

MACON TOWNSHIP  
LENAWEE COUNTY, MICHIGAN  
ORDINANCE NO. 2023-\_\_\_\_

AN ORDINANCE AMENDING ARTICLE VII OF THE MACON TOWNSHIP ZONING ORDINANCE TO REPLACE SECTION 7.03 REGARDING SOLAR ENERGY FACILITIES; AMENDING ARTICLE VIII AND XIII BY ADDING LARGE SOLAR ENERGY FACILITIES (SOLAR PROJECTS) TO THE LISTINGS OF SPECIAL LAND USES IN THE INDUSTRIAL (I) DISTRICTS; AMENDING ARTICLE XX BY REPLACING, DELETING, AND ADDING DEFINITIONS; AND AMENDING SECTION 4.08 OF ARTICLE IV TO PROHIBIT CARBON DIOXIDE SEQUESTRATION HOLES AND WELLS

**The Township of Macon ordains:**

**Section 1. Amendment to Article VII**

Article VII of the Macon Township Zoning Ordinance is amended by replacing in its entirety Section 7.03, Solar Energy Facility, which shall read as follows:

**Section 7.03. SOLAR ENERGY FACILITY.** Sunlight is utilized to generate energy through a facility consisting of one (1) or more solar devices under common ownership or operational control. Such a facility may include, but not be limited to, substations, cables/wires and other buildings and accessory structures whose main purpose is to supply energy on-site or to off-site customer(s):

A. LARGE SOLAR ENERGY FACILITY (SOLAR PROJECT). The purpose of this Subsection is to establish minimum requirements and regulations for the placement, construction, and modification of large solar energy facilities (Solar Projects), as defined in Section 20.01.78.25a, while promoting the safe, effective, and efficient use of such energy facilities as a special land use in specified zoning districts.

1 Location. All large solar energy facilities (Solar Projects) are limited to the Industrial (I) districts.

2 REGULATIONS AND DESIGN STANDARDS. All large solar energy facilities (Solar Projects) shall comply with the following minimum regulations and design standards.

a. DESIGN STANDARDS.

(1) MINIMUM LOT SIZE. No large solar energy facility (Solar Project) shall be erected on any Zoning Lot less than twenty (20) acres in size (as defined in Section 20.01.91).

(2) LOT COVERAGE.

(a) Ground mounted solar panels, including the mounted angle, shall not be calculated as part of

the overall lot coverage. The solar panel lot coverage should be measure by the length and width of the panel flat and horizontal to the ground and shall not cover more than 50% of the individual parcel of land it is located on.

- (b) All buildings, including substation buildings, shall be calculated as part of the overall lot coverage
- (3) **MAXIMUM HEIGHT.** The maximum height for a solar panel shall be fourteen (14) feet. The maximum height of any radio or communication towers shall not exceed seventy (70) feet. The maximum height of a Power Switchyard (as defined in Section 20.01.75.25.d) shall not exceed the minimum height needed to tie into electric transmission lines. The height of all other buildings and accessory structures shall comply with the maximum building height requirements of the applicable zoning district in which the Solar Project is located, as listed in Article XV. The height of required lightning rods attached to the Power Switchyard or Solar Project related equipment shall not be subject to the foregoing height limitations. The height of lightning rods shall be limited to that height necessary to protect the Power Switchyard and Solar Project equipment from lightning.
- (4) **SETBACKS.** Large solar energy facility (Solar Project) solar arrays and other structures shall be set back five hundred (500) feet from all lot lines and public road rights-of-way, or the district setbacks stated in Article XV, whichever is greater. In addition, large solar energy facility (Solar Project) solar arrays and other structures must be located at least ~~one~~ five hundred (4500) feet from all existing R-1 Single Family, R-2 Single Family, and RM Multiple Family and Manufactured Housing Residential District land and existing residences at the time the Solar Project is granted special land use approval, unless the zoning lot is comprised of a portion of the lot containing the residence.
- (5) **SAFETY/ACCESS.**
  - (a) Security fencing shall be installed around the Solar Project in conformance with the Section 4.12, with the following exceptions: (i) non-ornamental fencing is acceptable; (ii) perimeter fencing around the Solar Project shall not exceed seven (7) feet; and (iii) perimeter fencing around the Power Switchyard shall not exceed eight (8) feet. Knox boxes and keys shall be provided at locked entrances for emergency personnel access.

