

**Blissfield Township  
Lenawee County, Michigan  
Article 6**

Section 6.31 Solar Energy Conversion Systems

**A. PURPOSE**

To promote the effective and efficient use of solar energy within Blissfield Township as a clean alternative energy source and provide for land development, while regulating the installation, construction, and maintenance of Solar Energy Systems to protect public health, safety and welfare.

**B. DEFINITIONS**

1. Abandonment: A SES that ceases to produce energy on a continuous basis for a 12-month period will be considered abandoned.
2. Accessory Solar Energy System: These SES provide electricity to the property, such as a residence or a commercial building, and provide electricity that is intended for use by a primary structure located on the same parcel as the SES.
3. AC Power (Alternating Current): An electrical current whose magnitude and direction varies. It is considered the “standard” electrical power.
4. Attached System: A solar system in which solar panels are mounted directly on the building, typically the roof.
5. Building-Integrated Solar Energy System: A solar energy system that is integrated into a primary or accessory building or structure (rather than a separate mechanical device), replacing or substituting for an architectural or structural component of the building or structure. Building-integrated systems include, but are not limited to, photovoltaic or hot water solar energy systems that are contained within roofing materials, windows, skylights, and awnings.
6. DC Power (Direct Current): An electrical current whose magnitude and direction stay constant. The photovoltaic cells on solar panels capture energy from sunlight in the form of DC and must be converted to AC by an inverter.

7. Distributed Generation: As opposed to centralized generation, distributed generation refers to a number of small power-generating modules located at or near the point of energy consumption.
8. Dual Use: A solar energy system that employs one or more of the following land management and conservation practices throughout the project site:
  - a. Pollinator Habitat: Solar sites designed to meet a score of 76 or more on the Michigan Pollinator Habitat Planning Scorecard for Solar Sites. Alternatively, the Tier 2 Pollinator Scorecard developed by the Rights-of-Way as Habitat Working Group can be used to evaluate pollinator habitat and management practices.
  - b. Conservation Cover: Solar sites designed in consultation with conservation organizations that focus on restoring native plants, grasses, and prairie with the aim of protecting specific species (e.g., bird habitat) or providing specific ecosystem services (e.g., carbon sequestration, soil health).
  - c. Forage for Grazing: Solar sites that incorporate rotational livestock grazing and forage production as part of an overall vegetative maintenance plan.
  - d. Agrivoltaics: Solar sites that combine raising crops for food, fiber, or fuel, and generating electricity within the project area to maximize land use.
9. Gigawatt: A unit of power equal to one billion watts.
10. Grid: The infrastructure of power lines, transformers and substations that delivers electric power to buildings. The utility grid is owned and managed by electric utility companies.
11. Ground-Mounted Solar Energy System: A solar energy system mounted on support posts, like a rack or pole, that are attached to or rest on the ground.
12. Interconnections: A link between utility company power distribution and local power generation that enables power to move in either direction.
13. Inverter: A device that converts DC power captured by the photovoltaic cells on solar panels into AC power.
14. Kilowatt: A unit of power equal to one thousand watts.
15. Megawatt: A unit of power equal to one million watts.
16. Maximum Tilt: The maximum angle of a solar array (i.e., most vertical position) for capturing solar radiation as compared to the horizon line.

17. Minimum Tilt: The minimal angle of a solar array (i.e., most horizontal position) for capturing solar radiation as compared to the horizon line.
18. NEC: National Electric Code.
19. Non-Participating Lot(s): One or more lots for which there is not a signed lease or easement for development of a principal-use SES associated with the applicant project.
20. Participating Lot(s): One or more lots under a signed lease or easement for development of a principal-use SES associated with the applicant project.
20. Permitting: The process by which a local unit of government allows for certain development, changes, and activities in their jurisdiction.
21. Photovoltaic (PV): A method of generating electrical power by converting solar radiation (sunlight) into direct current electricity using semiconductors.
22. Photovoltaic (PV) System: A semiconductor material that generates electricity from sunlight.
23. Principal-Use Solar Energy System: SES that generates electricity distributed off-site through the grid and exported to a wholesale utility market.
24. Repowering: Reconfiguring, renovating, or replacing an SES to maintain or increase the power rating of the SES within the existing project footprint.
25. Roof-Mounted Solar Energy System: A solar energy system mounted on racking that is attached to or ballasted on the roof of a building or structure.
26. Setback Waiver: Written agreement between project developers and landowner to reduce the setback requirement.
27. Solar Array: A photovoltaic panel, solar thermal collector, or collection of panels or collectors in a solar energy system that collects solar radiation.
28. Solar Carport: A solar energy system of any size that is installed on a structure that is accessory to a parking area, and which may include electric vehicle supply equipment or energy storage facilities. Solar panels affixed on the roof of an existing carport structure are considered a Roof-Mounted SES.
29. Solar Energy System (SES): A photovoltaic system or solar thermal system for generating and/or storing electricity or heat, including all above and below ground equipment or

components required for the system to operate properly and to be secured to a roof surface or the ground. This includes any necessary operations and maintenance building(s), but does not include any temporary construction offices, substation(s) or other transmission facilities between the SES and the point of interconnection to the electric grid.

