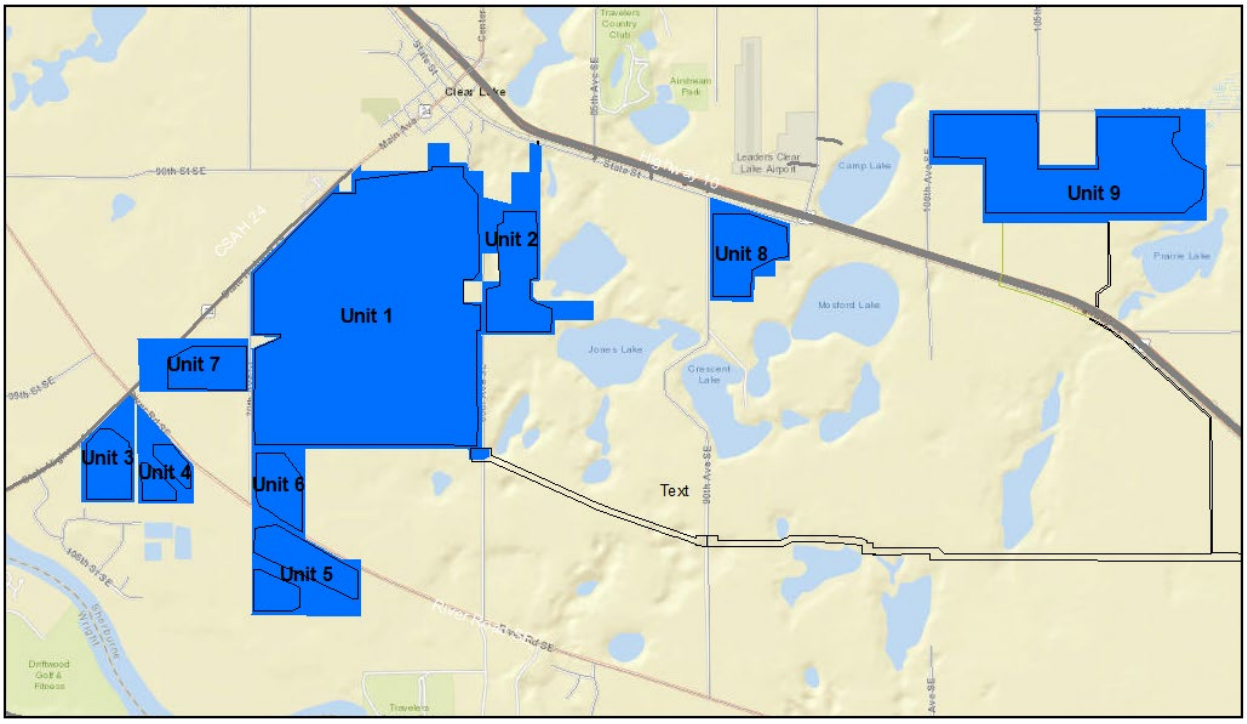
Xcel Energy does not plan to incorporate agricultural production within the fenced solar array areas during the life of the Project, and measures used in these areas will be focused on protecting topsoil to ensure the land may be returned to future agricultural usages following the closure and decommissioning of the Project. More traditional agricultural best management practices (BMPs) will be used in locations where underground collection lines will be installed outside of the fenced array areas, which will be returned to current uses following completion of construction.

A Vegetation Management Plan (VMP) has also been developed for the Project, which describes practices that will be implemented to establish native habitat-friendly vegetation across the site. The seed mix will be designed to meet the standards for the Minnesota Board of Water and Soil Resources (BWSR) scorecard for Habitat-Friendly Solar and will allow the site to qualify for recognition of beneficial habitat as set forth in Minn. Stat. 216B.1642 (BWSR, 2020). Implementation of pollinator-friendly habitat may have long term benefits to soil health that will further assist in agricultural use post decommissioning. Such benefits include building topsoil through plant matter decay, carbon capture, and beneficial soil bacteria that are often absent from soils subject to row crop agriculture. A separate decommissioning plan has also been developed for this Project, which addresses many of the details related to future conversion of the site back to potential agricultural uses at the end of the Project's useful life and is referenced in this Plan.

2.0 Project Location Characteristics

The Project Site is located generally south and east of the City of Clear Lake within the Anoka Sand Plain. The Project is made up of nine Units which range in size from 81 up to 785 acres. The Project will be connected via an underground collection system to a substation located at Sherco Solar 1, which was permitted in 2022.

Figure 1. Sherco Solar 3 Project Units



2.1 Current Land Cover and Land Use

A majority of lands within the project boundary are currently being used for row crop agriculture (see Exhibit 1. Land Cover). Typically, corn, soybeans and potatoes are grown in the area. None of the soils within the project footprint are classified as prime farmland. Trees are present as shelterbelts between agricultural fields and along some roads; there are no large tracts of forested land within the Project area. Some farmed wetlands are dispersed across the site as well as a smaller number of uncultivated wetlands. A review of historic aerial photos shows that the site has been in agricultural cultivation since before 1938. Several rural residences are located adjacent to the proposed site, with one located inside of unit 5 as an exclusion lot on 80th Ave. Agricultural storage facilities are located on another exclusion lot across the road from this residence.

2.2 Site Soils

The Soil Survey Geographic Database (SSURGO) is the digitized county soil survey and provides a Geographic Information System (GIS) relating soil map unit polygons to component soil

characteristics and interpretations. Soil map unit polygons in the SSURGO database were clipped to the Project boundary, and separated by:

- Array area hosting solar panels, racks, and arrays
- External collection corridors

Table 1 includes a summary of the soil units and classifications. A map of the soil types is also included in Exhibit 2. Soils. A majority of soils across the site are categorized by the NRCS as Hubbard-Mosford complex, Mississippi River Valley, 0-3 percent slopes. These soils are non-prime farmland which are sandy and excessively drained. The sandy texture of the soils means they are minimally susceptible to compaction or rutting during wet conditions.

Table 2. Soil Units and Characteristics

Map Unit Name	Farmland Classification	Drainage Class	Surface Texture	Acres
Solar Facility				
Isan sandy loam, depressional, 0 to 1 percent slopes	Not prime farmland	Very poorly drained	sandy	14.5
Mosford sandy loam, 0 to 2 percent slopes	Farmland of statewide importance	Somewhat excessively drained	sandy	20.4
Seelyeville-Markey complex, ponded, 0 to 1 percent slopes	Not prime farmland	Very poorly drained	not used	9.6
Sandberg loamy sand, 2 to 12 percent slopes	Not prime farmland	Excessively drained	sandy	6.6
Sandberg loamy coarse sand, 6 to 30 percent slopes	Not prime farmland	Excessively drained	sandy	4.4
Isan-Isan, frequently ponded, complex, 0 to 2 percent slopes	Not prime farmland	Poorly drained	sandy	1.6
Hubbard-Mosford complex, Mississippi River Valley, 0 to 3 percent slopes	Not prime farmland	Excessively drained	sandy	1,320.7
Hubbard loamy sand, 0 to 2 percent slopes	Not prime farmland	Excessively drained	sandy	17.0
Hubbard loamy sand, 1 to 6 percent slopes	Not prime farmland	Excessively drained	sandy	175.4
Hubbard loamy sand, 2 to 12 percent slopes	Not prime farmland	Excessively drained	sandy	109.5
		Solar Facility Subtotal		**1,680.0**
Collection Corridors				
Duelm loamy sand, 0 to 2 percent slopes	Not prime farmland	Moderately well drained	sandy	0.5
Isan sandy loam, depressional, 0 to 1 percent slopes	Not prime farmland	Very poorly drained	sandy	0.8
Rushlake coarse sand, 1 to 4 percent slopes	Not prime farmland	Moderately well drained	not used	0.9

Map Unit Name	Farmland Classification	Drainage Class	Surface Texture	Acres
Sandberg loamy sand, 2 to 12 percent slopes	Not prime farmland	Excessively drained	sandy	10.1
Sandberg loamy coarse sand, 6 to 30 percent slopes	Not prime farmland	Excessively drained	sandy	0.0
Isan-Isan, frequently ponded, complex, 0 to 2 percent slopes	Not prime farmland	Poorly drained	sandy	0.3
Hubbard-Mosford complex, Mississippi River Valley, 0 to 3 percent slopes	Not prime farmland	Excessively drained	sandy	60.2
Hubbard loamy sand, 0 to 2 percent slopes	Not prime farmland	Excessively drained	sandy	0.1
Hubbard loamy sand, 1 to 6 percent slopes	Not prime farmland	Excessively drained	sandy	6.5
Hubbard loamy sand, 2 to 12 percent slopes	Not prime farmland	Excessively drained	sandy	15.3
		Collection Corridor Subtotal		**102.0**

Prior to project constructing soil borings will be collected from points across the site, which will provide more accurate site-specific data on soil characteristics.

2.3 Summary of Major Soil Limitations

2.3.1 Wind Erosion (Dust)

Soils within the Sherco Project Footprint are nearly level, deep, excessively drained, coarse-textured Mollisols. The primary limitations for the soils during construction, operations and maintenance, and decommissioning include wind erosion when dry soils lack a protective vegetative or mulch cover, potential poor revegetation due to the presence of droughty soils, and the need to reserve and store large volumes of topsoil. Wind erosion can create dust and will be managed and minimized by appropriately mulching exposed soils, wetting exposed soils to minimize dust during construction activity, and maintaining good vegetative cover (both cover crops and permanent vegetation). Initial post-construction revegetation efforts and maintenance of vegetation during operations and maintenance will need to consider selecting drought tolerant plants, managing seeding times for late spring early summer when soil moisture is optimum for germination, use of mulch and other BMPs that manage evapotranspiration, and potentially supplying water during dry periods.

2.3.2 Topsoil

Topsoils range from 4 inches in thickness to greater than 18 inches but are not extremely high in organic matter. These soils may have issues with fertility, requiring occasional fertilizer amendments to maintain robust plant growth. Storing topsoil in relatively sterile, large piles that are not active plant growth media is not recommended as the storage conditions may adversely influence soil flora and fauna affecting soil quality when topsoils are returned to areas from which the topsoil was taken. To the extent practicable, topsoil should be conserved by preselecting areas to receive excess topsoil from nearby areas, grading and seedbed

preparation as appropriate, and revegetation to maintain a rhizosphere suitable for plant growth. Areas of distribution will be marked with a GPS device for future reference upon decommissioning. Refer to section 4 for storage practices for future reclamation for components such as access road installation and collector substation construction and stormwater basins.

2.3.3 Compaction

While compaction and rutting may not be significant limitations, Xcel Energy will design construction access and manage construction passes to minimize the number of trips occurring on a given soil and will implement wet weather procedures any time that rutting is observed. Deep compaction is not anticipated to be a significant problem as the number of construction equipment passes over a given area is limited, and construction equipment consists of smaller, low-ground- pressure tracked vehicles.

3.0 Project Description

As noted above the Project is made up of nine units which are generally separated by roads or non-participating lands. The solar site will be enclosed within perimeter security agricultural fencing. Underground collector lines will also be installed to connect the units to each other and back to at substation located at Sherco Solar 1. Underground collection lines outside of the solar site will not be enclosed within fencing and those lands will be returned to pre-construction uses, typically row-crop farming, following restoration completion.

3.1 Project Components

The Project will include the following major components, systems and associated facilities:

- Solar panels, racking system, and inverters
- Electrical collection system
- Access roads
- Stormwater basins
- Perimeter fencing

For a full description of solar equipment proposed, refer to Xcel Energy's Site Permit Application submitted to the Public Utilities Commission (PUC).

3.2 Construction Stages

Construction activities generally follow the sequence listed below, however due to the size of the site it is likely that multiple stages will be occurring at the same time at different points across the site. For a more detailed description of construction activities refer to the site permit application.

- Site clearing and vegetation removal
- Earth work (grading, site balancing, road construction)
- Fencing installation
- Solar array construction (piles, racking systems, solar panels)
- Electrical collection system installation (underground cabling)
- Inverter installation (installed on concrete footings)

4.0 BMPs During Construction and Operation

The Project will be constructed and operated on property leased by Xcel Energy. Because all construction activities for the solar facility will be limited to leased land, no direct impacts to adjacent land are expected in those locations. Installation of the underground collection system will be completed within leased corridors; however, it is possible that some temporary construction impacts could occur on adjacent non-leased lands. While the PV arrays can be designed to follow existing grades within certain tolerances, some site balancing is expected to be necessary. Balancing involves grading off topsoil from areas where borrow or fill is necessary, removing subsoils from borrow areas, and placement of those soils in fill areas. Once the subsoil balancing is complete the segregated topsoil will be replaced in the borrow and fill locations.

The remainder of earthmoving activities would consist of work on the interior access roads, trenches for the DC and AC collection system, and foundational work for the Project substation and inverter skids as necessary. The sections below describe the measures that the Contractor will implement to minimize the physical impacts to the integrity of the topsoil and topography of the Site.

4.1 Environmental Monitor

Xcel Energy will engage an onsite monitor for earthmoving activities during Project construction to ensure appropriate measures are taken to properly segregate and handle the topsoil. The Monitor will have a variety of duties, including but not limited to:

- Perform regular inspections during the major earthmoving phases of Project construction, including trenching
- Observe construction crews and activities to ensure that topsoil is being segregated and managed appropriately
- Monitor the site for areas of potential soil compaction (except within access roads) and make specific recommendations for decompaction

Potential issues with BMPs will be reported directly to Xcel Energy's construction manager who will use discretion to either correct the activity or stop work.

4.2 Soil Segregation and Decompaction

During construction, one of the primary means to protect and preserve the valuable topsoil within the Project footprint will be to separate the topsoil from the other subgrade/subsoil materials when earthmoving activities or excavation are taking place (grading, road construction, cable installation, foundation installation, etc.). There may be limited situations where excavated subsoil must be stored on adjacent undisturbed topsoil. In these situations, subsoil will be returned to the excavation with as little disturbance of the underlying topsoil as practicable. Laying down a thin straw mulch layer as a buffer between the subsoil and topsoil may be used to facilitate more effective separation of the subsoil and underlying topsoil during the excavation backfill process.