- (b) Appropriate warning signage shall be placed at the entrance and perimeter of the large solar energy facility (Solar Project).
- (6) NOISE. No operating large solar energy facility (Solar Project) shall produce noise that exceeds any of the following limitations.
  - (a) Thirty (30) dBA, as measured at the lot lines of the project boundary.
- (7) VISUAL APPEARANCE.
  - (a) Large solar energy facility (Solar Project) buildings and accessory structures shall utilize materials, textures, and neutral colors customary with Solar Projects and that to the extent which is prudent and feasible will blend the facility into the existing environment.
  - (b) Landscaping and/or screening materials in the manner provided in this Section 7.03.A.2.a(68J(b) shall be required to help screen large solar energy facility (Solar Project) buildings, solar panels, and accessory structures from adjacent lots and public right of ways. One hundred percent (100%) of the Solar Project perimeter shall be screened. The Solar Project shall be screened using 8 foot berms along all sides, with 8 foot trees on top of the berm. The berm shall be located on the exterior and directly adjacent to the perimeter fence. One hundred percent (100%) of vegetative screening shall be evergreen. Vegetation used to screen the Solar Project shall be planted every ten (10) feet on center at a planting height of eight (8) feet with a height at maturity of not less than thirty (30) feet and width not less than ten (10) feet. For any access points into the Solar Project, the berms and vegetative screening shall be installed in a staggered manner, so no buildings, equipment, or solar panels are visible from adjacent properties or right of ways. Berms shall be maintained and not violate the Noxious Weeds Ordinance. Any fence used to screen the Solar Project shall be at least fifty percent (50%) opaque and must meet the fencing requirements of Section 4.12.

- (c) Lighting of the large solar energy facility (Solar Project) shall be limited to the minimum necessary, supplied with down lighting, and in no case shall any illumination from such lighting extend beyond the perimeter of the Solar Project. A photometric study may be used to make this determination.
  - (d) No large solar energy facility (Solar Project) shall produce glare that would constitute a nuisance to occupants of neighboring properties or to persons traveling neighboring roads. Upon written notice from the Township Building Inspector, or such other person designated by the Township Board, to the owners of the Solar Project that glare from the Solar Project is causing a nuisance to occupants of neighboring property or to persons traveling neighboring roads, the owner of the Solar Project shall have a reasonable time (not to exceed three (3) months) from the date of such notice to remediate such glare.
  - (e) Perennial vegetative ground cover must be maintained or established in all areas containing solar arrays to prevent erosion and manage run-off. No increase in run off onto adjacent properties.
- (8) MEDIUM VOLTAGE CABLE. All medium voltage cable (as defined in Section 20.01.75.25.e) within the project boundary shall be installed underground at a depth not required to be greater than four (4) feet below grade, unless determined otherwise by the planning commission because of severe environmental constraints (e.g. wetlands, cliffs, hard bedrock), and except for Power Switchyards (as defined in Section 20.01.75.25.d) or area within a substation. All electrical interconnections and distribution components must comply with all applicable codes and public utility requirements.
- b. LOCAL, STATE AND FEDERAL PERMITS. A large solar energy facility (Solar Project) shall be required to obtain all necessary permits from the Michigan Department of Environmental Quality (see Section 7.03.A.4.b) and any applicable municipal/county or Federal permits.
  - c. AGREEMENTS/EASEMENTS. If the Zoning Lot (as defined in Section 20.01.91) on which the project is proposed is to be leased, rather than owned, by the owner of the Solar Project, all property within the project boundary must be included in a recorded easement(s), lease(s), or consent agreement(s) specifying the applicable uses for the duration of the project. All necessary leases, easements, or other agreements between the

owner of the Solar Project and property owners must be in place prior to commencing construction, unless specified otherwise by the special land use permit.

- 3 PERMIT APPLICATIONS. An application for a special land use permit to establish a large solar energy facility (Solar Project) shall include a complete description of the project and documentation to sufficiently demonstrate that the requirements set forth in Section 7.03.A.2.a will be met. Supporting documentation for addressing the review criteria of Section 7.03.A.4 and Section 16.06 (required standards and findings for making a special land use determination) shall be provided. The planning commission and/or township board shall require any information necessary to determine compliance with this ordinance.

It is preferred that any related special land use permit applications for substations or new transmission lines be considered in conjunction with the special land use permit application for the large solar energy facility (Solar Project); however, if the details of those improvements are not available at the time of application for the large solar energy facility (Solar Project), they may be considered later, through subsequent special land use permit review. At a minimum, the intended route for connecting to the power grid and the alternative locations of any substation shall be disclosed with the application for the large solar energy facility (Solar Project).

