**CHIPPEWA COUNTY LAND AND RELATED RESOURCE MANAGEMENT ORDINANCE**

**SECTION 16**

**SOLAR POWER MANAGEMENT**

TABLE OF CONTENTS PAGE

## SUBDIVISION 1. TITLE

The title of this ordinance is the Chippewa County Solar Power Management Ordinance, and will be referred to herein as "this Ordinance".

## SUBDIVISION 2. PURPOSE

This ordinance is established to set forth processes for permitting solar energy systems and to regulate the installation and operation of solar energy systems within Chippewa County pursuant to Minnesota Statutes Chapters 216C.25, 500.30, and Minnesota Rules Chapter 1325.1100, as amended, in order to promote the health, safety, and general welfare of the citizens of Chippewa County.

## SUBDIVISION 3. JURISDICTION

The regulations of this Ordinance shall apply to all the area of Chippewa County outside the incorporated limits of municipalities.

## SUBDIVISION 4. INTERPRETATION

In interpreting and applying the provisions of this Ordinance, they shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. Where the provisions of this Ordinance impose greater restriction than those of any statute, other ordinance or regulations, the provisions of this Ordinance shall be controlling. Where the provisions of any statute, other ordinance or regulation impose greater restrictions than this Ordinance, the provisions of such statute, other ordinance or regulation shall be controlling.

## SUBDIVISION 5. EXEMPTIONS

Solar arrays with a generator nameplate capacity under one (1) kilowatt, and solar thermal systems with a solar collector surface under fifty (50) square feet in area, are exempt from the requirements of this ordinance.

## SUBDIVISION 6. DEFINITIONS

The following words and phrases shall have the meanings ascribed to them in this Ordinance. If not specifically defined in this Section or in Section 22 of the Chippewa County Zoning Ordinance, terms used in this Ordinance shall have the same meaning as provided in the standards adopted by reference. Words or phrases that are not defined here or in the standards adopted by reference shall have common usage meaning. For purposes of this Ordinance, the words "must" and "shall" are mandatory and the words "may" and "should" are permissive.

1. Array (Solar). Any number of solar photovoltaic modules or panels connected together to provide a single electrical output, or solar thermal collectors connected together to provide a single output.

2. Generator nameplate capacity. The maximum rated output of electrical power production of a generator under specific conditions designated by the manufacturer with a nameplate physically attached to the generator.

3. Ground Mounted Solar Energy System. Freestanding solar panels mounted to the ground by use of stabilizers or similar apparatus.

4. Large Solar Energy System. A solar array designed for wholesale production and sale of power where the primary land use of the parcel is for a solar energy system.

5. Module (Solar). A number of individual solar cells connected together in an environmentally protected housing producing a standard output voltage and power. Multiple modules/panels can be assembled into an array for increased power and/or voltage.

6. Photovoltaic Array. A group of solar photovoltaic modules connected together to increase voltage and/or power to the level required for a given system.

7. Photovoltaic Device. A system of components that generates electricity from incident sunlight by means of the photovoltaic effect, whether or not the device is able to store the energy produced for later use.

8. Power Purchase Agreement. A legally enforceable agreement between two or more persons where one or more of the signatories agrees to provide electrical power and one or more of the signatories agrees to purchase the power.

9. Roof or Building Mounted Solar Energy System. A solar energy system that is mounted to the roof or building using brackets, stands or other apparatus.

10. Small Solar Energy System. A solar array that is an accessory use in which the energy produced is first used on-site before any excess energy produced is sold back to the operator's regular electrical service provider. Small solar energy systems include solar thermal systems that are designed to provide heat or energy on-site.

11. Solar cell. The basic unit of a photovoltaic solar panel.

12. Solar Collector. A device, structure, or part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.

13. Solar Easement. A right, whether or not stated in the form of a restriction, easement, covenant, or condition, in any deed, will, or other instrument executed by or on behalf of any owner of land or solar skyspace for the purpose of ensuring adequate exposure of a solar energy system as defined in Section 216C.06, Subdivision 17, to solar energy. Required contents of a Solar Easement are defined in Minnesota Statute Section 500.30.

