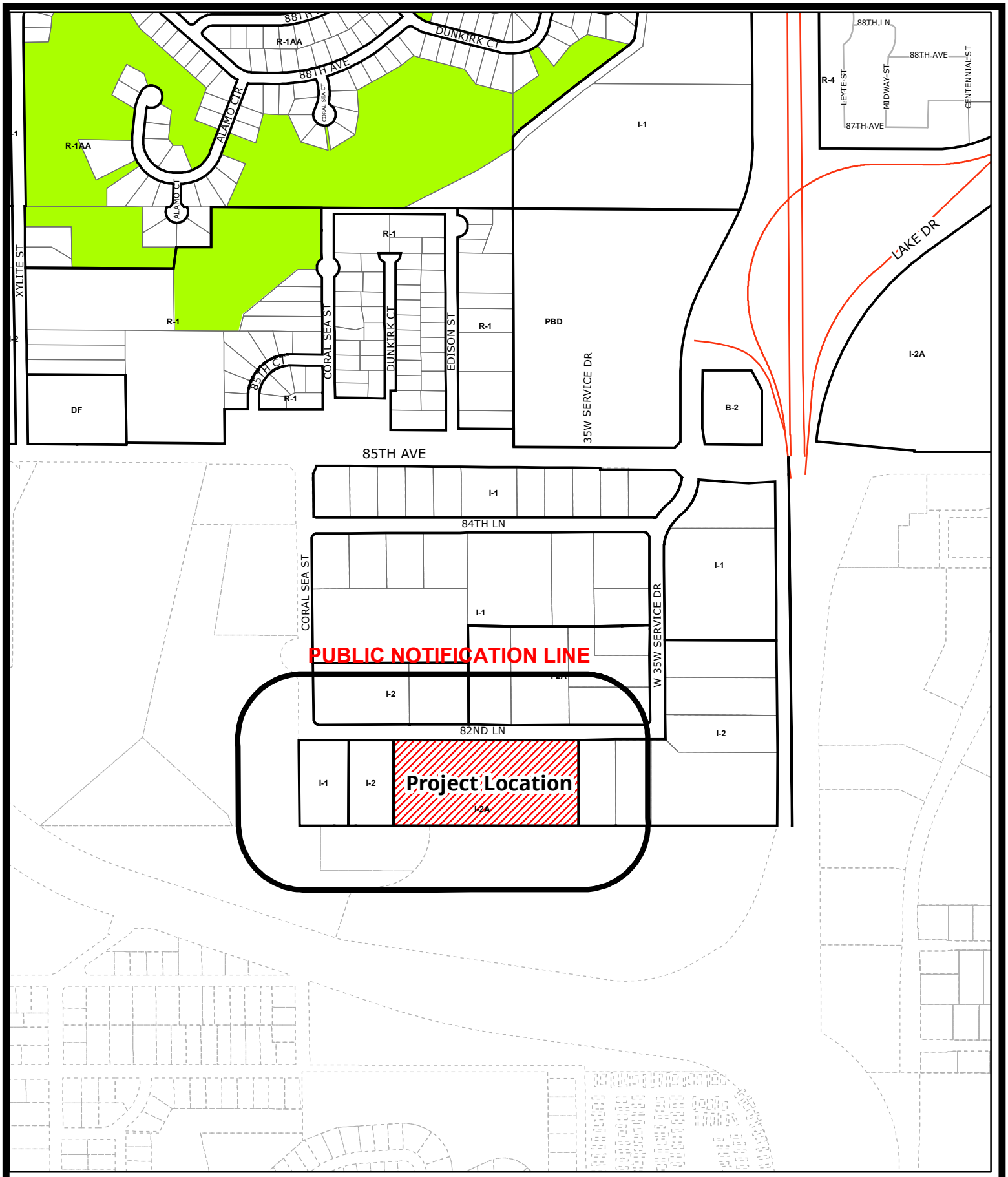

Case File No. 21-0029
Medtronic Solar Project

BlaineMN.gov

Blaine Planning Department / 10801 Town Square Dr NE / Blaine, MN 55449 / (763) 785-6180

N

0 40 80 160

SCALE: 1" = 80'

CONSTRUCTION NOTES

1. CONSTRUCT 14' WIDE GRAVEL ACCESS ROAD PER DETAIL 1 ON SHEET C401
2. CONSTRUCT 7' FENCE* PER DETAIL 2 ON SHEET C401
3. CONSTRUCT 16' WIDE DRIVE GATE PER DETAIL 3 ON SHEET C401

*PROPOSED FENCE TO BE EITHER AGRICULTURAL FENCE OR BLACK CHAIN LINK WITH THE INTENTION OF MAINTAINING AESTHETIC CONSISTENCY WITH THE CITY OF BLAINE AND MEDTRONIC.