A majority of topsoil disturbance will occur during site balancing and grading. Other activities that impact topsoils include access road construction, underground collection trenching and cable installation, inverter footing installation, and substation construction.

Following earthwork activities that require segregation of topsoils/subsoils, topsoil materials will be re-spread on top of the backfilled subsoils or disturbed areas and decompacted as needed. Any excess topsoil material would be re-spread within the Project Footprint.

4.3 Wet Weather Conditions

During the construction of the Project, it is possible that there will be periods of wet weather that may necessitate a temporary halt of construction activities. The Xcel Energy Construction Manager will have responsibility for halting activities if weather conditions pose a risk to worker safety or if conditions are such that heavy equipment would cause severe rutting. Following initial grading at the Site, many activities could still proceed in wet weather given the lack of heavy equipment required for those tasks and the coarse textured, excessively drained nature of the major of site soils. However, Xcel Energy's Construction Manager would be responsible for ensuring that topsoil erosion, rutting, compaction, or damage to drain tiles (if present) is avoided or minimized to the extent possible.

If necessary, prior to installation of the native seed mix, the Construction Manager may direct crews to decompact soils following wet weather conditions. Decompaction with chisel plows prior to disking and planting is a standard method of soil preparation in areas proposed for seeding to native grasses, forbs, and pollinator species.

4.4 Temporary Erosion and Sediment Control

Xcel Energy and its contractors will prevent excessive soil erosion on lands disturbed by construction by adheringto a SWPPP required under the NPDES permitting requirement that will be administered by the Minnesota Pollution Control Agency. Prior to construction, Xcel Energy's construction contractor will be required to develop a SWPPP and obtain an NPDES permit for the Project.

Typical sediment and erosion control measures would likely include silt fencing on the downside of all hills and near waterbodies and installing check dams and straw waddles to slow water during rain events in areas that have the potential for high volume flow. In addition, the Contractor can use erosion control blankets on any steep slopes, although given the site topography, this BMP will not likely be required. Lastly, as outlined above, topsoil and sub-grade material will be piled and loosely compacted and / or "tracked" while stored. The BMPs employed to mitigate wind and stormwater erosion on these soil stockpiles will likely include installing silt fence on the downward side of the piles as needed and installation of straw waddles if these spoil piles are located near waterways.

The SWPPP will also consider wind erodibility and may include best practices as such wetting exposed soils to minimize dust during construction activity and maintaining good vegetative

cover (both cover crops and permanent vegetation).

4.5 Drain Tile Identification, Avoidance and Repair

Based on information collected to date, and correspondence with participating landowners, no drain tile is present within the Project Footprint. If any drain tile is encountered or identified, particularly in collection corridors where farming practices will resume following construction completion, an effort will be made to minimize any unforeseen damages or necessary repairs.

4.6 Center-Pivot Irrigation Well Identification and Avoidance

Center-pivot irrigation systems are present within the Solar Project Area. Center-Pivot systems and the water/utility lines servicing them within the Project Footprint will be decommissioned and left in place. Any wells noted in the Project Footprint will either be marked with flagging and a five-foot buffer around them fenced so as to avoid impacting these structures, or fully decommissioned. If Xcel Energy identifies a need for wells during operations, these wells may be uncapped or new wells may be installed.

Xcel Energy will work with landowners along collection routes to identify and protect any center-pivot systems that will remain in use, and will promptly repair any systems if they are inadvertently damaged during construction.

4.7 Adaptive Management During Construction

Should weather or site conditions during construction require different BMPs than those that are described in this section, Xcel Energy will work with the construction contractor and monitor to discuss potential new approaches to the specific conditions that are encountered. Xcel Energy will remain flexible and adjust practices/procedures as needed to help ensure the quality of the land while maintaining the safety of the workers.

5.0 Decommissioning

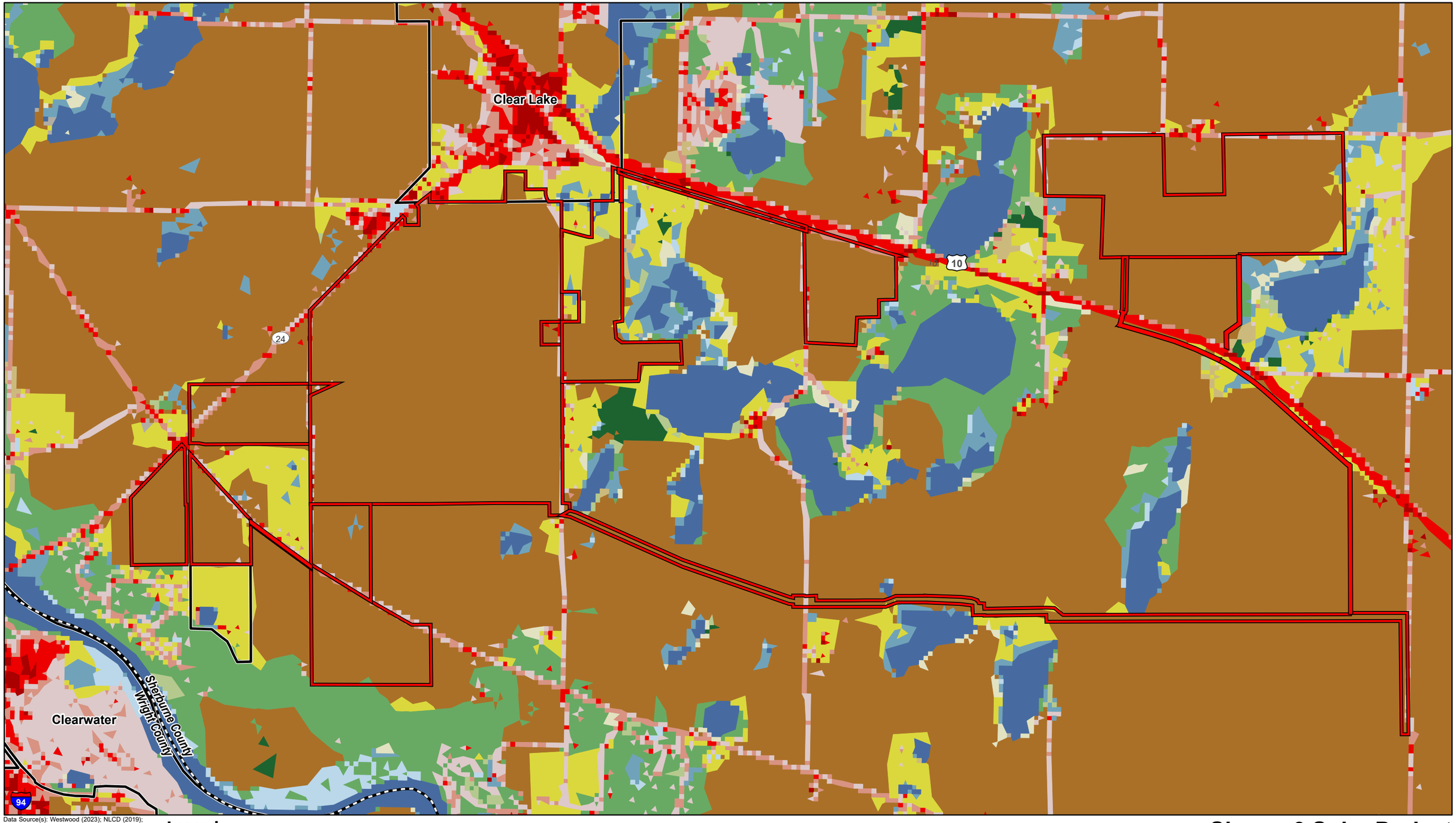
At the end of the Project's useful life, anticipated to be 35 years, Xcel Energy will either take necessary steps to continue operation of the Project (such as re-permitting and retrofitting) or will decommission the Project and remove facilities. Xcel Energy reserves the right to extend operations instead of decommissioning at the end of the site permit term. Refer to the Project's Decommissioning Plan for additional details.

5.1 Restoration/Reclamation of Facility Site

After all equipment is removed, the facility would be restored to an agricultural use, in accordance with the Decommissioning Plan, or to another use if the economic conditions and landowner intentions at that time indicate another use is appropriate for the site. Holes created by steel pier foundations and fence poles, concrete pads, re-claimed access road corridors and otherequipment will be filled in with either stockpiled soil locations or via supplemented soil to pre-construction conditions. Grading and other soil disturbance activities during

decommissioning will be kept to the minimum necessary to effectively decommission the site and to maintain the soil benefits realized during the long-term operation of the Project. As noted in the Decommissioning Plan, disturbed soils will be decompacted to further prepare the site for agricultural use.

Exhibits



Data Source(s): Westwood (2023); NLCD (2019); U.S. Census Bureau (2021).

Legend

- Project Area
- Municipal Boundary
- County Boundary

NLCD Land Cover

- Barren Land
- Cultivated Crops
- Deciduous Forest
- Developed, High Intensity
- Developed, Low Intensity
- Developed, Medium Intensity
- Developed, Open Space
- Emergent Herbaceous Wetlands
- Evergreen Forest
- Hay/Pasture
- Herbaceous
- Mixed Forest
- Open Water
- Shrub/Scrub
- Woody Wetlands

N

0 Feet 2,000

Sherco 3 Solar Project

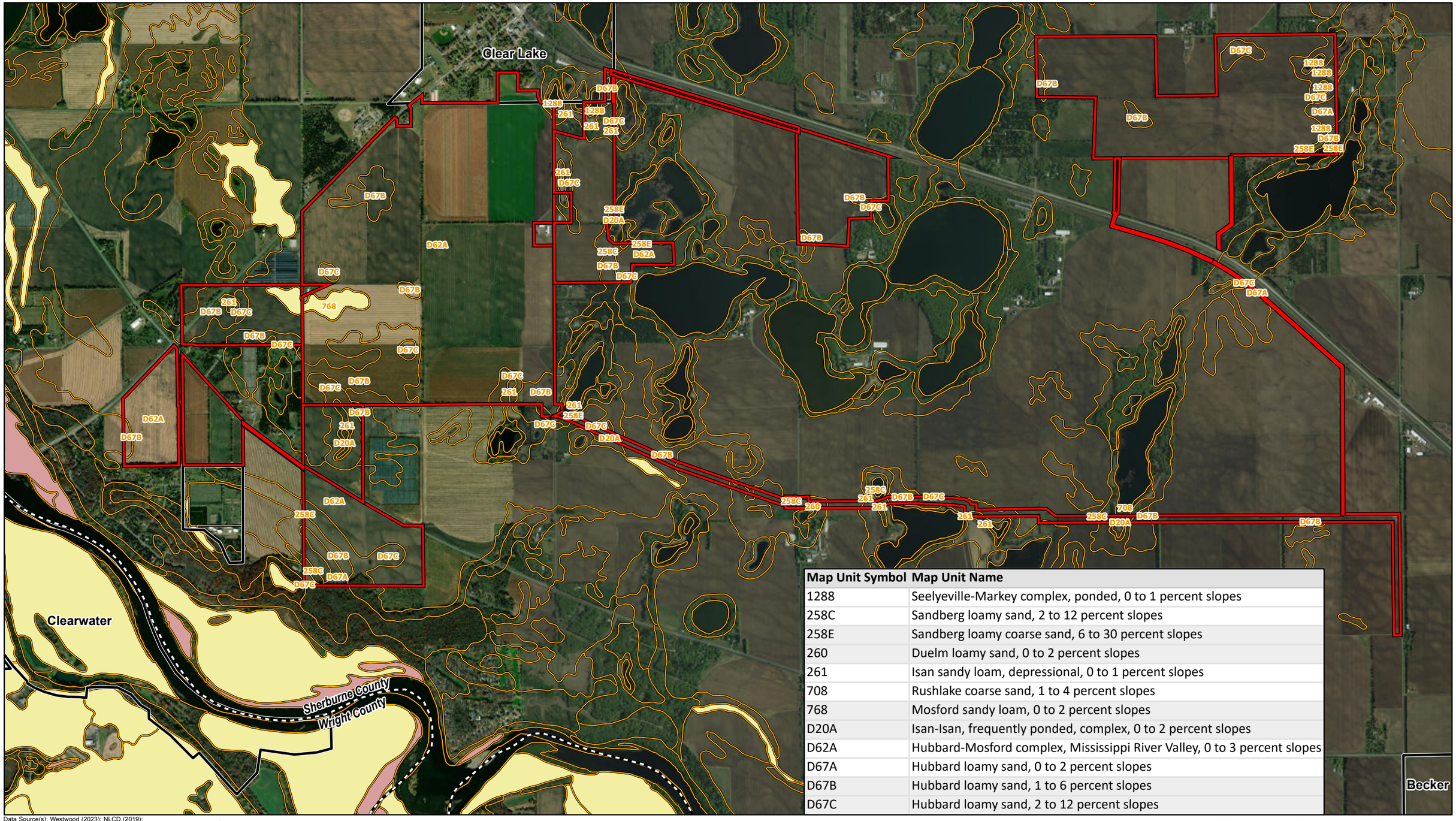
Sherburne County, Minnesota

Exhibit 1: Land Cover

May, 2023

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Map Document: N:\0036476.00_GIS_ArcPro\R0036476_040_SPAFigures\R0036476_040_SPAFigures_230517.aprx, 5/18/2023 1:06 PM EMBoisen



Map Unit Symbol	Map Unit Name
1288	Seelyeville-Markey complex, ponded, 0 to 1 percent slopes
258C	Sandberg loamy sand, 2 to 12 percent slopes
258E	Sandberg loamy coarse sand, 6 to 30 percent slopes
260	Duelm loamy sand, 0 to 2 percent slopes
261	Isan sandy loam, depressional, 0 to 1 percent slopes
708	Rushlake coarse sand, 1 to 4 percent slopes
768	Mosford sandy loam, 0 to 2 percent slopes
D20A	Isan-Isan, frequently ponded, complex, 0 to 2 percent slopes
D62A	Hubbard-Mosford complex, Mississippi River Valley, 0 to 3 percent slopes
D67A	Hubbard loamy sand, 0 to 2 percent slopes
D67B	Hubbard loamy sand, 1 to 6 percent slopes
D67C	Hubbard loamy sand, 2 to 12 percent slopes

Data Source(s): Westwood (2023); NLCD (2019); U.S. Census Bureau (2021).