30. Solar Thermal System: A system of equipment that converts sunlight into heat.
31. Weed: Native or non-native plant that is not valued in the place where it is growing.
32. Wildlife-Friendly Fencing: A fencing system with openings that allow wildlife to traverse over or through a fenced area.

## **C. ACCESSORY SOLAR ENERGY SYSTEM REQUIREMENTS**

### **1. General Provisions**

- a. A building permit shall be required for any accessory solar energy system.
- b. No homeowners' association agreement, covenant, common interest community, or other contract between multiple lot owners within a subdivision shall restrict or limit accessory solar energy systems.
- c. When solar storage batteries are included as part of the solar collector system, they must be placed in a secure container or enclosure meeting the requirements of the State Building Code. When no longer in use shall be disposed of in accordance with applicable laws and regulations.
- d. Glare: Solar energy systems shall be designed and located to avoid glare or reflection onto adjacent lots and adjacent roadways and shall not interfere with traffic or create a safety hazard off-site.

### **2. Roof-Mounted SES**

- a. Height: Roof-Mounted SES shall not extend above the finished roof peak, exempt from any rooftop equipment or mechanical system screening, and consistent with building and electrical codes.
- b. Roof mounted systems that do not extend more than 3 inches above the surface of the roof shall be accessory solar energy systems.
- c. No solar energy system may protrude beyond the edge of the roof.

- d. Nonconformities: A Roof-Mounted SES or Building-Integrated SES installed on a nonconforming building, structure, or use shall not be considered an expansion of the nonconformity.
  - e. Application: All SES applications must include plan [e.g., plot or site, whichever is required for a zoning compliance review]. Applications for Roof-Mounted SES must include horizontal and vertical elevation drawings that show the location and height of the SES on the building and dimensions of the SES.
3. Building-Integrated SES
- a. Building-Integrated SES are subject to zoning regulations applicable to the structure or building, and consistent with building and electrical codes.
  - b. Building Integrated SES are not subject to accessory ground or roof-mounted SES requirements.
4. Ground-Mounted SES
- a. Height Restrictions. Ground-Mounted photovoltaic panels shall not exceed 12 feet measured from the ground to the top of the system when oriented at maximum tilt.
  - b. Setbacks.
    - i. A Ground-Mounted SES for use on a parcel zoned agricultural residential shall be consistent with the setback provisions found in Section 4.07, **Schedule of Regulations**. Setback distance is measured from the property line to the closest point of the SES at minimum tilt.
  - c. Lot Coverage. The area of the solar array shall not exceed 20% of the lot.
  - d. Visibility (Residential). A Ground-Mounted SES in agricultural residential districts shall be located on the side or rear yard to minimize visual impacts from the public right-of-way(s).
    - 1) Ground-Mounted SES may be placed in the front yard with administrative approval, where the applicant can demonstrate that placement of the SES in the rear or side yard will:
      - a) Decrease the efficiency of the SES due to topography, accessory structures, or vegetative shading from the subject lot or adjoining lots; or

- b) Interfere with septic system, accessory structures, or accessory uses.
- e. Exception. A SES used to power a single device or specific piece of equipment such as a lawn ornament, lights, weather station, thermometer, clock, well pump or other similar singular device is exempt from Ground-Mounted SES provisions.
- f. Nonconformities. A Ground-Mounted SES installed on a nonconforming lot or use shall not be considered an expansion of the nonconformity.

