

To: County Board

From: Land Use Management Meeting Date: March 5, 2024 Report date: February 28, 2024

CONSIDER: Request for IUP for a Utility-Scale Solar Energy System (SES)

Request, submitted by Bullard Garden LLC (Applicant) on behalf of Kevin Ameling (Property Owner) for a Utility-Scale Photovoltaic Ground 1-Megawatt Solar Energy System occupying approximately 7 acres.

Application Information:

Applicant: Bullard Garden LLC (Applicant) on behalf of Kevin Ameling (Owner) Address of zoning request: TBD Highway 58 BLVD Red Wing, MN 55066

Parcel(s): 34.008.1700

Abbreviated Legal: Part of the S ½ of the SW ¼ of Section 08 TWP 112 Range 14 in Hay Creek Township. Township Information: Hay Creek Township signed acknowledgment of the IUP application on December 11, 2023, with no additional comments. Staff verified with the Township that they were aware there were two requests on this property and the Township indicated they had no objections to the second solar garden via email on February 14, 2024.

Zoning District: A-2 (General Agriculture District)

Attachments and links:

Applications and submitted project summary (excerpt of materials; full submittal available upon request)

February 26, 2024 DRAFT Planning Commission Meeting Minutes

Site Map(s)

Goodhue SWCD Comments and Maps

Goodhue County Zoning Ordinance (GCZO):

http://www.co.goodhue.mn.us/DocumentCenter/View/2428

Background:

The Applicant has submitted an IUP request to construct and operate a 1 Megawatt (MW) photovoltaic (PV) utility-scale solar garden on approximately 7.17 acres of leased land located in Hay Creek Township that is currently owned by Kevin Ameling. The project would be developed in conjunction with the State of Minnesota Solar Garden program and Xcel Energy's Solar Rewards Community Program. The program allows developers to design, permit, own, and operate solar energy systems and sell the generated power directly to consumers. Upon completion, the Solar Garden would connect to Xcel Energy's distribution grid and generate up to 2,000 MWh of energy annually over the next 35 years.

Per Goodhue County regulations, Solar Energy Systems (SES) that are the primary use of the land and are designed to primarily provide energy to off-site users or export to the wholesale market may be permitted as a "Utility-Scale SES" within the County's A-2 zoned districts.



Project Summary:

Property Information:

- The approximately 76-acre parcel is currently used for row-crop agriculture. The developer has proposed to lease approximately 7 acres of the property.
 - The nearest residence to the north is owned by Lee Swanson (Parcel 34.008.2000) and is located approximately 642 feet from the proposed facility. The SES will be screened from the Swanson property by existing trees and vegetative cover. The nearest residence to the east is located 1,057 feet from the proposed facility across Highway 58 and is owned by Karl Neeser (Parcel 34.008.1701).
 - Adjacent land uses include row crops, animal agriculture (feedlots), and forested blufflands.
- The property is surrounded by A-2 zoned properties to the north, east, and west. Land to the south is zoned A-1. Section 08 consists mainly of A-2 land with one split-zoned parcel (A-2 and Business) and an area of Residential parcels in the northern portion of the section. There are 11 dwellings in the A-2 portions of the section where 12 are allowed, one per original ¼ ¼ section therefore there is the potential for additional dwelling density in the section.
- A 1 MW SES was permitted on this parcel east of the proposed site in January 2024. The proposed Bullard Garden project would be the second solar garden permitted on the property if approved.

Solar Array:

- The solar array is proposed to include 2,525 single-axis tracking panels installed in 27 rows. Steel-driven posts will hold up solar panels, reaching 11 feet above grade at the maximum configuration. The panels will have an anti-glare coating.
 - The racking will be installed with piles that are anchored into the ground to an appropriate depth based on soil and geotechnical analysis.
 - The solar array will interconnect to the power grid via a concrete equipment pad on the east side of the project area, facilitating connection to the existing Xcel Energy grid located on the east side of Highway 58. The Developer will need to coordinate with MnDOT District 6 before performing any electrical connection work in the right-of-way.
- A 14-foot wide crushed aggregate access road will be provided to access the leased project area using an existing field access point. The Applicant will need to work with MnDOT District 6 to permit access drive improvements onto Highway 58. Staff originally reached out to MnDOT staff in January 2024 prior to consideration of the first SES but has not heard back as of the writing of this report. Emergency vehicle access appears adequate to service the facility.

A recorded ingress/egress easement is not required for the property given the site is to be leased and all land to be crossed to access the site will remain under common ownership.

A separate fire number will be required for the site.



• Once constructed, traffic to the site would be limited to periodic visits by maintenance and landscaping personnel to perform routine maintenance, in addition to any unplanned maintenance.

Landscaping/Drainage:

- The solar site has some topographical variations. The proposed site occupies a high point of the property. Drainage will flow to the north, west, and south. The Applicant has indicated some fill material will need to be brought in due to silty soils for grading. Proper stabilization of fill will be required and will be reviewed by staff when the Stormwater Pollution Prevention Plan is submitted.
- Apart from the meter pad (typically less than 300 square feet), the entire area within the project boundary will be seeded with a low-growth pollinator-friendly vegetative mix based on the guidelines of the MN Board of Water and Soil Resources Habitat Friendly Solar Program. Specific seed types are typically reviewed by Goodhue County SWCD during the building permit phase.
- Chad Hildebrand, SWCD Water Planner has reviewed the site and submitted comments (see attachment).
- An erosion control/stormwater management plan is customarily submitted for administrative review at the time of building permit application. An NPDES (National Pollutant Discharge Elimination System) and SWPPP will be required for this project and will need to be submitted by the Applicant before building permit approval. Filtration berms are proposed to be installed on the south and west sides of the array with stormwater management areas on the northwest and southeast sides.
- A 7-foot tall game fence will be constructed around the perimeter of the project area for visual screening and site security.
- No additional vegetative screening is proposed to be installed for this project. The Jones Garden project to the east will have vegetative screening installed to minimize visual impacts from Highway 58 and adjacent properties. The Bullard Garden project will be almost 800 feet from the Highway 58 right of way therefore minimal visual impacts are anticipated.
- Ample room exists on the property to fulfill GCZO off-street parking requirements.
- Construction is expected to begin in the summer of 2025 and typically takes 3 months to complete.

Maintenance/Decommissioning:

- The project is subject to the issuance of a Building Permit and must be constructed according to applicable building code requirements. The project will be inspected by County Building Inspections Staff and the State Electrical Inspector. In addition, the Planning and Zoning Staff will inspect the project upon completion to ensure conformance with applicable zoning requirements.
- Mowing will be limited and utilized only when necessary for routine maintenance and potential weed and shrub control. Mechanical checks and electrical checks will be conducted one or two times per year. A groundskeeping crew will conduct on-site vegetative management work 3 to 6 times per year.



The site will be monitored remotely 24 hours a day, 365 days a year to detect and address potential problems.

■ The Applicant has provided a decommissioning cost estimate. Upon the end of the project's useful life, decommissioning would include removal and recycling of all non-biodegradable equipment including concrete foundations, access roads, fencing, cables, and other ancillary facilities owned by the solar garden. The land could then be used for agricultural production.

Per GCZO Article 19, the Applicant may be required to provide a financial surety at up to 125% of the estimated decommissioning cost. The County has not typically exercised the right to financial assurance requirements for similar solar installations. The County Board should consider if the County should require financial assurance to cover anticipated decommissioning costs. A decommissioning agreement between the property owner and developer is included as a proposed IUP condition.

PAC Findings of Fact:

- The proposed Solar Garden does not appear injurious to the use and enjoyment of properties in the
 immediate vicinity for uses already permitted, nor would it substantially diminish and impair
 property values in the immediate vicinity. The use appears harmonious with the established uses in
 the vicinity. The facility will be screened from nearby residences and the right of way by existing
 vegetation, vegetation proposed to be installed for the Jones Garden project, and the distance from
 the road and residences.
- 2. The establishment of the proposed Solar Garden is not anticipated to impede the normal and orderly development and improvement of surrounding vacant property for uses predominant to the area. The use is proposed to meet all development standards of the Goodhue County Zoning Ordinance and it does not appear incompatible with adjacent land uses.
- 3. A review of the applicant's submitted project summary indicates adequate utilities, access roads, drainage, and other necessary facilities are available or will be installed to accommodate the proposed use.
- 4. The submitted plans identify means to provide sufficient off-street parking and loading space to serve the proposed use and meet the Goodhue County Zoning Ordinance's parking requirements.
- 5. The submitted plans detail adequate measures to prevent or control offensive odor, fumes, dust, noise, and vibration so that none of these will constitute a nuisance.

PAC Recommendation:

The Planning Advisory Commission recommends the County Board

- adopt the staff report into the record;
- adopt the findings of fact;
- accept the application, testimony, exhibits, and other evidence presented into the record; and



APPROVE the request for an IUP, submitted by Bullard Garden LLC on behalf of Kevin Ameling (Owner) for a Utility-Scale Photovoltaic Ground 1 Megawatt Solar Energy System (SES) occupying approximately 7 acres. Subject to the following conditions:

- 1. Activities shall be conducted according to submitted plans, specifications, and narrative unless modified by a condition of this IUP;
- 2. The project shall be decommissioned according to Article 19 Section 6 of the Goodhue County Zoning Ordinance and submitted plans;
- 3. A decommissioning agreement between the landowner and Nokomis Energy shall be maintained to ensure the reclamation of the area;
- 4. LUM staff shall be notified by the landowner or solar company 30 days before ownership transfer or operator changes;
- 5. Applicants shall work with the Goodhue Soil and Water Conservation District to determine an appropriate seed mix for disturbed areas of the site and should submit "seed tags" to the Land Use Management department before final inspection;
- 6. A stormwater management and erosion control plan shall be submitted for administrative review as part of the Building Permit Application for the project;
- 7. Applicants shall obtain Building Permit approvals from the Goodhue County Land Use Management Department before establishing the use;
- 8. Compliance with Goodhue County Zoning Ordinance including, but not limited to, Article 19 Solar Energy Systems (SES) and Article 22 (General Agriculture District). The Applicant shall request a final inspection of the project for compliance with applicable zoning requirements upon completion of the project;
- 9. Compliance with all necessary State and Federal registrations, permits, licensing, and regulations; and
- 10. This IUP shall expire 35 years from the date of approval unless terminated prior to that date.

PLANNING ADVISORY COMMISSION GOODHUE COUNTY, MN February 26, 2024 MEETING MINUTES

DRAFT

PUBLIC HEARING: Request for IUP for a Utility-Scale Solar Energy System (SES)

Request, submitted by Bullard Garden LLC (Applicant) on behalf of Kevin Ameling (Owner) for a Utility-Scale Photovoltaic Ground 1-Megawatt Solar Energy System occupying approximately 7 acres. Parcel 34.008.1700. TBD Highway 58 BLVD Red Wing, MN 55066. Part of the S ½ of the SW ¼ of Section 08 TWP 112 Range 14 in Hay Creek Township. A-2 Zoned District.

Lenzen presented the staff report and attachments

Fritz Ebinger (Nokomis Energy) was present.

Commissioner Buck asked how the county is protected from funding the decommissioning of a solar site if it is abandoned.

Hanni stated that there is a vested interest in the owner to be in a bond with the company.

Ebinger stated there is profit in the decommissioning process for the company from the value of the glass, aluminum structure, copper wiring, and panels. He explained the decommissioning process and recycling process of the materials.

Commissioner Miller asked if there was a bond between the landowner and the solar company. He was concerned that some landowners would not be checking the bond is still effective. If the bond between the landowner and the solar company were to default the costs could come back to the County for decommissioning.

Ebinger stated that there is a bond agreement between the company and the landowner and they have financial requirements they must meet.

Commissioner Greseth asked if the County has had projects bonded with the County in the past.

Hanni stated that the County has not typically required a bond with the County, it has been left up to the landowner and solar company and the County has stayed out of that relationship.

Commissioner Greseth questioned what recourse the County would have if the project was abandoned.

Hanni stated the value is mainly in the panels and the equipment on site. There is value in the salvage if the company and the landowner walk away from the property.

Ebinger explained the decommissioning process and financials.

Commissioner Greseth asked whether the IUP was voided if the landowner sold.

Hanni clarified the IUP is for the length of time, in this case 35 years, and is not dependent on who the landowner is.

Chair Buck Opened the Public Hearing

No one spoke for or against the request.