14. Solar energy system. A device or set of devices, a substantial purpose of which is to provide for the collection, storage and distribution of sunlight for space heating or cooling, generation of electricity, or water heating.

15. Solar Thermal System. A system that includes a solar collector and a heat exchanger that heats or preheats water or air for building heating systems or other heat or hot water needs.

16. Tracking Solar Array. A solar array that follows the path of the sun during the day to maximize the solar radiation it receives.

**SUBDIVISION 7. PERMIT REQUIRED**

Land Use Permits, Conditional Use Permits, and Variances shall be applied for and reviewed under the procedures established by Chippewa County Ordinance and Minnesota Statutes Chapter 394. A Land Use Permit must be obtained from the Zoning Administrator by the landowner prior to construction or installation of any solar energy system that is subject to this Ordinance.

1. An application for a permit under this section for a solar energy system is not complete unless it contains the following:

    a. Address, Township, Section, and legal description of the property on which the solar energy system is proposed to be installed.

    b. General description of the solar energy system, including type, size (area) of the array, generator nameplate capacity, and total height.

    c. Setbacks from property lines, public ditches and tile lines, road rights-of-way, neighboring dwellings, and natural waterways.

    d. A site plan showing the existing property lines, existing buildings, and the proposed location of the Solar energy system on the parcel.

2. In addition to the permit application requirements in part 1 above, an application for a permit under this section for a Large Solar energy system is not complete unless it contains the following:

    a. A site plan of existing conditions showing the following:

i. Existing vegetation (list type and percent of coverage; i.e. grassland, plowed field, wooded areas, etc.)

ii. Waterways, watercourses, lakes and public water wetlands.

iii. Surface water drainage patterns.

b. A site plan of proposed conditions showing the following:

i. Approximate location and spacing of solar panels.

ii. Location of access roads.

iii. Proposed location of underground or overhead electric lines connecting the solar farm to the building, substation or other electric load.

iv. New electrical equipment other than at the existing building or substation that is the connection point for the Large Solar energy system.

v. Proposed erosion and sediment control measures.

vi. Proposed storm water management measures.

c. Proposed specifications and recommended installation methods for all major equipment, including solar panels, mounting systems and foundations for poles or racks, if known.

d. A description of the method of connecting the array to a substation.

e. A decommissioning plan ensuring that facilities are properly removed in the event they are not in use for 12 consecutive months. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation and a plan ensuring financial resources will be available to fully decommission the site. If necessary, the Board may require the posting of a bond, letter of credit or the establishment of an escrow account to ensure proper decommissioning.

## SUBDIVISION 8. DISTRICT REGULATIONS

Solar energy systems will be permitted, conditionally permitted or not permitted based on the generating capacity and land use district as established in the table below (P=Permitted, C=Conditionally Permitted, NP=Not Permitted):

| District | Small Solar Energy System | Large Solar Energy System | Less than 1 Megawatt | 1 to 5 Megawatts | Over 5 Megawatts |
|---|---|---|---|---|---|
| Agricultural | P | | P | C | C |
| Urban Expansion | P | | P | C | NP |
| Hwy Business | P | | P | C | C |
| Industrial | P | | P | C | C |
| Floodplain-flood fringe | P | | C | NP | NP |
| Floodplain-floodway | NP | | NP | NP | NP |
| Shoreland | P | | C | NP | NP |
| Scenic River | P | | P | NP | NP |
| Airport Zone A | NP | | NP | NP | NP |
| Airport Zone B | C | | C | C | C |
| Airport Zone C | P | | C | C | C |

Nothing herein shall be construed to exempt a solar energy system from the regulations, requirements, and standards of the District in which it is located.

## SUBDIVISION 9. SETBACKS AND STANDARDS

1. Solar energy systems shall be subject to the structure setbacks set forth in each respective Zoning District in respect to property lines, road right-of-way lines, County tile lines, and County and Judicial Ditches.

2. Any ground mounted solar energy system larger than .25 acres in area must be located away from a dwelling according to the following chart: (Other than the project owner's dwelling(s)).