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: APRIL 9, 2021

ENGINEER: MERIDIEM ENGINEERING

UTILITY: Xcel Energy

OWNER/DEVELOPER: NOKOMIS ENERGY

PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
0	04/09/2021	CONDITIONAL USE PERMIT

PROJECT

TC SOLAR MV LLC

PID: 530231200035 GPS: 45.120064°, -93.200663°
8200 CORAL SEA ST NE, MOUNDS VIEW, MN 55112

SHEET NAME: **SITE PLAN**

SHEET NUMBER: **C201**

SHEET SIZE: 22"x34"

REVISION: 0

N

0 40 80 160

SCALE: 1" = 80'

BMP LEGEND

- CWA — CONCRETE WASTE AREA PER DETAIL 1 ON SHEET C402
- SF — SILT FENCE PER DETAIL 2 ON SHEET C402
- VTC — VEHICLE TRACKOUT CONTROL PER DETAIL 3 ON SHEET C402

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UTILITY: Xcel Energy

OWNER/DEVELOPER: NOKOMIS ENERGY

PRELIMINARY

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REVISIONS

NO.	DATE	DESCRIPTION
0	04/09/2021	CONDITIONAL USE PERMIT

PROJECT

TC SOLAR MV LLC

PID: 530231200035 GPS: 45.120064°, -93.200663°
8200 CORAL SEA ST NE, MOUNDS VIEW, MN 55112

SHEET NAME: **DRAINAGE & EROSION CONTROL PLAN**

SHEET NUMBER: **C301**

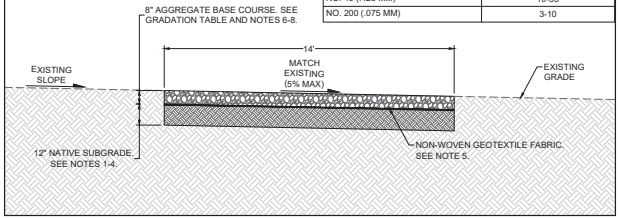
SHEET SIZE: 22"x34"

REVISION: 0

Plotted: 4/8/2021 10:03 AM By: Tom Reece

C:\Users\Tom Reece\BIM 360\Meridiem Engineering LLC\2101-13 TC Solar MV\CAD\Sheets\C300 TC SOLAR MV EROSION.dwg

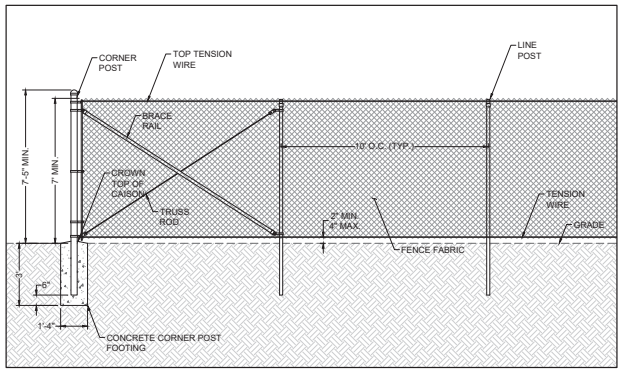
AGGREGATE GRADATION TABLE	
SIEVE SIZE	**PERCENT PASSING**
1-1/2 INCH (37.50 MM)	100
1 INCH (25.00 MM)	-
3/4 INCH (19.00 MM)	70-100
3/8 INCH (9.5 MM)	45-90
NO. 4 (4.75 MM)	35-80
NO. 10 (2.00 MM)	20-65
NO. 40 (.425 MM)	10-35
NO. 200 (.075 MM)	3-10