⁴After Chair Buck called three times for comments, it was moved by Commissioner Huneke and seconded by Commissioner Miller to close the Public Hearing.

Motion carried 7:0

⁵It was moved by Commissioner Greseth and seconded by Commissioner Huneke for the Planning Advisory Commission to:

- adopt the staff report into the record;
- adopt the findings of fact;
- accept the application, testimony, exhibits, and other evidence presented into the record; and

PLANNING ADVISORY COMMISSION GOODHUE COUNTY, MN February 26, 2024 MEETING MINUTES

DRAFT

Recommend the County Board of Commissioners **APPROVE** the request for IUP, submitted by Kevin Ameling (Owner) and Nokomis Energy (Developer) for a Utility-Scale Photovoltaic Ground 1-megawatt Solar Energy System occupying approximately 7 acres. Subject to the following conditions:

- 1. Activities shall be conducted according to submitted plans, specifications, and narrative unless modified by a condition of this IUP;
- 2. The project shall be decommissioned according to Article 19 Section 6 of the Goodhue County Zoning Ordinance and submitted plans;
- 3. A decommissioning agreement between the landowner and Nokomis Energy shall be maintained to ensure the reclamation of the area;
- 4. LUM staff shall be notified by the landowner or solar company 30 days before ownership transfer or operator changes;
- 5. Applicants shall work with the Goodhue Soil and Water Conservation District to determine an appropriate seed mix for disturbed areas of the site and should submit "seed tags" to the Land Use Management department before final inspection;
- 6. A stormwater management and erosion control plan shall be submitted for administrative review as part of the Building Permit Application for the project;
- 7. Applicants shall obtain Building Permit approvals from the Goodhue County Land Use Management Department before establishing the use;
- 8. Compliance with Goodhue County Zoning Ordinance including, but not limited to, Article 19 Solar Energy Systems (SES) and Article 22 (General Agriculture District). The Applicant shall request a final inspection of the project for compliance with applicable zoning requirements upon completion of the project;
- 9. Compliance with all necessary State and Federal registrations, permits, licensing, and regulations; and
- 10. This IUP shall expire 35 years from the approval date unless terminated before that date.

Motion carried 7:0

5. Other Discussion

There was no additional discussion.

6. ⁶ADJOURN: Motion by Commissioner Greseth and seconded by Commissioner Huneke to adjourn the Planning Commission Meeting at 6:40 p.m.

Motion carried 7:0

Respectfully Submitted,

William Lenzen Zoning Assistant

MOTIONS

¹ APPROVE the PAC meeting agenda

Motion carried 7:0

² APPROVE the previous month's meeting minutes

Motion carried 7:0

RECEIVED

FEB 0 7 2024

Permit# 224.0006

Solar Energy System Application

Fee: 1000 90 Permit: \$200 \$1000 Building permit #: Shoreland Lake/Stream Name	Zoning District
Fee: 1000 90 Permit: \$200 \$1000	10000
. 그렇게 하다 수 없는 사람이 목표를 가장하는 것이 되었다. 그는 사람이 살 깨끗하는 그 때문에 가지 않다고 있다.	10000
	P/IUP: Receipt Number Date 18352 2/7/2024
County Section	
Print name:	
Signature: Pulm Of	
 Applicant's Affidavit Under penalty of perjury the following declar The undersigned is the owner or author The information presented is true and on Other information or applications may be 	rized agent of the owner of this property. orrect to the best of my knowledge.
DESCRIBE METHOD OF CONNECTING THE ARRA	
2.525	1 MW
Supporting information NUMBER OF SOLAR COLLECTORS TO BE INSTA	ALLED TOTAL SIZE OF PROJECT
See attached.	
LEGAL DESCRIPTION:	Attached II
29740 HAY CREEK HILLS DR	340081700
Location and Classification STREET ADDRESS OF PROJECT:	PARCEL#:
Minneapolis MN 55408	4
2836 Lyndale Ave S, Suite 132 554	EMAIL:
APPLICANT'S ADDRESS:	TELEPHONE:
APPLICANT OR AUTHORIZED AGENT'S NAME: Bullard Garden LLC	Same as Above ■
4794 Waldenwood 1 1 Ettileton, 60	EMAIL:
PROPERTY OWNER'S ADDRESS: 4794 Waldenwood PI Littleton, CO	TELEPHONE:
Kevin David Ameling	
PROPERTY OWNER'S NAME:	

PROJECT SUMMARY

Please provide answers to the following questions in the spaces below. If additional space is needed, you may provide an attached document.

1. Visual Impact Analysis. Is the project anticipated to adversely effect visual sightlines of neighboring dwellings, properties or public rights-of-way. Identify measures to avoid, minimize or mitigate visual effects. This project is already screened to the North, West, and South by existing trees. The proposed
1 MW Jones Garden LLC solar garden would be directly to the east of this project on the same parcel.
Jones Garden will have tree screening along the roadway to the East and South to minimize visual
impacts from the roadway and neighbors, and therefore Bullard Garden will have very little
visibility.
2. Proposed stormwater management measures. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after construction. An NPDES permit may be required. See civil plan set included with submission.
3. Maintenance plan for grounds surrounding the system(s). See vegetative management plan included with submission.
- Coo vogotativo managoment pian meragoa vian estermente.
4. Anticipated wetlands impacts. Has a wetlands impact study been completed? An on-site wetland delineation has been completed. See wetland delineation
included with submission.
 Proposed decommissioning procedures. See decommissioning plan and estimate included with submission.



GOODHUE COUNTY CONDITIONAL/INTERIM USE PERMIT APPLICATION

raicei #				Permit#
PROPERTY OWNER	INFORMATION			
Last Name Amelin	ng	First Kevin	1	Email:
Street Address 4794 V	Valdenwood Pl			Phone
City Littleton	St	tate CO Zip 80130) Attach Lega	Description as Exhibit "A"
Authorized Agent			Phone	
Mailing Address of Lando Mailing Address of Agents		d Pl Littleton, CO 80130		
PROJECT INFORMAT	TION			
Site Address (if different	than above): 29740	Hay Creek Hills	Dr Red Wing,	MN (PID: 340081700)
Lot Size 76.83 acres	Structure D	oimensions (if applicable)		
What is the conditional/in	terim use permit reque	st for? One-megawa	tt community so	olar garden
Written justification for re	equest including discuss	sion of how any potential	conflicts with existin	g nearby land uses will be minimized
Section 3, Subdivisio	on 1(c) of the Good A second proposed	hue County Zoning (d solar garden to the	Ordinance. Existing east on the same	garden as provided under Article 19, ng tree screening surrounds most of parcel would be screened along the reet.
DISCLAIMER AND P	ROPERTY OWNER	SIGNATURE		
acknowledge that this app	plication is rendered inv ce is inaccurate or unti	valid and void should the	County determine th	ement Department is accurate and true. I nat information supplied by me, the applicant mentioned agent to represent me and my
Signature of Landowner:	"Ken and			Date 12/13/2023
Signature of Agent Author	ized by Agent:			
TOWNSHIP INFORM	ATION	Township Zoning Permit	Attached?	no please have township complete below:
By signing this form, the	e Township acknow the Township's offi	ledges being made aw cial approval or denial	rare of the request of the request.	stated above. In no way does signing
Signature Susan Comments:	Cushing	Title	perit807	Date 12/11/2023
COUNTY SECTION	COUNTY FEE \$3	50 RECEIPT	# DAT	E PAID
Applicant requests a CUP/	IUP pursuant to Article	Section Subc	livision of the G	oodhue County Zoning Ordinance
What is the formal wording	g of the request?			
Shoreland Lake/				
				City Notice
Action Taken:Approv	re Deny Co	nditions:		

GOODHUE COUNTY CONDITIONAL/INTERIM USE PERMIT APPLICATION

PROJECT SUMMARY

Please provide answers to the following questions in the spaces below. If additional space is needed, you may provide an attached document.

10. Existing and proposed exterior lighting. No existing or proposed exterior lighting.
No existing or proposed exterior lighting.
11. Existing and proposed exterior signage. No existing or proposed exterior signage.
12. Existing and proposed exterior storage. No existing or proposed exterior storage.
13. Proposed safety and security measures. The Facility will be enclosed by a 7-foot-tall agricultural fence to restrict access to the system from unqualified personnel. The gate to the Facility will be
secured with a lock box.
14. Adequacy of accessibility for emergency services to the site. The Project would obtain an E911 address to ensure emergency service access to the site. Access to the facility's lock box can be provided to local emergency services.
15. Potential for generation of noise, odor, or dust and proposed mitigation measures. No odor or dust will be generated during construction. Construction activities will only take place during daytime hours to mitigate any construction noise.
16. Anticipated landscaping, grading, excavation, filling, and vegetation removal activities. Existing trees and another screened solar project to the east will screen Bullard Garden. Due to silty soils, fill soil will be brought on-site to facilitate grading. See civil plan set for more details.
The cover crop inside the footprint of the system will be a combination of low growth native crops and a seed mix that promotes pollinator-friendly habitat.
17. Existing and proposed surface-water drainage provisions. See civil plan set.
18. Description of food and liquor preparation, serving, and handling provisions. NA
19. Provide any other such information you feel is essential to the review of your proposal. We have been in contact with the Goodhue County SWCD about the bluffland setbacks and channelized gullies.

From: <u>Marilyn Schilling</u>
To: <u>Pierret, Samantha</u>

Subject: Re: Solar Gardens Highway 58

Date: Wednesday, February 14, 2024 11:52:33 AM

Attachments: <u>image001.png</u> <u>image001.png</u>

You don't often get email from mkschill6@gmail.com. Learn why this is important

External Email - Use caution opening links or attachments!

Thanks for the info. We did talk about it at Monday's supervisor meeting. The supervisors had no concerns.

On Wed, Feb 14, 2024, 11:44 AM Pierret, Samantha <<u>samantha.pierret@co.goodhue.mn.us</u>> wrote:

Hi Marilyn,

Goodhue County Zoning is processing a second solar garden application from Nokomis Energy on the Kevin Ameling land on Highway 58 south of Red Wing, notices were mailed out last Friday. The first solar garden was approved by the County Board last week. This one is another 1 megawatt garden proposed to go west of the first one, further away from the road. I wanted to clarify with you that the Township was aware that 2 solar gardens were proposed here because they submitted the same application page with your signature from December 2023. If the Board needs to consider the second garden or has any comments please let me know.

Thank you,



Samantha Pierret, AICP | Planner/Zoning Administrator

Land Use Management \mid 509 W 5th Street Red Wing, MN 55066

P: 651-385-3103 | E: samantha.pierret@co.goodhue.mn.us

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OVERVIEW

Bullard Garden LLC submits this application for a Conditional Use Permit to Goodhue County for a Photovoltaic Ground Mount One- Megawatt Solar Energy System under Goodhue County Zoning Ordinance Section 4, Subd. 5. The parcel is zoned A-2 Agricultural District. The project site plan is attached in **Exhibit A** and includes existing and proposed conditions, number of solar collectors to be installed, location and spacing of solar panels, existing vegetation, and planned location of electric lines, as required.

As part of Xcel Energy's Solar*Rewards Community Program, Bullard Garden LLC will consist of 2,525 panels on approximately 7 acres of land. The Community Solar Garden (CSG) will have a useful life of 35+ years. Once operating, this project will deliver over 2,000 MWh of clean, local energy annually at a beneficial electric rate to the surrounding community with only the sun as feedstock.

The CSG consists of steel driven posts embedded in the ground, with solar modules attached to the top of the posts, tracking the sun east to west throughout the day. The panels sit approximately 11 ft off the ground at their highest tilt. This project utilizes monocrystalline silicon-based solar panels which have an anti-glare coating. There are no hazardous materials in the system, and no noise other than typical transformer humming that would be present within the fence. We will enclose the system with a 7-foot-tall agricultural fence to minimize visual impact and also restrict access to the system from unqualified personnel. The cover crop inside the footprint of the system will consist of low-growth native crops, forbs and flowers to promote pollinator-friendly habitat consistent with Minnesota Statute 216B.1642.

Nokomis Energy commissioned third-party engineers and professional consultants to perform wetland, hydrology, historical, ecological and environmental surveys to ensure the site is suitable for development. Construction is targeted for Summer 2025 and Late Fall 2025. Proposed working times are between the hours of 7am-7pm on Monday through Friday. Weekend work may take place if there are significant project delays due to weather. These hours are flexible and we intend to work with the community to control noise and disturbance. A more detailed construction schedule may be made available to the County as requested.

