



Solar Permitting: Winona County perspective

Discussion Items



PERMITTING,
EROSION
CONTROL
POLLINATOR
REVIEW,
INSPECTIONS



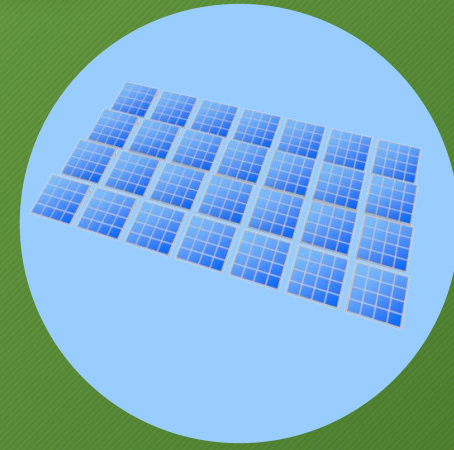
WIND, SOIL
COMPACTION
IMPERVIOUS
SURFACE
INFO



CONDITIONAL
USE VS.
INTERIM USE



TYPES & METHODS
FOR FINANCIAL
SURETY FOR
DECOMMISSIONING



NEW TYPES OF
SOLAR ARRAYS:
TALLER & ON
PEDESTALS

2022-2023

**Winona County
Large Scale Solar Energy System (SES)
Permit Guidelines**



Guidance document Given to Developers prior to Them submitting application

- **Winona County Zoning Ordinances for Solar Energy Systems** (page 3)
 - *Full ordinance is available on-line; applicable ordinances for Large-Scale SES excerpted here from amendments to Chapters 5 & 12*
- **Conditional Use/Interim Use Permit Application Form Requirements** (page 6)
 - *Submit a completed packet (example provided) to County Planning & Env. Services Dept.*
 - *Permit fee from annual Fee Schedule must accompany application*
 - *Mapping exhibit detailing why chosen site best avoids prime soils, area dwellings*
- **Township Acknowledgement Form: must be submitted with CUP/IUP packet to be complete** (page 14)
 - *Sample form and timeline to obtain it from Township*
 - *Current township officers and meeting times*
- **Planning & Environmental Services' recommended CUP draft conditions of approval** (page 19)
- **Erosion Control, SWPPP-land cover during development, plan submittal** (page 21)
- **Landscape Screening Plans** (page 23)
 - *Viewshed and screening*
 - *Winona County Zoning Ordinance Chapter 5*
 - *Guidelines for landscape plan submittal, signoff document after plan approval*
 - *Avoiding Right-of-Way Issues with project*
- **Solar Site Pollinator Habitat** (page 25)
 - *Pollinator Row Planting*
 - Winona County guidelines
 - MN DNR guidelines
 - Board of Water and Soil Resources: *Native Vegetation Establishment Guidelines and Pollinator Checklist review with WC-SWCD*
 - *Landscape Maintenance Guidelines and Plan Approval*
 - Schedule post-planting inspection with Soil & Water Conservation District and PL & ES Department
 - MN Board of Water & Soil Resources: Solar Pollinator Habitat Assessment (after year 3) submittal
- **Stray Voltage, testing requirement for adjacent properties** (page 29)
- **Decommissioning Plan and Financial Surety Options** (page 30-31)



A runoff calculator is being developed to overcome barriers to permitting stormwater runoff at ground solar photovoltaic (PV) sites by accounting for:

- Solar panel design (fixed or tracking modules, ratio of impervious to pervious area)
- Climatic factors (precipitation, wind speed, wind direction)
- Soil and topographic characteristics (soil hydrology, slope)
- Surface cover (turf, pollinator habitat, etc)

216B.1642 SOLAR SITE MANAGEMENT.

Subdivision 1. **Site management practices.** An owner of a ground-mounted solar site with a generating capacity of more than 40 kilowatts may follow site management practices that (1) provide native perennial vegetation and foraging habitat beneficial to gamebirds, songbirds, and pollinators, and (2) reduce storm water runoff and erosion at the solar generation site. To the extent practicable, when establishing perennial vegetation and beneficial foraging habitat, a solar site owner shall use native plant species and seed mixes under Department of Natural Resources "Prairie Establishment & Maintenance Technical Guidance for Solar Projects."

Subd. 2. **Recognition of beneficial habitat.** An owner of a solar site implementing solar site management practices under this section may claim that the site provides benefits to game birds, songbirds, and pollinators only if the site adheres to guidance set forth by the pollinator plan provided by the Board of Water and Soil Resources or any other game bird, songbird, or pollinator foraging-friendly vegetation standard established by the Board of Water and Soil Resources. An owner making a beneficial habitat claim must:

- (1) make the site's vegetation management plan available to the public;
- (2) provide a copy of the plan to a Minnesota nonprofit solar industry trade association; and
- (3) report on its site management practices to the Board of Water and Soil Resources, on a standard reporting form developed by the board for solar site management practices, by June 1, 2020, and every third year thereafter. An owner that enters into operation after June 1, 2019, must report to the board on the progress made toward establishing beneficial habitat on or before June 1 of the year after operations commence and every third year thereafter.

Winona County's current practice:
a condition is included in the Conditional
Use/Interim Use permits for establishment
of pollinators & landscaping



\$5k Short-Term 3-year Cash Escrow





Co-inspection to release short term cash escrow with SWCD and PL & ES Staff after 3 years if pollinators & screen plantings are looking good!

Decommissioning Solar Projects/Returning land to prior state

FINANCIAL MECHANISMS

Decommissioning mechanism in place for project's lifespan. Pollinator escrow (\$5k cash) is 3 years.

Cash escrow
(add consumer price index CPI annually?)

Plus is less County involvement but more cash outlay for solar developers at onset

Letter of Credit is obtained through a bank

Staff verification, shifting banks to ensure LOC is replaced when project is sold. Out-of-state banks.

Product Stewardship Model Legislative Proposal (from AMC)

- All solar modules sold in MN, regardless of manufacturer subject to rule
- End of panel life for entire state, not dependent on individuals or permittees
- Modeled on existing Paint Care program
- Funded up front for panels (at least)

Minnesota Pollution Control Agency/AMC
stakeholders

The Winona County Solar Zoning Ordinance was last revised in 2020; but is under review. Being permitted as a Condition Use Permit rather than an Interim Use at this time.

Emerging Technology & Questions

Higher Efficiency Large Panels=More space Needed Between Panels

- Pier mounted, 540-Watt, bifacial multi-crystalline dual axis tracker solar panels with a 25-year warranty.
- *Trackers go on piers; base is poured ~3' deep (4' hole)*
- *Reinforced concrete structure, tracker body bolted on*
- *Tracker height is up to 35' at full tilt compared to - 14' for solar permitted to this point in 2022*

Changes in hardware in the industry

New proposals have been proposed that utilize taller solar panels on concrete pedestals.

- More topsoil is removed and lost than trad. arrays
- Increases cost for decommissioning arrays?
- Can that type utilize taller native plants? Can land be reused for ag at end of array life? Would additional “set aside” time with pollinator plantings help soil-10 yrs?

How would adoption of these trackers impact pollinator design? Less shade, fewer plant height restrictions.



Single unit of the new tracker



New Technology projects are being proposed,
taller (35' at full extension, dual axis trackers)



-Thanks! -Kay Qualley, Winona County
Planning & Environmental Services Director

