TOWNSHIP OF MAPLE VALLEY, COUNTY OF MONTCALM

ORDINANCE TO AMEND ZONING ORDINANCE REGARDING
SOLAR ENERGY SYSTEMS

ORDINANCE NO. 32

Table of Contents

THE TOWNSHIP OF MAPLE VALLEY ORDAINS:

Section l. Purpose.
The Township of Maple Valley (the "Township") adopts the following revisions to the Township's Zoning Ordinance for the health, safety and welfare of Township residents.

Section 2. Amendment of Article 7.
A Section 735 is hereby added to the Township's Zoning Ordinance to read as follows:

SECTION 735: SOLAR ENERGY SYSTEMS (SES)

A ZONING ORDINANCE AMENDMENT to provide for the land development, installation and construction regulations for photovoltaic solar farm systems 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 systems.

1) Purpose and Intent
A) This Ordinance is intended to:

01) Provide for a special land use that will promote the use of solar energy as a clean alternative energy source while preserving the dignity and aesthetic quality of the environment within Maple Valley Township.
02) Protect Township areas from any potentially adverse effects of private (small-scale) or commercial (large-scale) solar systems and related structures or devices so that the public health, safety, and welfare will not be jeopardized.
03) Establish standards and procedures by which the siting, design, engineering, installation, operation, and maintenance of private and commercial solar systems shall be governed.
04) Provide for the removal of abandoned or noncompliant solar farm systems and related structures or devices.

B) Definitions

01) The following terms and phrases in this section shall have the meanings set forth below:
02) Solar Energy System (SES): Any part of a system that collects or stores solar radiation or energy for the purpose of transforming it into any other form of usable energy, including the collection and transfer of heat created by solar energy to any other medium by any means. LSES: Large-scale Solar Energy System (Also called Utility-scale or Commercial) A Solar Energy System in which the principal design, purpose, or use is to provide energy to off-site uses or the wholesale or retail sale of generated electricity to any person or entity.
03) SSES: Small-scale Solar Energy System (also called private) A Solar Energy System used exclusively for private purposes and not used for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electrical grid.
04) ABANDONMENT: To give up, discontinue, withdraw from. Any solar energy system that ceases to produce energy on a continuous basis for twelve (12) months will be considered abandoned. This includes a Solar Energy System that was never operational if construction has been halted for a period of twelve (12) months.
05) AGRICULTURE DRAIN TILE SYSTEM: A type of drainage system that removes excess water from soil below its surface using underground drainage tiles.
06) Ancillary Passes Equipment: Any accessory part or device of a PASSES that does not require direct access to sunlight, such as batteries, electric meters, or converters.
07) ANSI: American National Standard Institute.
08) BIVP: building-integrated photovoltaic panel, e.g., attached or integrated.
09) COMPLAINT VENDOR: 3rd party website/web manager of complaint process.
10) CONCENTRATING SOLAR ENERGY SYSTEMS: Solar Energy Systems that use some form of reflective mirror, heliostats, dish collectors or other devices to concentrate solar energy on a central receiver.
11) dB(A): The sound pressure level in decibels referred to in the "A" weighted scale.
12) dB(C): The sound pressure level in decibels referred to in the "C" weighted scale.
13) DECIBEL: A unit of measure used to express the magnitude of sound pressure and sound intensity.
14) DECOMMISION: To remove or retire from active service.

15) DECOMMISSIONING PLAN: A document that details the planned shut down or removal of a solar energy system from operation or usage.
16) FENCE: A continuous barrier extending from the surface of the ground to a uniform height of not less than six (6) feet from the ground at any given point, constructed of steel, or other material of similar nature and strength.
17) FERC: The Federal Energy Regulatory Commission.
18) GLARE: Visual conditions in which there is excessive contrast or an inappropriate distribution of light sources that disturbs the observer or limits the ability to distinguish details and objects.
24) GROUND-MOUNTED SES: A Private or Commercial Solar Energy System that is not attached to or mounted to any roof or exterior wall of any principal or accessory building.
25) 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.
26) PASSES: Personal Or Accessory Scale Solar Energy System - Any area containing solar panels, electrical inverters, storage buildings or other items associated with a personal or accessory scale solar energy installation.
27) LAmax: The maximum dBA sound level per a noise event. All noise measurements shall use LAmax dBA methods.
28) NON-PARTICIPATING PARCEL: A parcel of land within the Township or adjacent townships that is not subject to a LSES lease or easement or other contractual agreement at the time an application is submitted for a SLUP for the purpose of developing and constructing a Utility or Commercial Solar Energy System.
29) PA 116: The Michigan Farmland and Open Space Preservation Act, is a law that works to preserve farmland by offering incentives to farmers who are willing to participate.
30) PARTICIPATING PARCEL: A parcel of land within the Township that is subject to lease or easement agreement or other contractual agreement at the time the application is submitted for a SLUP for the purpose of developing and constructing a Utility or Commercial Solar Energy System.
31) PERMITTING: The process by which a local unit of government allows for certain development, changes, and activities in their jurisdiction.
32) PHOTOVOLTAIC (PV): A method of generating electrical power converting solar radiation (sunlight) into direct current electricity using semiconductors.
33) PRIVATE SOLAR ENERGY SYSTEM: A Solar Energy System used exclusively for private purposes and not used for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electrical grid.
34) PUBLIC ROAD: Any road or highway which is now or hereafter designated and maintained by the Montcalm County Road Commission as part of the County Road System, whether primary or secondary and to include any road(s) under the jurisdiction of Township or the State of Michigan.
35) RESIDENCE: A building used as a dwelling for one or more families or persons.
36) RESIDENTIAL AREA: An area zoned for residential use.
37) ROOFTOP OR BUILDING MOUNTED SOLAR ENERGY SYSTEMS: A Private Solar Energy System attached to or mounted on any roof or exterior wall of any principal or accessory building but excluding BIVPs.

