

## Chapter 27, Solar Energy Systems

### SECTION 27.00 INTENT AND PURPOSE

This section is intended to promote the use of solar energy within Eureka Charter Township as a clean alternative energy source and to provide for the land development, installation, and construction regulations for solar farm and similar facilities subject to reasonable conditions that will protect the public health, safety, and welfare. These regulations establish minimum requirements and standards for the placement, construction, and modification of photovoltaic solar farm and similar facilities, while promoting a renewable energy source for our community in a safe, effective, and efficient manner.

### SECTION 27.01 DEFINITIONS

The following words and terms shall mean the following for purposes of this chapter:

- A. Abandonment: To give up, discontinue, or withdraw from. any solar farm that ceases to produce energy on a continuous basis for one year will be considered abandoned.
- B. Decommissioning Plan: A document that details the planned shut down or removal of a solar farm from operation or usage, including abandonment as defined in this Ordinance.
- C. Fence: A continuous barrier extending from the surface of the ground to a uniform height (to be established through the special use permit process), constructed of steel, or other metal, or any substance of a similar nature and strength.
- D. Gate: A door or other device attached to a fence which, when opened, provides a means of ingress and egress of persons and things for which it was intended, and which, when closed, forms a continuous barrier as a part of the fence to which it is attached.
- E. Residential Area: Any area within one quarter (1/4) of a mile of a solar farm having twenty-five or more dwellings.
- F. Solar Farm: Land designated or used for the purpose of producing solar or photovoltaic electricity, which includes, but is not limited to, the use of one or more solar panels or other solar energy systems. The power generated is sold or transferred to electric companies or other third parties for distribution through a power grid. A solar farm is comprised of solar panels, photovoltaic cells, or similar facilities that comprise or occupy 20 acres or more on a given parcel or lot.

### SECTION 27.02 PROHIBITIONS

It shall be unlawful after the effective date of this Ordinance for any person, firm, corporation, or other legal entity to operate, maintain or establish in any area of Eureka Charter Township a solar farm without special land use approval by the Eureka Charter Township Planning Commission. Modifications to an existing lawful solar farm (which existed as of the effective date of this Ordinance) that increases the area by more than 10% of the original footprint or changes the solar panel type shall be fully subject to this Ordinance.

## SECTION 27.03 SOLAR FARM DEVELOPMENT AND DESIGN

- A. Special Land Use Required. Solar farms are only allowed within the AR, RR, and the Industrial zoning district and only with special land use approval by the Planning Commission.
- B. Minimum Lot Size: Solar farms shall not be constructed on lots or parcels where less than 20 acres can be dedicated to solar energy production.
- C. Height Restrictions: All photovoltaic panels located on a solar farm shall be restricted to a height of 14 feet.
- D. Setbacks: All photovoltaic solar panels and support structures associated with solar farms (excluding perimeter security fencing) shall be a minimum of 20 feet from any side or rear property line and a minimum of 50 feet from any road or highway right-of-way or easement.
- E. Safety/Access: A security fence (with the height and material to be established through the special land use permit process) shall be installed and maintained around the perimeter of the solar farm and electrical equipment shall be locked. Knox boxes and keys shall be provided at locked gated entrances for emergency personnel access.
- F. Noise: The noise from a solar farm shall not exceed 50 dB(A) Lmax as measured at any property line.
- G. Landscaping: The Planning Commission may alter the landscaping requirement, as outlined in Chapter 22 of this Ordinance, depending upon the topography and existing plant material on the site and proximity to residential housing. Trees shall be a minimum of six (6) feet tall when planted and remain in good condition for the life of the solar farm.
- H. Local, State, and Federal Permits: Solar farms shall obtain all necessary state, federal, and local permits, and shall comply with the standards of the State of Michigan adopted codes.
- I. Electrical Interconnections: All electrical interconnection or distribution lines shall comply with all applicable codes and standard commercial large-scale utility requirements. Use of aboveground transmission lines shall be prohibited within the site.
- J. If the solar energy facility consists of batteries or the storage of batteries, adequate design and operations must be implemented to ensure that all local, state, and federal requirements regulating outdoor battery storage have been met.
- K. Additional Special Land Use Criteria: In addition to the requirements and standards contained in Chapter 16 regarding special land uses in general, no special land use request for a solar farm will be met unless the Planning Commission finds that the following criteria will also be satisfied (and that the following requested items or information is supplied to the Township):
  1. Safety and noise characteristics of the system, including the name and address of the facilities manufacturer and model. Identify the time frame, project life, development phases, likely markets for the generated energy, and possible future expansions
  2. Analysis of on-site traffic: Estimated construction jobs, estimated permanent jobs associated with the development

