

SHIAWASSEE COUNTY PROPOSED ZONING ORDINANCE AMENDMENT
SOLAR ENERGY SYSTEMS
September 27, 2017

Section 21.2.G Land Uses and Use Categories

- A. Freestanding or Ground-Mounted Solar Energy System shall mean any solar energy system that is directly installed in the ground and is not attached or affixed to an existing structure.

- C. Photovoltaic (PV) Systems shall mean a solar energy system that produces electricity by the use of semiconductor devices, called photovoltaic cells that generate electricity whenever light strikes them.

- D. Rooftop and Building-Mounted Solar System shall mean any solar power system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle

- E. Solar Energy System (SES) shall mean any equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation and distributed. Solar energy systems consist primarily of solar thermal, photovoltaic and concentrated solar but may include other various experimental solar technologies.
 - 1. Commercial SES shall mean any SES facility and accessory structures or use that is designed and built to exclusively provide electricity to the electric utility's power grid and is not accessory to any other use. The commercial SES is a principal use of property and may occupy the same property as another principal use.

 - 2. Private SES shall mean any SES that is accessory to a principal use located on the same lot, and is designed and built to serve the principal use. These systems shall not be utilized for any commercial sale of energy, except for the sale of surplus electrical energy back to the electrical grid.

- F. Solar-Thermal Systems shall mean a solar energy system which directly heats water or other liquids using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

Section 4.3.77 Solar Energy Systems

1. Purpose

- A. Through this section, it is hereby set forth that Shiawassee County promotes the use of solar energy within the County as a clean alternative energy source and to provide associated placement, land development, installation and construction regulations for solar farm facilities subject to reasonable conditions that will protect the public health, safety and welfare. These regulations establish minimum requirements for solar farm facilities, while promoting a renewable energy source in a safe, effective and efficient manner.

2. Approval Required

- A. Except where noted in this section, it shall be unlawful to construct, erect, install, use or locate a

SES unless a special use permit, final site plan and/ or zoning permit have been approved pursuant to this Ordinance.

- B. Private SES that are accessory to one or more principal structures are permitted by-right subject to administrative site plan review and compliance with the general standards, provisions and requirements of this section and this Ordinance. Private SES may produce up to twenty (20) kilowatts (kW) of energy per hour.
 - C. Commercial SES are permitted by issuance of a special use permit and approval of a final site plan by the Planning Commission in the A-1, A-1 ½, A-2, M-1, and M-2 districts. An application for special use permit and final site plan shall contain information required pursuant to Article 12 for special use permit approval, Article 14 for final site plan approval, and other information as required in this section and in this Ordinance.
3. General Standards. The following standards shall apply to all Private and Commercial SES unless otherwise specifically noted:
- A. Design Safety Certification. The safety of the design of all private and commercial SES shall be certified by a Professional Engineer acceptable to the Zoning Administrator. The standard for certification shall be included with the application for development.
 - B. Electrical and Building Codes. All electrical compartments, storage facilities, wire conduit, interconnections with utility companies and interconnections with private structures will conform to national and local electrical codes. All SES shall comply with local building permit requirements.
 - C. Compliance with County Ordinances. Private and commercial SES shall be in compliance with all Ordinance requirements and other applicable ordinances, rules and regulations.
 - D. Setbacks. All Photovoltaic (PV) systems and support structures associated with such facilities (excluding perimeter fencing) shall be setback a minimum of forty (40) feet from a side or rear property line and a minimum of fifty (50) feet from any road right-of-way.
 - E. Height. All PV systems and support structures associated with such facilities shall be restricted to a maximum height of sixteen (16) feet when oriented at maximum tilt, except for rooftop and building mounted solar systems which rely upon Section 5.6.1 of the Ordinance for height permitting standards.
 - F. Installation Certification. The Professional Engineer shall certify that the construction and installation of the commercial SES project meets or exceeds the manufacturer's construction and installation standards.
 - G. Fire Risk. All private and commercial SES must adhere to all applicable electrical codes and standards, remove fuel sources, such as vegetation, from the immediate vicinity of electrical equipment and connections.
 - H. Waste. All solid wastes, whether generated from supplies, equipment parts, packaging, operation or maintenance of the private or commercial SES shall be removed from the site and disposed of in an appropriate manner. All hazardous waste generated by the operation and maintenance of the improvement shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal rules and regulations.