Bullard Garden LLC, by way of Nokomis Energy LLC, will hire Operations and Maintenance Contractor(s). This team will consist of electricians and a groundskeeper team to ensure the system is operating safely and the landscaping is properly established and maintained. Each would visit independently 3-6 times per year for regularly scheduled maintenance, and also depending on necessity. While onsite, the groundskeeper technicians manage prairie vegetation growth, mow, and verify storm water management is properly working. Bullard Garden LLC may employ sheep grazing as a part of vegetation management, dependent on local grazier interest and feasibility. A Maintenance Plan is included for more detail.

MAINTENANCE PLAN

Bullard Garden LLC will have a long-term maintenance plan to ensure safety, reliable operation, and production of the system. Monitoring and metering equipment installed on



site will alert the maintenance team in real time of a system performance issue. Maintenance teams are required to have proper safety plans and equipment in place to perform all work. Details of the plan are finalized at construction once the final system design is complete. The final plan for the site can be requested at any time after construction. Maintenance of systems can be broadly defined in two categories:

Preventative Maintenance

The following items are performed on a routine basis.

- Mechanical checks one to two times per year a technician visits the site. While on site the technician checks bolts and piers for any loosening or corrosion. If an issue is discovered, a set of corrective actions is defined, executed and a full report is logged.
- Electrical checks one to two times per year a technician visits the site. While on site, the technician checks the major electrical components (panels, inverters, safety switches) and connections to ensure proper working order. When an issue is discovered, a set of corrective actions is defined, executed and a full report is logged.
- Groundskeeping three to six times per year a technician visits the site. While
 onsite, the technician mows, manages vegetation, and verifies storm water
 management is working properly.

Reactive Maintenance

Bullard Garden LLC employs monitoring equipment and preventative maintenance to identify potential system safety and performance issues. Once an issue is identified, a technician is assigned to the issue and corrective actions are executed.



1MW CSG in Pope County



Table 1 - List of Commonly Performed Operations and Maintenance Activities

Item	Activity
Monitoring	On-going tracking and verification of system performance, weather and equipment alerts.
Grounds Keeping	Manage all vegetation including mowing. Maintain all vegetative screening.
Solar Module Inspection	Inspect for cracks and general damage. Inspect for dirt, vegetation and other potential shading issues. Perform electrical checks for proper performance characteristics. Cleaning will utilize only water from a sprinkler/hose head.
Racking & Mounting Inspection	Inspect for damage, corrosion and loose connections.
Inverter Inspection & Maintenance	Inspect for corrosion and general damage. Confirm proper ventilation and environmental seals. Inspect all electrical connections and wires coming into and out of the units. Complete manufacturer recommended maintenance activities.
DC Electrical Inspection	Inspect DC runs from solar panels to inverters for damaged/loose wires and debris.
AC Electrical Inspection	Inspect AC runs from inverter to switchgear for damage/loose wires and debris.
Switchgear Inspection	Inspect switches for proper functionality. Inspect connections for appropriate torque. Inspect latches and environmental seals.
Monitoring Inspection	Inspect existing monitoring systems for functionality. Complete manufacturer recommended maintenance activities.
System Repair	Perform all necessary work as determined by inspections.
Warranty Administration	Administer defective components and file warranty claims.





Visual rendering of proposed Bullard Garden LLC (back) and proposed Jones Garden LLC (front along roadway).

Wetland Delineation

Bullard Garden LLC conducted an onsite wetland delineation. No wetlands are present in the Project Area. See **Appendix B**.

Cultural Resource Review

Bullard Garden LLC conducted a historical, cultural and archeological features review of the Project Area, which included a State Historic Preservation Office (SHPO) file review. The review did not identify any archaeological or architectural resources within the Project Area. See **Appendix C**. for the full report.



Interconnection

Bullard Garden LLC submitted an interconnection application to Xcel Energy on April 24, 2023. The project received Facility Study results from Xcel on December 8, 2023. An executed interconnection agreement is anticipated on February 28, 2024, and can be provided to the County.

The Project's transformer will connect to new three-phase Xcel poles on the east side of State Highway 58 per the Minnesota Department of Transportation regulations and engineering requirements for crossing the public right of way

Manufacturer Specifications

Bullard Garden LLC plans to utilize Boviet 545 monocrystalline silicon solar panels, which have an anti-glare coating. The manufacturer specifications included outline the linear performance of the panels across 30 years. The Project will employ a racking system called DuraTrack HZ v3, by Array Technologies Inc. (ATI). A Chint CPS SCH125KTL-DO-US-600 inverter will be utilized. See **Appendix D** for the manufacturer specifications for the solar panels, racking system, and inverter.

Decommissioning & Site Restoration

Bullard Garden LLC commits to our neighbors and permitting authorities that we will decommission and restore the site to its pre-development condition at the end of the system's serviceable life or if the system becomes a discontinued use. The project owner will be responsible for all costs associated with decommissioning.

All equipment will be removed within one (1) year from the day the system is no longer in service or discontinued. A system shall be considered out of service at the end of its useful life unless a plan is submitted to the Goodhue County Board of Commissioners outlining the steps and the schedule for repowering the system.

Once initiated, decommissioning will occur within a period of sixty (60) days. Modules, inverters, wiring, electrical equipment, racking and foundations, fencing, underground wires and conduit and concrete pads will be removed and recycled or disposed of in a suitable manner. The steel piles and racking will be recycled and reprocessed into construction material. The solar panels will be fully recycled to reclaim the glass, aluminum, copper, silver and other desirable materials for other uses. These uses include, but are not limited to reflective roadway paint, paint filler, container glass, and float glass. After all equipment is removed, the Project site will be restored to a condition comparable to its pre-construction use if the Project site will be returned to agriculture use. If holes are created when infrastructure is removed, they will be back-filled and covered with topsoil. Unless requested otherwise, permanent access roads constructed on the Project will be removed. See **Appendix E** for a detailed decommissioning plan and estimate.



Visual Impact Analysis

Bullard Garden LLC will be screened to the North, West, and South with existing trees. The proposed solar garden directly to the east (Jones Garden LLC) will be screened with new trees running north-south along State Highway 58 to minimize visual impacts from the road and from the residence across the highway. Bullard Garden will have very limited visibility to the public. The project has commissioned visual renderings to demonstrate the visual impact. See **Appendix F**.

Screening and Maintenance Plan

Bullard Garden LLC has included a screening and vegetation management plan. See **Appendix G**.

Agricultural Impacts

Bullard Garden LLC would impact approximately 2.7 acres of Prime Agricultural Soils. The Project would impact 0 acres of A-1 Agricultural Protection Zone land, as the parcel is located in the A-2 Zone. The Project would be in operation for approximately 35 years.

The Project is designed to improve the quality of soil so the site can be returned to row crop agriculture at the end of the Project's life. Allowing the land to rest for 35 years, coupled with the benefits of pollinator planting, will allow soil hummus and organic matter to accumulate and provide better agricultural conditions.

Proposed Stormwater Management Measures

Bullard Garden LLC has a detailed Grading & Erosion Control Plan included in the civil plan set in **Appendix A**.

Chemical Use

Bullard Garden LLC will not use any chemicals in the cleaning of the collectors so there will be no need for chemical storage. Plain water is used for cleaning purposes.

Environmental Impacts

Bullard Garden LLC commissioned extensive environmental studies on the Project Area, including an onsite wetland delineation, a biological resources review, a cultural and historical resource review, and a Phase I Environmental Site Assessment, all of which provided clean results and no recognized environmental concerns.



About Nokomis Energy

Nokomis Energy is a Minneapolis based energy developer with a mission to accelerate local energy adoption through equitable partnerships. We specialize in understanding the full development process from origination, to technology, to long-term operation. Through a combination of development and consulting services we use distributed energy to deliver economic and social benefits to local communities.

Thank you for your consideration!

Project Name: Bullard Garden LLC

Array Location: County Road 58 near County 5 Blvd

Red Wing, MN Goodhue County

Project Size: 5.7 acres

Owner: Bullard Garden LLC

Project Developer: Nokomis Energy

Amy Woldt

2836 Lyndale Ave South

Suite 132

Minneapolis, MN 5408

612.900.2346

Vegetation Professionals: Natural Resource Services, Inc.

2885 Quail Road NE

Sauk Rapids, MN 56379

763.656.8587

The Contribution of Native Habitat on Solar Sites

Economical production of power is the foremost goal on solar sites. There is a parallel opportunity to provide critically important native pollinator friendly habitat throughout the array while capitalizing on the long-term low maintenance needs of native vegetation.

Establishing prairies and other native plant communities within the confines of solar sites provides a tremendous opportunity to restore ecosystems that have been severely degraded and eliminated across all areas of the country.

Native plants have profound root systems, many reaching 12 or more feet deep into the soil. Rainwater follows those roots into the ground, helping reduce water runoff and promote the drainage of standing water into the aquafer. Those deep roots also stabilize the soil, preventing erosion from rain and wind. The plants provide seeds for songbirds, cover for game birds and, of course, provide blossoms and host plants for our beloved butterflies and other nectar loving insects.

Native grasses and forbs will be selected based on their ecological appropriateness to the specific conditions of this site, with consideration to their mature height as to not interfere with panel productivity. These species will not require irrigation, fertilizer or other soil amendments.

The contribution to habitat restoration cannot be overstated given the acreage impacted and lifespan of the project.



Three-year-old native pollinator habitat on a solar site in Anoka Minnesota, early July.



Overview of Vegetation Installation and Management

The proposed Bullard Garden solar site is planned on 5.7 acres of land currently being used for non-organic crop farming, rotating from a hay field to cultivated row crops. Historical photos indicate the site has been utilized in this manner for over 40 years. The site presents well drained soils of mostly Timula-Mt. Carrol and Oak Center-Hersey complexes of silty loam, all registering as well drained.

The native mix planned for this array is selected for appropriateness to these well drained loamy soil types and mature plant height so as to not interfere with panel productivity. The habitat provides low maintenance vegetation which won't require fertilizer, amended soils or irrigation.

Some grading at the site will be necessary, and following this civil work a cover crop should be seeded prior to panel installation. This cover crop will aid in soil stabilization throughout the construction period. Depending on what is growing at the site prior to temporary seeding, an herbicide spray of glyphosate across the site may be needed as part of overall site preparation. Fields very recently used for row crops typically don't require this herbicide step unless a site was allowed to go fallow for a period of time. The final crop grown prior to solar construction will influence this step, a hayfield may require spraying where soy or corn may not.

Existing woodland areas surround the north, west and south sides of the proposed Bullard Garden array which is collocated with another CSG, Jones Garden, to the east, therefore no screening is planned or required at Bullard Garden.

Permanent Seeding

When construction is completed or at a minimum is reduced to only foot traffic, permanent seeding site prep can begin. All grading must be complete and the site cleared of debris.

If determined necessary, the entire site will be sprayed using glyphosate and any additional specific herbicides necessary to eliminate perennial weeds. The site will be allowed to stand undisturbed for a minimum of ten days before resuming seeding activities. If broadleaf vegetation is present a triclopyr herbicide will be added (Garlon 4A or similar). A broadleaf herbicide requires 30 days of undisturbed time requiring adequate planning.

All native seed will be applied to a disked field using a mechanical broadcast seeder followed by the cover crop of oats or wheat, seasonally determined. Areas inaccessible to equipment will be hand broadcast. The site will be harrowed once again after all seeding is completed.

Maintenance of these sites plays a vital role in the eventual success of any native landscape installation, especially during the establishment period of years one through three. All areas of the Bullard Garden should be inspected during the maintenance trips and managed to encourage healthy native species while discouraging non-native/invasive species.



Permanent Seeding, continued

- During the germination year, the site will be mowed to control annual weed and weed seed development and to aid in the growth of the prairie seedlings by reducing competition. Optimum cutting height is typically 4 to 6 inches. The mowing should finely mulch the clippings to prevent smothering young plants.
- In years following the first growing season, Integrated Vegetation Management (IVM) services are utilized to control annual, biennial and perennial weed species within the developing native landscape. IVM services include spot herbicide spraying, spot mowing, and herbicide wicking.



Solar array supporting native pollinator habitat.

Bullard Garden LLC Location

North ▲



Figure A.
Bullard Garden located along the western edge of the field, shown above, with County Road 58 to the east.