**D. PRINCIPAL USE SOLAR ENERGY SYSTEMS**

1. All SES applications must include a site plan that addresses all issues set forth in this solar section.
2. Height Restrictions. Ground-Mounted photovoltaic panels shall not exceed 12 feet measured from the ground to the top of the system when oriented at maximum tilt.
3. Setbacks.
  - a. Photovoltaic solar panels and support structures associated with Principal-Use SES (excluding perimeter security fencing) shall be a minimum of one-hundred fifty (150) feet from a side or rear property line and a minimum of one-hundred (100) feet from the nearest boundary of any road or highway right-of-way.
  - b. Measuring. Any measurement for Principal-Use SES setbacks shall use the property/lot line or the nearest boundary of any road or highway right-of-way and not the center of the most immediate public road/highway.
  - c. Agricultural setbacks. Two participating agricultural parcels that are immediately adjacent are not required to have a setback; e.g. zero (0) setback.
  - d. Non-Participation setbacks. Residential property owners with less than or equal to five (5) acres and not participating in a Principal-Use SES lease agreement are entitled to a three hundred (300) foot setback along the nonparticipating property line.
4. Minimum Lot Size. Principal-Use SES shall not be constructed on parcels less than twenty (20) acres in size. The project may include an adjacent parcel(s) with less than 20 acres if included in the project application.

5. Ground Mounted SES shall be reasonably screened from the view of the surrounding streets and roads to the maximum extent practicable by garden walls, fences, hedges, landscaping, earth berms, or other means, except to the extent that such screening is either impracticable or would result in ineffective solar access on the lot in question. Ground Mounted SES that are visible from a road or adjacent properties shall, to the maximum extent feasible, and without compromising the ability to effectively use solar collectors on the lot in question, use materials, textures, screening, and landscaping that will screen the Ground Mounted SES from view, and blend with the natural setting, existing environment, and neighborhood character. All Ground Mounted SES that rely on landscaping or a vegetative buffer for screening shall maintain a minimum opacity of at least eighty percent (80%), and a mature height of not less than the greater of six (6) feet or sixty percent (60%) of the height of the Ground Mounted Solar Energy System when oriented to maximum tilt.
6. Safety/Access. Fences shall be constructed in accordance with current NEC specifications. Lock box and keys shall be provided at locked entrances for emergency personnel access. Electric fencing is not permitted. Fencing is not subject to setbacks.
7. Sound Pressure Level. Ambient sound pressure levels shall be measured from the property line of a Principal-Use SES and shall not exceed sound levels set forth in Section 6.27(15) and Section 12.03.
8. Landscaping. The perimeter of Principal-Use SES shall be screened and buffered by installed evergreen or native vegetative plantings whenever existing natural vegetation does not otherwise reasonably obscure the SES from any public street and/or adjacent agricultural residential structures, consistent with the recommendations and/or requirements of the Michigan Department of Agriculture and Rural Development.
  - a. All unhealthy foliage forty (40) percent dead or greater) of a tree or individual planting shall be replaced by the applicant/owner/operator within six months (6) months of the date of identification, or the next appropriate planting period, whichever comes first.
  - b. All ground cover in and around the Principal-Use SES will be seeded with native grasses and vegetation. Selection of vegetation shall be in accordance with current MDARD and Conservation Reserve Enhancement Program. All unhealthy forty (40) percent dead or greater) of a tree or individual planting shall be replaced by the applicant within six months (6) months of the date of identification, or the next appropriate planting period, whichever comes first.

9. Local, State and Federal Permits. Principal-Use SES shall be required to obtain and comply with all required local, state, and federal permits, rules and regulations
10. Electric Interconnections. All electrical interconnection or distribution lines shall comply with all applicable codes (including NEC) and standard commercial large-scale utility requirements. Use of above ground transmission lines shall be prohibited within the site.
11. Signage. No advertising or non-project related graphics shall be mounted on any part of the solar arrays or other components of the SES. This exclusion does not apply to entrance gate signage or notifications containing points of contact or any and all other information that may be required by authorities having jurisdiction for electrical operations and the safety and welfare of the public.
12. Applications for Ground- Mounted SES must include drawings that identify the location of the system on the property, height, tilt features (if applicable), the primary structure, accessory structures, access route(s) and setbacks to property lines.
13. In addition to the requirements of Article 7 of the Zoning Ordinance, all applications for a special land use permit for SES shall be subject to Special Land Use standards in Article 8 of the Zoning Ordinance and shall include the following:
  - a. Project description and rationale. Identify the type, size, rated power output (DC), performance, safety, and noise characteristics of the system, including the name and address of the manufacturer, and model. Identify time frame, project life, development phases, likely markets for the generated energy, possible future expansions, proposed materials for the project (including all rare earth materials/elements) and include MSDS for all products, including Pfas, GenX and known carcinogens.
  - b. Analysis of onsite traffic. Estimated construction jobs, estimated permanent jobs associated with the development and local impact.
  - c. 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.