Legend

- Project Area
- Soil Unit Boundary
- Municipal Boundary
- County Boundary

Farmland Classification

- All areas are prime farmland
- Farmland of statewide importance

N

0 Feet 2,000

Sherco 3 Solar Project

Sherburne County, Minnesota

Exhibit 2: Soils

May, 2023

Westwood
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Map Document: N:\0036476.00_GIS_ArcPro\R0036476_040_SPAFigures\R0036476_040_SPAFigures_230517.aprx 5/18/2023 1:06 PM EMBolsen

Appendix G

Vegetation Management Plan (VMP)

Xcel Energy
Docket No. E-002/GS-23-217
August 2023

Sherco Solar 3

Vegetation Management Plan

May 2023

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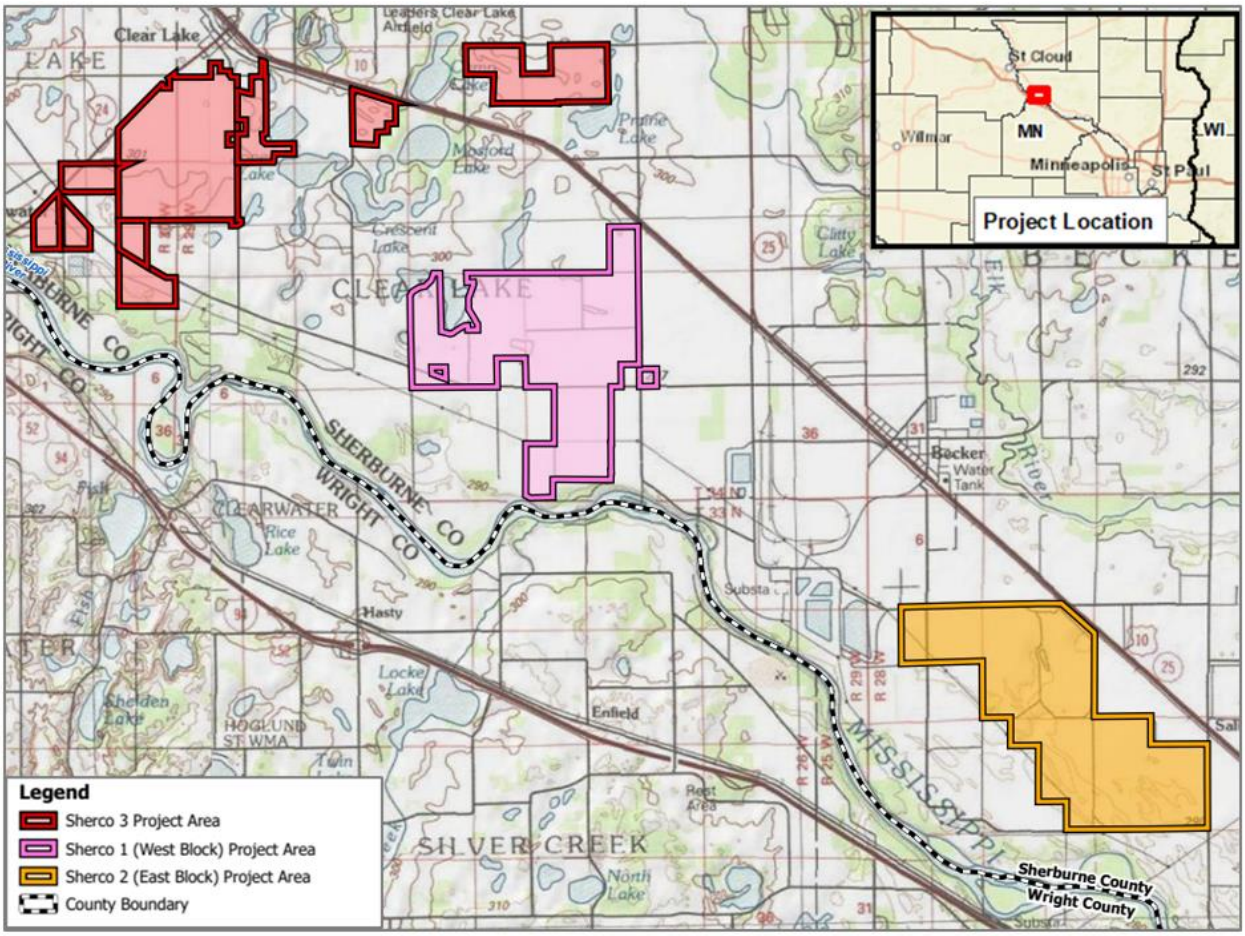
Executive Summary

The Sherco Solar 3 Project (Project) is a 250 megawatt (MW) solar project in Sherburne County, MN. The Project is primarily located in Clear Lake Township (with a very small portion within the City of Clear Lake) and is made up of nine separate units, covering approximately 1,680 acres in total, which are all located generally north and west of the Sherco Solar 1 and 2 Projects (SS1 & SS2; previously called the Sherco Solar Project West Block and East Block).

Figure E-1. Project Location



The Project will affect predominately agricultural cultivated cropland, though none of the soils within the project footprint are classified as prime farmland. The site is relatively flat and is dominated by sandy soil that is excessively drained to very well drained. Most cropland on this soil series is irrigated.

The overall goal of this Vegetation Management Plan (VMP) is to revegetate the site with native plants that are compatible with the operation and maintenance of the solar generation facility and that provide habitat and food for pollinators and other wildlife. Xcel Energy is utilizing the Board of Water and Soil Resources (BWSR) Habitat Friendly Solar program scorecards for project planning and ongoing evaluation to help guide the plan for the site. Over the lifetime of

the solar facility, Xcel Energy will continue to monitor and manage site vegetation for diversity to meet the Habitat Friendly Solar standards and to control invasive and other unwanted species.

Xcel Energy intends to use the knowledge gained from implementing the VMP for SS1 & SS2 to inform practices for vegetation establishment at Sherco Solar 3. The seed mixes developed for SS1 & SS2 will serve as the template for the Sherco Solar 3 mix, however final mixes will not be able to be developed until closer to the start of construction when seed availability can be better determined. Xcel Energy will work with a native vegetation contractor, our construction contractor, and members of the Vegetation Management Plan Working Group (VMPWG) on updates to the plan and seed mixes.

1.0 Introduction

The Sherco Solar 3 Project is a 250 megawatt (MW) solar project on an approximately 1,680-acre site (the site) in Sherburne County, MN (Figure 1). Xcel Energy expects to select Blattner to be the Engineer-Procure-Construct (EPC) contractor for the site. Blattner is currently the EPC for SS1 & SS2, and Blattner and Xcel Energy will be able to bring the knowledge gained from implementing the VMP for those sites to Sherco Solar 3. Blattner has subcontracted with Prairie Restorations Inc. (Prairie Restorations) and Minnesota Native Landscapes (MNL) to assist with finalizing the seed mixes, acquiring seed, and planting on SS1 & SS2 and will use a similar approach for Sherco Solar 3. Xcel Energy, Blattner and the native vegetation contractor will work with members of the Vegetation Management Plan Working Group (VMPWG) on updates to the plan and seed mixes.

The plan for establishment of vegetation at Sherco Solar 3 is similar to, and will draw heavily from, the plan being implemented at Xcel Energy's SS1 & SS2 sites, which are located just east of Sherco Solar 3.

The overall goal of this VMP is to revegetate the site with native plants that are compatible with the operation and maintenance of the solar generation facility and that provide habitat and food for pollinators and other wildlife. Xcel Energy is utilizing the BWSR Habitat Friendly Solar program scorecards for project planning and ongoing evaluation to help guide the plan for the site (Appendix 1 and 2). Over the lifetime of the solar facility, Xcel Energy will continue to monitor and manage site vegetation for diversity to meet the Habitat Friendly Solar standards and to control invasive and other unwanted species.

The objectives that will be utilized to meet the overall goal of this VMP include the following:

- Comply with permit conditions for site revegetation per the Minnesota Pollution Control Agency (MPCA) Construction Stormwater General Permit
- Conduct monitoring that will be used to inform and guide site management techniques
- Manage/control noxious weeds, invasive plants, and other problem plant species identified during monitoring
- Re-seed areas of bare soil where initial planting is unsuccessful

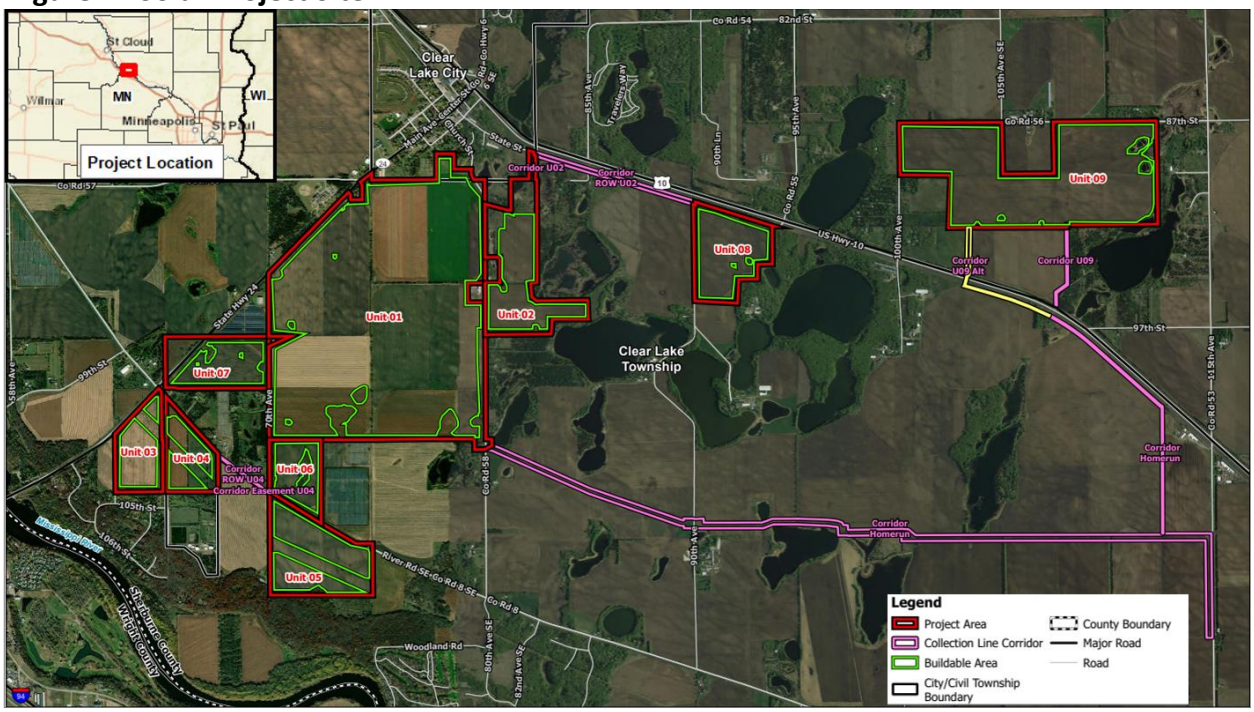
The goals and practices described in this plan are based on current environmental, regulatory, and economic conditions. Should conditions in the future no longer support the currently described goals, or provide opportunities to achieve alternative desirable goals, Xcel Energy will reevaluate the site and develop an updated Plan.

2.0 Site Location and Description

The proposed Project is located in Clear Lake Township in Sherburne County MN. The Project is made up of nine separate units, covering approximately 1,680 acres in total. Eight of the nine units, (1,354 acres) are located south of Highway 10, with a single unit, Unit 9 (326 acres), located north of Highway 10, just south and east of County Road 56. The entire site is north of the Mississippi River and generally north and west of the SS1 & SS2 Projects (previously called

the Sherco Solar Project West Block and East Block).

Figure 1. Solar Project Site



An underground collector system will be installed which will connect the solar facility units back to the west collector substation located at Shero Solar 1. Collection corridors (approximately 100 acres in total) will be returned to current uses/pre-existing conditions following restoration. Restoration of agricultural lands is addressed in the Agricultural Mitigation Plan.

2.2 Existing Land use and Land Cover

The Project will affect predominately agricultural cultivated cropland (Figure 2), though none of the soils within the project footprint are classified as prime farmland. Typically, corn, soybeans and potatoes are grown in the area. Trees, primarily cottonwood and boxelder, are present as shelterbelts between agricultural fields and along some roads; there are no large tracts of forested land within the Project footprint. A review of historic aerial photos shows that the site has been in agricultural cultivation since before 1938 (Figure 3). Several rural residences are located adjacent to the proposed site, with one located inside of unit 5 as an exclusion lot on 80th Ave. Agricultural storage facilities are located on another exclusion lot across the road from this residence.