38) SETBACK: A distance from a curb, property line, outside edge of a Road or highway (as measured from the road "right-of-way'), or structure within which a solar system or applicable equipment is prohibited. Setbacks are building restrictions imposed on property owners.
39) SLUP: Special Land Use Permit
40) SOLAR CANOPIES: Solar energy systems that are significantly elevated above the ground such that the land beneath the panel can be used for a second purpose. For example, these systems are often installed above parking lots (also referred to as solar car ports) or in yards to provide shade. Solar canopies above parking lots can also include electric car charging stations. By installing a solar energy system above a space that serves a secondary purpose, solar canopies will use land more efficiently.
41) SOLAR COLLECTOR SURFACE: Any part of a solar energy system that absorbs solar energy for use in the system's transformation process. The collector surface does not include frames, supports, and mounting hardware.
42) SOLAR ENERGY: Radiant energy emitted by the sun.
43) SOLAR GLARE: The effect produced by light reflecting from a solar panel with an intensity sufficient to cause annoyance, discomfort, or loss in visual performance and visibility.
44) SOLAR GLARE HAZARD ANALYSIS TOOL (SGHAT): A tool developed by the Sandia National Laboratories. It is used to measure the potential unwanted visual impacts to pilots, workers, motorists, and others near a energy system.
45) STRAY VOLTAGE: Stray voltage refers to small voltage differences that can exist between two surfaces. On the farm this can be surfaces that are accessible to animals (stanchion, waterer, floor, etc.). When an animal touches both surfaces simultaneously, a small electric current will flow through its body. If the current is high enough, it can be felt by the animal and may cause behavioral changes
46) USDA: The United States Department of Agriculture

2) General Guidelines

A) With advances in technology of "solar energy development" in general, specific locations within the Township may support the implementation of LSES within the Township, this Ordinance will require such developments to obtain a Special Land Use Permit.
B) The Zoning Ordinance is intended to simultaneously preserve and protect the Township's important and sensitive environmental and ecological assets and areas, open space, viewscapes and aesthetics, wetlands, and other ecological and environmentally sensitive areas. The Township desires to preserve the physical integrity of land in close proximity to residential areas. The general welfare, health, and safety of the citizens of the Township will be promoted by the enactment of this ordinance.
C) This ordinance is not intended to abridge safety, health or environmental requirements contained in other applicable codes, standards, or ordinances. The provisions of this ordinance shall not be deemed to nullify any provisions of local, county, state, or federal law.

D) The Township shall revoke any approvals for, and require the removal of, any Solar Energy System that does not comply with this Ordinance.

3) Private Or Small-Scale Solar Energy Systems

A) A private or small energy system shall provide power for the principal use and/or accessory use for the property on which the small solar system is located and shall not be used for generation of power for the sale of energy to other users, excluding sale of ancillary excess power generated to the local utility company. This category is limited to no greater than 1500 square feet of total surface area for all solar collection panels and would include roof mounted applications on fixed structures or overhead solar canopy applications such as automotive parking lots including support of automotive charging stations.

B) Installation of a private or small Solar energy system is permitted in all zoning districts as an accessory to a principal use. Design shall conform to applicable industry standards.

C) Roof or Building-Mounted Private Solar Energy Systems:

01) A roof or building-mounted solar installation may be located on a principal building, accessory building, or parking lot canopy but may not extend more than five (5) feet above the surface of the roof or wall, nor exceed the maximum height of the structure for the building type specified in the zoning district.

02) No part of the installed solar equipment shall extend beyond the edge of the roof and no part of a Solar Energy System mounted on a roof shall be installed closer than three (3) feet from the edges of the roof, the peak, or eave or valley in order to maintain pathways of accessibility.

03) Solar equipment mounted on the roof of a structure shall be only of such weight as can safely be supported by the structure roof or rafters and complies with manufacturer installation procedures.

04) Solar Equipment that is roof-mounted, wall-mounted or are otherwise attached to a building or structure shall be securely and safely attached to the building or structure.

05) A zoning and building permit is required for the installation of Roof or Building-Mounted Private Solar Energy Systems.

06) Roof or Building Mounted Private Solar Energy Systems shall be neutral in color and substantially non-reflective of light.

07) The Zoning Administrator may inspect a Private Solar Energy System for compliance with this ordinance upon providing reasonable notice to the property owner or occupant.

D) Ground-mounted Private Solar Energy Systems:

01) Site Plan. Before installation of a Ground-mounted Private Solar Energy System, the property owner must submit a site plan to the Zoning Administrator and Planning Commission shall review. The site plan must include setbacks, panel

size, and the location of property lines, buildings, fences, greenbelts, and road right of ways. The site plan must be drawn to scale.

02) Maximum Height. A Ground-Mounted Private Solar Energy System must not exceed the twelve (12) feet.

03) Location. A Ground-Mounted Private Solar Energy System must be located in the rear yard and meet the rear yard setback requirements applicable in the underlying zoning district. Setbacks from any residence shall be a minimum of seventy five (75) from a side or rear property line and a minimum of one hundred (100) from any road, highway right-of-way.

04) Underground Transmission. All power transmission or other lines, wires, or conduits from a Ground-mounted Private Solar Energy System to any building or other structure must be located underground. If batteries are used as part of the Ground-mounted Private Solar Energy System, they must be placed in a secured container or enclosure.