- d. Wildlife. Review potential impact on wildlife on the site.
- e. Environmental analysis. An analysis by a third-party qualified professional to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, wildlife, endangered and threatened species, historical and cultural sites, and antiquities. If required, the analysis shall identify all appropriate measures to minimize, eliminate or mitigate adverse impacts identified and show those measures on the site plan, where applicable.
- f. Drainage analysis.
  - i. Prior to approval of the Special Use permit, the applicant must obtain and provide documentation of existing drainage tile for the site.
  - ii. A statement by the applicant that any damage to underground drainage tile, or other stormwater infrastructure, ditches and/or drains caused during the installation of the project shall be repaired by the applicant/successor within 90 days of discovery of the damage.
  - iii. Stormwater Study. An analysis by a third-party qualified professional that takes into account the proposed layout of the SES and how the spacing, row separation, and slope affects stormwater infiltration, including calculations for a 100-year rain event (storm). Percolation tests or site-specific soil information shall be provided to demonstrate infiltration on-site without the use of engineered solutions..
  - iv. Documentation of compliance with erosion requirements, storm drainage easements (if any), and Stormwater Study review from Lenawee County Drain Commissioner and/or other reviewing entities.
- g. Waste. Identify solid waste or hazardous waste generated by the project and proposed management of the waste generated.
- h. 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 eighteen (18) feet in height.
- i. Transportation plan. Provide access plan for construction and operation phases.

- i. The applicant shall submit to the appropriate State or County agency a description of the routes to be used by construction and delivery vehicles and anticipated road improvements that will be necessary to accommodate construction vehicles, equipment, or other deliveries. The applicant shall comply with all State or County requirements regarding the use and/or repair of the roads used by construction and delivery vehicles. Any material damages to a public road located within the Township resulting from the construction, maintenance or operation of a Solar Energy System shall be repaired at the applicant's expense.
- ii. Due to infrequent access to such facilities after construction is completed, applicant/successor is not required to pave or curb solar panel access drives.
- j. 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.
- k. Sound limitations and review. Identify noise levels at the property line of the project boundary when completed.
- l. Telecommunications interference. Identify electromagnetic fields and communications interference generated by the project and identify resolution for anticipated interference.
- m. Statement in the form of an Affidavit from the Project Manager and senior business officer (CEO or President) that the project does not have any material containing any of the following: PFAS, GenX, known or suspected carcinogens.
- n. A statement affirming that any Principal-Use SES not operated for a continuous period of twelve (12) months shall be considered abandoned and shall be removed by the permit holder under the decommissioning plan.

14. Decommissioning. The applicant shall submit a Decommissioning Plan provided by an independent engineering firm that identifies the process to be followed at the end of the solar project life, which shall include the following:
- 1) Elements to be included in the decommissioning plan.
  - 2) Estimated cost of decommissioning, financial resources to be used to accomplish decommissioning, the escrow agent with whom the resources will be deposited and proposed process for return of remaining escrow funds, if any.
  - 3) Removal of project materials. All structures, concrete, piping, facilities, and other project related materials above grade and any structures up to three (3) feet below-grade shall be removed to a disposal area certified or licensed to receive the materials removed from the decommissioned site. Certification and/or licensure of the disposal site for the materials shall be provided in the Decommissioning Plan.
  - 4) Disposal documentation. Documentation of the disposal from the site shall be submitted to the Blissfield Township office within thirty days of decommissioning a project site.
  - 5) Access roads or driveways. All access roads or driveways shall be removed, cleared, and graded by the applicant, unless the property owner(s) requests, in writing, a desire to maintain any access road or driveways. The Township or County will not take ownership of any access road or driveway, unless otherwise agreed in writing.
  - 6) Site restoration. The ground must be restored to its original topography or mutually agreed variation of the original topography within three hundred sixty-five (365) days of abandonment or decommissioning. The decommissioning plan shall include:

- i. timeline for Submission of a decommissioning plan, and schedule for removal of the SES and all its components.
  - ii. Process for notifying MDARD of the decommissioning.
  - iii. Confirmation from MDARD of compliance with the requirements for land stewardship.
  - iv. Confirmation to MDARD and the landowner that the real property is fit for agricultural production and has been returned to the property owner.
  - v. Relinquishment of the Special Land Use Permit issued for the Solar Project.
15. Repowering. A principal-use SES may at any time be repowered, without the need to apply for a new special land-use permit, by reconfiguring, renovating, or replacing the SES to increase the power rating within the existing project footprint and consistent with this ordinance.