Bullard Garden LLC Layout



Figure B.

The proposed Bullard Garden would be co-located with Jones Garden to the east.

Site Preparation

- 1. Inspection of the project area to assess site conditions and determine the need for types of site prep including mowing and/or spraying activities.
- 2. If necessary, an herbicide application will be completed using glyphosate (Round-up® or equivalent) as per manufacturer's directions in areas with actively growing vegetation. Allow a minimum of 10 days before disturbing the soil or completing seeding activities.
- 3. When perennial broadleaf vegetation is present a triclopyr herbicide will be added (Garlon 4® or equivalent) as per manufacturer's directions. When a broadleaf herbicide is used allow a minimum of 30 days before disturbing the site or completing seeding.
- 4. Depending on the type and density of vegetation present (i.e., annual vs perennial) a complete site mowing might be advisable in lieu of an herbicide application. For instance, if the site is dominated by foxtail (an annual), mowing would be preferrable to an herbicide application.

Seed and Seeding

- Construction debris, garbage and building materials will be removed and/or staged outside the intended seeding areas.
- 2. Disk soil within the project area in preparation for seeding. Harrow or rake the soil to achieve the proper seedbed.
- 3. All native seed on this site will be applied using a mechanical broadcast spreader.
- 4. A cover crop of winter wheat or oats, seasonally determined, will be seeded along with the native species. A cover crop aids in stabilizing the soil while the natives germinate and begin growth.
- 5. Harrowing will be completed after all grass and cover crop seeding is completed.
- 6. Areas inaccessible to equipment will be hand seeded.

Recommended Vegetation Management Procedures

Establishment Phase

Growing seasons 1, 2 and 3

Year

1 Complete site mowings to control annual/biennial weed canopy and prevent production of viable seed. 3-4 visits are typical depending on soils, weather patterns and planting dates.

Mowing to be done using specialized zero-radius mowers and/or flail mowers.

2 Complete site mowing as described in Year One. Anticipate at least three visits: 2 mowings likely in the late spring or early summer plus 1 Integrated Vegetation Management (IVM) visit.

IVM visits Includes spot mowing, spot herbicide application, herbicide wicking, etc.

Anticipate 3 IVM site visits in Year 3. These includes spot mowing, spot herbicide application, herbicide wicking, etc.

Maintenance Phase

Year 4 to End of Array Lease

Year

4 – 30+ One to two IVM site visits are typical depending on vegetation status. Includes spot herbicide applications and/or herbicide wicking.

Includes a complete site mowing once every 3 years to mulch up biomass and recycle nutrients. A Vegetation Management Report with photos should be submitted after every visit to the owner or owner's rep and AHJ, as required.

Additional Site Information

- An adaptive management strategy should be utilized on this site. The type of visit
 and the timing of the visit may be adjusted based on the current needs of the site.
- Equipment used for solar vegetation management will include zero turn mowers, tractor mounted flail mowers, brush cutters/weed whips, UTVs and ATVs mounted with customized spray equipment, herbicide wicking wands.



Monitoring

Consistent monitoring of the project is essential to evaluate vegetative establishment, weed presence and possible erosion concerns. This information helps determine which management technique to use, the proper timing of the implementation and whether or not any other remedial action is required.

Key Notes on Vegetation Management:

- Establishing a successful native landscape is important but the vegetation also needs to be managed so the array can function to its full capacity.
- Vegetation management crews will control weed growth underneath the panels only where height is a concern. Mowing/trimming around every post is not necessary from a plant community health standpoint.
- Utilizing herbicide to provide targeted control of unwanted species should only be completed by licensed applicators with a comprehensive knowledge of herbicides, application techniques and species morphology. Applying the correct herbicide with the proper application device at the correct period in the plant's lifecycle is essential to successful control and to minimizing collateral damage.
- Additional mowing or trimming may be needed if shading of the panels occurs, either by native or non-native vegetation. As a general rule, this type of mowing, if needed, should be limited to the areas immediately in front of the panel's lower edge. Mowing the entire aisles would entail potentially mowing flowers in bloom which would defeat the purpose of the pollinator planting.

Bullard Garden Array Mix

Common Name	Scientific Name	% of Mix	Seeds/ft ²		Total
Grasses					
Slender Wheatgrass	Elymus trachycaulus	6.00%	1.8	0.72	PLS lb
Sideoats Grama	Bouteloua curtipendula	26.67%	7.1	3.20	PLS lb
Blue Grama	Bouteloua gracilis	1.50%	2.6	0.18	PLS lb
Prairie Brome	Bromus kalmii	3.00%	1.1	0.36	PLS lb
Plains Oval Sedge	Carex brevior	2.25%	2.9	0.27	PLS lb
Pointed-broom Sedge	Carex scoparia	0.75%	2.8	0.09	PLS lb
Brown Fox Sedge	Carex vulpinoidea	0.75%	3.3	0.09	PLS lb
Silky Wild Rye	Elymus villosus	8.00%	1.9	0.96	PLS lb
Little Bluestem	Schizachyrium scoparium	25.71%	17.0	3.09	PLS lb
Prairie Dropseed	Sporobolus heterolepis	0.38%	0.3	0.05	PLS lb
Forbs					
Anise Hyssop	Agastache foeniculum	0.10%	0.4	0.01	PLS lb
Common Yarrow	Achillea millefolium	0.63%	4.9	0.08	PLS lb
Lead Plant	Amorpha canescens	1.44%	1.0	0.17	PLS lb
Canada Anemone	Anemone canadensis	0.06%	0.0	0.01	PLS lb
Wild Columbine	Aquilegia canadensis	0.22%	0.4	0.03	PLS lb
Common Milkweed	Asclepias syriaca	0.63%	0.1	0.08	PLS lb
Butterfly Milkweed	Asclepias tuberosa	0.16%	0.1	0.02	PLS lb
Canada Milkvetch	Astragalus canadensis Symphyotrichum	1.50%	1.1	0.18	PLS lb
Calico Aster	lateriflorum	0.13%	1.4	0.02	PLS lb
Partridge Pea	Chamaecrista fasciculata	2.50%	0.3	0.30	PLS lb
White Prairie Clover	Dalea candida	4.22%	3.5	0.51	PLS lb
Purple Prairie Clover	Dalea purpurea	6.25%	5.0	0.75	PLS lb
Prairie Blazing Star	Liatris pycnostachya Pycnanthemum	0.48%	0.2	0.06	PLS lb
Virginia Mountain Mint	virginianum	0.13%	1.2	0.02	PLS lb
Long-headed Coneflower	Ratibida columnifera	0.50%	0.9	0.06	PLS lb
Black-eyed Susan	Rudbeckia hirta	2.50%	10.1	0.30	PLS lb
Gray Goldenrod	Solidago nemoralis	0.22%	2.9	0.03	PLS lb
Prairie Spiderwort	Tradescantia bracteata	0.11%	0.1	0.01	PLS lb
Hoary Vervain	Verbena stricta	0.63%	0.8	0.08	PLS lb
Golden Alexanders	Zizia aurea	2.63%	1.3	0.32	PLS lb

Seeding rate: 12lbs/acre (76.4 seeds per square foot)

NRS 23112



Bullard Garden Basin Mix

Common Name	Scientific Name	% of Mix
Grasses		
Bottlebrush Sedge	Carex comosa	6.00%
Fringed Sedge	Carex crinita	6.00%
Pointed-broom Sedge	Carex scoparia	3.00%
Fox Sedge	Carex stipata	3.00%
Brown Fox Sedge	Carex vulpinoidea	3.00%
Fowl Manna Grass	Glyceria striata	0.30%
Fowl Bluegrass	Poa palustris	11.70%
Little Bluestem	Schizachyrium scoparium	36.00%
Prairie Dropseed	Sporobolus heterolepis	6.00%
Forbs		
Canada Anemone	Anemone canadensis	1.51%
Calico Aster	Aster lateriflorus	0.90%
Canada Milk Vetch	Astragalus canadensis	3.09%
Nodding Bur Marigold	Bidens cernua	0.75%
Southern Blue Flag Iris	Iris virginica shrevei	1.51%
Great Blue Lobelia	Lobelia siphilitica	1.20%
Monkey Flower	Mimulus ringens	0.60%
Mountain Mint	Pycnanthemum virginianum	1.51%
Black-eyed Susan	Rudbeckia hirta	4.14%
Ohio Spiderwort	Tradescantia ohiensis	3.77%
Golden Alexanders	Zizia aurea	6.02%

Seeding rate: 6 lbs/acre 138.4 seeds per square foot.

NRS 2128 basin

BULLARD GARDEN LLC - DECOMMISSIONING PLAN

1. Introduction

Bullard Garden LLC is proposing to construct a one-megawatt solar garden in Goodhue County., Minnesota. Major components of the Project include solar modules, racking, tracking system, inverter, and transformer. This Decommissioning Plan provides a description of the primary decommissioning activities; dismantling and removal of facilities; and restoration of land. A summary of estimate costs associated with decommissioning the Project is also included.

2. Project Components and Decommissioning Activities

Modules: Modules inspected for physical damage, tested for functionality, and removed from racking. Functioning modules packed and stored for reuse (functioning modules may produce power for another 25 years or more). Non-functioning modules packed and palletized and sent to the manufacturer or a third party for recycling.

Racking: Racking uninstalled, sorted, and sent to metal recycling facility.

Poles: Steel poles removed and sent to a recycling facility. Holes backfilled.

Wire: All wire sent to facility for proper disposal and recycling.

Conduit: Above-ground conduit disassembled onsite and sent to recycling facility.

Junction boxes, combiner boxes, external disconnect boxes, etc.: Sent to electronics recycler.

Inverter(s): Sent to manufacturer and/ or electronics recycler. Functioning parts can be reused.

Concrete pad(s): Sent to concrete recycler.

Fence: Sent to metal recycling facility.

Computers, monitors, hard drives, and other components: Sent to electronics recycler. Functioning parts can be reused.

3. Land Use and Environment

The solar facility will be located on an agricultural field. The land will be fully restored upon decommissioning of the facility. Land restoration activities include de-compaction of subsoils and re-grading project areas that have been excavated or back-filled. Disturbed areas will be seeded with vegetation comparable to what was present during the life of the solar facility.

4. Decommissioning Cost Estimate Summary

The Decommissioning Cost Estimate below includes salvage value. Steel, copper and aluminum, which have a long recycling history in the industry and are not unique to solar, provide significant salvage value.

Bullard Garden LLC Project Specifics

Total DC (MW)	1,376,125
No. of Inverters	8
Foundation Piers	567
Modules (545W)	2,525
Racking Rows	27

Nokomis Project Portfolios

Date: 1/31/2024

Bullard Garden LLC

Bullard Garden Project Specifics	S. Santa
DC Array Capacity	1,376,125
String Inverters	8
Foundation Piers	567
Panels -545W Modules	2,525
Racking Rows	27

Work Description	Project Pricing	Cost/Watt
ON SITE Demolition Activities	38,377	0.029
Fence Removal	3,400	0.003
Concrete Pad	1,275	0.001
Road Removal	1,200	0.001
Pier Removal	7,680	0.006
Racking Removal	10,080	0.008
Module Removal	14,742	0.011
Disposal / Recycling	5,300	0.004
Module Disposal	4,500	0.003
Inverter (String) Disposal	800	0.001
Wire / Gear / Misc Electrical Disposal		
Racking & Pier Disposal		
PROJECT TOAL COST	43,677	0.033

MAP 01: PROPERTY OVERVIEW HAY CREEK HILLS 340081800 RICHARD N JENSEN 64.43 340081800 RICHARD N JENSEN 64.43 340082000 LEE D SWANSON 4007050 STATE OF MINNESOTA **Nokomis Energy** Intermittent Streams Protected Streams Shoreland **Historic Districts** 340081700 Parcels **KEVIN D AMELING** Registered Feedlots 76.83 **Dwellings** 340070500 STATE OF MINNESOTA Municipalities 98 A2 340180100 340170900 140 280 BENJA<mark>MIN H MEYER TRUST</mark> NEAL T SCHAFER 70.15 144

PLANNING COMMISSION

PAC Meeting February 26, 2024

Kevin Ameling (Owner)

A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section 08 TWP 112 Range 14 in Hay Creek Township

IUP request for a Utility Scale 1 MW Solar Energy System

Legend

Bluff Impact Zones (% slope) Lakes & Other Water Bodies **FEMA Flood Zones** 2% Annual Chance AE AO X