05) Screening. Greenbelt screening is required around any Ground-mounted Private Solar Energy System and around any equipment associated with the system to obscure, to the greatest extent possible. The greenbelt must consist of shrubbery, trees, or other non-invasive plant species that provide a visual screen. In lieu of a planting greenbelt, a decorative fence that is at least 50% opaque (meeting the requirements of this Ordinance applicable to fences) may be used if approved by the Planning Commission.

06) Lot Area Coverage. No more than a 20% footprint of the total lot area may be covered by a Ground-mounted Private Solar Energy System.

07) Appearance. The exterior surfaces of a Ground-mounted Private Solar Energy System must be generally neutral in color and substantially non-reflective of light.

08) Abandonment. If a Ground-mounted Private Solar Energy System has been abandoned, the property owner must notify the Township and remove the system within three (3) months after the date of abandonment.

09) If a Ground-mounted Private Solar Energy System fails to comply with this Ordinance, the Township, in addition to any other remedy under this Ordinance, may revoke the zoning permit and site plan approval after giving the applicant notice and an opportunity to be heard. Additionally, the Township may pursue any legal or equitable action to abate a violation and recover any and all costs, including the Township's actual attorney fees and costs.

10) The Zoning Administrator may inspect a Private Solar Energy System for compliance with this ordinance upon providing reasonable notice to the property owner or occupant.

E) Batteries are permitted for private or small-scale solar energy installations for charging and power delivery functions sized corresponding to the residence. The quantity and type of battery(ies) will be included in the site plan details. When batteries are included, they must be placed in a secure building or enclosure meeting the requirements of the State Building Code. When no longer in use, batteries shall be disposed of in accordance with all applicable laws and regulations. Removal of any batteries from an abandoned system shall be done at the owner or operators' expense.

4) Commercial Solar Energy Systems

A) All commercial and large-scale solar energy systems are limited to the Ag-Agriculture, and I-Industrial zoning districts within the Township as a special land use per the requirements and conditions of this Zoning Ordinance. Commercial or Large-scale systems are designed and built to exclusively to provide electricity to the electric utility's power grid and are not accessory to any other use. The commercial Solar Energy System is a principal use of property and may occupy the same property as another principal use.

B) Application Requirements:

01) Written authorization from the local utility company for connection to the utility grid will be provided to the Township acknowledging and approving the connection. All wiring shall comply with applicable Michigan construction and electrical codes. In addition, the applicant shall submit certificates of design compliance obtained by the equipment manufacturer from a certifying organization. Equipment structures shall comply with all applicable township ordinances.

02) Applicant Identification: The application shall include the Applicant(s) name and Owner(s) if different and address(es) in full, as well as a statement that the applicant is the owner involved or is acting on the owners behalf. Each application for a Commercial Solar Energy System shall also be dated to indicate the date the application is submitted to Maple Valley Township

03) Application Fees and Escrows: The applicant shall remit an application fee and an escrow deposit. The amount shall be as specified in the fee schedule adopted by the Board of Trustees in addition to any other escrow accounts required in the Solar Energy portion of the ordinance. All review costs shall be borne by the applicant and deducted from the escrow.

04) An escrow account shall be set up when the applicant applies for a Special Land Use Permit for a Solar Energy System. The monetary amount filed by the applicant with the Township shall be in an amount estimated by the Township Board to cover all costs and expenses associated with the SLUP application review and approval process, which costs can include, but are not limited to, fees of the township attorney, township planner, and township engineer, or those contracted by the Township as well as any reports or studies which the Township anticipates will be required during the review process for the particular application. Such escrow amount shall include regularly established fees.

(a) At any point during the zoning review process, the Township may require that the applicant place additional monies into escrow with the Township should the existing escrow amount filed by the applicant be insufficient in the determination of the Township. If additional funds are required by the Township to be placed in escrow and the applicant refuses to do so the zoning review and approval process shall cease until and unless the applicant makes the required escrow deposit as required in the current Township Escrow and Fee Policy. Any escrow amounts which are in excess of actual costs shall be returned to the applicant. An itemized

billing of all expenses shall be provided to the applicant and Planning Commission upon request.

05) Project description and Rationale: Identify the type, size, rated power output, 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 and possible future expansions. Supporting documentation for addressing the review criteria, standards, and findings supporting the applications are to be provided. The Planning Commission and/or Township Board may require any information reasonably necessary to determine compliance with this ordinance.
06) Property Owner Permission, Easement, Lease, or other Contractual Evidence: Evidence of an agreement between the property owner and system'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 system.
07) A copy of that portion of the applicant's lease with the landowner(s) for the listed parcels granting easements and authority for use shall be provided. This shall be in the form of a copy of documents recorded with the Montcalm County Register of Deeds.
08) Copies of recorded documents must also be provided for any waiver agreements entered into by non-participating landowners.
09) Parcel Identification: All parcels that will be included in the Commercial or large-scale solar Energy System will be included in the application. This includes parcels that will be traversed during any construction, on which transmission or collections lines cross, for driveways and access roads or for which any form of easement agreement is granted to the applicant. An address or the nearest crossroads if no address is available, a parcel identification number, and a legal description for each parcel shall be included. Any subsequent addition to the list of parcels after submission of the application will require a new application submission.
10) Site Plans: Site plans shall specifically identify, at minimum, all items from the following list and shall comply with any other applicable requirements in the Township's Zoning Ordinance for site plans:
    (a) A description of the proposed technology from the system manufacturer shall be provided.
    (b) All lots and parcels in the Commercial or large-scale solar Energy System and locations and size of associated buildings, accessory structures, and overall project area boundaries.
    (c) Location and size of planned utility equipment, transmission lines, solar panels, drainage ways.
    (d) The location, approximate height, and dimensions of all existing structures, existing parcel drainage tile layouts, landscaping, and fencing, on the parcels planned for Solar Energy installation including other parcels within (1/4) one quarter of a mile radius.