3. Visual impacts: Review and demonstrate the visual impact using photos or renditions of the project or similar projects with consideration given to tree plantings and setback requirements; Project description and rationale: Identify the type, size, rated power output, performance
4. Wildlife: Review potential impact on wildlife on the site
5. Environmental analysis: Identify impact analysis on the water quality and water supply in the area, and dust from project activities
6. Waste: Identify any solid waste or hazardous waste generated by the project;
7. Lighting: Provide lighting plans showing all lighting within the facility. No light may adversely affect adjacent parcels. All lighting must be shielded from adjoining parcels, and light poles are restricted to 18 feet in height.
8. Transportation plan: Provide access plan during construction and operation phases. Show proposed project service road ingress and egress access onto primary and secondary routes, layout of the plant service road system. Due to infrequent access to such facilities after construction is completed, it is not required to pave or curb solar panel access drives. It will be necessary to pave and curb any driveway and parking lots used for occupied offices that are located on-site.
9. Public safety: Identify emergency and normal shutdown procedures. Identify potential hazards to adjacent properties, public roadways, and to the community in general that may be created.
10. Sound limitations and review: Identify noise levels at the property line of the project boundary when completed;
11. Telecommunications interference: Identify electromagnetic fields and communications interference generated by the project.
12. Life of the project and final reclamation: Describe the decommissioning and final land reclamation plan after anticipated useful life or abandonment or termination of the project, including evidence of an agreement with the property owner that ensures proper and environmentally safe final removal of power generating equipment within one year of decommissioning. At a minimum, the decommissioning plan will address and require provisions for removal of all structures (including equipment, fencing, and roads), foundations, and restoration of soil and vegetation to the condition prior to development.
13. A copy of the application to the utility company that will be purchasing electricity from the proposed site shall be provided to the Township.
14. An affidavit or evidence of an agreement between the lot owner and the facility's owner or operator confirming the owner or operator has permission of the property owner to apply for the necessary permits for construction and operation of the solar energy facility.

Because of the ever-changing technical capabilities of photovoltaic solar panels and of new technology in general, the Planning Commission, as part of the special land use review process, shall have the authority to review and consider alternatives in both dimensional requirements as well as physical development requirements found in this Section. However, the Planning Commission shall not have the authority to review or to allow solar farms within any other zoning district.

- A. Guarantee required: In approving a solar farm, the Planning Commission may require a guarantee to ensure the proper decommissioning of the site. This security financing will be in a form acceptable to the Township.

## SECTION 27.05 BUILDING-MOUNTED SOLAR ENERGY PANELS

A building-mounted solar panel or energy collector shall be considered an accessory use on buildings in all zoning districts, shall require a Zoning Permit, and is subject to the following requirements:

- A. Sketch plan review and approval by the Planning Commission is required of all building-mounted solar energy panels or collectors permitted as an accessory use totaling over 40 square feet on any building.
- B. Solar energy panels or collectors that are mounted on the roof of a building shall not project more than five (5) feet above the highest point of the roof but, in any event, shall not exceed the maximum building height limitation for the zoning district in which it is located; and shall not project beyond the eaves of the roof.
- C. Solar energy panels or collectors mounted on the roof of a building shall be only of such weight as can safely be supported by the roof. Proof thereof, in the form of certification by a professional engineer or other qualified person, shall be submitted to the Township prior to installation and such certification shall be subject to the Township building official's approval.
- D. Solar energy panels or collectors that are roof-mounted, wall-mounted, or are otherwise attached to a building or structure shall be permanently and safely attached to the building or structure. Proof of the safety and reliability of the means of such attachment shall be submitted to the Township prior to installation. Such proof shall be subject to the Township building official's approval and compliance with the National Electrical Code and other applicable codes.
- E. Solar energy panels or collectors that are wall-mounted shall not exceed the height of the building wall to which they are attached.
- F. Solar energy panels or collectors shall not be mounted on a building wall that is parallel to or visible from an adjacent public right-of-way.
- G. The exterior surfaces of solar energy panels or collectors that are mounted on the roof or on a wall of a building, or are otherwise attached to a building or structure, shall be generally neutral in color and substantially non-reflective of light.
- H. Solar energy panels or collectors shall be installed, maintained, and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the Township prior to installation. The Township building official may inspect the completed installation to verify

compliance with the manufacturer's directions, the National Electrical Code, and any other applicable codes.

- I. Solar energy panels or collectors, and the installation and use thereof, shall comply with the Township's construction code, the electrical code, and other applicable Township codes.

#### **SECTION 27.06            GROUND-MOUNTED SOLAR ENERGY PANELS**

Ground-mounted solar energy panels or collector system shall be a special land use are subject to all of the following requirements:

- A. Ground-mounted solar energy panels or collectors shall be located only in the rear yard and the side yard, but not in the required rear or side yard setback unless permitted by the Planning Commission in its approval of the special land use.
- B. They may be located in the front yard only if permitted by the Planning Commission in its approval of the special land use but, in any event, they shall not be located in the required front yard setback.
- C. Ground-mounted solar energy panels or collectors shall not exceed 14 feet in height, measured from the ground at the base of such equipment.
- D. Solar energy panels or collectors shall be permanently and safely attached to the ground. Proof of the safety and reliability of the means of such attachment shall be submitted to the Township with the special land use application and shall be subject to site plan review.
- E. Solar energy panels or collectors shall be installed, maintained, and used only in accordance with the manufacturer's directions. A copy of such directions shall be submitted to the Township with the special land use application. The special land use, if granted, shall be subject to the Township building official's inspection to determine compliance with the manufacturer's directions.
- F. The exterior surfaces of solar energy panels or collectors shall be generally neutral in color and substantially non-reflective of light.
- G. Ground-mounted solar energy panels or collectors, and the installation and use thereof, shall comply with the Township's construction code, the electrical code, and other applicable codes.
- H. Any special land use approval may include terms and conditions in addition to those stated in this subsection.