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

ACCESS ROAD NOTES

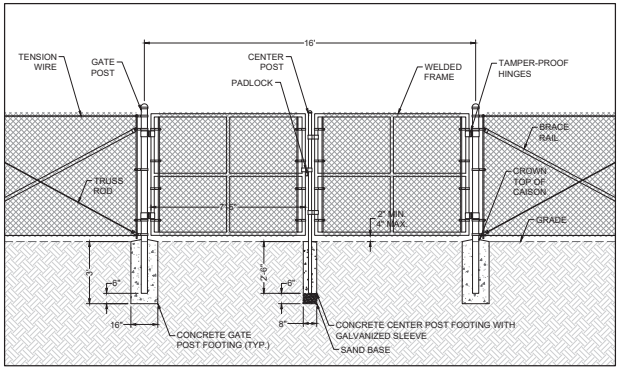
1. SOIL PREPARATION SHALL INCLUDE THE REMOVAL OF EXISTING VEGETATION, CULTIVATED SOIL, TOPSOIL, AND OTHER SOFT, UNSUITABLE OR DELETERIOUS MATERIAL AND CLODS OR FRAGMENTS LARGER THAN 3" IN ANY DIMENSION.
2. NATIVE MATERIAL SHALL BE SCARIFIED TO THE FULL DEPTH OF THE SUBGRADE AND MIXED TO ACHIEVE UNIFORM 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.
5. PROTRUDING SHARP OBJECTS SHALL BE REMOVED FROM THE FINISHED SUBGRADE PRIOR TO PLACING THE GEOTEXTILE.
6. SURFACE AGGREGATE SHALL CONFORM TO MnDOT STANDARD SPEC 3138.
7. AGGREGATES SHALL BE FREE FROM LARGE QUANTITIES OF DUST, SOFT OR FLAKY PARTICLES, LOAMS, ALKALI, ORGANIC MATTER, PAPER, WOOD, OR OTHER DELETERIOUS MATTER.
8. SURFACE AGGREGATE SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY AT ±3% OF THE OPTIMUM MOISTURE CONTENT USING STANDARD PROCTOR METHOD (ASTM-D698).
9. 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.



2 PERIMETER FENCE
SCALE: 1"=3' VIEW: ELEVATION

FENCE NOTES

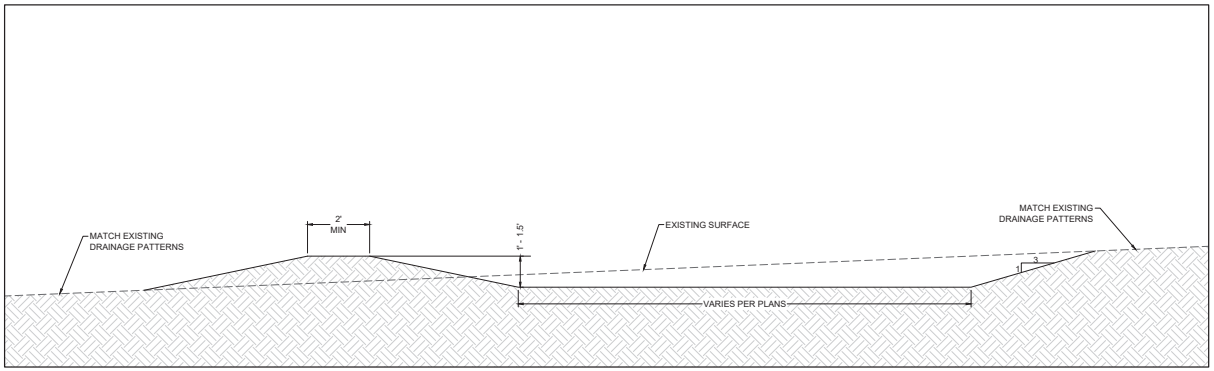
1. FENCE DESIGN SHALL COMPLY WITH THE SPECIFICATIONS OF SECTION 110.31 "ENCLOSURE FOR ELECTRICAL INSTALLATIONS" FROM THE LATEST VERSION OF THE NATIONAL ELECTRIC CODE.
2. FENCING STRUCTURES SHALL BE ELECTRICALLY GROUNDED FOR OVERHEAD CROSSINGS.
3. HEIGHT OF TOP RAIL/TENSION WIRE SHALL BE NO LESS THE 7' ABOVE GROUND LEVEL.
4. DIAMETER OF POSTS SHALL BE 4" FOR CORNERS, 2.5" FOR TERMINALS, AND 2' FOR LINE POSTS. POSTS SHALL BE MINIMUM SCHEDULE 40.
5. TERMINAL AND GATE POSTS SHALL BE 10' LENGTH.
6. CORNER AND GATEPOSTS SHALL BE INSTALLED WITH CONCRETE BACKFILL.