Figure 2. Land Use/Cover

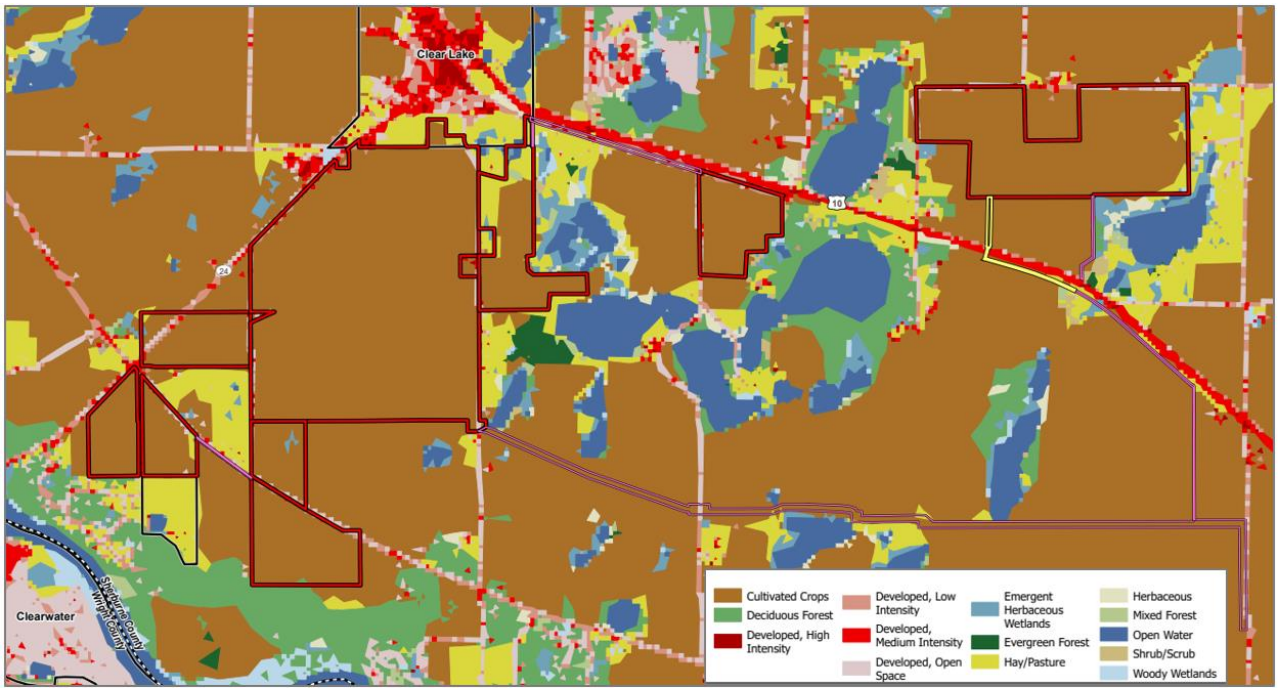
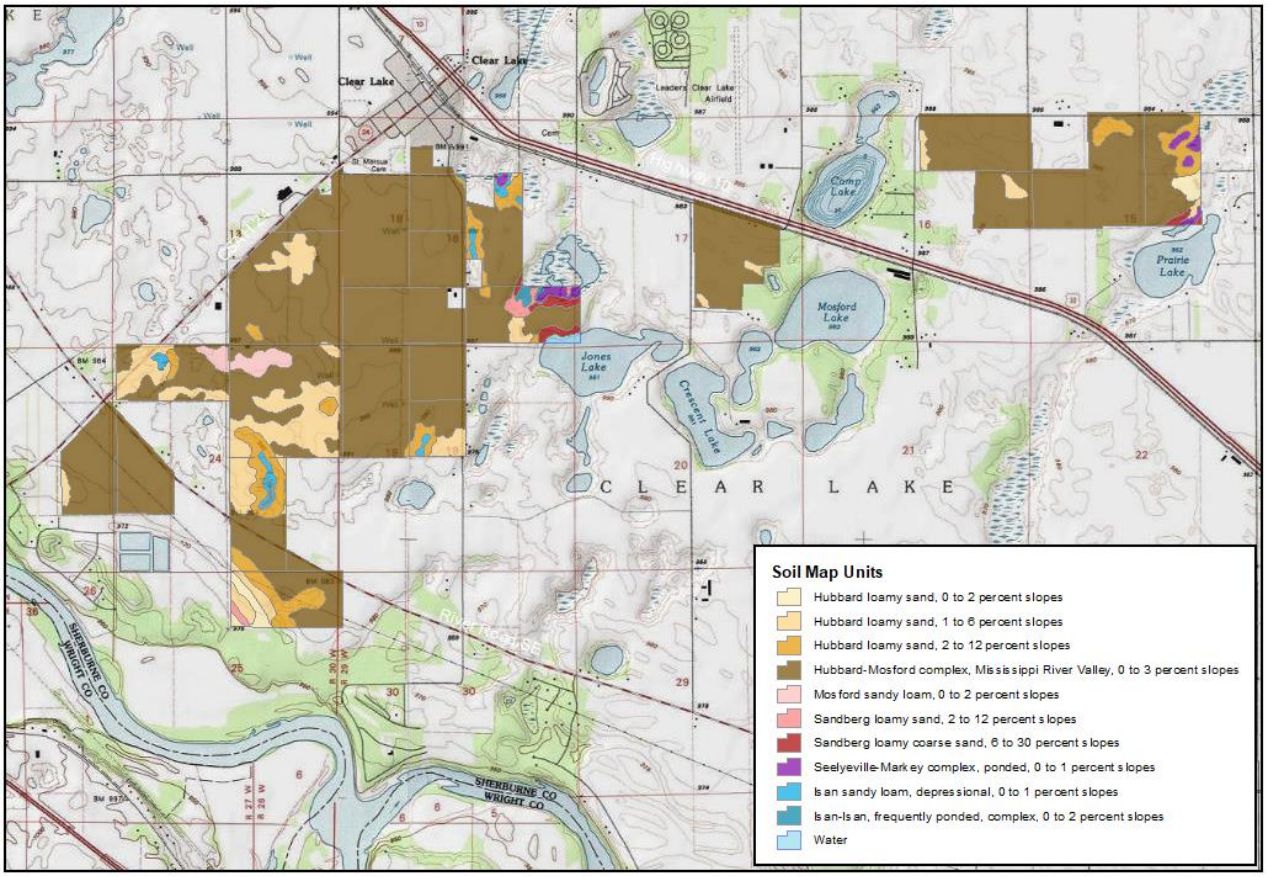


Figure 3. 1938 Historic Aerial Photos

2.3 Soils

The Soil Survey Geographic Database ("SSURGO") is the digitized county soil survey and provides Geographic Information System data relating soil map unit polygons to component soil characteristics and interpretations. Soil data for the Sherco 3 footprint is shown below (Figure 4). The site is dominated by Hubbard-Mosford complex soils with 0-3 percent slopes (approximately 77%). This is a sandy soil that is excessively drained to very well drained. Most cropland on this soil series is irrigated. Due to the sandy soils, there are no known drain tiles in the site. There are several center-pivot irrigation systems that are anticipated to be decommissioned during the Project's construction.

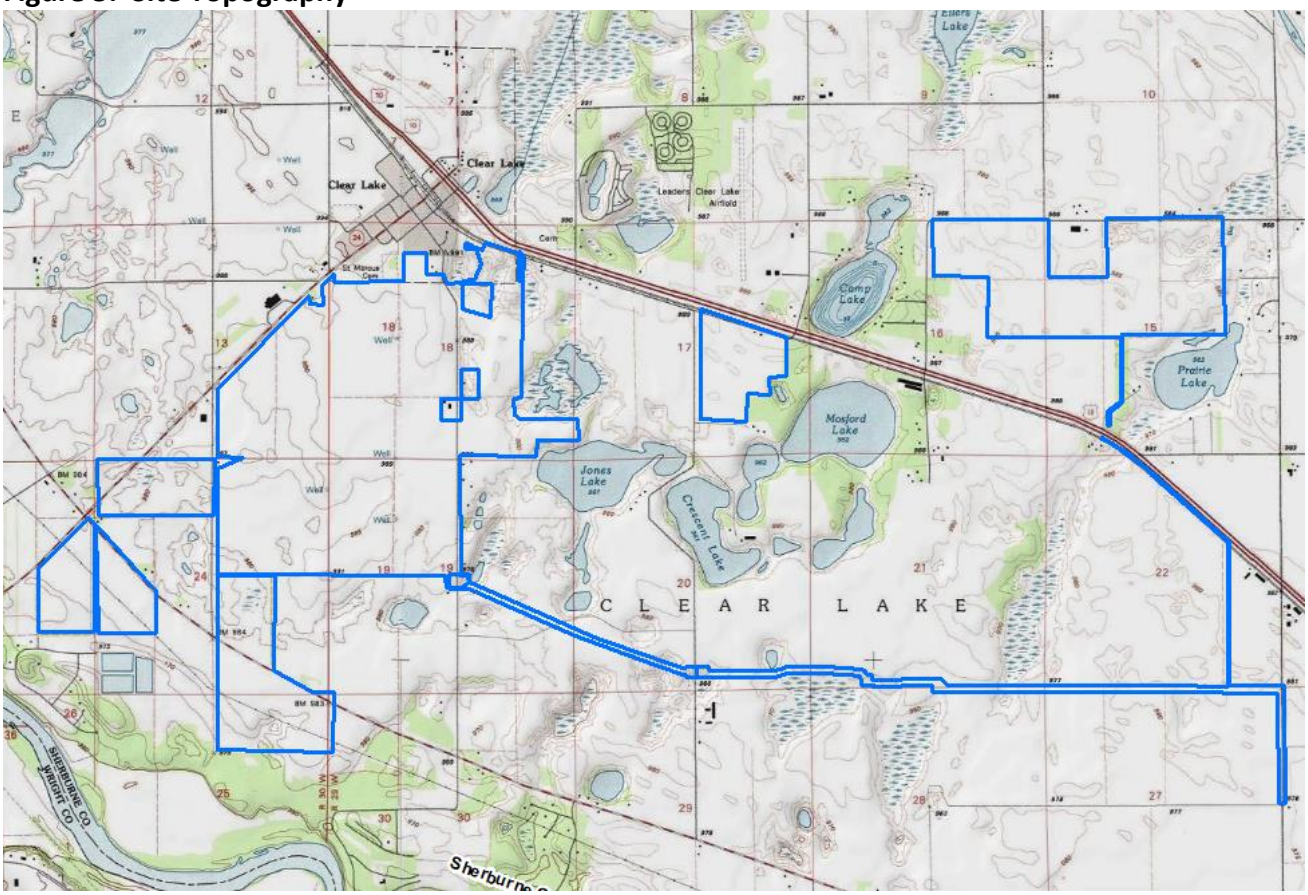
Figure 4. Soils



2.4 Topography

The site is located on a sandy glacial river floodplain terrace along the Mississippi River. The topography of the area is generally flat with elevations ranging from 970 to 990 feet above sea level and a depth to bedrock of typically less than 200 feet (Figure 5).

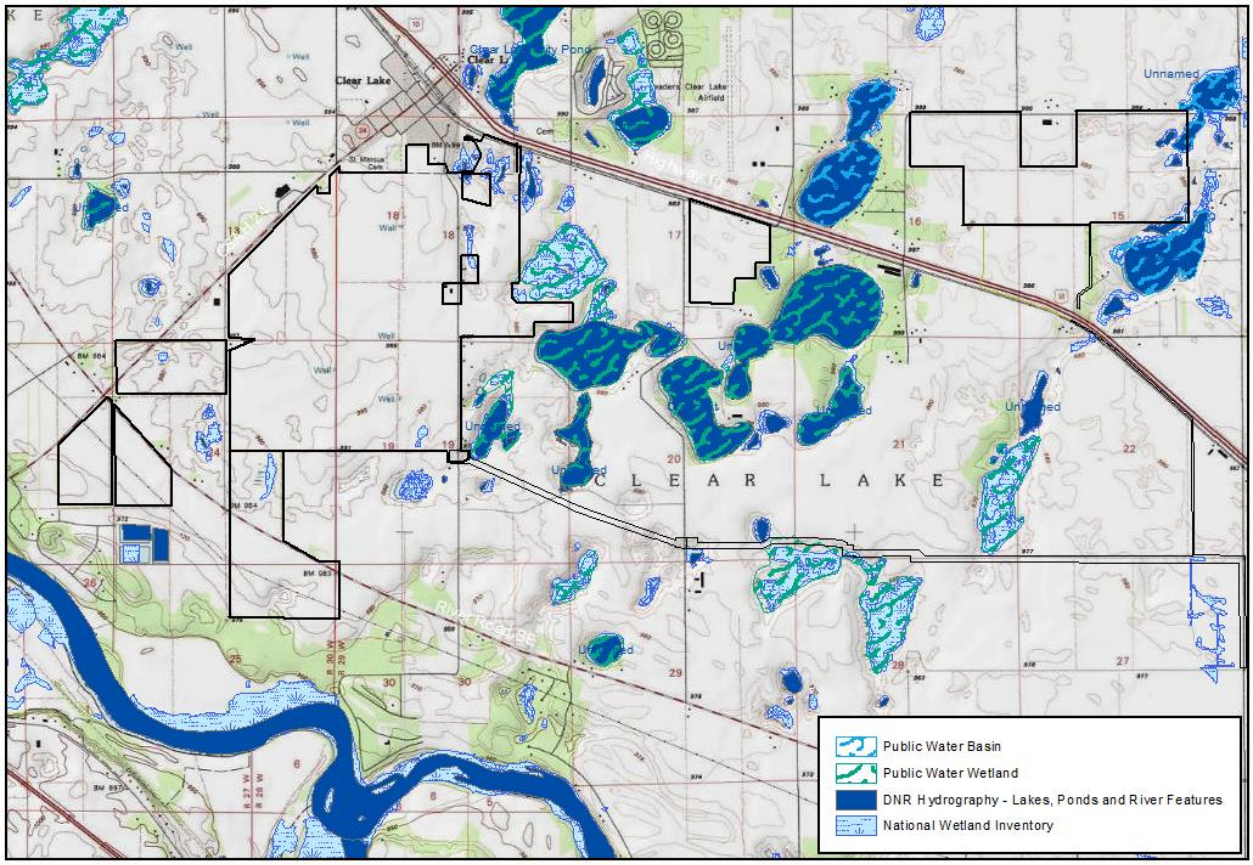
Figure 5. Site Topography



2.5 Hydrology

The site is located in the Upper Mississippi-Crow-Rum Watershed. Larger open-water wetlands and small lakes are located outside of the boundary between Units 2 and 8 and another group of small lakes is located just east and southeast of Unit 9. There are eleven NWI wetlands located within, or partially within, the project boundary. There are no streams within the site. A wetland delineation has been completed for Units 1 and 2. Delineations for units 3-9 will be completed in 2023.