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MAP 03: ELEVATIONS 1062 Nokomis Energy 1066 1068 1056 1066 1050 1064 1004 1006 1068

PLANNING COMMISSION

PAC Meeting February 26, 2024

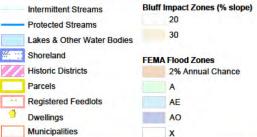
Kevin Ameling (Owner)

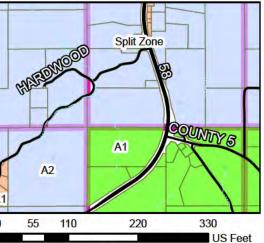
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section 08 TWP 112 Range 14 in Hay Creek Township

IUP request for a Utility Scale 1 MW Solar Energy System

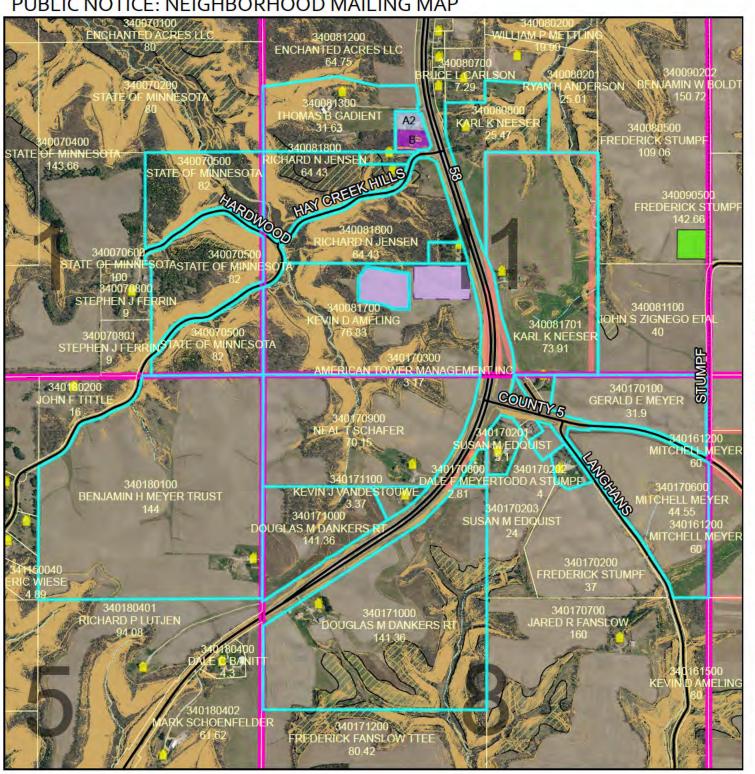
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PUBLIC NOTICE: NEIGHBORHOOD MAILING MAP



PLANNING COMMISSION

PAC Meeting February 26, 2024

Kevin Ameling (Owner)

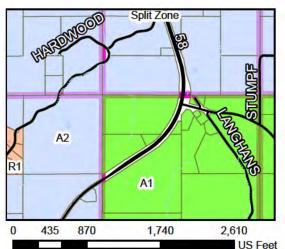
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section 08 TWP 112 Range 14 in Hay Creek Township

IUP request for a Utility Scale 1 MW Solar Energy System

Legend

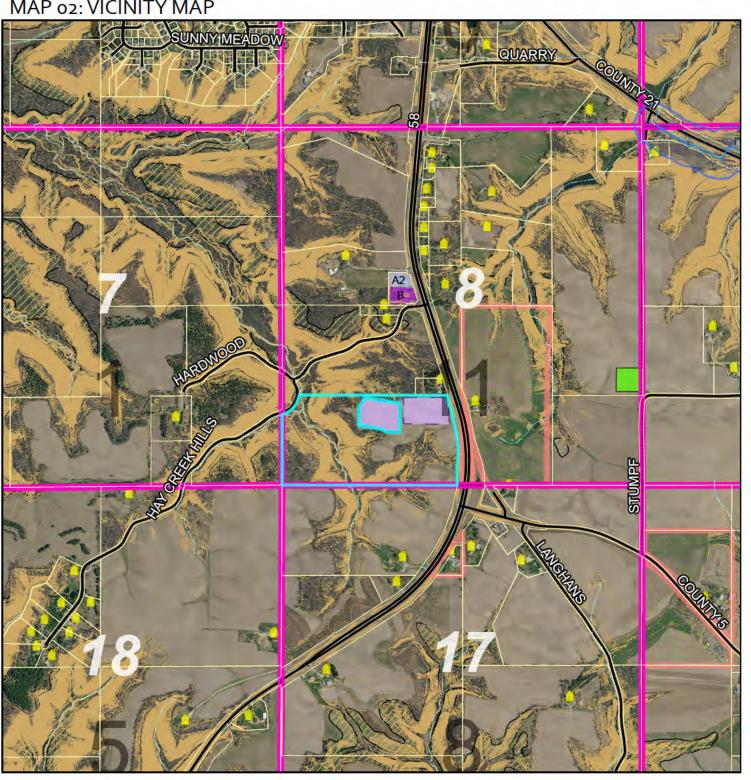
SDE.Feedlots2022Poly Blufflands Solar Sites Soils_Type **STATUS** Slope Soils . Built CUP Additional Zoning Canceled Description Extension A1 - Agricultural Protection In Progress A2 - Agricultural Not Built A3 - Urban Fringe Not Built/Permit Pulled CR - Commercial Recreation



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MAP 02: VICINITY MAP



PLANNING COMMISSION

PAC Meeting February 26, 2024

Kevin Ameling (Owner)

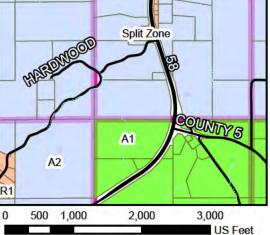
A2 Zoned District

Part of the S 1/2 of the SW 1/4 of Section 08 TWP 112 Range 14 in Hay Creek Township

IUP request for a Utility Scale 1 MW Solar Energy System

Legend





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Lenzen, William

From: Hildebrand, Chad

Sent: Wednesday, February 14, 2024 3:26 PM

To: Lenzen, William

Subject: RE: Bullard Garden Solar

Reviewed the packet for the Bullard Solar Garden. Everything they are proposing looks good. They have erosion control measures identified and appear to be installed prior to an earthwork. They handle the runoff from the site with two filtration basins on the site.

They have a good native pollinator seed mixture for the site with a defined plan on establishment.

They are good on the Wetland Conservation Act (WCA) Rule as well.

Overall, looks good on my end and no major concerns.

Thank you,

Chad Hildebrand

Natural Resource Specialist
GOODHUE Goodhue SWCD
SOURCE (651) 923-5286

104 East 3rd Ave PO Box 335 Goodhue, MN 55027

www.goodhueswcd.org

From: Lenzen, William <william.lenzen@co.goodhue.mn.us>

Sent: Monday, February 12, 2024 3:49 PM

To: Hildebrand, Chad <childebrand@goodhueswcd.org>

Subject: Bullard Garden Solar

Hi Chad,

I hope this is everything you need.



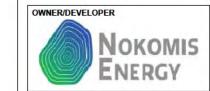
William Lenzen, CAI | Zoning Assistant Land Use Management | 509 W 5th Street Red Wing, MN 55066 P: 651-385-3112 | F: xxx | E: William.lenzen@co.goodhue.mn.us Facebook | Jobs

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- MERIDIEM ENGINEERING

Xcel Energy



PRELIMINARY

NOT FOR CONSTRUCTION

	REVISIONS		
Ю.	DATE	DESCRIPTION	
0	02/02/2024	CONDITION USE PERMIT SUBMITTAL	
	1		

SHEET NAME

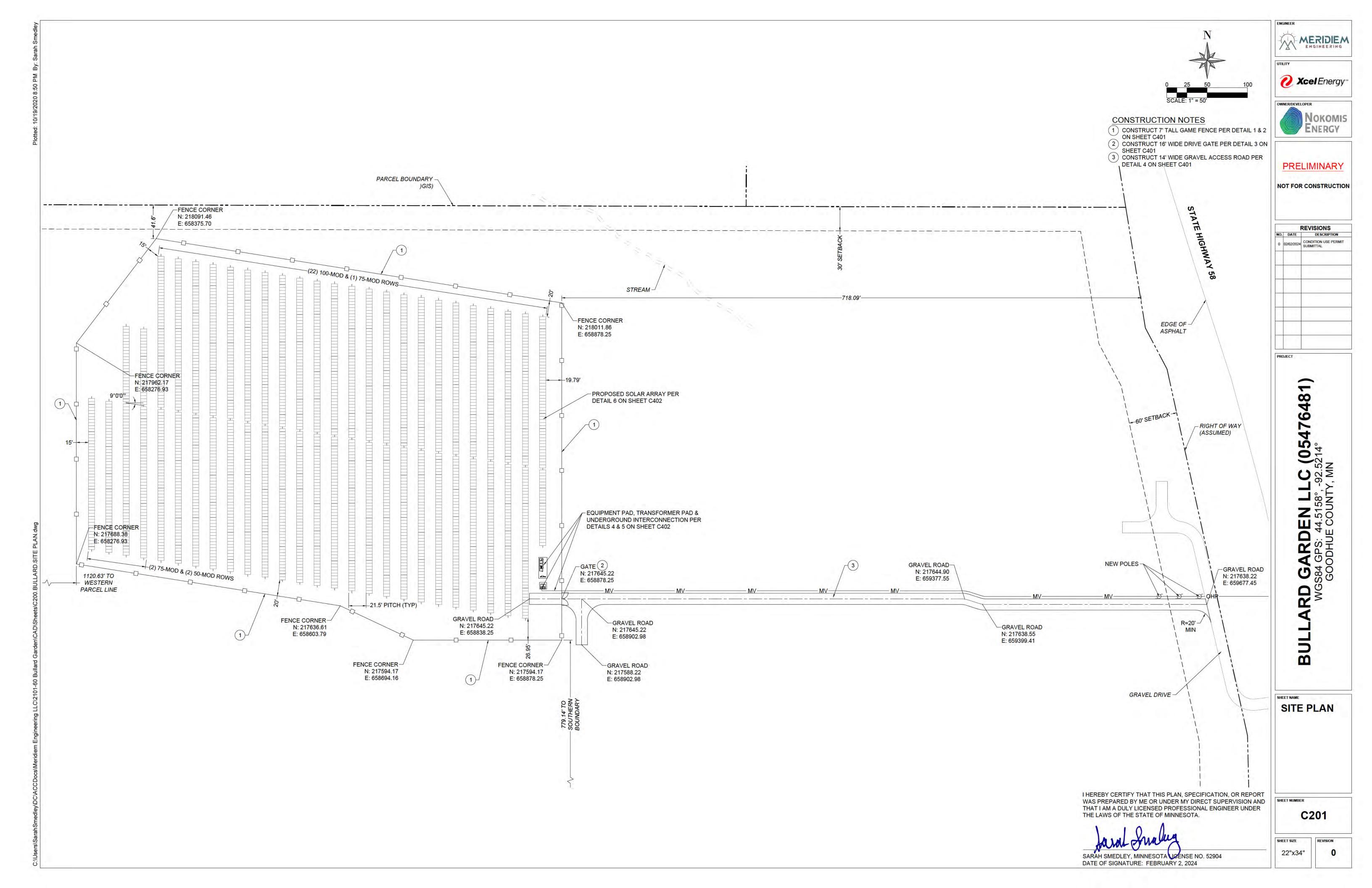
BULL

EXISTING CONDITIONS

C101

22"x34"

SARAH SMEDLEY, MINNESOTA UZENSE NO. 52904 DATE OF SIGNATURE: FEBRUARY 2, 2024



THIS PLAN IS TO SUPPLEMENT THE CONSTRUCTION OF BULLARD GARDEN LLC, A 1MW SINGLE AXIS TRACKER SOLAR SITE IN GOODHUE COUNTY, MN. THE CONSTRUCTION PROCESS WILL INCLUDE INSTALLATION OF A GRAVEL ROAD, PERIMETER FENCE, ARRAY RACKING AND MODULES MOUNTED TO DRIVEN PILES, INSTALLATION OF EQUIPMENT RACKS AND CONCRETE EQUIPMENT PADS, ELECTRICAL TRENCHING AND INSTALLATION, AND FILTRATION BERMS. PRIOR TO ANY SITE DISTURBANCE, SILT FENCE AND/OR SEDIMENT LOGS AND VEHICLE TRACKOUT CONTROL WILL BE INSTALLED AS SHOWN ON THE PLANS. THESE TEMPORARY CONTROLS WILL BE INSTALLED PRIOR TO CONSTRUCTION IN ORDER TO MITIGATE SEDIMENT FROM LEAVING THE SITE AND AS NEEDED TO PREVENT CONSTRUCTION TRAFFIC FROM ENTERING THE SITE WITH FOREIGN SOILS. THE AREA OF THE PROPOSED ARRAY WILL BE MOWED AND THE CUTTINGS WILL BE SPREAD EVENLY AS A MULCH COVER AND THEN LIGHTLY ROLLED TO PROVIDE AN EVEN SURFACE. SITE GRADING NECESSARY FOR THE INSTALLATION OF THE SOLAR ARRAYS WILL BE COMPLETED. PRIOR TO ANY CONCRETE WORK OR CONCRETE DELIVERIES, A CONCRETE WASH AREA WILL BE INSTALLED AND PROPERLY MARKED.