3 DRIVE GATE
SCALE: 1"=3' VIEW: ELEVATION

GATE NOTES

1. ALL GATES SHALL HAVE TAMPER PROOF GATE HINGES AND HARDWARE.
2. GATES ALONG THE PERIMETER SHALL HAVE HEAVY DUTY BOLT CUTTER RESISTANT PADLOCKS.
3. GATE POSTS SHALL BE 4" DIA SCHEDULE 40, 10' IN LENGTH.
4. CENTER POST MUST LOWER INTO GALVANIZED PIPE SLEEVE INSTALLED IN CONCRETE BETWEEN THE TWO SWINGING GATES.



4 INFILTRATION BASIN
SCALE: 1"=2' VIEW: SECTION

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SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904
DATE OF SIGNATURE: APRIL 9, 2021

ENGINEER: MERIDIEM ENGINEERING
UTILITY: Xcel Energy
OWNER/DEVELOPER: NOKOMIS ENERGY

PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
0	04/09/2021	CONDITIONAL USE PERMIT

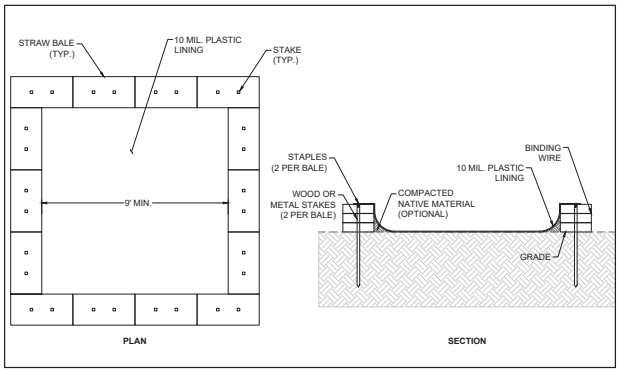
PROJECT

TC SOLAR MV LLC
PID: 530231200035 ; GPS: 45.120064° -93.200663°
8200 CORAL SEA ST NE, MOUNDS VIEW, MN 55112

SHEET NAME: **DETAILS 1**

SHEET NUMBER: **C401**

SHEET SIZE: 22"x34"
REVISION: 0

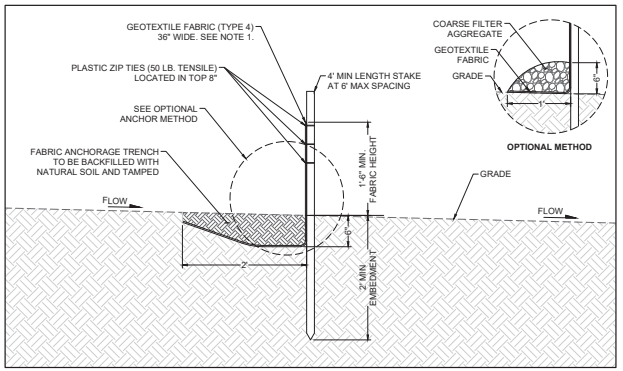


1 CONCRETE WASTE AREA

SCALE: 1"=3' VIEW: PLAN/SECTION

CONCRETE WASTE AREA NOTES

1. 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.
3. 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.
4. WASHOUT MAY BE COLLECTED IN AN IMPERMEABLE BAG OR OTHER IMPERMEABLE CONTAINMENT DEVICE FOR DISPOSAL.
5. ONCE CONCRETE WASTES ARE WASHED INTO THE DESIGNATED AREA AND ALLOWED TO HARDEN, THE CONCRETE MAY BE BROKEN UP, REMOVED AND DISPOSED OF.
6. 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.

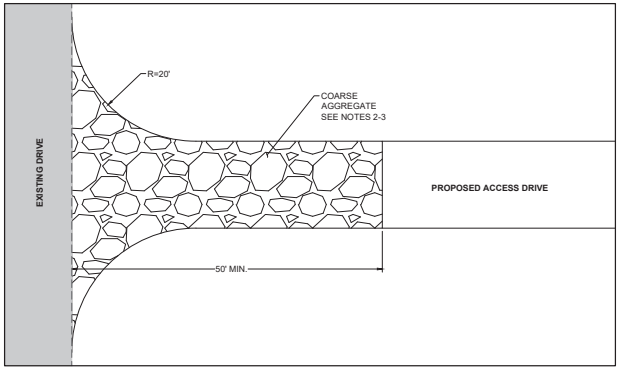


2 SILT FENCE

SCALE: 1"=1' VIEW: SECTION

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.