Figure 6. Hydrology Features



3.0 Management Units

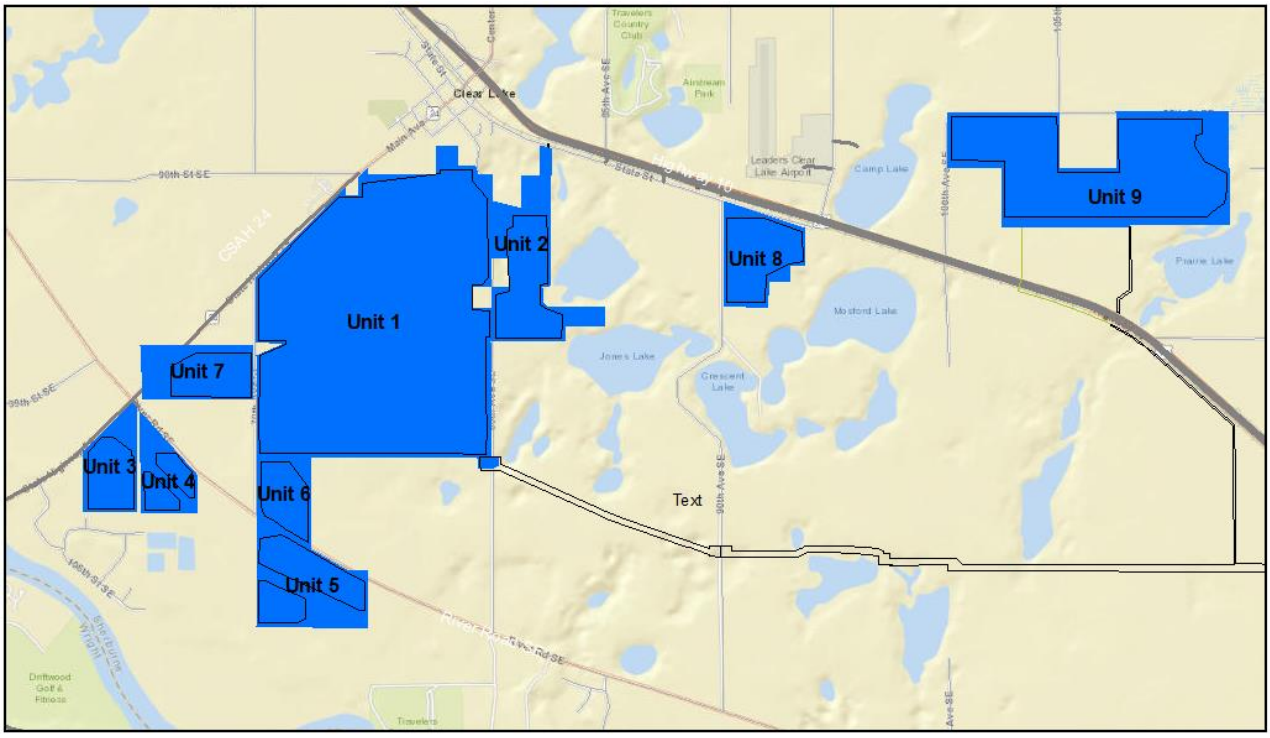
As noted in the introduction, Sherco Solar 3 is divided into nine management units (see Figure 7). The units are delineated by project boundaries and roads that intersect or run between parts of the site. As noted in the land use section most of these lands are farmed with a rotation of corn, soybeans and potatoes.

- Unit 1 is the largest unit (approximately 785 acres) and is located between 70th Avenue and Highway 24 on the west and County Road 58/80th Ave on the east. It extends from River Road on the south and the city of Clear Lake on the north.
- Unit 2 (approximately 124 acres) is located directly across the road from Unit 4 on the east side of County Road 58/80th Avenue.
- Units 3 & 4 (approximately 58 and 52 acres) are located southeast of Highway 24 and Southwest of River Road SE. The Units are divided by a private gravel road which runs north/south and an existing overhead transmission line which crosses the site from northwest to southeast, approximately parallel to River Road.
- Unit 5 (approximately 113 acres) is east of Unit 4 and south of River Road. The overhead transmission line continues across Unit 5 to the southeast.
- Unit 6 (approximately 52 acres) is located north of Unit 1 and River Road. between Highway 24 and 70th Avenue.
- Unit 7 (approximately 81 acres) is west of 70th Ave SE, with a portion located on the northwest

side of Highway 24 (this area is not currently utilized in the preliminary site layout and may remain in agricultural use).

- Unit 8 (approximately 89 acres) is located just east of 90th Ave SE and south of County Road 55, which runs parallel to the railroad corridor and Highway 10.
- Unit 9 (approximately 326 acres) is north of Highway 10 just east of 100th Ave SE/County Road 56 and south of 87th St SE/County Rd 56.

Figure 7. Management Units



3.1 Management Unit Objectives

The objectives for vegetation establishment for all nine of the management units are the same, and match those listed in the introduction. In addition to those general objectives the following apply to all management units:

Short term objectives:

- Prevent or minimize soil movement between management units. Protect topsoil by segregating topsoil from all areas that require site balancing (cut and fill to even out slopes) prior to moving subsoils for balancing and decompacting after replacing topsoil following balancing
- Maintain compliance with the Project's Stormwater Pollution Prevention Plan (SWPPP) and the MPCA's Construction Stormwater General Permit through regular inspections, BMP maintenance and repairs
- Install native seed mixes that meet the following characteristics as identified in the Habitat Friendly Solar Site Assessment Form for Project Planning:
    - 51-75% of site dominated by native species

    - 21-30% to be wildflowers
    - 20-25 species per seed mix
    - Include 3 species that bloom in each spring and summer
- Monitor site to:
    - Identify and address any invasive or problem plants and treat promptly if encountered
    - Identify areas where additional seeding is needed to fill bare spots
    - Determine need for site mowing

Long term objectives:

- Maintain established vegetation to maintain certification through BWSR Habitat Friendly Solar program
- Continue annual site monitoring to determine native vegetation success and identify any problem areas
- Complete the BWSR *Habitat Friendly Solar Site Assessment Form for Established Plantings* every three years to retain Habitat Friendly status.

4.0 Vegetation Establishment and Management Practices

A variety of practices will be utilized throughout implementation of the Project and management of the site post-construction. These management activities may be adjusted in response to unforeseen circumstances or adjustments in overall Project schedule.

4.1 Site Preparation

Site preparation includes those activities used to prepare the site for installation of solar facilities as well as to prepare the site for planting. To stabilize the soils, existing vegetation or plant material will be retained on the surface in areas that do not need to be graded. The first phase of construction will involve installation of perimeter sediment and stormwater BMPs. Any areas of invasive or problem plant species identified during BMP installation will be noted, and those areas will be treated prior to beginning other construction activities. In some cases, Xcel Energy may work with landowners to pre-treat areas in the prior growing season. Tree clearing, grubbing and stump removal will come next, followed by site balancing (cut and fill to even out slopes) and road building. Site balancing will be planned in a way that minimizes transport of soils as much as possible. During the site grading stage, Project access roads will also be installed. As noted in the objectives above, topsoil will be segregated during grading and redistributed across graded areas following balancing. Once site balancing is complete all topsoil that has been impacted by construction activities will be decompacted. Decompaction will be performed with chisel plows, rippers, or tillers depending on the depth and severity of the compaction. When necessary, decompaction will be followed by disking to prepare a smooth, evenly textured soil surface.

4.2 Site Seeding

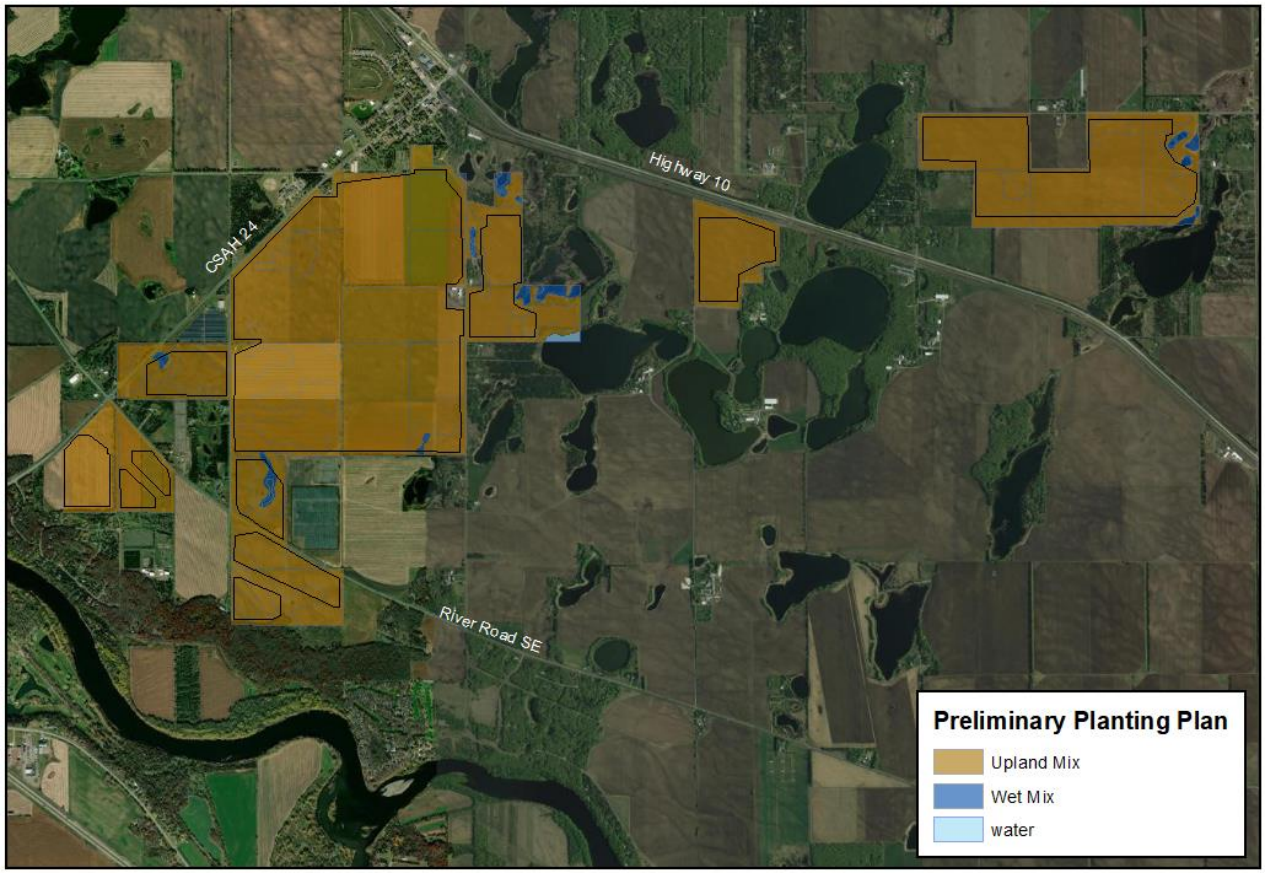
Site seeding is anticipated to be completed after site preparation/balancing and prior to start of

installation of solar facilities. Seed installation will utilize seed drill, broadcast seeding or a combination of the two methods. Seeding methodology will be informed by methods used on SS1 & SS2 and will use those that were most successful. To the extent practicable, construction vehicle traffic will be minimized once seeding has been completed in a given area. Transport and installation of solar equipment will require some vehicle travel across seeded areas, but site access roads will be used whenever possible. Any areas that have been seeded, and where equipment will not be installed, will be flagged off or otherwise identified as areas to avoid vehicle travel.

Seed mixes will likely include many or most of the species used in SS1 & SS2. Specific mix details such as species composition and quantities will be determined closer to project construction based on availability of seed at that time. The seed mixes being used at SS1 & SS2 were developed in consultation with Prairie Restorations, Minnesota Native Landscapes and members of the VMPWG, and are included in Appendix 3. Seed for this project will be based on those mixes, with adjustments in quantities or substitutions of species as needed based on seed availability. All mixes will include a temporary cover crop to expedite temporary stabilization. A majority of the site will be planted with the upland dry mix, with smaller areas planted with the wet mix (Figure 8). A practicable effort will be made for genetic source origin of all native seed to be local, ideally from within a 200-mile radius of the Project Site, and plant species will be native to central Minnesota.

Prior to or shortly after the planting of native species, Xcel Energy will contact each owner of land surrounding the site that is not separated from the site by a public road right-of-way to inform them of the native plants planted pursuant to this VMP, the likely use of the vegetation by wildlife and pollinators and the need to avoid and minimize pesticide drift from adjacent land. No buffer zone of varying vegetation is proposed. Any pesticide drift will reduce the variety of species in the area impacted, but other species in the mix will remain and be reinforced by seed from neighboring planted areas over time.

Figure 8. Preliminary Planting Plan



4.3 Seed Substitutions

Procurement of the necessary quantity of seeds can be difficult for such a large site. Sourcing of proposed seed mixes will be done as early as practicable. Once seed mixes have been developed and approved any substitutions to seed mixes will be completed by a qualified professional with sufficient botanical experience identifying native plants, native plant communities, invasive species, and non-native species typical of Minnesota. Any substitution will be approved by Xcel Energy prior to implementation, and any substitutions will be required to be consistent with this VMP's stated goals and objectives.

4.4 Landscape Screening Areas

Xcel Energy will work with adjacent landowners to determine the need for potential landscape screening areas consisting of trees and shrubs. Screening may be applied to disrupt the direct line of site between the nearby residence and the solar array. Species that may be used in the screening areas are listed in table 1 below.