(e) Topographical grades and conditions of the planned Solar Energy parcel(s) or lots at time of application.

(f) Documentation of existing vegetation, regulated wetlands, regulated floodplains, regulated and endangered species, and regulated lakes, streams, or ponds.

(g) Required setbacks, location of designated panels and footprint area(s), location of property lines, buildings, and road or other rights-of-way.

(h) Access routes to lots and parcels that are part of the solar system. Proposed road and driveway improvements.

(j) All existing and proposed underground utilities not exclusive to the Commercial or large-scale solar Energy System such as gas lines, phone lines, cable, etc.

(k) Location of any lots or parcels (participating or non-participating) within two thousand (2000) feet of the solar system, location of wetlands, wooded areas, public conservation areas, state game areas, etc., within 5 miles of the Commercial or large-scale solar Energy System.

(l) The location, grades, and dimensions of all temporary and permanent on-site access roads from the nearest county or state-maintained road.

(m) Ingress and egress from the site as proposed during construction and thereafter indicating road surface, width, and length of access route.

(n) All new infrastructure above ground and underground that is part of the Commercial or large-scale solar Energy System or that connects the Commercial or large-scale solar Energy System to the public utility grid.

(o) Proposed signage and location.

(p) Location and orientation of any lighting or batteries used in the project.

(q) (q) Location of any assets including trees to be removed.

1l) Methods for dust and erosion control.

12) All maps and diagrams need to be drawn at an appropriate scale.

13) Analysis of Onsite Traffic: Estimated construction jobs, estimated permanent jobs associated with the development.

14) 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.

15) Wildlife: Review potential impact on wildlife on the site, including compliance with Endangered Species Protection laws and Inland Lakes and Streams regulations.

16) Environmental analysis: Identify impact analysis on the water quality and water supply in the area, and dust from project activities.

17) The applicant shall provide evidence of compliance with applicable State of Michigan statutes for Water Resource Protection, Natural Resources, Environmental Protection Acts, and Soil Erosion and Sedimentation Control.

(a) An approved and permitted soil erosion plan must be submitted. The plan must be approved by the Montcalm County designated Soil Erosion Control Officer.

18) Waste: Identify and quantify solid waste or hazardous waste generated by the project. This includes plans for the spill prevention, clean-up, and disposal of fuels, oils, and hazardous wastes.
19) Water Usage and Storm Water Discharge Permit: The applicant shall detail the methodology planned for cleaning the solar panels, frequency, and listing of any and all detergents, surfactants, chemicals, pesticides and herbicides, estimate of quantity of water or chemical solutions used for each cleaning, and sources of water used to facilitate panel restoration and maintenance. Proof of a stormwater discharge permit from the State of Michigan shall be provided prior to any construction including site preparation.
20) Solar glare: The applicant shall provide a review of reflective angles to ensure unreasonable glare will not impact adjacent properties.
21) Airport Review for Maple Valley Township: any commercial or large-scale Solar Energy System must be reviewed using the current Solar Glare Hazard Analysis Tool (SGHAT) available through Sandia National Laboratories or a commercially available equivalent. The SGHAT will be used to ensure that airports and those that use them will not be affected by unwanted visual or ocular impacts. The process is designed to save costs and increase public safety.
    i The Study shall determine if there are any potential adverse effects on any registered airfield within ten miles of the project. Effects noted, but not exclusively, should include any possible decreased safety and utility.
    ii In addition, all proposed solar systems must obtain a Determination of No Hazard (DNH) from the Federal Aviation Administration (FAA). A DNH does not eliminate the need for the SGHAT study nor does it in any way eliminate the standard for glare on roadways or non-participating parcels.
    iii The DNH must be obtained prior to breaking ground on any portion of the commercial solar system.
    iv No Commercial or large-scale solar Energy System that impacts safety or utility of any registered airfield shall be permitted.
    v A waiver may be obtained from the non-participating property owners in the form of a recorded easement and provided to Township. No waiver shall be allowed for any parcel if the SGHAT shows unwanted effect on any registered airfields that would originate from the waivered parcel. Any waiver must in the form of an easement agreement recorded with the Montcalm County Register of Deeds.
22) Transportation Plan: Provide access plan during construction and operation phases. Plans for dust control on access roads must be provided along with a schedule for maintenance and weed control. The plan shall 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 systems after construction is completed, it is not required to pave or curb solar panel access drives. It will be necessary to pave and curb driveway and parking lots used for occupied offices that are located on site.
23) 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.