UPON COMPLETION OF THE MECHANICAL AND ELECTRICAL INSTALLATION, THE APPROVED SEED MIX WILL BE APPLIED AS

TAKE HOLD. INSTALLATION OF THE FILTRATION BERMS WILL

THROUGHOUT THE CONSTRUCTION PROCESS UNTIL THE SITE

REACHES FINAL STABILIZATION. ONCE STABILIZATION HAS

OCCURRED ON THE SITE AND THE FILTRATION BERMS, THE

COMMENCE. TEMPORARY BMPS WILL BE MAINTAINED

TEMPORARY BMPS WILL BE REMOVED.

VEGETATED AREAS UNLESS UNFEASIBLE DIRECTED. IF NECESSARY, EROSION CONTROL BLANKETS CAN SWPPP AND EROSION PLAN SHALL BE KEPT ON SITE BE INSTALLED ON THE NEWLY GRADED/EXPOSED AREAS WITH DURING CONSTRUCTION ALONG WITH ANY MODIFICATION MADE TO SWPPP STEEP SLOPES TO IMPEDE SOIL LOSS FROM WIND AND RAIN EROSION AS WELL AS TO HELP PERMANENT SEEDING TO

SWPPP NOTES

INSPECTIONS MUST BE MADE AT THE END OF EACH WORK DAY AND WHEN SEVERE WEATHER IS IMMINENT

1. DISCHARGE FROM BMPS SHALL BE ROUTED TO

THE SITE IS COMPRISED OF SOIL GROUP B, C & D IN LOCATIONS OF BERMS. CALCULATIONS WERE COMPLETED WITH SOIL GROUP D

SWPPP DESIGNER TOM REECE - MERIDIEM ENGINEERING LLC DESIGN OF CONSTRUCTION SWPPP (EXP MAY 31, 2024)

SWPPP INSTALLATION & MAINTENANCE

PRIOR TO CONSTRUCTION SOMEONE WHO IS CERTIFIED FOR CONSTRUCTION INSTALLATION THROUGH THE EROSION AND STORMWATER MANAGEMENT CERTIFICATION PROGRAM AND WILL BE SUPERVISING THE INSTALLATION AND MAINTENANCE OF THE SITE BMPS. INSPECTION WILL BE COMPLETED BY AN INDIVIDUAL WHO HAS COMPLETED THE SWPPP MANAGER TRAINING. PERSONNEL WILL BE IDENTIFIED PRIOR TO CONSTRUCTION AND ADDED TO THE ONSITE EROSION CONTROL PLANS. NOKOMIS ENERGY LLC WILL BE RESPONSIBLE FOR THE LONG TERM MAINTENANCE OF THE

PERMANENT BMPS.

NOTE

TOTAL AREA OF DISTURBANCE DUE TO PILES, PADS, GRADING & ROAD = 4.26 AC

AREA OF IMPERVIOUS = 0.30 AC

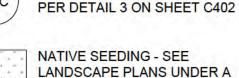
BMP LEGEND

CONCRETE WASTE AREA PER DETAIL 1 ON SHEET C402

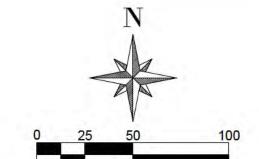




VEHICLE TRACKOUT CONTROL



SEPARATE COVER



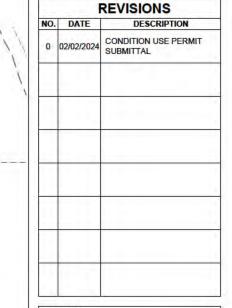
MERIDIEM ENGINEERING

Xcel Energy



PRELIMINARY

NOT FOR CONSTRUCTION



PROJECT

05140 ARD GARDEN WGS84 GPS: 44.5 GOODHUE CC BULL

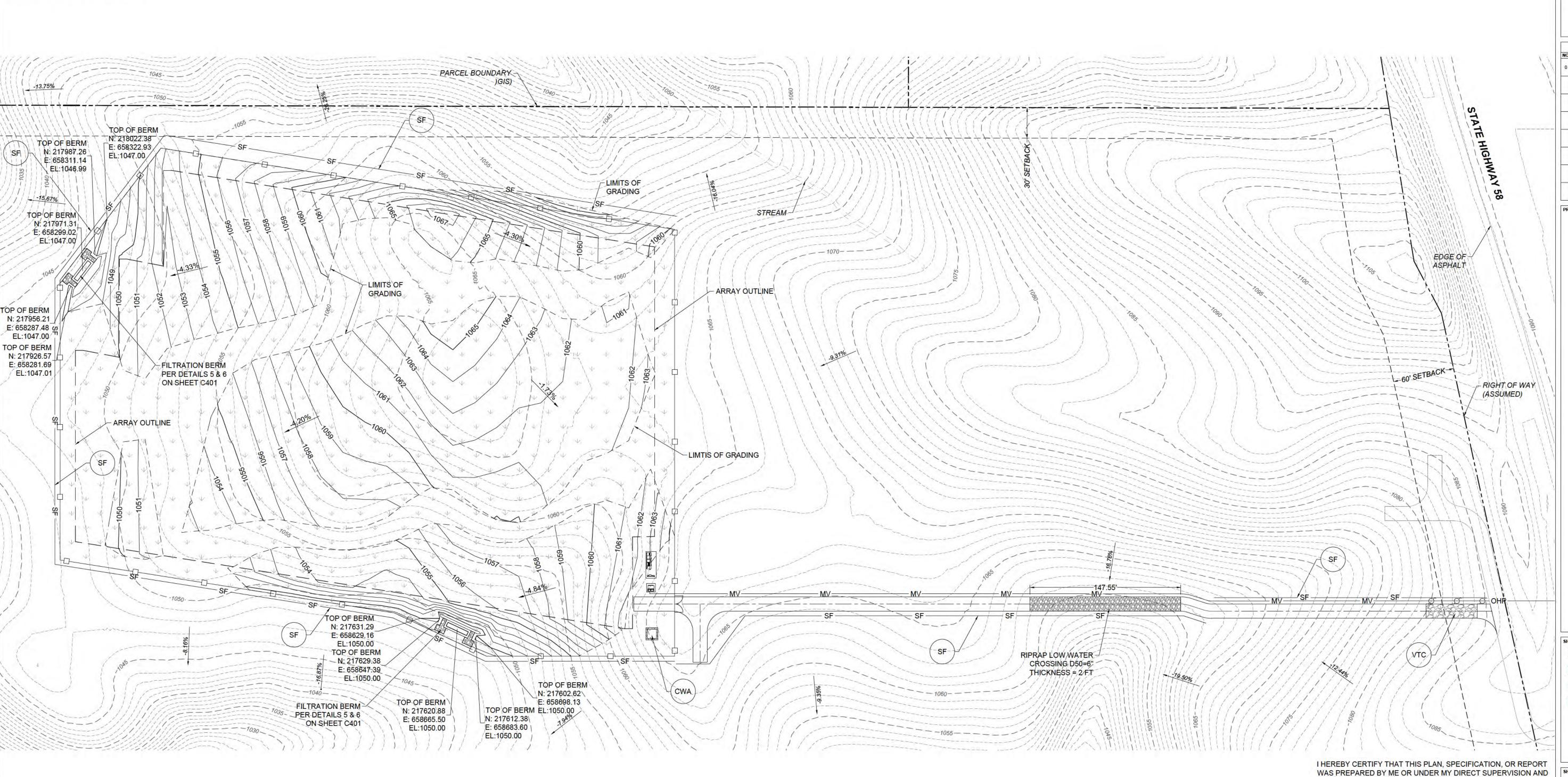
SHEET NAME **GRADING & EROSION** CONTROL **PLAN**

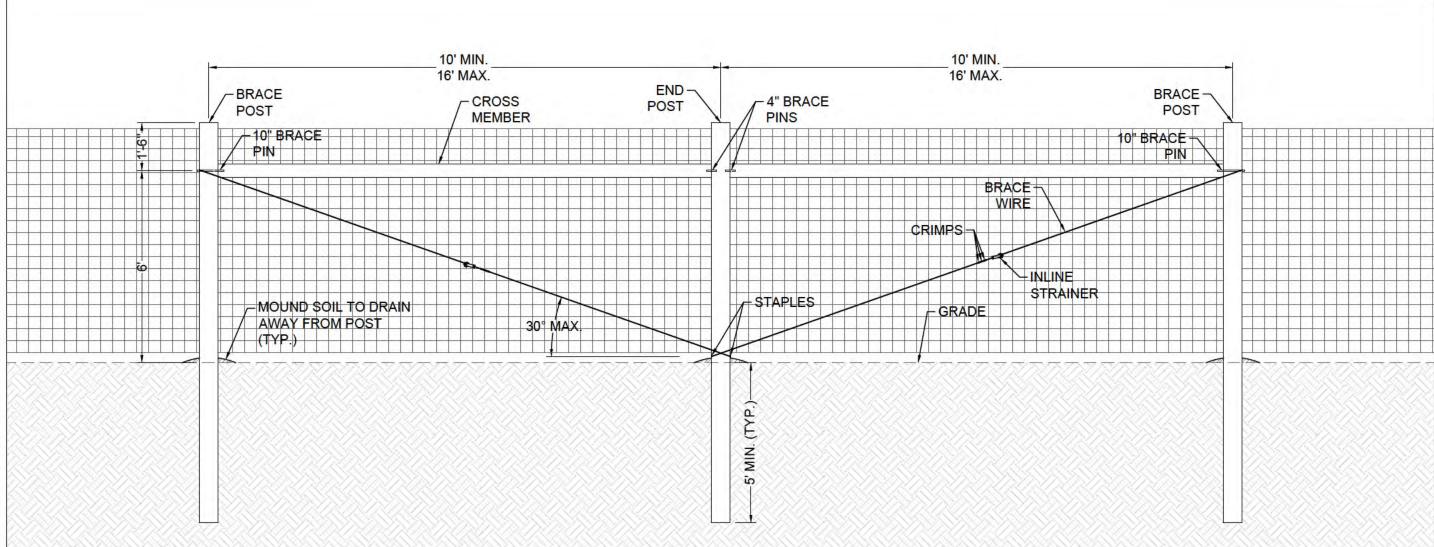
THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA. C301

SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904

DATE OF SIGNATURE: FEBRUARY 2, 2024

22"x34"