Table 1. Representative Woody Plants for Sherco Screening

DECIDUOUS & CONIFEROUS TREES*			
Scientific Name	**Common Name**	**Container Size**	**Spacing**
Crataegus arnoldiana 'Homestead'	Homestead Arnold Hawthorn	10#	14' o.c.
Juniperus virginiana	Eastern Red Cedar	10#	15' o.c.
Picea glauca 'Densata'	Black Hills Spruce	10#	15' o.c.
Pinus banksiana	Jack Pine	10#.	15' o.c.
Quercus marcrocarpa	Bur Oak	10#	15' o.c.
DECIDUOUS & CONIFEROUS SHRUBS			
Scientific Name	**Common Name**	**Container Size**	**Spacing**
Amelanchier sanguinea	Roundleaf Serviceberry	5#	6' o.c.
Aronia melanocarpa	Black Chokeberry	5#	6' o.c.
Cornus racemosa	Gray Dogwood	5#	6' o.c.
Corylus americana	American Hazelnut	5#.	6' o.c.
Juniperus communis	Common Juniper	5#	6' o.c.
Prunus americana	American Plum	5#	6' o.c.
Rhus glabra	Smooth sumac	5#	6' o.c.

*****Vegetation species are representative of species that provide adequate screening. Other species may be considered that provide similar screening outcomes based on sourcing needs.

4.5 Vegetation Management During Construction

Once installation of pilings and panels begins, site vegetation management will focus on addressing any bare areas by seeding with a temporary cover crop and addressing any invasive or noxious weeds that emerge. Monitors will be utilized throughout construction to track handling of soils, installation of seed, and construction impacts. Areas that need to be addressed will likely be identified by unit and array block when directing maintenance or remediation activities.

Overall, the site will be highly dynamic, with varying stages of construction expected. Site preparation, seeding, and management of each unit will take place at different times throughout construction. Equipment installation will generally be sequenced by array blocks, with multiple blocks sometimes completed at the same time. Utilizing array blocks to track and document any issues will help to simplify communication and restoration outcomes for the Project.

4.6 Vegetation Management after Construction Completion

After construction is complete, vegetation management activities are expected to vary in response to stage of vegetation establishment as described below.

Establishment Year 1

The first year of establishment is focused on consistent invasive plant control on a site-wide basis. Mowing during the first year may be used to prevent invasive plants from adding new seeds to the soil and begin to exhaust the soil seed bank (a process that often requires several years to complete). If mowing is needed, vegetation will typically be mowed to a height of 6 to 9 inches after vegetation reaches an initial height of approximately 18 to 24 inches.

To help prevent thatch buildup onsite, mowing may be conducted with a flail-type mower to mulch the cut vegetation, or the site may be hayed so that cut vegetation is removed. Spot-mowing with brush saws, weed whips, and similar equipment could also be successfully implemented. Mowing equipment will be cleaned prior to use onsite to prevent the introduction and spread of invasive and non-native species.

Any mowing in wet areas, if needed, will also be limited to periods when the wet areas are not susceptible to rutting or compaction. Spot-spraying, use of a swing arm, brush saws, weed whips or similar equipment may be used in wet areas as necessary to prevent soil damage when the soils are wet.

Establishment Years 2-3

The second and third years of establishment involve continued invasive plant control but will generally employ more targeted techniques. Vegetation will be mowed to a height of 6 to 9 inches in the fall when native plants have gone dormant, if necessary, or when vegetation height reaches approximately 18 to 24 inches. Spot-mowing may also be employed to treat specific problem areas as needed. Noxious and perennial weeds will be treated with spot-herbicides necessary to achieve performance standards.

Establishment Years 4-5

It is anticipated that vegetation will have met the establishment goals by this time. If so, refer to Section 4.7. If additional establishment treatment is necessary, implementing the process laid out for year 3 is recommended.

4.7 Perpetual Maintenance of Vegetation

Following the end of the establishment phase of vegetation management, yearly management is still necessary to promote and maintain the desired vegetation community, prevent the establishment and spread of invasive species or undesirable species, and reduce biomass/fuel load onsite. The primary tool for biomass reduction will be mowing. Some degree of hand weeding, spot-mowing, and/or spot-herbicide treatment may be warranted thereafter to maintain vegetation quality and achieve the VMP goals (see Section 5).

Mowing

Once site vegetation is established, maintenance mowing will only be done if deemed necessary due to plant height or to address problem areas. Mowing to a height of 6 to 9 inches is recommended in the fall when native plants have gone dormant and nesting season is over. At the discretion of Xcel Energy, and assuming that vegetation is not hindering solar energy

production, an effort will be made to mow each solar array on a rotational basis to allow overwintering insects to complete their life cycles and provide winter cover for other wildlife. Implementation of rotational mowing will depend on the rate of weed and woody plant invasion detected during annual inspections, and if it is determined that vegetation height is not a hindrance to solar energy production.

Re-seeding Bare Soil

A variety of factors can result in the formation of areas of bare soil over time. If areas of bare soil greater than 75 square feet are found onsite, each area will be assessed to determine if it should be overseeded with the same seed mix as previously applied or if an alternative seed mix is required, depending on site conditions observed.

5.0 Treatment for Common Invasive Species, Noxious Weeds and Problem Plants

All Minnesota prohibited noxious weeds and other problem plants will be treated repeatedly with herbicide and mowed where appropriate at a frequency sufficient to prevent seed set and remove target weeds over time. Each treatment will show evidence of at least 90 percent of the target vegetation having been affected by herbicide or removed. Two weeks after treatment, at least 95 percent of all herbicide-treated plants will be dead or dying within any 100 square foot area. All prohibited noxious and other problem plants will not exceed 5 percent aerial cover within any 100 square foot area across the site.

5.1 Treatment for Common Invasive Species and Problem Plants

Invasive plant species may be present based on the makeup of the seed bank and the seed inputs from the surrounding environment, so management must be flexible and respond to the specific needs of the site. This VMP describes common techniques to manage a variety of invasive plants and common weeds growing in Minnesota, but not every technique will be required. In the establishment period, regular evaluations of the plantings will be conducted during the growing season (May to September) to determine the appropriate treatment techniques prior to such plants flowering or producing seeds. Management techniques for the categories of weeds described in Table 2 below include mowing, cutting, and spot-spraying.

Treatment of problem plants will likely be completed by a contractor that specializes in invasive/problem plant control. The contractor will be required to have the botanical expertise to correctly identify plant species described below and know the difference between species that must be removed and similar-looking native species being established.

Table 2. Problem Plants

Category	Example Species
Annual Weeds (compete with native plants)	Grasses such as barnyard grass (*Echinochloa crus-galli*), witchgrass (*Panicum capillare*), fall panicum (*P. dichotomiflorum*), and foxtails (*Setaria* spp.), and broadleaf weeds like lambsquarters (*Chenopodium* spp.), velvetleaf (*Abutilon theophrasti*), Pennsylvania smartweed (*Polygonum pensylvanicum*), and black nightshade (*Solanum nigrum*)
Perennial Weeds (compete with native plants)	Grasses such as Kentucky bluegrass (*Poa pratensis*), reed canary grass (*Phalaris arundinacea*), common reed (*Phragmites australis*), and several species of bromes, especially smooth brome (*Bromus inermis*). Broadleaf weeds in this category include sweet clovers (*Melilotus alba, M. officinalis*), crown vetch (*Securigera varia*), birdsfoot trefoil (*Lotus corniculatus*), Canada thistle (*Cirsium arvense*), and spotted knapweed (*Centaurea stoebe*).
MN Dept of Ag Noxious weeds	Plants the Dept of Agriculture designates as having the potential or are known to be detrimental to human or animal health, the environment, public roads, crops, livestock or other property. See Appendix 4.
Problematic Native plants (may shade out solar panels)	Giant ragweed (*Ambrosia trifida*) grows tall enough to shade the panels. Several native vines have the potential to overgrow installations, including wild grape (*Vitis riparia*), wild cucumber (*Echinocystis lobata*), bur cucumber (*Sicyos angulatus*), and woodbine/Virginia creeper (*Parthenocissus* spp.)
Woody species (may shade out panels)	All woody shrubs and trees are to be removed

6.0 Monitoring and Adaptive Management

Once the vegetation has been installed and established, ongoing success of the plan will depend on monitoring of the site and adapting to issues or changes that arise. Xcel Energy will use a native vegetation consultant to complete site monitoring.

6.1 Monitoring

A monitor will begin site assessments in year 1 of establishment, regardless of SWPPP status. During construction activities, a SWPPP inspector and an environmental compliance monitor will be responsible for ensuring compliance with construction stormwater permit requirements. The environmental monitor will be a qualified professional with sufficient botanical experience identifying native plants, native plant communities, invasive species, and non-native species typical of Minnesota.

Prior to construction stormwater permit closure, weekly inspection and monitoring following rain events is required. Construction contractors, including native vegetation specialists, will be prepared to address issues noted by the SWPPP inspector, which will include monitoring for vegetation establishment. On-site staff will report noxious weeds as they are encountered.

Following project completion and construction stormwater permit closure, a qualified monitor will inspect the site annually to evaluate the site vegetation and plan management activities for the upcoming year utilizing the BWSR Habitat Friendly Solar Monitoring Form (Appendix 5). At the end of the third year of vegetation establishment, and every three years afterwards, a qualified professional will complete the BWSR *Established Project Assessment Form* (Appendix 5). Monitoring will be coordinated with BWSR staff and will likely include a mixture of fixed monitoring points and random walk monitoring. Site images showing the current vegetation at fixed points will be collected throughout the duration of the solar Project.

6.1 Vegetation Targets

Monitoring assessments will be focused on practices necessary to achieve and maintain Habitat Friendly Solar status. At year 3, Xcel Energy anticipates achieving Habitat Friendly Solar status established in the BWSR Established Project Assessment Form (Appendix 2). Vegetation targets for the site at and beyond year 3 include the following:

- All vegetated areas have at least 70% cover by native species
- At least 20 native species have 1% or greater coverage
- Wildflowers make up at least 17% of site coverage
- At least 3 plants are present that bloom in spring and 3 that bloom in summer
- Noxious weeds, invasive species or problem plants will not exceed 5% coverage

If necessary, areas failing to meet the targets will be remediated by installing additional seed or plugs to ensure native cover and diversity requirements are met.

6.2 Adaptive Management

The expected life of the Project is 35 years and throughout that time ongoing maintenance and repair activities will occur throughout that time. In some cases, facility maintenance activities could lead to damage to site vegetation. Xcel Energy is committed to achieving and maintaining Habitat Friendly Solar status. To accomplish this, it will be necessary to take an adaptive management approach and adjust plans and practices as needed. This may include, but is not limited to:

- Adding additional/other plant species to replace poor performing ones or to increase diversity
- Adjusting mowing frequency, timing, equipment type
- Utilizing new technologies for monitoring
- Implementing best practices identified during perpetual maintenance

References

Minnesota Board of Water and Soil Resources ("BWSR"). 2023. Minnesota Habitat Friendly Solar Program. Accessed April 2023 at https://bwsr.state.mn.us/minnesota-habitat- friendly-solar-program.

Minnesota Department of Agriculture ("MDA"). 2023. Minnesota Noxious Weed List. Accessed April 2023 athttps://www.mda.state.mn.us/sites/default/files/docs/2023-01/2023NoxiousWeedListFactsheet.pdf

Minnesota Department of Commerce, Division of Energy Resources, Energy Environmental Review and Analysis. 2023. Guidance for Developing a Vegetation Establishment and management Plan for Solar Facilities. Accessed April 2023 at https://mn.gov/eera/web/project-file/11702/.

University of Minnesota. 2018. Common annual weeds. Accessed April 2023 at https://extension.umn.edu/weed-management/weed-identification

Appendices

Appendix 1. Habitat Friendly Solar Site Planning Form

Habitat Friendly Solar Site Assessment Form for Project Planning

For solar companies and local governments to meet Habitat Friendly standards
5-26-2020

1) PLANNED % OF SITE DOMINATED BY NATIVE SPECIES COVER (wildflowers, grasses, sedges, shrubs, trees)

- ☐ 26-50% +5 points
- ☒ 51-75% +10 points
- ☐ 76% and above +15 points

Total points 10

2) PERCENT OF PROPOSED SITE VEGETATION COVER TO BE DOMINATED BY WILDFLOWERS (not grasses and sedges)

- ☐ 10-20 % +5 points
- ☒ 21-30 % +10 points
- ☐ 31% and above +15 points

Total points 10

Note: Projects may have "array" mixes and diverse border mixes; forb dominance should be averaged across the entire site. The dominance should be calculated from total numbers of forb seeds vs. grass seeds based on seeds per square foot(from all seed mixes to be planted).

3) PLANNED COVER DIVERSITY (# of species in seed mixes; numbers from upland and wetland mixes can be combined)

- ☐ 10-19 species +5 points
- ☒ 20-25 species +10 points
- ☐ 26 or more species +15 points

Total points 10

4) PLANNED SEASONS WITH AT LEAST 3 BLOOMING SPECIES PRESENT (check/add all that apply)

- ☒ Spring (April - May) +10 points
- ☒ Summer (June - August) +5 points
- ☐ Fall (September - October) +5 points

Total points 15

See BWSR Pollinator Toolbox about bloom season.

5) AVAILABLE HABITAT COMPONENTS WITHIN SITE OR WITHIN .25 MILES (check/add all that apply)

- ☒ Native bunch grasses for nesting +3 points
- ☐ Native flowering shrubs +4 points
- ☒ Clean, perennial water sources +3 points
- ☐ Created nesting feature/s (bee blocks, etc.) +4points

Total points 6

6) SITE PLANNING AND MANAGEMENT

- ☒ Detailed establishment and management plan (see notes) developed with funding/ contract to implement. +15 points
- ☒ Signage legible at forty or more feet stating pollinator friendly solar habitat (see notes for number of signs). +5 points

Total points 20

7) SEED MIXES

- ☒ Mixes are composed of at least 40 seeds per square foot. +5 points
- ☐ All seed genetic origin within 175 of site (see notes). +8 points
- ☐ At least 1% milkweed cover to be established from seed/plants. +10 points

Total points 5

8) INSECTICIDE RISK

- ☐ Planned on-site insecticide use or pre-planting seed/plant treatment (excluding buildings/electrical boxes, etc.). -40 points
- ☒ Communication with local chemical applicators/neighbors about need to prevent drift from adjacent areas (see notes). +10 points

Total points 10

Grand Total 86

Gold Standard - Provides Exceptional Habitat 85+

Meets Pollinator Standards 70

Project Name: Sherco Solar 3
Vegetation Consultant: TBD
Project County: Sherburne
Project Size: 1690 acres
Projected Seeding Date: TBD

See notes related to the question on the back side of this form.