The Planning Commission and/or Township Board shall have the authority to hire a third-party plan reviewer to verify completeness of the application, provide plan review comments to the applicant, and provide a report to the Planning Commission on whether the application complies with Section 7.03.A.2. and whether the application included documentation that addresses the standards set forth in Section 7.03.A.4 and Section 16.06. Applicant shall pay into its escrow with the Township all fees and costs incurred by the third-party plan reviewer in connection with its plan review.

Prior to issuance of the construction permit, the Township shall require as a condition of special land use approval that the owner of the Solar Project and Township enter into a decommissioning agreement setting forth a Decommissioning Plan as required by Section 7.03 A.4.h, secured by a bond to secure removal of the Solar Project in the event the use is terminated, abandoned, or falls below 49% of its generating capacity for a period of twelve (12) months. The amount of the bond shall be determined based upon the reasonable cost of land reclamation to seasonal grasses or to an agricultural ready condition, removal, and the salvage value of the Solar Project as determined by the engineering firm selected by the Township Board. The Decommissioning Plan shall be reviewed every three years by an engineering firm selected by the Township Board. The cost of the engineering firm review shall be paid by the owner of the Solar Project.

- 4 PROVISIONS FOR SPECIAL LAND USE PERMIT REVIEW. In addition to the standards set forth for special land use approval in Section 16.06, the Solar Project shall comply with the following standards:

- a. **SOLAR PROJECT DESCRIPTION.** The application for the Solar Project shall identify the Solar Project buildings and accessory structures, the time period to construct the Solar Project, the phasing of construction, if any, and the anticipated useful life of the Solar Project.
- b. **ENVIRONMENTAL SITING CONSIDERATIONS.** The applicant shall provide evidence of compliance with applicable State of Michigan statutes including, but not limited to: Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act; (MCL 324.3101 et. seq.; Part 91, Soil Erosion and Sedimentation Control (MCL 324.9101 et. seq.) and any corresponding County ordinances; Part 301, Inland Lakes, and Streams, (MCL 324.30101 et. seq.); Part 303, Wetlands (MCL 324.30301 et. seq.); Part 365, Endangered Species Protection (MCL324.36501 et. seq.); and such other applicable laws and rules in force at the time the application is considered by the Township Board.
- c. **SITE PLANS.** Site plans shall identify (1) all Zoning Lots in the Solar Project, and as to each Zoning Lot, existing, temporary, and proposed (a) buildings, (b) accessory structures, trailers, lay down yards and lighting (c) utilities, (d) transmission lines, (e) solar panels, (f) drainage ways, (g) grades, (h) topographical conditions, (i) vegetation (j)regulated wetlands, (k) regulated floodplains, (l) regulated and endangered species, and (m) regulated lakes, streams, or ponds; (2) required setbacks; (3) access routes to Zoning Lots that are a part of the Solar Project; (4) proposed road improvements; (5) any lots within three hundred (300) feet of a large solar energy facility (Solar Project); (6) proposed transmission lines to and from Power Switchyards and/or between Zoning Lots; (7) proposed signage; and (8) methods for dust and erosion control. All maps and visual representations need to be drawn at an appropriate scale and in accordance with Section 17.05 (required data for detailed site plan).
- d. **ENVIRONMENTAL INFORMATION.** The applicant shall provide evidence of compliance with the Environmental Siting Conditions as required in this Section.
- e. **HAZARDOUS WASTE.** As applicable, the application must include plans for the spill prevention, clean-up, and disposal of fuels, oils, and hazardous wastes.
- f. **TRANSPORTATION PLAN FOR CONSTRUCTION AND OPERATION PHASES.** Prior to the commencement of construction of the Solar Project, an agreement with the County Road Commission, and the Michigan Department of Transportation (if applicable) regarding any construction phase of the project is required.