24) The applicant shall provide an unredacted safety manual for all components of the project as well as material safety data sheets that include the type and quantity of all materials used in the operation of all equipment.
25) The applicant shall provide a safety manual for distribution to first responders to be kept with the Montcalm County Emergency Manager and the Township Board. This safety manual should include, but not be limited to, what to do if the solar system catches fire, what to do if the site floods, etc.
26) Sound limitations and review: Identify noise levels dBA LMax at the property line of the project boundary when completed.
27) Telecommunications interference: Identify electromagnetic fields and communications interference generated by the project.
28) Utility company involvement: A copy of the application and approval of the power of purchase agreement with the utility company that will be purchasing electricity from the proposed site shall be provided to the Township.
29) Complaint Tracking, Publishing, and Resolution: The solar system applicant shall hire a Township-approved Complaint vendor to submit a detailed, written complaint, web-based resolution process developed by the applicant to resolve complaints from the Township board, property owners, or residents concerning the construction or operation of the Commercial or large-scale solar Energy System. The complaint resolution process must be approved by the Planning Commission as a condition of approval of the special land use permit application.
    i The Complaint Vendor shall report to the Township Board
    ii The applicant shall maintain $30,000/year fund provided to the Township Clerk to support the Complaint vendor to manage a public website that includes time-stamped logging of all complaints. Methods of contact shall include voice, text and email.
    iii The Township shall have management control of complaint website and oversite of hosting company. The applicant shall not be permitted to edit, change or control the site.
    iv The applicant shall log into site and update status of each complaint's resolution with complete logging.
    v A complaint investigation escrow account shall be set up for investigation of complaints, but not limited to, stray voltage, noise, signal interference, or adverse reflected glare. The solar system owner shall maintain the amount of $25,000 in this account to be used at the discretion of the Township Board. This fund must be replenished by the applicant or solar system owner at any point the balance falls below $10,000.
    vi Inclusion of a flow chart showing complaint response protocol including (l) a time limit for acting on and resolving complaints (2) how complaints are recorded and dealt with, and (3) a provision specifying that resolution in some instances shall include rendering the unit inoperable.
30) Analysis and Studies: The results and data from all studies and evaluations required in the Standards Section of the Solar Energy portion of this Zoning Ordinance shall be provided. This includes certifications and attestation showing how the Commercial or large-scale solar Energy System will meet or

exceed all standards and restrictions required by this SLUP or the general ordinance.

31) Insurance: Proof of the applicant's public liability insurance shall be provided at the time of application. If the application is approved, proof of insurance shall be provided to the Township annually thereafter. The policy must provide for bodily injury and property damage and must name Almer Township as an additional insured. The applicant shall insure for liability for the Commercial or large-scale solar Energy System until removed for at least $25,000,000 per occurrence to protect the applicant, Township, and property owner. Proof of a current policy is required annually and must be provided each year to the Township prior to the anniversary date of the SLUP.

32) Decommissioning plan which shall include the following topics, at minimum:
    - i The anticipated life of the project.
    - ii Applicant provided decommissioning cost estimate study excluding salvage value in addition to independent studies by demolition companies that the Township select.
    - iii The method of ensuring that funds will be available for decommissioning and land restoration per the requirements defined in this solar zoning ordinance.
    - iv Provide proof of the financial resources used to accomplish decommissioning upon abandonment or non-operation. The applicant shall include a proof of the financial security active before the permit is approved along with the escrow agent with which the resources will be deposited. Security shall be in the form of a cash deposit. The duration of the security shall be termed to the removal of the solar energy equipment as stated in the ordinance or land leases (easements), whichever is greater. Security shall be pre-paid approved by the Township Board of Trustees and Township attorney.
    - v A detailed plan on how the Commercial or large-scale solar Energy System will be decommissioned, including a detailed policy and process book for the repair, replacement, and removal of malfunctioning, defective, worn, or non-compliant solar energy components.
    - vi Any large-scale solar energy system that are not operated for a continuous period of twelve (12) months shall be considered abandoned and shall be removed under the decommissioning plan.
    - vii An attestation that the applicant will indemnify and hold the Township harmless from any costs or liability arising from the approval, installation, construction, maintenance, use, repair, or removal of the Solar Energy System, which is subject to the Township's review and approval.

33) Any additional information or documentation requested by the Planning Commission, Township Board, or other Township representative.

5) Standards and Requirements.

A) A special use permit for a Commercial Solar Energy System is transferable to a new owner. The new owner must register its name and business address with the Township and must comply with this Ordinance and all approvals and conditions issued by the Township.

B) As of 2019, commercial or large-scale solar energy Systems can be permitted on properties enrolled in the PA 116 Farmland and Open Space Preservations Programs, but the applicant is required to file a change request in land use status with the appropriate State of Michigan office and receive amended approval for locating a Solar Energy System on the property. Documentation must be provided prior to beginning any pre-construction or construction on any portion of the project.

C) Utility-scale and commercial solar energy environmental considerations include land disturbance/land use impacts; potential impacts to specially designated areas; impacts to soil, water and air resources; impacts to vegetation, wildlife, wildlife habitat, and sensitive species; visual, cultural, paleontological, socioeconomic, and environmental justice impacts, and potential impacts from hazardous materials.

D) Shall comply with the Airport Zoning Ordinance and shall not interfere or change any airspace or aircraft existing rules, regulations, or procedures.

E) Site Plan: Except where noted in this Ordinance, it shall be unlawful to construct, erect, install, use or locate a solar energy system unless a special land use permit, final site plan and/or zoning permit have been approved pursuant to this Ordinance.

F) Location: The location of a commercial solar energy system is limited to the Ag, F and I Agriculture, Forestry and I-Industrial zoning districts within the Township by special use permit.

G) Minimum lot size and Coverage: Large photovoltaic solar energy system shall not be constructed on parcels less than forty (40) acres in size. The minimum required may consist of multiple contiguous parcels totaling (40) or more acres.

   01) On property not enrolled in the PA 116 Farmland and Open Space Preservation Program, no more than 50% of the parcel may be part of the project area.

   02) On property enrolled in the PA 116 Farmland and Open Space Preservation Program, in order to preserve the intent of Township initiatives to maintain its agricultural heritage, the maximum lot coverage ratio for commercial or large-scale solar systems, including the solar panel layout, shall be no greater than 5% of the given parcel.