A proposal to change the project footprint of an existing SES shall be considered a new project and require a new application, subject to the ordinance standards at the time of the request. Expenses for legal services and other studies resulting from an application to modify an SES will be reimbursed to the Township by the SES owner in compliance with established escrow policy.
16. Building Permit. Prior to the issuance of the building permit, the applicant shall furnish to the Township a performance guarantee in the form of a surety bond, cash deposit into an escrow account with an escrow agent acceptable to the Township, or irrevocable letter of credit from a U.S. financial institution and payable on demand to the benefit of Blissfield Township (bond) in an amount equal to One Hundred Fifty percent (150%) of the estimated cost of decommissioning. The terms and amount of the surety bond shall be reviewed every

three years and modified based upon the circumstances and conditions. The applicant shall be responsible for all costs associated with the project for the life of the project.

17. Code Enforcement and Reclamation Costs. Blissfield Township shall have access to the escrow account funds for code enforcement and decommissioning if decommissioning is not completed by the applicant within Three Hundred Sixty-Five (365) days of the end of project life or facility abandonment. In the event that the project applicant/successor does not complete the decommissioning and requires Township intervention to complete decommissioning, the applicant/project owner/successor shall forfeit the escrow and shall be surcharged an additional 50% of the decommissioning costs.

The applicant/project owner/successor shall not have access to the escrow funds without the express written authorization and consent of the Blissfield Township Supervisor, Blissfield Township Board and Blissfield Township Zoning and Planning Chair.

18. Right of Entry. Blissfield Township or its designated agent is granted the right of entry onto the site, pursuant to reasonable notice, to effect or complete decommissioning.
19. Injunctive Relief. Blissfield Township has the right to seek injunctive relief to effect or complete decommissioning, as well as the right to seek reimbursement from applicant or applicant's successor for decommissioning costs in excess of the amount deposited in escrow 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.
20. Maintenance and Repair. The applicant or applicant's successor is responsible for the maintenance, repair and appearance of the SES. If the Township Enforcement Officer determines that a Principal-Use SES fails to meet the requirements of this ordinance and the Special Land Use Permit, or that a Principal-Use SES poses a safety hazard, the Enforcement Officer, or designee, shall provide notice to the applicant/successor of the safety hazard. If, after a reasonable cure period (not to exceed seven (7) days), the safety

hazards are not corrected, the applicant/successor shall immediately shut down the Principal-Use SES and not operate, start or restart the Principal-Use SES until the issues have been resolved. Applicant/successor shall keep a maintenance log on the solar array(s), which shall be available for the Township's review upon 48 hours' notice. Applicant/successor shall keep the Principal-Use SES site neat, clean and free of refuse, hazardous or unsanitary conditions.

21. **Complaint Resolution.** The applicant proposing a Principal-Use Solar Energy System shall submit a detailed, written complaint resolution process to resolve complaints from the Township Board, property owners or residents concerning the construction or operation of the Principal SES.

The complaint resolution process must be approved by the Planning Commission as a condition of approval of the special land use permit application.

The Complaint Resolution Committee shall consist of three (3) members appointed by the Blissfield Township Board comprised of (1) Township board member, (1) Planning Commission member, and (1) Township resident. The Complaint Resolution Committee shall oversee and participate in all complaint resolution discussion.

- a. In the event the Complaint Resolution Committee determines that the Principal-Use Solar Energy System owner has violated an applicable Ordinance or the terms and conditions of the approved application, the owner shall be responsible for all costs incurred by the Township regarding this complaint and the resolution of the complaint, including any other penalties for violation(s) of the Township's Zoning Ordinance and shall be deducted from the escrow funds on deposit.
- b. The Township Board shall be kept apprised of all complaints and shall receive a report outlining the issues, the progress, and the resolution of each such complaint. The Township Board is authorized to enforce resolution of a complaint.

- c. This section is not a waiver of the Township's authority to seek any relief at law or equity to abate such violations or enforce Township Ordinances.

**E. SEVERABILITY**

The provisions of this Ordinance are hereby declared to be severable and if any provision, section or part of this Ordinance is declared invalid or unconstitutional by a court of competent jurisdiction, such decision shall only affect the particular provisions, section or part involved in such decision and shall not affect or invalidate the remainder of such Ordinance, which shall continue in full force and effect.

**F. EFFECTIVE DATE**

This Ordinance shall become effective fifteen (15) days after its publication following final adoption or as required by law.

**G. REPEAL**

All Ordinances or parts of Ordinances in conflict with this ordinance are hereby repealed.