- I. Noise Levels. The noise generated from an SES shall not exceed forty (40) dB(A) at the exterior of any habitable structure, also measured at the closest property line to the SES. This sound pressure level may be exceeded during short-term events such as utility shortages or severe wind storm. If the ambient sound pressure level exceeds forty (40) dB(A), the standard shall be the ambient dB(A) plus five (5) dB(A).
 - J. Glare. SES facilities shall be located or placed so that concentrated solar glare shall not be directed toward or onto nearby properties or roadways at any time of the day.
 - K. Liability Insurance. The owner or operator of the private or commercial SES shall maintain a current insurance policy with a bond rating acceptable to the County to cover installation and operation. The amount of the policy shall be established as a condition of special use permit approval. For a private SES accessory to a principal structure, proof of insurance with specific coverage for the SES shall satisfy this requirement.
4. Additional Standards. In addition to the standards for Special Use Permit and Site Plan Review outlined in Section 12, the following shall also apply to all Commercial SES in Shiawassee County:
- A. Project Description and Rationale. Identify the type, size, rated power output, performance, safety and noise characteristics of the system including the transmission line/grid connection for the project. Identify the project construction time frame, project life, development phases (and potential future expansions) and likely markets for the generated energy.
 - B. Analysis of On-Site Traffic. Estimated construction jobs and estimated permanent jobs associated with the development.
 - C. Visual Impacts. Graphically demonstrate the visual impact of the project using photos or renditions of the project with consideration given to setbacks and proposed landscaping.
 - D. Environmental Analysis. Identify any impacts on water and air quality and supply for the area.
 - E. Waste. Identify any solid or hazardous waste generated by the project.
 - F. Setbacks. All Photovoltaic (PV) systems and support structures associated with such facilities (excluding perimeter fencing) shall be setback a minimum of two hundred (200) feet from any habitable structure.
 - G. Lighting. Provide plans showing all lighting within the facility. No light may adversely affect adjacent parcels. All lighting must be shielded from adjoining parcels.
 - H. Transportation Plan. Provide a proposed access plan during construction and operational phases. Show proposed project service road ingress and egress locations onto adjacent roadways and the layout of the facility service road system.
 - I. Public Safety. Identify emergency and normal shutdown procedures. Identify potential hazards to adjacent properties, public roadways and to the general public that may be created.
 - J. Sound Limitations. Identify noise levels at the property lines of the project when completed and operational.

- K. Telecommunications Interference. Identify any electromagnetic fields and communications interference that may be generated by the project.
- L. Buffering. A Commercial SES facility may be required to erect fencing, landscaping or other screening and buffering techniques as the Planning Commission sees fit.
- M. Decommissioning. Commercial SES facilities considered under this Section must contain a Decommissioning Plan acceptable to the Planning Commission to ensure that structures and appurtenances are properly decommissioned upon the end of their operational life, inoperability or improvement abandonment.
 - 1. A Decommissioning Plan shall be submitted for review and approval detailing the expected duration of the project, how the improvements will be decommissioned, a Professional Engineer's estimated cost of decommissioning, the financial resources to be used to accomplish decommissioning, and the surety bond holder with which the financial resources shall be deposited.
 - 2. Any Commercial SES that is not operated or found to be inoperable due to disrepair for a continuous period of six (6) months shall be considered abandoned. If it is found that a Commercial SES is abandoned, the Planning Commission upon notice by the Shiawassee County Zoning Administrator, or their assign, shall provide written notice to the applicant/owner/operator of a hearing before the Planning Commission to hear evidence that the Commercial SES should not be decommissioned.
 - 3. If a Commercial SES is repaired, a Professional Engineer (hired at the expense of the owner or operator) shall certify the Commercial SES's safety prior to the resumption of operation.
 - 4. Within ninety (90) days of the hearing where the Planning Commission has determined that a Commercial SES is abandoned or inoperable, the owner/operator shall obtain a demolition permit to remove any Commercial SES.
 - I. Failure to obtain a demolition permit within the 90-day period provided in this subsection shall be grounds for the County to remove the Commercial SES at the Owner's expense.
 - 5. Decommissioning shall include removal of all equipment associated with the Commercial SES including all materials above and below ground, up to four (4) feet in depth. The site shall be restored to a condition that reflects the specific character of the site including topography, vegetation, soils, drainage, and any unique environmental features.
 - I. The restoration shall include: road repair and hazardous waste cleanup, if any, all re-grading, soil stabilization, and re-vegetation necessary to return the subject property to a stable condition consistent with conditions existing prior to establishment of the wind energy system.
 - II. The restoration process shall comply with all state, county, or local erosion control, soil stabilization and/or runoff requirements or ordinances and shall be completed within one (1) year.
 - III. Extensions may be granted upon request to the Planning Commission prior to that

expiration of the one (1) year requirement for completed decommissioning.

6. The decommissioning plan shall also include an agreement between the applicant and the County that includes, but is not limited to the following conditions:
 - I. The financial resources for decommissioning shall be in the form of a surety bond with a replenishment obligation and shall be deposited by a bonding agent acceptable to Shiawassee County.
 - II. The financial resources for decommissioning shall be 125% of the estimated removal and restoration cost. The Planning Commission shall require independent verification of the adequacy of this amount from a Professional Engineer.
 - III. The Planning Commission shall annually review the amounts deposited for removal, site restoration, and administration costs are adequate for these purposes. If the Planning Commission determines that these amounts are not adequate, the County shall require the owner/operator to make additional deposits to increase the amount of the surety bond to cure such inadequacy.
 - IV. The County shall have access to the surety bond funds for the expressed purpose of completing decommissioning. If decommissioning is not completed by the applicant within one (1) year of the end of project life, inoperability of Commercial SES or facility abandonment. Surety bond funds may be used for administrative fees and costs associated with decommissioning.
 - V. The County is granted the right of entry onto the site, pursuant to reasonable notice, to effect or complete decommissioning.
 - VI. The County is granted the right to seek injunctive relief to effect or complete decommissioning, as well as the County's right to seek reimbursement from the applicant or applicant's successor for decommissioning costs in excess of the surety bond amount and to file a lien against any real estate owned by applicant or applicant's successor, or in which they have an interest, for the amount of the excess, and to take all steps allowed by law to enforce said lien.