H) No commercial or large-scale solar energy systems may be placed within ½ mile of any Residential District.

I) Height Restrictions: All photovoltaic panels located in a solar farm and any mounts, buildings, accessory structures and related equipment shall be restricted to a maximum installed height of 16 feet when oriented at maximum tilt. Lightning rods may exceed 16 feet in height, but they must be limited to the height necessary to protect the Commercial Solar Energy System from lightning.

J) Setbacks: All photovoltaic solar panels and support structures (excluding perimeter security fencing) shall be a minimum of one hundred and fifty (150) feet from a side or rear property line and a minimum of one hundred and fifty (150) feet from any road, highway right-of-way, or adjacent residential or business district lands at time of permit applications.

K) Solar panels and other structures shall not be located within a hundred (100) feet of a drain easement.

1. Large Solar Energy Systems must use non-erosive drainage materials for the solar panel run off ending in a retention pond or filtration pond.

L) When a commercial solar energy system comprises multiple lots of more than one owner, the internal setback shall not apply only on the joined lot lines.

M) Fencing: A Ground-mounted commercial solar energy system shall be fenced from adjacent properties and roadways inside of the buffer plantings to restrict unauthorized access and must have at least one access gate. A minimum of 6-foot chain link fence with three (3) strands of barbed wire or an 8 foot fence is required around the perimeter of the site plan border for safety, security, and protection from metal and electronic scavengers leading to potential damage to the system and involved people(s). Fencing must be maintained at the expense of the owner of the solar system and meet the requirements of the industry standards in effect at time of installation. Fencing shall be designed to prevent unauthorized access to electrical components. Access gates shall be locked at all times when authorized LSES personnel are not present.

N) Safety/Access: A security fence shall be locked. Lock boxes and keys (may be electronic such as keypad opened. Passcode shall be provided to Township Supervisor and central dispatch) shall be provided at locked entrances for emergency personnel (e.g., police, fire, ambulance) access. Electric fencing is not permitted. A safety plan shall be in place and updated regularly with the local fire department having jurisdiction over the solar system.

O) Sound Pressure Level: No commercial or large photovoltaic solar systems shall emit any form of audible sound energy, frequency, or spectrum exceeding forty (40) dBA LMax as measured at the property line of the project boundary. All sound measurements are instantaneous and shall not be averaged. A sound barrier of a solid decorative masonry wall or evergreen tree berm shall be constructed to attenuate (dampen) noise levels surrounding all electrical inverters. It shall be no more than twenty (20) feet from the equipment, and no less than the height of the inverters but not more than 3 feet above the equipment. Sound analysis or modeling performed by a sound engineer selected by the Township must confirm that the Commercial Solar energy system will not exceed the maximum permitted sound pressure levels. Modeling and analysis can be based on the solar equipment manufacturer data. However, measured data from existing and similar Solar Energy systems shall be submitted with the modeling report.

P) Site Clearing: Clearing of natural vegetation shall be limited to what is necessary for the construction and maintenance of the installation. No land assets such as but not limited to topsoil, sand, gavel, etc. may be removed from the premises without the written approval of the landowner and must be done in accordance with Township Ordinances. A copy of landowner approval for removal of any assets as described must be on file with The Township prior to removal.

Q) A ground cover suitable for growth in the shade must be planted within (4) four months of project completion. The ground cover planted must be one that the USDA has determined will grow in this region.

R) Supplemental large-scale tree removal and deforestation of existing mature forest and natural landforms is not permissible. Site clearing is limited to removal of no more than 5% of existing forestation area (clearly identified on the site plan) and not to exceed a maximum of (1) one acre deforestation that could otherwise be adversely impacted by installation of solar energy equipment.

S) Landscaping: The perimeter of commercial Solar Energy systems shall be screened and buffered by installed evergreen vegetative plantings whenever existing natural vegetation does not obscure the large photovoltaic other solar farm systems from a public street and/or adjacent residential structures, subject to the following requirements:

01) When a utility-scale solar energy system is adjacent to a residentially zoned or used lot, front, side and rear yard screening will be required as determined by the Planning Commission or the Township Board of Trustees to address additional site buffering requirements at the time of site plan review.

02) The design of landscape screening shall use materials, colors, textures, and landscaping that will blend into the natural setting and existing environment without adverse visual impact on the natural features or neighborhood character of the surrounding area.

03) All commercial or utility-scale solar energy systems shall have a minimum landscape buffer width (depth, set-back) of (45') forty-five feet on all (4) four sides. The buffer shall consist of evergreens (trees, brush or native vegetative plantings equivalent to Blue Spruce or Austrian Pine).

04) The evergeen plantings shall be comprised of 3 rows:

(a) Row #1 and #2 aligned
(b) Row #3 50% offset spacing to row #2
(c) Trees shall be 8' tall for 12' tall solar panels
(d) Trees shall be 6' tall for 10' tall solar panels
(e) Each row requires trees to be on 14' centers
(f) Each row is 14' apart
(g) A 45' greenbelt width sample spacing: first row at 6', next at 20', next at 34'

05) All unhealthy (over 50 percent dead of plant or tree) and dead material shall be replaced in accordance with this ordinance by the applicant within (6) months, or within the next appropriate planting period, whichever occurs first.

06) Failure to continually comply with the required vegetative requirements shall constitute a violation of this Ordinance and all Special Land Use Permits shall be revoked unless unavoidable issues as determined by the Board are present.

T) Signage: No advertising or non-project related graphics shall be on any part of the solar arrays or other components of the large photovoltaic solar energy systems. 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.