- g. OTHER REQUIRED STANDARDS. Proof of compliance with the "required standards and finding for making determination" found in Section 16.06 must also be provided.
  - h. DECOMMISSIONING PLAN. Describe the decommissioning and final land reclamation plan to be followed after the anticipated useful life, or abandonment, or termination of the large solar energy facility (Solar Project), including evidence of proposed commitments with property owners to ensure proper final reclamation of the Solar Project with seasonal grasses or to an agricultural ready condition if required by the property owner, repairs to roads for damage caused by the Solar Project, if any, and within twelve (12) months from the notice of abandonment issued by the Township to complete decommissioning and land reclamation. Removal of all construction material down to 12 feet from original grade.
- B. SMALL SOLAR ENERGY FACILITY. Notwithstanding other provisions of this Section of the Ordinance, Small Roof-Mounted or Ground-Mounted Solar Energy Facilities shall be considered a permitted use in all zoning districts as an accessory to a principal use. A Small Solar Energy Facility (as defined in Section 20.01.78.25b) shall be required to have appropriate building permits.
- 1 All Small Solar Energy Facilities are subject to the following minimum requirements:
- a. A small solar energy facility shall provide power for the principal use and/or accessory use of the property on which the small solar energy facility is located and shall not be used for the generation of power for the sale of energy to other users, although this provision shall not be interpreted to prohibit the sale of excess power generated from time to time to the local utility company.
  - b. A small solar energy facility connected to the utility grid shall provide written authorization from the local utility company to Macon Township acknowledging and approving such connection.
  - c. A roof-mounted facility may be mounted on a principal building or accessory building. A roof mounted facility, whether mounted on the principal building or accessory building, may not exceed the maximum principal building height or accessory building height specified for the building type in the underlying zoning district. In no instance shall any part of the small solar energy facility extend beyond the edge of the roof.
  - d. A ground mounted facility shall not exceed a height of fourteen (14) feet.
  - e. The surface area of a ground mounted facility, regardless of the mounted angle, shall be calculated as part of the overall lot coverage.

- f. A ground mounted facility or facility attached to an accessory building shall not be located within the required front yard setback.
- g. The minimum ground-mounted small solar energy facility setback distance from the property lines shall be equivalent to the principal building setback of the underlying zoning district.
- h. All mechanical equipment associated with and necessary for the operation of the small solar energy facility shall comply with the following:
  - (1) Mechanical equipment shall be screened from any adjacent property that is residentially zoned or used for residential purposes. The screen shall consist of shrubbery, trees, or other non-invasive plant species which provides a visual screen. At least fifty percent (50%) of plants must be evergreen. In lieu of a planting screen, a decorative fence meeting the requirements of Section 4.12 and that is at least fifty percent (50%) opaque may be used.
  - (2) Mechanical equipment shall not be located within the minimum front yard setback of the underlying zoning district.
  - (3) Mechanical equipment for ground-mounted facilities shall comply with the setbacks specified for principal structures in the underlying zoning district.
- i. Solar panels shall be placed such that concentrated solar radiation or glare shall not be directed onto nearby properties or roadways.
- j. All power transmission lines from a ground mounted small solar energy facility to any building or other structure shall be located underground.
- k. A small solar energy facility shall not be used to display advertising, including signage, streamers, pennants, spinners, reflectors, ribbons, tinsel, balloons, flags, banners, or similar materials. The manufacturers and equipment information, warning, or indication of ownership shall be allowed on any equipment of the solar energy facility provided they comply with the prevailing sign regulations.
- l. The design of the small solar energy facility shall conform to applicable industry standards. A building/zoning permit shall be obtained prior to construction. In the case of a roof-mounted facility, the existing roof structure and the weight of the facility



shall be taken into consideration when applying for a small solar energy facility permit.

All wiring shall comply with the applicable version of Michigan's construction codes. The local utility provider shall be contacted to determine grid interconnection and net metering policies. The Applicant shall submit certificates of design compliance obtained by the equipment manufacturer from a certifying organization and any such design shall be certified by an Engineer registered in the State of Michigan.

- m. The small solar energy facility shall comply with all applicable Township ordinances and codes so as to ensure the structural integrity of such facility.
  - n. Before any construction can commence on any small solar energy facility the property owner must acknowledge that he/she is the responsible party for owning/leasing and maintaining the solar energy facility.
- 2. If a ground mounted small solar energy facility is removed, any earth disturbance as a result of the removal of the ground mounted facility shall be graded and reseeded.
  - 3. If a ground mounted small solar energy facility has been abandoned (meaning not having been in operation for a period of six (6) months) or is defective or is deemed to be unsafe by the Building Inspector, the facility shall be required to be repaired by the owner to meet federal, state and local safety standards, or be removed by the property owner within the time period allowed by the Building Inspector. If the owner fails to remove or repair the defective or abandoned small solar energy facility, the Township may pursue a legal action to have the facility removed at the owner's expense.

C. SOLAR ACCESS. The Township makes no assurance of solar access other than the provisions contained within this Section. The applicant may provide evidence of covenants, easements, or similar documentation for abutting property owners providing access to solar energy for the operation of a solar energy facility.

## **Section 2. Amendment to Article VIII**

Article VIII of the Macon Township Zoning Ordinance is amended to add large solar energy facilities (Solar Projects) to the listing of Special Land Uses (Section 8.03) in the Industrial District, as follows:

- 36. Large Solar Energy Facilities (Solar Projects), subject to regulations contained in Section 7.03.