## Solar Energy Systems Setbacks

| District | Small Solar Energy System | Large Solar Energy System | Less than 1 Megawatt | 1 to 5 Megawatts | Over 5 Megawatts |
|---|---|---|---|---|---|
| Agricultural | 100 | | 200 | 250 | 350 |
| Urban Expansion | 100*<br>100**<br>50*** | | 200*<br>200**<br>100*** | 300*<br>300**<br>100*** | NA |
| Hwy Business | 100 | | 200 | 250 | 350 |
| Industrial | 100 | | 150 | 150 | 200 |
| Floodplain-flood fringe | 100 | | 200 | 200 | 200 |
| Floodplain-floodway | NA | | NA | NA | NA |
| Shoreland | 100 | | 250 | NA | NA |
| Scenic River | 100 | | NA | NA | NA |
| Airport Zone A | NA | | NA | NA | NA |
| Airport Zone B | 100 | | 250 | 250 | 350 |
| Airport Zone C | 100 | | 250 | 250 | 350 |

***Adjoining Parcels – Where adjoining parcel contains a residence, Solar Energy Systems shall be set back from adjoining property line to nearest solar panel, transformer or inverter.**

****Non Adjoining Parcels – Solar Energy Systems shall be set back from residence foundation to solar panel, transformer or inverter.**

***** Setback when all other setbacks are met.**

**Setbacks shall be measured from foundation of neighboring dwelling to closest point of solar panel except where noted above.**

3. Standards for all Solar Energy Systems.

   A. Height. Solar energy systems are subject to the following height requirements:

      a. Building or roof-mounted solar energy systems shall not exceed the maximum allowed height for structures in the zoning district in which the system is being installed, and shall not extend more than 10 feet above the building or roof on which they are mounted.

      b. Ground or pole-mounted solar energy systems shall not exceed 15 feet in height when oriented at maximum tilt.

   B. Location within Lot. Solar energy systems must meet the accessory structure setback for the zoning district.

a. Roof-mounted Solar Energy Systems. In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems that are parallel to the roof surface shall not extend beyond the exterior perimeter of the building on which the system is mounted or built. The collector and racking for roof-mounted systems that have a greater pitch than the roof surface shall be set back from all roof edges by at least 2 feet. Exterior piping for solar thermal systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure.

b. Ground-mounted Solar Energy Systems.

i. Ground-mounted solar energy systems may not extend into the side-yard, rear, or road right-of-way setback when oriented at minimum design tilt.

ii. Ground-mounted solar energy systems that result in the creation of one or more acres of impervious surface, must comply with the MPCA Construction Stormwater Permit Requirements.

C. Approved Solar Components. Electric solar energy system components must have an Underwriters Laboratory (UL) listing.

D. Compliance with State Electric Code. All photovoltaic systems shall comply with the Minnesota State Electric Code.

E. Utility Notification. No grid-intertie photovoltaic system shall be installed until evidence has been given to the Department that the owner has notified the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement.

F. Vegetative screening or buffering of the solar energy system may be required as part of the conditions of approval. Screening or buffering shall be based on the proximity of the system to residential buildings and to abutting public rights-of-way.

4. Standards for Large Solar Energy Systems.

A. Stormwater Management and Erosion and Sediment Control shall meet the requirements of the MPCA Construction Stormwater Permit requirements.

B. Foundations. The manufacturer's engineer or another qualified engineer shall certify that the foundation and design of the solar panels is within accepted professional standards, given local soil and climate conditions.

C. Other standards and codes. All Large Solar Energy Systems shall be in compliance with any applicable local, state and federal regulatory standards, including the State of Minnesota Uniform Building Code, as amended; and the National Electric Code, as amended.

D. Power and communication lines. Power and communication lines running between banks of solar panels and to electric substations or interconnections with buildings shall be buried underground, to the extent practicable.

**SUBDIVISION 10. DECOMMISSIONING**

In the event that a solar energy system is unused or abandoned for a period of 12 consecutive months, the solar energy system must be removed by the system owner or landowner.

1. All structures and foundations must be completely removed and the soil and vegetation restored.

2. Removal must occur within 90 days of a determination that the solar energy system is unused or abandoned, unless a plan is developed and submitted to the Zoning Administrator outlining the steps and schedule for returning the system to service.

3. Disposal of structures, foundations, and any other equipment or material must conform to Federal, State, and local laws, rules, and ordinances.