01) An information sign shall be posted and maintained at the entrances(s) while lists the name and phone number of the operator and emergency contact information.

02) Signs warning of the high voltage associated with the solar energy system shall be posted at every entrance and at pad-mounted transformers and substations bases.

U) Electrical Cables: All electrical interconnection and/or distribution lines shall comply with all applicable codes and standard commercial large-scale utility requirements. Use of above ground transmission lines shall be prohibited within the site, with underground lines placed at a depth of six (6) feet or deeper.

V) Battery Usage and Storage: No commercial grid storage batteries or capacitor banks storing or returning supplemental power to the grid shall be permitted. Use of Batteries in commercial applications will only be permitted as emergency backup for safety lighting and related computer infrastructures.

W) Lighting Provisions: Lighting of the Commercial or large-scale solar Energy System shall be limited to the minimum necessary for safe operation, supplied with down lighting, and in no case shall any illumination from such lighting extend beyond the perimeter of the Commercial Solar Energy System. The Township may require use of a photometric study to make this determination.

X) Stray Voltage Assessments: No stray voltage originating from Commercial or large-scale solar Energy System may be detected on any participating or non-participating parcels. A preconstruction stray voltage test shall be conducted on all Michigan Department of Agriculture & Rural Development (MDARD) registered livestock facilities located within a one-mile radius of the Solar Energy System parcels. The tests shall be performed by an investigator approved by the Township. A report of the tests shall be provided to the owners of all property included in the study area. The applicant shall seek written permission from the property owners prior to conducting testing on such owners' property. Applicant shall not be required to perform testing on property where the owners have refused to grant permission to conduct the testing. The owner of any participating parcel(s) included in the list of project parcels, may not refuse the stray voltage testing if they have a MDARD registered livestock facility on the parcel or a portion of the parcel.

Y) Visual Appearance and Maintenance: Commercial or large-scale solar Energy System buildings and accessory structures shall utilize materials, textures, and neutral colors that will blend into the existing environment. In addition, prior to the start of construction, any existing drain tile must be inspection by robotic camera and the imagery submitted to the township for baseline documentation on tile condition. Any damage shall be repaired, and a report submitted to the landowner and township. While the system is in operation, the drain tiles are to be re-inspected every 3 years for any damage and repaired within 60 days of discovery. The Township reserves the right to have the Building Inspector or other agent present at the time of repair. Solar panel support structures and/or foundations shall be constructed to preserve any drainage field tile or system.

Z) Local, State, and Federal Permits: Commercial or large-scale solar Energy Systems shall be required to obtain all necessary permits from the U.S. Government, State of Michigan, Montcalm County, and Maple Valley Township, and comply with standards of the State of Michigan adopted codes. In addition, if the lot on which the project is proposed is to be leased by the owner of the system, rather than the land owner, 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. Acceptance by all land owners adjacent or part of the project must be in place prior to commencing construction.

6) Abandonment and Decommissioning

A) Following the operational life of the solar project, or following abandonment/nonoperation for a period of 1 year, the applicant shall perform

decommissioning and removal of all equipment and components associated with the commercial or large-scale solar systems:

01) Land shall be returned to the state and function it was in prior to the solar installation. Applicant must provide agronomy data to substantiate health and function of land.
02) All underground components, foundations, and ancillary equipment must also be removed unless written permission is obtained by the landowner to retain those underground components that are 48 inches or more below grade. In no way shall this be construed to allow decommissioned solar panels to remain.
03) All fencing must be removed after decommissioning.
04) All access roads or driveways shall be removed, cleared, and graded by the applicant, unless the property owner(s) request, in writing, desires to maintain any access road or driveways.
05) All structures, concrete, piping, facilities, and other project related materials above grade and below-grade shall be removed offsite for disposal. The Township or County will not be assumed to take ownership of any access road or driveways.
06) The ground must be restored to its original topography, vitality, and health within 180 days of Township notice of abandonment or decommissioning.

B) The decommissioning plan shall also include an agreement between the applicant and the Township that:

01) Prior to the issuance of the permit, the applicant shall furnish to the Township a Professional Engineer's estimate of decommissioning costs from 3 non-applicant related independent sources along with a detailed process plan. A performance guarantee in an amount equal to or greater than one hundred fifty percent (150%) of the estimated average cost of decommissioning shall be approved by the Township. The Township Board reserves the right to adjust the required performance guarantee every two (2) years at the rate of 1.5 times CPI (consumer price index) for each year and the applicant must fund appropriate escrow accounts.
    (a) The security bond, escrow, or irrevocable letter of credit shall provide coverage (pre-paid) for the entire project lifespan, be issued by a 3 rd party, and paid by the operator by deposit or filed with the Township after a SLUP has been approved but before construction commences on the Solar Energy installation. Land leases, easements or similar shall be used to estimate the project lifespan. The guarantee shall be posted and maintained with a company licensed to do business in the State of Michigan or a Federal-State chartered lending institution acceptable to the Township.
    (b) Any bonding agency or lending institution shall provide the Township with 180 days notice of the expiration of the security bond or escrow. Lapse of a valid security bond or escrow account shall immediately revoke all system permits issued by the Townships and applicant shall cease operation immediately. The Township shall take any action permitted by law against assets of system or parent company with applicant liable for all attorney fees.
    (c) In the event of a sale or transfer of ownership and/or operation of the solar system, the original security bond or escrow shall be maintained throughout the entirety of the process and shall not be altered.