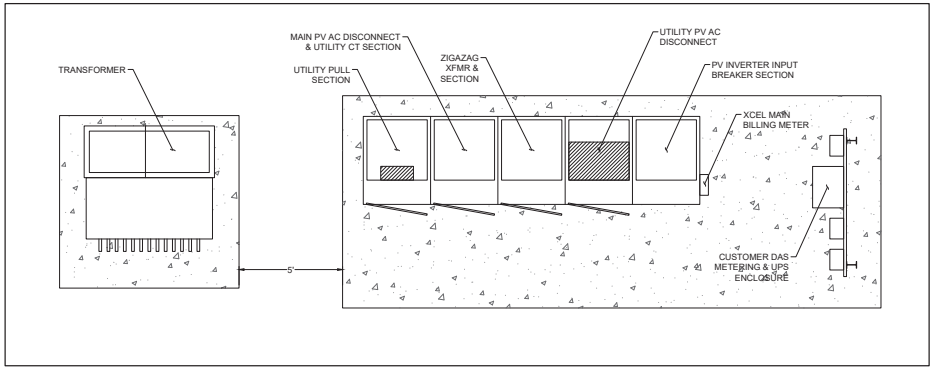


3 VEHICLE TRACKOUT CONTROL

SCALE: 1"=10' VIEW: PLAN

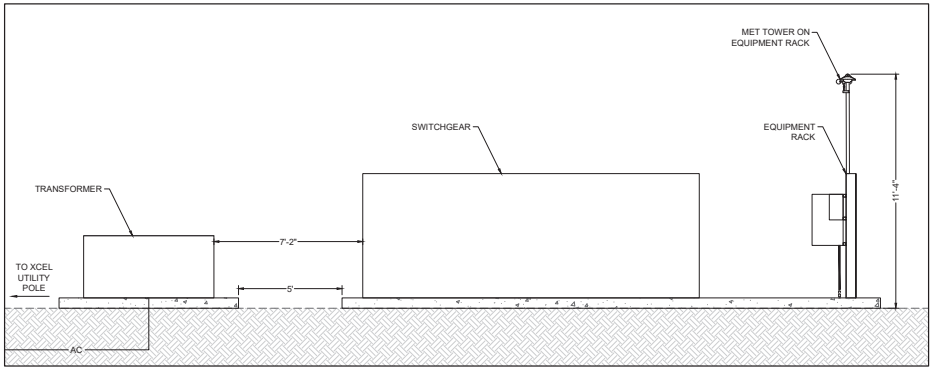
VEHICLE TRACKOUT NOTES

1. ALL CONSTRUCTION TRAFFIC IS TO EXIT THE SITE THROUGH THE STABILIZED EXIT.
2. THE ROCK PAD SHALL BE 3" COARSE AGGREGATE SPREAD EVENLY 6" THICK WITH A NONWOVEN GEOTEXTILE FABRIC BENEATH.
3. INSPECT DAILY FOR SEDIMENT ACCUMULATION WHICH MAY AFFECT PERFORMANCE. IF THE EFFECTIVENESS OF SEDIMENT REMOVAL IS REDUCED CLEAN AND REGRADE THE EXISTING ROCK OR ADD ADDITIONAL ROCK TO INCREASE THE PAD THICKNESS AND/OR LENGTH UNTIL EFFECTIVENESS IS RESTORED.
4. ENSURE THAT ANY WASH WATER USED IS DRAINED TO A SEDIMENT TRAP.



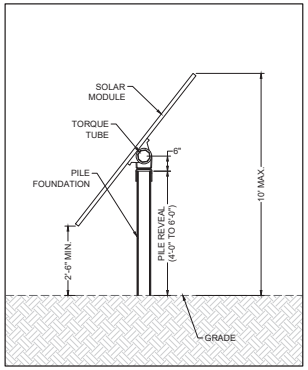
4 EQUIPMENT PAD

SCALE: 1"=3' VIEW: PLAN



5 EQUIPMENT PAD

SCALE: 1"=3' VIEW: ELEVATION



6 SINGLE-AXIS TRACKER

SCALE: 1"=2' VIEW: ELEVATION

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SARAH SMEDLEY, MINNESOTA LICENSE NO. 52904
DATE OF SIGNATURE: APRIL 9, 2021