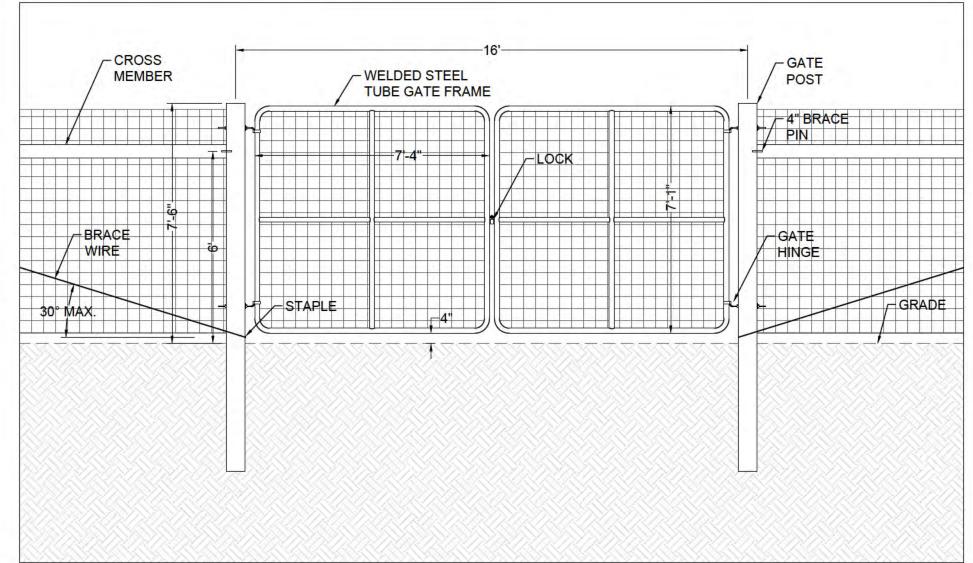
' PERIMETER GAME FENCE VIEW: ELEVATION

16' DRIVE GATE

SCALE: 1"=3' VIEW: ELEVATION

FILTRATION BERM

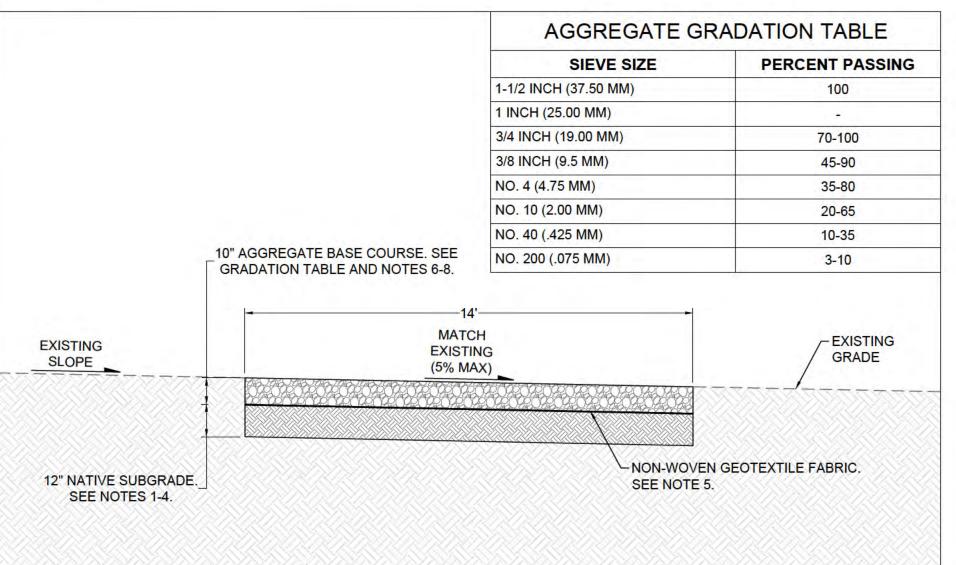
SCALE: 1"=2" VIEW: SECTION



GAME FENCE & GATE NOTES

- 1. FENCE DESIGN SHALL COMPLY WITH THE SPECIFICATIONS OF SECTION 110.31 "ENCLOSURE FOR ELECTRICAL INSTALLATIONS" FROM THE LATEST VERSION OF THE NATIONAL ELECTRIC CODE.
- ALL HARDWARE, FENCE FABRIC AND OTHER METAL COMPONENTS SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A123.
- FENCE FABRIC SHALL BE 12-1/2 GAUGE HIGH TENSILE CLASS 3
- WELDED WIRE MESH WITH 4" OPENINGS. SOFTWOOD POSTS SHALL BE PRESSURE TREATED WITH CHROMATE COPPER ARSENATE WITH A MINIMUM LEVEL OF
- 0.40%. HARDWOOD POSTS DO NOT REQUIRE TREATMENT. VERTICAL POSTS (CORNER, BRACE, LINE, END, AND GATE) SHALL BE 7" DIAMETER HARDWOOD OR TREATED SOFTWOOD. CROSS MEMBERS SHALL BE 5" DIAMETER WOOD POSTS.
- BRACE PINS SHALL BE 1/2" DIAMETER OR GREATER. BRACE WIRE SHALL BE DOUBLE WRAPPED 12-1/2 GAUGE
- HI-TENSILE WIRE. STAPLES SHALL BE 1-3/4" DOUBLE BARBED SPACED AT 12"
- 10. BRACE SECTIONS SHALL BE USED AT TERMINAL AND ANGLE POINTS AND WHERE THE DISTANCE BETWEEN BRACED
- SECTIONS EXCEEDS 1320'. 11. GATES ALONG THE PERIMETER SHALL HAVE HEAVY DUTY **BOLT-CUTTER RESISTANT PADLOCKS**

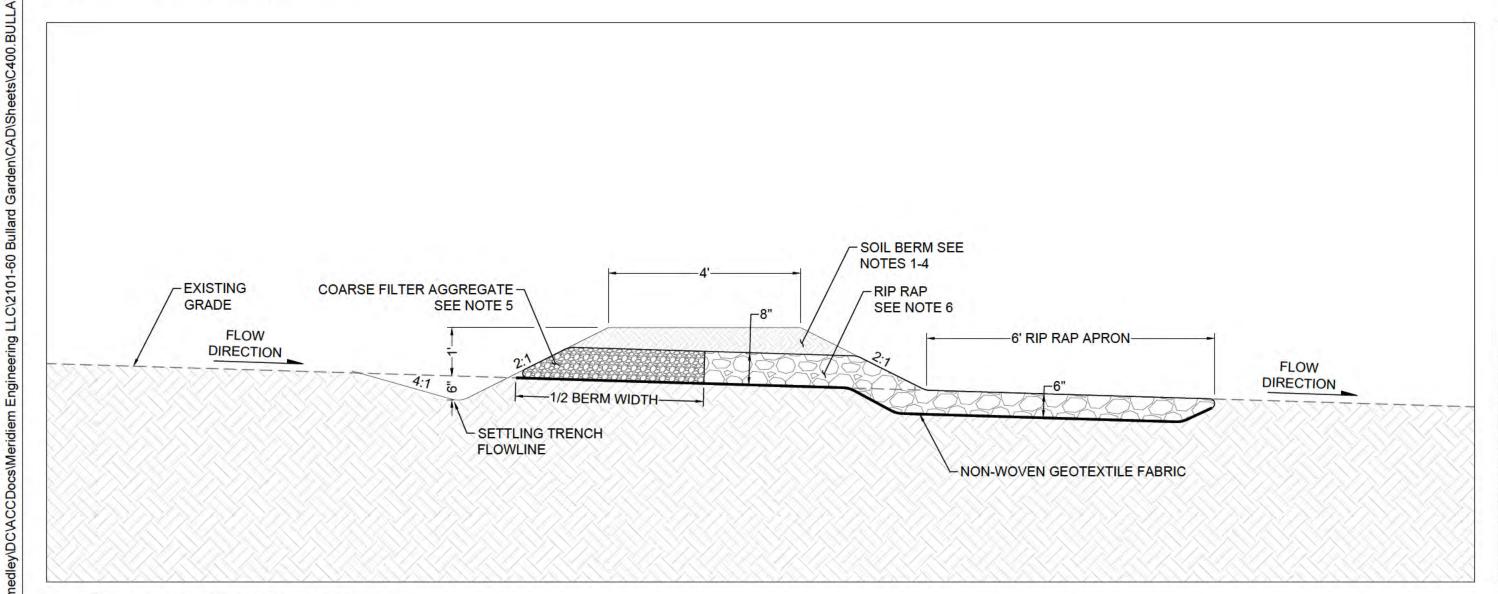
GAME FENCE BRACE PANEL SCALE: 1"=3" VIEW: ELEVATION

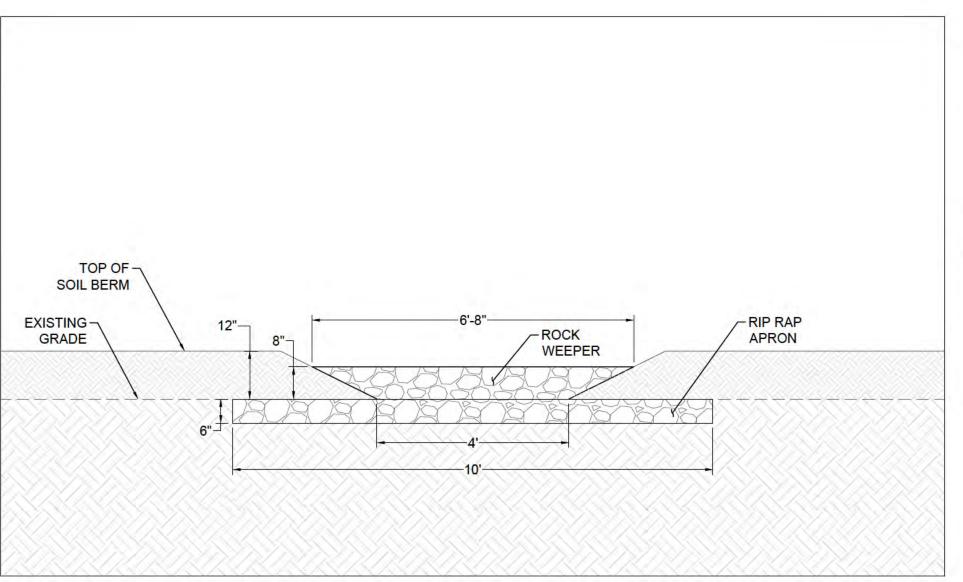


ACCESS ROAD NOTES

- SOIL PREPARATION SHALL INCLUDE THE REMOVAL OF EXISTING VEGETATION, CULTIVATED SOIL, TOPSOIL, AND OTHER SOFT, UNSUITABLE OR DELETERIOUS MATERIAL AND CLODS OR FRAGMENTS LARGER THAN 3" IN ANY DIMENSION. 2. NATIVE MATERIAL SHALL BE SCARIFIED TO THE FULL DEPTH OF THE SUBGRADE AND MIXED TO ACHIEVE UNIFORM MOISTURE CONTENT AT ±3% OF OPTIMUM AND RECOMPACTED TO 95% OF THE MAXIMUM DRY DENSITY USING STANDARD
- PROCTOR METHOD (ASTM-D698). 3. THE COMPACTED SUBGRADE SHALL BE PROOF ROLLED AND SOFT OR UNYIELDING AREAS OR LOW POINTS WHICH MAY COLLECT WATER SHALL BE REPAIRED IN PLACE BY ADDITIONAL DENSIFICATION/COMPACTION, OR REPLACED
- WITH ENGINEERED FILL. 4. IF FROZEN SOILS ARE ENCOUNTERED THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE FILL PRIOR TO
- PLACING SUBGRADE OR SURFACE MATERIAL. PROTRUDING SHARP OBJECTS SHALL BE REMOVED FROM THE FINISHED SUBGRADE PRIOR TO PLACING THE GEOTEXTILE.
- SURFACE AGGREGATE SHALL CONFORM TO MNDOT STANDARD SPEC 3138.
- AGGREGATES SHALL BE FREE FROM LARGE QUANTITIES OF DUST, SOFT OR FLAKY PARTICLES, LOAMS, ALKALI, ORGANIC MATTER, PAPER, WOOD, OR OTHER DELETERIOUS MATTER.
- SURFACE AGGREGATE SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY AT ±3% OF THE OPTIMUM MOISTURE CONTENT USING STANDARD PROCTOR METHOD (ASTM-D698)
- UPON COMPLETION OF CONSTRUCTION THE ROAD SURFACE SHALL BE INSPECTED FOR RUTTING AND ANY LOW POINTS SHALL BE RESTORED TO FINISHED GRADE AND TEMPORARY ROADS UTILIZED DURING CONSTRUCTION SHALL BE REMOVED AND RESTORED TO PRE-CONSTRUCTION CONDITION.