02) The Township shall have access to the escrow account funds for the expressed purpose of completing decommissioning if decommissioning is not completed by the applicant within three hundred sixty-five (365) days of the end of the project life or system abandonment.
03) Township official(s) or designated representative is granted the right of entry onto the site, pursuant to reasonable notice, to effect or complete decommissioning.
04) In the event the current Commercial or large-scale solar Energy System owner/operator defaults on any or all of the requirements or other parts of this solar ordinance, the property owner upon which any Solar energy equipment is located shall be responsible and liable for the removal of said equipment. Failure of the property owner's compliance to the removal/decommissioning guidelines would result in the Township having the equipment removed at the expense of the property owner. If funding is not available to cover the costs of removal by the property owner, legal action to pursue the seizure of property(s) will take place to cover such costs.
05) The property owner may waive the complete removal of the access road if the property owner executes a waiver and records the same in full with the Montcalm County Register of Deeds
06) The Township is granted the right to seek injunctive relief to effect or complete decommissioning, as well as the Township's right to seek reimbursement from applicant or applicant successor for decommissioning costs in excess of the amount deposited in escrow and to file a lien against any real property 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. Financial provisions shall not exceed reasonable anticipated decommissioning costs.

7) Inspections
A) The Township shall have the right at any reasonable time, to provide 24-hour notice to the applicant to inspect the premises on which any photovoltaic solar energy system is located. The Township may hire one or more consultants, with approval from the applicant (which shall not be unreasonably withheld), to assist with inspections at the applicant's or project owner's expense. Inspections must be coordinated with, and escorted by, the applicant's operations staff at the photovoltaic solar energy system to ensure compliance with the Occupational Safety and Health administration {OSHA}, NESC and all other applicable safety guidelines.
B) Applicant shall provide upon request of Township or Township residents system control data logs based on hourly summary increments. Data elements shall include, but not limited to, input/output volts, amperage, frequency, time-stamp, source, subsystems, location. Applicant shall have no more than 30 days to provide data. Township or residents may request additional data elements.

8) Maintenance and Repair
A) Each Commercial or large-scale solar Energy System must be kept and maintained in good repair and condition at all times. If the Township Board or Zoning Administrator determines that a photovoltaic solar energy system fails to meet the requirements of this ordinance and the Special Land Use Permit, the zoning Administrator or Planning

Commission or Supervisor, shall provide notice to the applicant of the non-compliance and Applicant has 30 days to resolve. If the non-compliance is a safety hazard as determined by the Zoning Administrator or Township Board, Applicant has 7 days to resolve. If Applicant has not remedied non-compliance issues in the aforementioned time periods, the Applicant shall immediately shut down the Commercial or large-scale solar Energy System and not operate, start or restart the Commercial or large-scale solar Energy System until the issues have been resolved. Applicant shall keep a maintenance log on the solar array(s), which shall be available for the Township's review within 48 hours of such request. Applicant shall keep all sites within the large Commercial or large-scale solar Energy System system neat, clean, and free of refuse, waste, or unsightly, hazardous, or unsanitary conditions.

9) Roads
   A) Any material damages to a public road located within the Township resulting from the construction, maintenance, or operation of a Large Solar Energy System shall be repaired at the applicant's expense. In addition, the applicant shall submit to the appropriate State or Montcalm County Road Commission a description of the routes to be used by construction and delivery vehicles; and road improvements that will be necessary to accommodate construction vehicles, equipment, or other deliveries. The applicant shall abide by all State or County requirements regarding the use and/or repair of the roads.

10) Compliance with Additional Codes, Regulations, and Certifications
   A) Large Solar Energy System and the installation and use thereof, shall comply with the State construction code, the electrical code, and other applicable Local, County, State, and Federal codes.
   B) No breaking ground, construction, or installation, for a Commercial or large-scale solar Energy System may commence until all necessary permits have been issued for the entire project.
   C) Certification will be provided that the applicant has complied or will comply with all applicable state and federal laws and regulations.
   D) A list of all planned and anticipated local, state, federal permits, required authorizations, or approvals related to the project must be provided to The Township at time of application submittal. The applicant shall continue to submit copies of all such permits and approvals that have been obtained or applied for as they are received by the applicant.
   E) The applicant will provide certification that the system complies with or will comply with guidelines and regulations for setbacks as required by any and all registered airports, airfields or landing strips, public or private, within the township and as required for any public airport in the State of Michigan as established by MDOT and the FAA and complying with the Michigan Tall Structures Act (Public Act 259 of 1959).

11) Remedies
   A) If an applicant or operator fails to comply with this Ordinance, the Township, in addition to any other remedy under this Ordinance, may immediately revoke the

special land use permit (SLUP) and site plan approval if after giving the applicant or operator reasonable notice and an opportunity to be heard. If applicant can't provide a compliance solution with 45 days, applicant shall immediately move the SES offline until compliance proof is provided. The Township may require reinitiating SLUP application process if compliance issue affects or requires different systems that may affect performance or previous permitting terms. Additionally (or in the alternative), the Township may pursue legal or equitable action to abate a violation and recover any and all costs, including the Township's actual attorney fees and costs.

Section 3. Amendment of sections 408 and 412:
Sections 408 and 412 of the Township's Zoning Ordinance are hereby amended to add "Commercial Solar Energy Systems" as a special land use in the Agricultural and Industrial zoning districts.

Section 4. Validity and Severability.
If any portion of this Ordinance is found invalid for any reason, such holding will not affect the validity of the remaining portions of this Ordinance.

Section 5. Repealer.
All other ordinances inconsistent with the provisions of this Ordinance are hereby repealed to the extent necessary to give this Ordinance full force and effect.

Section 6. Effective Date.
This Ordinance takes effect seven (7) days after publication as provided by law.

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