Appendix 2. Habitat Friendly Solar Site Monitoring and Site Assessment for Established Plantings Forms

Habitat Friendly Solar Monitoring Form

Minnesota Habitat Friendly Solar Program

mn BWSR

Project Name:	Location:
Unit/Area (include a form for each Unit and area with different seed mixes:	Seed Mix:
Date of Site Visit:	Reviewer/organization.:
Year and season of seeding:	Is there a grazing plan being followed?:

Past management:

Goals for Project: __Meeting Habitat Friendly Solar Standards; __Native Species dominance; __Managed Grazing;___ Honey bee forage; ___ Pollinator habitat; ___ Songbird habitat; ___ Water Management; ___Carbon Sequestration; ___ Soil Health
Other:

Scientific Name	Common Name	Percent Cover	Species Planted/Seeded*	Species Status^ N/NN/I	Bloom Season^ SP,SU,F

^Under the heading of “Species Status” N = Native NN= Non Native and I = Invasive (Based on DNR website)
^Under the heading of “Bloom Season” SP = Spring SU = Summer F = Fall

*Attach seed mixes and map of assessment area

% Native Species Cover:	% of site dominated by wildflowers:	Cover Diversity (of plant with greater than 1% cover and not including noxious weeds:

Overall condition of site:
A – On track to meet project goals and lack of correction needed
B – Moderate progress toward project goals and some corrections needed
C – Not on track to meet project goals and correction needed

Comments:

Topsoil observations related to vegetation growth:

Wildlife observations:

Habitat Components Present (bunch grasses, flowering shrubs, clean water sources, bee nest boxes):

Habitat/Pollinator Signage and number of signs:

Problematic weeds:

Management/Corrective Action Recommendations:

Minnesota Department of Natural Resources
Minnesota Board of Water and Soil Resources

Meander Survey Guide (Modified from LCCMR Guidance)

This survey method can be used when surveying vegetation and tracked in the Habitat Friendly Solar monitoring form in the above document.

Rationale

Documenting species presence and relative abundance provides useful information for assessing the outcomes of the project work and the condition of restored or enhanced habitats (Wortley et al., 2013). This standard data collection and presentation process provides a consistent format for reviewing evaluations and comparing outcomes.

Meander Guide

Site assessors should conduct a meander survey of project sites noting species presence and cover range using the following guidelines.

- Meander surveys involve walking "randomly" through a site and noting each new species—in particular, noting where planted species occur and their percent cover
- The base meander time is 30 minutes, unless the entire solar site can be covered in less time. If three or more new species are identified during the last 10 minutes of the timed meander, then an additional 10 minutes are added to the meander. This should be repeated until less than three new species are identified within the 10 minutes. The timing should be paused while identifying plants, taking photos, collecting specimens, etc.
- Conduct a separate meander for each unit/area with a unique seed mix
- Note location of field meanders and time surveyed on a map to be attached with the data form.

Percent Cover

Scientific Name	Common Name	Percent Cover	Species Planted/Seeded*	Species Status^
Echinacea purpurea	Purple Coneflower	1%	Yes	Non-native
Phalaris arundinacea	Reed Canary Grass	25%	No	Invasive

List the percent cover (relative cover) of individual species. The total cover of all species can be greater than 100%. The diagrams below can be used to estimate percent cover.

In the species list indicate if the species was planted. For the species status column indicate if species are native (to Minnesota), non-native (to Minnesota), or invasive.

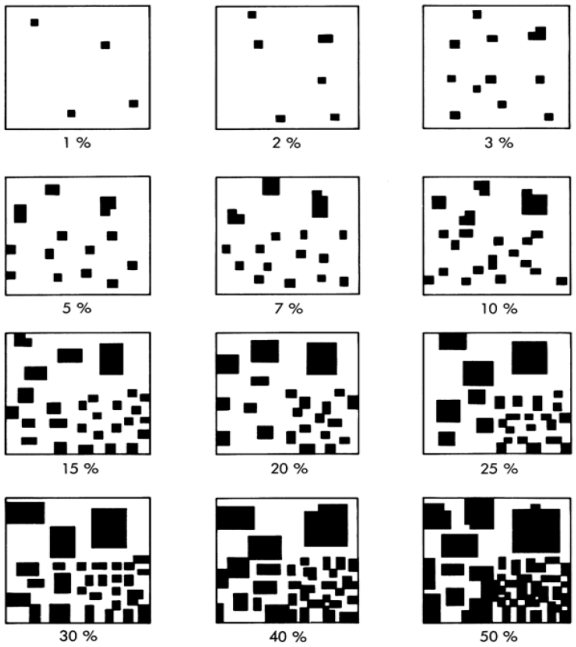


Figure 1 – Ocular guide from Bohnen & Galatowitsch, 2016.

Bohnen, J, and S Galatowitsch. “Restoration Evaluation Project vegetation Monitoring Tool University of Minnesota”. https://www.lccmr.leg.mn/pm_info/restoration_evaluations/Restoration_Evaluation_Project_Vegetation_Monitoring_Tool.pdf

Wortley, L, J-M Hero, and M Howes. "Evaluating ecological restoration success: a review of the literature." *Restoration Ecology* 21.5 (2013): 537-543.

Habitat Friendly Solar Site Assessment Form for Established Plantings (after year 3)

For solar companies and local governments to meet Habitat Friendly Standards

5-07-2021

1) % OF SITE DOMINATED BY NATIVE SPECIES COVER (wildflowers, grasses, sedges, shrubs, trees)

- ☐ 5-25% +5 points
- ☐ 26-50% +15 points
- ☐ 51-75% +20 points
- ☐ 76+ +25 points

Total points ☐

2) PERCENT OF SITE DOMINATED BY WILDFLOWERS (not grasses and sedges)

- ☐ 5- 8 % +10 points
- ☐ 9-16 % +15 points
- ☐ 17-25 % +20 points
- ☐ 26-34 % +25 points
- ☐ 35+ +30 points

Total points ☐

3) COVER DIVERSITY (# of plant species with >1% cover)

- ☐ 1-9 species +5 points
- ☐ 10-19 species +15 points
- ☐ 20-25 species +25 points
- ☐ 26 or more species +30 points

Total points ☐

Exclude invasive/noxious weeds from species totals.

4) SEASONS WITH AT LEAST 3 BLOOMING SPECIES PRESENT (check/add all that apply)

- ☐ Spring (April-May) +10 points
- ☐ Summer (June-August) +5 points
- ☐ Fall (September-October) +5 points

Total points ☐

See BWSR Pollinator Toolbox for Information about bloom season.

5) AVAILABLE HABITAT COMPONENTS WITHIN SITE OR WITHIN .25 MILES (check/add all that apply)

- ☐ Native bunch grasses for nesting +3 points
- ☐ Native flowering shrubs +4 points
- ☐ Clean, perennial water sources +3 points

Total points ☐

6) AVAILABLE HABITAT COMPONENTS ON-SITE (check/add all that apply)

- ☐ At least 1% milkweed cover +5 points
- ☐ Detailed management plan developed (see notes) with funding/contract to implement +15 points
- ☐ Signage legible at forty or more feet stating pollinator friendly solar habitat (see notes for sign numbers) +5 points
- ☐ Constructed and maintained nesting habitat feature/s (bee blocks, etc.) +5 points

Total points ☐

7) INSECTICIDE RISK

- ☐ Planned on-site insecticide use. (excluding buildings/electrical boxes, etc.) -25 points
- ☐ Communication with local chemical applicators/neighbors about need to prevent drift from adjacent areas. +10 points

Total points ☐

Grand Total ☐

Gold Standard - Provides Exceptional Habitat	**85+**
Meets Pollinator Standards	**70**

Project Name _____

Vegetation Consultant: _____

Project County: _____

Project Size: _____

Evaluation Date: _____

See notes related to the questions on the back side of this form.

Notes:

Estimates of percent "cover" should be based on "absolute cover" (the percent of the ground surface that is covered by a vertical projection of foliage as viewed from above). To measure cover diversity use plots, and/or transects in addition to meander searches. Surveys can be conducted April through October, though the highest diversity will be visible during the summer.

All project plans must include detailed vegetation establishment and management specifications (and detailed long-term management planning is encouraged) to ensure the success of projects (see sample specifications on BWSR's Habitat Friendly Solar Webpage).

Question 1 *- The Minnesota DNR List should be used to determine if a species is native. Native species can include wildflowers, graminoids (grasses, sedges, rushes), shrubs and trees.*

Question 2*- Wildflowers in question 2 refer to "forbs" (flowering plants that are not woody or graminoids such as grasses and sedges) and can include introduced clovers and other non-native species (that are not noxious weeds or invasive species) beneficial to pollinators and located anywhere across the state.*

Question 3*- Plant diversity adds to wildlife benefits as well as the resiliency of projects. For this question native and non-native species (that are not noxious weeds or invasive species) that establish at the site and have greater than one percent cover can be combined for the total.*

Question 4*- See BWSR's Pollinator Toolbox for a listing of bloom seasons for species. Non-native clovers can be counted as either spring or summer species but not both.*

Question 5*- The planting of native bunch forming prairie grasses, as well as native flowering shrubs is promoted as part of projects to increase nesting opportunities. It is important that planted bunch grasses are not mowed lower than four inches as part of maintenance activities to prevent damaging them. Any of the habitat components must be within the site or .25 miles of the project for obtaining points.*

Question 6*- Estimates of milkweed percent cover should be based on milkweed present across the entire site.*

To meet requirements for a long-term management plan projects must provide information about:

- *Timing of yearly inspections.*
- *Evidence of funding and a contract for management for at least the first three years.*
- *A detailed native vegetation establishment plan with detailed instructions for contractors.*
- *Detailed maintenance schedule for the first three years of the project listing timing of establishment.*
- *Mowing/trimming, spot herbicide application, prescribed grazing or other management actions.*
- *Proposed maintenance schedule for years four and beyond.*
- *List of weed species that may become problematic at the site and how they will be managed if needed.*
- *Maintenance needs for any constructed nest habitat for the project.*

Visible signage can play an important role in communicating the multiple benefits of Habitat Friendly Solar. Signs must be legible at forty or more feet in locations where the public can view the signs and state that the project is a Habitat Friendly Solar project. At least one sign is required every 20 acres. up to a maximum of 5 signs.

Question 7*- It is important that seeds treated with insecticides are not used at project sites, or that sites are not sprayed with insecticides. To meet requirements for communication/registration with local landowners/ applicators about the need to prevent drift from adjacent areas, information provided can be in the form of email communication or copies of letters. Communication must be provided to all landowners adjacent to the property including municipalities.*

Submit completed form and a sufficient number of images to represent the vegetation across the site. At least three images are recommended for projects under 50 acres. Establishing photo reference points is also recommended. Submit the materials to local government staff with decision making authority for the project or BWSR at ***dan.shaw@state.mn.us****. If points are awarded for communication about insecticide risk (see question 7 above) include copies of the communication to pesticide applicators. If points are awarded for a long-term management plan include a copy of the plan that lists the required information (see question 6 above) unless the plan is already on file with the agency reviewing this information.*

Appendix 3. Sherco Solar 1 and 2
Seed Mixes

Sherco Solar

Phase 1: Main Mix / Dry Upland

Common Name	Scientific Name	Seeds / Pound	PLS Oz / Acre	PLS Pounds / Acre	Seeds / Sq Ft
Side oats grama	Bouteloua curtipendula	96,000	24	1.50	3.31
Blue grama	Bouteloua gracilis	640,000	15	0.94	13.77
Bicknell's sedge	Carex bicknellii	272,000	1	0.06	0.39
Short beak sedge	Carex brevior	464,000	2	0.13	1.33
Canada wild rye	Elymus canadensis	83,200	30	1.88	3.58
Slender wheatgrass	Elymus trachycaulus	110,400	22	1.38	3.48
Red fescue	Festuca rubra ssp.Rubra	500,000	8	0.50	5.74
Little bluestem	Schizachyrium scoparium	240,000	24	1.50	8.26
Schweintz's flatsedge	Cyperus schweinitzii	880,000	1	0.06	1.26
Sand dropseed	Sporobolus cryptandrus	3,200,000	1	0.06	4.59
Total Graminoids			**128**	**8.00**	**45.73**
Yarrow	Achillea millefolium	2,800,000	0.5	0.03	2.01
Leadplant	Amorpha canescens	2,560,000	0.25	0.02	0.92
Common milkweed	Asclepias syriaca	64,000	4	0.25	0.37
Butterfly weed	Asclepias tuberosa	68,800	0.5	0.03	0.05
White prairie clover	Dalea candida	304,000	4	0.25	1.74
Purple prairie clover	Dalea purpurea	240,000	7	0.44	2.41
Prairie cinquefoil	Drymocallis arguta	3,680,000	0.75	0.05	3.96
Wild lupine	Lupinus perennis	17,600	1	0.06	0.03
Wild bergamot	Monarda fistulosa	1,120,000	1	0.06	1.61
Spotted beebalm	Monarda punctata	1,440,000	0.25	0.02	0.52
Stiff goldenrod	Oligoneuron rigidum	656,000	1.75	0.11	1.65
Large beardtongue	Penstemon grandiflorus	224,000	0.5	0.03	0.16
Black-eyed susan	Rudbeckia hirta	1,472,000	2.5	0.16	5.28
Gray goldenrod	Solidago nemoralis	4,800,000	1	0.06	6.89
Fragrant giant hyssop	Agastache foeniculum	90,000	0.5	0.03	0.06
Sky-blue aster	Symphyotrichum oolentangiense	1,280,000	0.75	0.05	1.38
Hoary vervain	Verbena stricta	448,000	1.25	0.08	0.80
Prairie onion	Allium stellatum	176,000	0.5	0.03	0.13
Showy goldenrod	Solidago speciosa	1,520,000	0.5	0.03	1.09
Bush clover	Lespedeza capitata	128,000	1	0.06	0.18
Smooth blue aster	Symphyotrichum laeve	880,000	0.5	0.03	0.63
Longbract spiderwort	Tradescantia bracteata	160,000	0.5	0.03	0.11
Golden alexander	Zizea aurea	192,000	1.5	0.09	0.41
Total Forbs			**32**	**2.00**	**32.39**
Totals			**160**	**10.00**	**78.11**