**Section 3. Amendment to Article XIII**

Article XIII of the Macon Township Zoning Ordinance is amended to add large solar energy facilities (Solar Projects) to the listing of Special Land Uses (Section 13.03) in the Industrial District, as follows:

- 6. Large Solar Energy Facilities (Solar Projects), subject to regulations contained in Section 7.03.

**Section 4. Amendments to Article XX**

A. Section 20.01.49 of Article XX of the Macon Township Zoning Ordinance is amended and shall read in its entirety as follows:

Section 20.01.49. LOT: A lot is a piece or parcel of land occupied or intended to be occupied by a building and any accessory buildings or by any other use or activity permitted thereon and including the open spaces and yards required under this Ordinance and having its frontage upon a public street or road either dedicated to the public or designated on a recorded subdivision.

- a. LOT, DEPTH: The depth of a lot is the mean horizontal distance from the center of the front street line to the center of the rear lot line. In the case of a lakefront line. In the case of an acreage parcel, it is from the front right-of-way line to the rear lot line.
- b. LOT, DOUBLE FRONTAGE: A lot other than a corner lot having frontage on two (2) more or less parallel streets. In the case of a row of double frontage lots, one (1) street will be designated as the front street for all lots in the plat and in the request for a zoning compliance permit. If there are existing buildings in the same block fronting on one or both of the streets, the required minimum front yard setback shall be observed on those streets where buildings presently front.
- c. LOT, INTERIOR: An interior lot is a lot other than a corner lot with only one (1) lot line fronting on a street.
- d. LOT, WIDTH: The horizontal distance between the side lot lines, measured at the two (2) points where the building line, or setback line, intersects the side lot lines.

B. Section 20.01.78.25 of Article XX of the Macon Township Zoning Ordinance is amended and shall read in its entirety as follows:

Section 20.01.78.25. SOLAR ENERGY FACILITY: An energy generating facility consisting of one or more solar panels and associated equipment including, but not limited to:

- a. LARGE SOLAR ENERGY FACILITY (SOLAR PROJECT). A utility-scale commercial facility that converts sunlight into electricity, whether by photovoltaics (PV) or various solar technologies, for the primary purpose of wholesale or retail sales of generated electricity.
- b. SMALL SOLAR ENERGY FACILITY. Any photovoltaic or solar hot water devices that are accessory to and incorporated into the development of an authorized use of the property, and which are designed for the purpose of reducing or meeting on-site energy needs.

- c. PHOTOVOLTAICS (PV). A technology that converts light directly into electricity.
- d. POWER SWITCHYARD. The structure needed to tie the solar energy facility to electric transmission lines.
- e. MEDIUM VOLTAGE CABLE. 34.5 kV lines which provide electricity to homes.

C. Article XX of the Macon Township Zoning Ordinance is amended to add Section 20.01.91 and shall read in its entirety as follows:

Section 20.01.91. ZONING LOT. Provided that the owner(s) or lessee of any number of contiguous lots, or contiguous portions of lots, may have as many of said contiguous lots, or contiguous portions of lots, considered as a single Zoning Lot for the purpose of this Ordinance as the owner(s) or lessee so elects, and in such case the outside perimeter of said group of lots or portions of lots shall constitute the front, rear, and side lot lines thereof.

**Section 5. Amendments to Article IV**

Section 4.08 of Article IV of the Macon Township Zoning Ordinance is amended in its entirety and shall read as follows:

**Section 4.08. EXCAVATIONS, HOLES, AND WELLS.** The construction, maintenance or existence within the Township of any unprotected, unbarricaded, open or dangerous excavations, holes, pits, or wells, which constitute or are reasonably likely to constitute a danger or menace to the public health, safety or welfare, are hereby prohibited; provided, however, this section shall not prevent any excavation under a permit issued, pursuant to this Ordinance, where such excavations are properly protected and warning signs posted in such a manner as may be approved by the Building Inspector and provided further, that this section shall not apply to streams, natural bodies of water or to ditches, streams, reservoirs, or other major bodies of water created or existing by authority of the State of Michigan, the County, the Township, or other governmental agency. No existing or proposed hole or well in any zoning district shall be used for carbon sequestration.

**Section 6. Severability**

If any section, subsection, subparagraph, sentence, clause, phrase, or portion of this Ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of this ordinance.

**Section 7. Repealer**

All ordinances or parts of ordinances in conflict with this Ordinance are repealed.

**Section 8. Effective Date**

This Ordinance shall be effective as provided by law.