AT-GRADE ACCESS ROAD SCALE: 1"=3' VIEW: SECTION





FILTRATION BERM - ROCK WEEPER SCALE: 1"=2" VIEW: SECTION

FILTRATION BERM NOTES

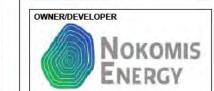
- 1. SOIL PREPARATION SHALL INCLUDE THE REMOVAL OF EXISTING VEGETATION, CULTIVATED SOIL, TOPSOIL, AND OTHER SOFT, UNSUITABLE OR DELETERIOUS MATERIAL AND CLODS OR FRAGMENTS LARGER THAN 3" IN ANY DIMENSION.
- 2. SOILS USED TO CONSTRUCT THE BERM SHALL BE FREE OF ROOTS, VEGETATION, ORGANIC MATTER, AND CONTAIN A SAND CONTENT BELOW 70 PERCENT.
- 3. SOIL SHALL BE MIXED TO ACHIEVE UNIFORM MOISTURE CONTENT AND COMPACTED. THE FINISHED BERM MUST BE STABILIZED IMMEDIATELY WITH PERMANENT VEGETATION OR EROSION CONTROL BLANKETS. IN AREAS WHICH ARE ANTICIPATED TO RECEIVE HIGH FLOW, SEED SHALL BE COVERED WITH EROSION CONTROL BLANKETS UNTIL
- PERMANENT VEGETATION IS ACHIEVED. BERMS SHALL BE INSTALLED ON THE CONTOUR PERPENDICULAR TO SHEET FLOW AND SHALL HAVE A CONSISTENT SHAPE THROUGHOUT
- 5. COARSE FILTER AGGREGATE SHALL BE 1" ROCK CONSISTING OF NATURALLY OCCURRING UNIFORMLY BLENDED MINERAL MATERIALS WITH NO MORE THAN 20% PASSING THE NO. 200 SIEVE AND CONTAINING NO TOPSOIL, ORGANICS, OR SEVERELY WEATHERED ROCK.
- 6. RIP RAP SHALL HAVE A D50 = 6" AND SHALL BE FREE OF SOIL AND OTHER DEBRIS AND CONSIST OF STONES WITH AT LEAST ONE FRACTURED FACE WHOSE WIDTHS ARE NOT LESS THAN 30% OF THE LENGTH OF EACH STONE
- INSPECT BERMS WEEKLY AND BEFORE AND AFTER A RAIN EVENT. REPAIR DAMAGED AREAS WITHIN 24 HOURS AND REESTABLISH VEGETATIVE COVER OR TEMPORARY STABILIZATION AS SOON AS POSSIBLE. IF PORTIONS OF THE BERM OUTSIDE OF THE ROCK FILTERS ARE BREACHED THE BERM SHALL BE EXPANDED OR ENLARGED UNTIL BREACHING IS PREVENTED.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904 DATE OF SIGNATURE: FEBRUARY 2, 2024

MERIDIEM ENGINEERING

Xcel Energy



PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS NO. DATE DESCRIPTION 02/02/2024 CONDITION USE PERMIT SUBMITTAL

476

(05. 5214° **5**15 GARDEI SS84 GPS: 44.5 GOODHUE CC

SHEET NAME SITE **DETAILS**

C401

22"x34"

VIEW: PLAN/SECTION

COARSE

AGGREGATE

SEE NOTES 2-3

VEHICLE TRACKOUT CONTROL

SWITCHGEAR -

NEW GRAVEL

ACCESS ROAD

SCALE: 1"=10"

CONCRETE WASTE AREA NOTES

- PERFORM WASHOUT OF CONCRETE MIXERS, DELIVERY TRUCKS, AND OTHER DELIVERY SYSTEMS IN DESIGNATED AREA ONLY.
- 2. TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE LOCATED A MINIMUM OF 50 FEET FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, AND WATERBODIES. EACH FACILITY IS TO BE LOCATED AWAY FROM CONSTRUCTION TRAFFIC OR ACCESS AREAS TO PREVENT DISTURBANCE OR TRACKING.
- TEMPORARY CONCRETE WASHOUT FACILITIES MUST BE CONSTRUCTED AND MAINTAINED IN SUFFICIENT QUANTITY AND SIZE TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE MAINTAINED TO PROVIDE ADEQUATE HOLDING CAPACITY. A MINIMUM FREEBOARD OF 4 INCHES FOR ABOVE GROUND FACILITIES AND 12 INCHES FOR BELOW GROUND FACILITIES SHALL BE MAINTAINED.
- WASHOUT MAY BE COLLECTED IN AN IMPERMEABLE BAG OR OTHER IMPERMEABLE CONTAINMENT DEVICE FOR DISPOSAL. ONCE CONCRETE WASTES ARE WASHED INTO THE
- DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE MAY BE BROKEN UP, REMOVED AND DISPOSED OF. CONCENTRATED RESIDUE FROM SAW CUTTING, CORING AND GRINDING OPERATIONS WILL BE PICKED UP BY MEANS OF A VACUUM DEVICE. THIS CONCENTRATED RESIDUE IS NOT TO BE ALLOWED TO FLOW ACROSS THE PAVEMENT AND CANNOT BE
- LEFT ON THE SURFACE OF THE PAVEMENT. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- 8. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZE.

STABILIZED CONSTRUCTION EXIT NOTES

THE STABILIZED EXIT.

BENEATH.

RESTORED.

MET TOWER ON-**EQUIPMENT RACK**

EQUIPMENT-

RACK

SEDIMENT TRAP.

TRANSFORMER

1. ALL CONSTRUCTION TRAFFIC IS TO EXIT THE SITE THROUGH

2. THE ROCK PAD SHALL BE 3" COARSE AGGREGATE SPREAD

3. INSPECT DAILY FOR SEDIMENT ACCUMULATION WHICH MAY

ROCK OR ADD ADDITIONAL ROCK TO INCREASE THE PAD

THICKNESS AND/OR LENGTH UNTIL EFFECTIVENESS IS

4. ENSURE THAT ANY WASH WATER USED IS DRAINED TO A

EVENLY 6" THICK WITH A NONWOVEN GEOTEXTILE FABRIC

AFFECT PERFORMANCE. IF THE EFFECTIVENESS OF SEDIMENT REMOVAL IS REDUCED CLEAN AND REGRADE THE EXISTING

COARSE FILTER -GEOTEXTILE FABRIC (TYPE 4) -**AGGREGATE** 36" WIDE. SEE NOTE 1. GEOTEXTILE -**FABRIC** PLASTIC ZIP TIES (50 LB. TENSILE) --4' MIN LENGTH STAKE GRADE -LOCATED IN TOP 8" AT 6' MAX SPACING SEE OPTIONAL -ANCHOR METHOD **OPTIONAL METHOD** FABRIC ANCHORAGE TRENCH-TO BE BACKFILLED WITH NATURAL SOIL AND TAMPED FLOW FLOW

SILT FENCE NOTES

- 1. GEOTEXTILE FABRIC SHALL BE A WOVEN OR NONWOVEN
- SYNTHETIC FIBER FABRIC COMPLYING WITH AASHTO M288. 2. GEOTEXTILE FABRIC SHALL BE SPLICED TOGETHER WITH A SEWN SEAM AT A SUPPORT POST, OR TWO SECTIONS OF
- FENCE MAY BE OVERLAPPED INSTEAD. 3. THE FENCE SHOULD FOLLOW THE CONTOUR OF THE SLOPE TO THE MAXIMUM AMOUNT PRACTICABLE AND HAVE NO DIPS OR LOW AREAS WHERE WATER WILL ACCUMULATE AND POOL. POOLED WATER IS A MAJOR CAUSE OF FAILURE BECAUSE OF
- THE HIGH PRESSURE IT PLACES ON THE FENCE. 4. ENDS OF THE FENCE SHOULD ALWAYS BE ANGLED UP SLOPE
- SO WATER CANNOT FLOW AROUND THEM. 5. THE MAXIMUM UP SLOPE GRADE PERPENDICULAR TO THE
- FENCE LINE SHOULD NOT EXCEED 1:1. 6. INSPECT BMPS ACCORDING TO NORMAL MAINTENANCE
- SCHEDULE.
- 7. INSPECTION SHOULD INCLUDE ENSURING FABRIC IS PROPERLY TRENCHED INTO THE GROUND AND FABRIC IS NOT TORN OR SAGGING.
- 8. SEDIMENT REMOVAL AND DISPOSAL IS REQUIRED WHEN SEDIMENT COVERS 1/3 OF THE HEIGHT OF THE FENCE.

OWNER/DEVELOPER Nokomis ENERGY

MERIDIEM

Xcel Energy

PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS NO. DATE DESCRIPTION 0 02/02/2024 CONDITION USE PERMIT SUBMITTAL

05140

ARD GARDEN WGS84 GPS: 44.5 GOODHUE CC

5

SHEET NAME SITE

DETAILS

C402

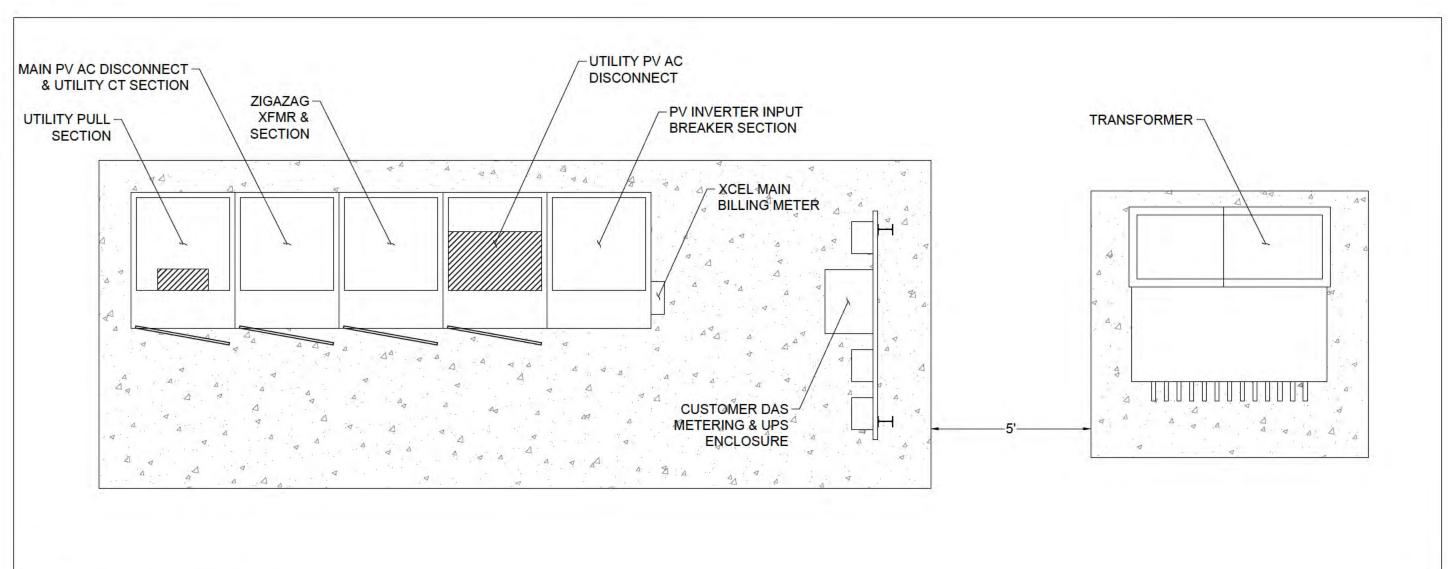
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DATE OF SIGNATURE: FEBRUARY 2, 2024

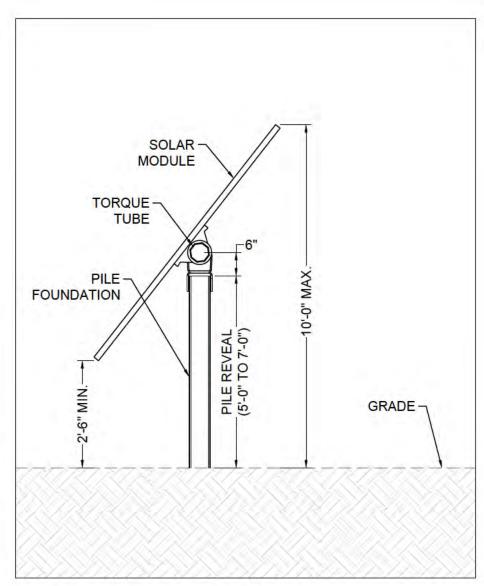
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SILT FENCE SCALE: 1"=1' VIEW: SECTION



EQUIPMENT PAD SCALE: 1"=3"



TO XCEL UTILITY POLE

EQUIPMENT PAD SCALE: 1"=3'VIEW: ELEVATION

TRACKER DETAIL SCALE: 1"=2' VIEW: ELEVATION