Sherco Solar

Phase 1: Wet Mix / Stormwater Basins

Common Name	Scientific Name	Seeds/Pound	Oz/Acre	PLS Pounds / Acre	Seeds / Sq Ft
Big bluestem	Andropogon gerardii	160,000	16	1.00	3.67
Fringed brome	Bromus ciliatus	160,000	23	1.44	5.28
Bottlebrush sedge	Carex comosa	480,000	2	0.13	1.38
Fox sedge	Carex vulpinoidea	1,600,000	1	0.06	2.30
Virgin wild rye	Elmus virginicus	67,200	16	1.00	1.54
Fowl manna grass	Glyceria striata	1,440,000	0.75	0.05	1.55
Dudley's rush	Juncus dudleyi	51,200,000	0.15	0.01	11.02
Common Rush	Juncus effusus	18,000,000	0.25	0.02	6.46
Rice cut grass	Leersia oryzoides	544,000	1	0.06	0.78
Fowl bluegrass	Poa palustris	2,080,000	2	0.13	5.97
Green bulrush	Scirpus atrovirens	7,360,000	0.5	0.03	5.28
Wool grass	Scirpus cyperinus	27,200,000	0.2	0.01	7.81
Indian grass	Sorghastrum nutans	192,000	0.5	0.03	0.14
Blue joint grass	Calamagrostis canadensis	4,480,000	0.65	0.04	4.18
	Total Graminoids		**64**	**4.00**	**57.35**
Canada anemone	Anemone canadensis	128,000	2	0.13	0.37
Swamp milkweed	Asclepias incarnata	68,800	3.5	0.22	0.35
Nodding bur marigold	Bidens cernua	336,000	1	0.06	0.48
Common boneset	Eupatorium perfoliatum	2,560,000	0.75	0.05	2.75
Grass-leaved goldenrod	Euthamia graminifolia	5,600,000	0.5	0.03	4.02
Spotted joe pye weed	Eutrochium maculatum	1,440,000	2	0.13	4.13
Common ox-eye	Heliopsis helianthoides	73,600	1	0.06	0.11
Sneezeweed	Helenium autumnale	2,080,000	1	0.06	2.98
Tall blazing star	Liatris pycnostachya	176,000	3.35	0.21	0.85
Great blue lobelia	Lobelia siphilitica	8,000,000	0.25	0.02	2.87
Allegheny monkeyflower	Mimulus ringens	36,800,000	0.15	0.01	7.92
Virginia mountain mint	Pycnanthemum virginianum	3,520,000	0.5	0.03	2.53
Black-eyed Susan	Rudbeckia hirta	1,472,000	3	0.19	6.34
New England aster	Symphyotrichum novae-angliae	1,056,000	0.5	0.03	0.76
Smooth aster	Symphyotrichum laeve	880,000	0.5	0.03	0.63
Hoary vervain	Verbena hastata	1,488,000	1	0.06	2.13
Ironweed	Vernonia fasciculata	384,000	1	0.06	0.55
Golden Alexander	Zizia aurea	176,000	2	0.13	0.51
	Total Forbs		**24**	**1.50**	**40.27**
	Totals		**88**	**5.50**	**97.61**

Sherco Solar

Wet Mix / Wetland Mix - *for Phase 2*

Common Name	Scientific Name	Seeds/Pound	Oz/Acre	PLS Pounds. Acre	Seeds / Sq Ft
Field oval sedge	Carex molesta	464,000	2.5	0.16	1.66
Broom sedge	Carex scoparia	1,344,000	1	0.06	1.93
Fox sedge	Carex vulpinoidea	1,600,000	1	0.06	2.30
Canada wild rye	Elymus canadensis	83,200	26	1.63	3.10
Silky wild rye	Elymus villosus	88,000	6	0.38	0.76
Virginia wild rye	Elmus virginicus	67,200	40	2.50	3.86
Fowl manna grass	Glyceria striata	1,440,000	1.5	0.09	3.10
Rice cut grass	Leersia oryzoides	544,000	0.5	0.03	0.39
Leafy satin grass	Muhlenbergia mexicana	2,800,000	0.5	0.03	2.01
Fowl bluegrass	Poa palustris	2,080,000	2	0.13	5.97
Little bluestem	Schizachyrium scoparium	240,000	15	0.94	5.17
Total Graminoids			**96**	**6.00**	**30.24**
Common milkweed	Asclepias syriaca	64,000	3	0.19	0.28
Wild bergamot	Monarda fistulosa	1,120,000	1.5	0.09	2.41
Black-eyed susan	Rudbeckia hirta	1,472,000	3.25	0.20	6.86
Canada anemone	Anemone canadensis	128,000	1	0.06	0.18
Swamp milkweed	Asclepias incarnata	68,800	2	0.13	0.20
Nodding bur marigold	Bidens cernua	336,000	2.5	0.16	1.21
Joe pye weed	Eupatorium maculatum	1,520,000	2	0.13	4.36
Grass-leaved goldenrod	Euthamia graminifolia	5,600,000	0.5	0.03	4.02
White avens	Geum canadense	400,000	2	0.13	1.15
Tall blazing star	Liatris pycnostachya	176,000	1	0.06	0.25
Great blue lobelia	Lobelia siphilitica	8,000,000	0.5	0.03	5.74
Allegheny monkeyflower	Mimulus ringens	36,800,000	0.15	0.01	7.92
Virginia mountain mint	Pycnanthemum virginianum	3,520,000	0.6	0.04	3.03
Smooth aster	Symphyotrichum laeve	880,000	1	0.06	1.26
Azure aster	Symphyotrichum oolentangiensis	1,280,000	1	0.06	1.84
Blue vervain	Verbena hastata	1,488,000	1	0.06	2.13
Golden Alexander	Zizia aurea	176,000	1	0.06	0.25
Total Forbs			**24**	**1.50**	**43.09**
Totals			**120**	**7.50**	**73.33**

Sherco Solar 1 Prairie Restorations Seed Mix

Common Name	Scientific Name	PLS Pounds / Acre	Seeds / Sq Ft
~~Bicknell's sedge*~~	~~Carex bicknellii~~	~~0.06~~	~~0.39~~
Blue grama	Bouteloua gracilis	0.94	13.77
Canada wild rye	Elymus canadensis	1.88	3.58
Junegrass	Koeleria macrantha	0.06	0.39
Little bluestem	Schizachyrium scoparium	1.50	8.26
Short beak sedge	Carex brevior	0.13	1.33
Red fescue	Festuca rubra ssp.Rubra	0.50	5.74
Sand dropseed	Sporobolus cryptandrus	0.06	4.59
Schweintz's flatsedge	Cyperus schweinitzii	0.06	1.26
Side oats grama	Bouteloua curtipendula	1.50	3.31
Slender wheatgrass	Elymus trachycaulus	1.38	3.48

Sherco Solar 2 Minnesota Native Landscapes Proposed Seed Mix

Common Name	Scientific Name	PLS lbs/ac	Bloom Season	Seeds/SF
Bicknell's Sedge	Carex bicknellii			
Blue Grama	Bouteloua gracilis	0.94		13.77
Canada Wild Rye	Elymus canadensis	1.88		3.58
Junegrass	Koeleria macrantha	0.03		2.01
Little Bluestem	Schizachyrium scoparium	1.50		8.26
Long-beaked Sedge	Carex sprengelii	0.03		0.11
Plains Oval Sedge	Carex brevior	0.13		1.33
Red Fescue (creeping)	Festuca rubra	0.50		4.59
Rough Dropseed	Sporobolus compositus	0.06		0.69
Sand Dropseed	Sporobolus cryptandrus			
Schweinitz's Flatsedge	Cyperus schweinitzii	0.06		0.98
Side-oats Grama	Bouteloua curtipendula	1.50		5.48 ?
Slender Wheat Grass	Elymus trachycaulus	1.38		3.48

Common Name	Scientific Name	PLS Pounds / Acre	Seeds / Sq Ft
Black-eyed susan	Rudbeckia hirta	0.16	5.28
Bush clover	Lespedeza capitata	0.06	0.18
Butterfly weed	Asclepias tuberosa	0.03	0.05
Common milkweed	Asclepias syriaca	0.25	0.37
Fragrant giant hyssop	Agastache foeniculum	0.03	0.06
Golden alexander	Zizea aurea	0.09	0.41
Gray goldenrod	Solidago nemoralis	0.06	6.89
Hoary vervain	Verbena stricta	0.08	0.80
Large beardtongue	Penstemon grandiflorus	0.03	0.16
Leadplant	Amorpha canescens	0.02	0.92
Longbract spiderwort	Tradescantia bracteata	0.03	0.11
Prairie cinquefoil	Drymocallis arguta	0.05	3.96
Prairie onion	Allium stellatum	0.03	0.13
Purple prairie clover	Dalea purpurea	0.44	2.41
Showy goldenrod	Solidago speciosa	0.03	1.09
Sky-blue aster	Symphyotrichum oolentangiense	0.05	1.38
Smooth blue aster	Symphyotrichum laeve	0.03	0.63
Spotted beebalm	Monarda punctata	0.02	0.52
Stiff goldenrod	Oligoneuron rigidum	0.11	1.65
White prairie clover	Dalea candida	0.25	1.74
Wild bergamot	Monarda fistulosa	0.06	1.61
Wild lupine	Lupinus perennis	0.06	0.03
Yarrow	Achillea millefolium	0.03	2.01

Common Name	Scientific Name	PLS lbs/ac	Bloom Season	Seeds/SF
Black-eyed Susan	Rudbeckia hirta	0.15	Summer	5.22
Bushclover (Round-headed)	Lespedeza capitata	0.03	Summer	0.09
Butterfly Milkweed	Asclepias tuberosa	0.03	Summer	0.05
Common Milkweed	Asclepias syriaca	0.25	Summer	0.37
Fragrant Giant Hyssop	Agastache foeniculum	0.04	Summer	1.24
Golden Alexanders	Zizia aurea	0.09	Spring	0.38
Golden Aster	Heterotheca villosa	0.01	Summer	0.05
Gray Goldenrod	Solidago nemoralis	0.05	Fall	5.17
Heart-leaf Golden Alexanders	Zizia aptera	0.02	Spring	0.08
Hoary Vervain	Verbena stricta	0.08	Summer	0.80
Large-flower Penstemon	Penstemon grandiflorus	0.02	Spring	0.11
Leadplant	Amorpha canescens	0.02	Summer	0.09
Long-bracted Spiderwort	Tradescantia bracteata	0.03	Spring	0.11
Missouri Goldenrod	Solidago missouriensis	0.03	Fall	2.93
Prairie Cinquefoil	Drymocallis arguta	0.05	Summer	3.96
Prairie Onion	Allium stellatum	0.03	Summer	0.13
Purple Prairie Clover	Dalea purpurea	0.44	Summer	2.41
Showy Goldenrod	Solidago speciosa	0.06	Fall	2.18
Sky-blue Aster	Symphyotrichum oolentangiense	0.05	Fall	1.38
Smooth Blue Aster	Symphyotrichum laeve	0.03	Fall	0.63
Spotted Bee Balm	Monarda punctata	0.02	Summer	0.52
Stiff Goldenrod	Solidago rigida	0.09	Fall	1.41
Western Spiderwort	Tradescantia occidentalis	0.03	Spring	0.10
White Prairie Clover	Dalea candida	0.26	Summer	1.79
Wild Bergamot	Monarda fistulosa	0.06	Summer	1.61
Wild Lupine	Lupinus perennis	0.01	Spring	0.00
Yarrow	Achillea millefolium	0.03	Summer	2.01

reduced amount or eliminated
increased amount or added new

Appendix 4. Minnesota Prohibited Noxious Weeds

Minnesota Prohibited Noxious Weeds

Eradicate. *All above- and below-ground parts of the plant must be destroyed.*	
Common Name	**Scientific Name**
Tree of heaven	*Ailanthus altissima*
Palmer amaranth	*Amaranthus palmeri*
Oriental bittersweet	*Celastrus orbiculatus*
Diffuse knapweed	*Centaurea diffusa*
Brown knapweed	*Centaurea jacea*
Yellow star thistle	*Centaurea solstitialis*
Meadow knapweed	*Centaurea x moncktonii*
Poison hemlock	*Conium maculatum*
Black swallow-wort	*Cynanchum louiseae*
Grecian foxglove	*Digitalis lanata*
Common teasel	*Dipsacus fullonum*
Cut-leaved teasel	*Dipsacus laciniatus*
Giant hogweed	*Heracleum mantegazzianum*
Japanese hops	*Humulus japonicus*
Dalmatian toadflax	*Linaria dalmatica*
Japanese honeysuckle	*Lonicera japanica*
Control. *Effort must be made to prevent the spread, maturation, and dispersal of any propagating parts.*	
Common Name	**Scientific Name**
Common barberry	*Berberis vulgaris*
Narrowleaf bittercress	*Cardamine impatiens*
Plumeless thistle	*Carduus acanthoides*
Spotted knapweed	*Centaurea stoebe*
Canada thistle	*Cirsium arvense*
Leafy spurge	*Euphorbia esula*
Purple loosestrife	*Lythrum salicaria*
Wild parsnip	*Pastinaca sativa*
Non-native phragmites	*Phragmites australis*
Bohemian knotweed	*Polygonum x bohemicum*
Giant knotweed	*Polygonum sachalinese*
Japanese knotweed	*Polygonum cuspidatum*
Common tansy	*Tanacetum vulgare*