ENGINEER: MERIDIEM ENGINEERING
UTILITY: Xcel Energy
OWNER/DEVELOPER: NOKOMIS ENERGY

PRELIMINARY

NOT FOR CONSTRUCTION

REVISIONS

NO.	DATE	DESCRIPTION
0	04/09/2021	CONDITIONAL USE PERMIT

PROJECT

TC SOLAR MV LLC

PID: 53023120035 GPS: 45.120064°, -93.200663°
8200 CORAL SEA ST NE, MOUNDS VIEW, MN 55112

SHEET NAME: DETAILS 2

SHEET NUMBER: C402

SHEET SIZE: 22"x34"

REVISION: 0

NOKOMIS ENERGY

Medtronic Solar Project
TC Solar MV LLC

Medtronic

Conditional Use Permit – City of Blaine

PIN 053023120035

APRIL 7TH, 2021

DAN ROGERS 952-393-7721 DAN@NOKOMISENERGY.COM
JULIAN WHITE 612-910-2933 JULIAN@NOKOMISENERGY.COM

OVERVIEW

TC Solar MV LLC on behalf of Nokomis Energy and Medtronic, Inc. submits this application for a Conditional Use Permit (CUP) to the City of Blaine Planning Commission for a Photovoltaic Ground 1MW Solar Energy System under the City of Blaine Zoning Ordinance Chapter 31.34, for a system located in the Heavy Industrial(I-2A) District. A code amendment has been requested concurrently with this item to allow for ground mounted solar arrays as an accessory use by conditional use permit in the Heavy Industrial(I-2A) District. The project site plans, and project renderings are attached.

TC Solar MV LLC will consist of approximately 3,300 panels on roughly 7 acres of vacant land directly east of the Medtronic Mound View Campus. This solar array is expected to operate on the property in the interim for 20 years, with the ability for Medtronic to extend the contract OR buy out the project and have it removed at any time during the term. Once operating, this project will deliver over 2,000MWh of clean, local energy annually to the Campus facility with only the sun as feedstock, equaling over 20% of the Campus' annual electric needs. Any excess energy that is not consumed by the building, will be sent back into the electric grid and used within the community.

The Solar Garden 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, sitting approximately 10-ft off the ground at the highest point. This project utilizes 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 would be present within the fence. We have proposed to enclose the system with a 7-foot-tall fence to restrict access to the system from unqualified personnel. The site will be accessible at the northwest corner through a locked gate on a 14' wide driveway. The cover plantings inside the footprint of the system will be a combination of low growth native crops and a seed mix that promotes pollinator friendly habitats consistent with MN Stat. 216B.1642 as required. A preliminary cover crop mix blend is attached, along with example planting plan.

3rd Party Engineering has been commissioned to perform wetland, hydrology, historical, ecological and an environmental survey to ensure the site is suitable for development. Construction is targeted to occur between Oct 2021 to June 2022. Proposed working times would be between the hours of 7am-7pm on Monday thru 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 can be made available to the City as needed.

An Operations and Maintenance contractor will be hired by TC Solar MV LLC. This team would consist of an electrician, as well as a groundskeeper to ensure the system is operating safely and the landscaping is properly maintained. Each would independently visit 3-6 times a year depending on necessity. While onsite, the technician checks equipment for proper operation. While onsite, the groundskeeper mows, manages vegetation, and verifies storm water management is properly working. A Maintenance Plan is included for more detail.

MAINTENANCE PLAN

TC Solar MV 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 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. When 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 properly working.

Reactive Maintenance

Monitoring equipment and preventative maintenance are used 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.

Rendering of project looking from the MDT rooftop

Table 2 - 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.

Nokomis 1MW Project

Wetland Delineation

TC Solar MV LLC has discussed the project with the Rice Creek Watershed District. No potential wetlands are present on within the project; however, we will still be submitting to the RCWD and USACE for no loss determination. This will be received prior to commencement of construction.

Decommissioning & Site Restoration

TC Solar MV LLC commits to both our neighbors and permitting authorities that we will decommission and restore the site 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 the CSG's useful life unless a plan is submitted to the City of Blaine 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. Removal of 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. 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 once again be used for agricultural. 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.

About Medtronic

Medtronic plc (www.medtronic.com), is among the world's largest medical technology, services and solutions companies – alleviating pain, restoring health and extending life for millions of people around the world. Medtronic employs more than 90,000 people worldwide, serving physicians, hospitals and patients in more than 150 countries. The company is focused on collaborating with stakeholders around the world to take healthcare Further, Together.

Medtronic recently committed to achieving zero net carbon emissions by FY2030, including obtaining more than 50% of their energy from renewable sources by FY2025. This project represents one of a number of large, clean energy projects Medtronic is investing in to support their sustainability goals.

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!