SOLAR ORDINANCE
FOR THE
TOWN OF WARREN, MAINE

ENACTED: June 20, 2023

CERTIFIED BY: Corinne E.R. Michaud

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Town Clerk

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Solar Ordinance

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TOWN OF WARREN

Section 1. Purpose and Intent

A. The Town of Warren (Knox County) finds that it is in the public interest to encourage the use and development of solar energy systems (SES) as a clean, renewable energy source. The purpose of this ordinance is to facilitate the effective and efficient use of SESs while protecting the health, safety and welfare of Warren citizens, with the intent to maintain the natural systems of the site. The appropriate siting of a SES considers and mitigates any adverse impacts to wildlife, prime agricultural land, soils of statewide importance, forests, endangered species habitat, and historic, natural, and other sensitive lands. This ordinance establishes the appropriate siting of SESs and also establishes standards and requirements to assure that the use and enjoyment of lands located adjacent to and in the proximity of a SES are fully protected.

B. The combined impacted acreage of all SESs within the Town of Warren will not exceed 3.5% of the Town's total acreage. Rooftop and small-scale SESs, as well as any SES owned or leased by the Town of Warren, are excluded from this calculation.

C. This ordinance will be reviewed every two (2) years from the date of acceptance by the Planning Board or designee.

Section 2. Applicability

A. The installation of any SES, expansion of any existing SES, or installation of any associated facilities shall be approved under this section and obtain site plan approval as required by town ordinance, a building permit, and any other necessary town, state and/or federal approvals prior to its installation.

B. Any physical modification to an existing and permitted SES that alters the facility size, type, or location of the system or its associated equipment shall require approval and a building permit under this section. Like-kind replacements or nonstructural maintenance and repair shall not require approval under this section.

Section 3. Submission requirements.

A. In addition to the site plan submission requirements identified in the Land Use Ordinance, the following plans and supporting materials, if applicable, shall be submitted.

B. An operations, maintenance, and decommissioning plan, providing;

1. Descriptions of the regular operation and maintenance of the facility, including the frequency and scope of regular inspections and the frequency and method of vegetation management.

2. The timeline and process of decommissions of the systems.
3. An engineer's estimate for the cost of decommissioning of the system.

C. Solar system specifications, including manufacturer, model, and facility size.

D. Certification that layout, design, and installation conform to and comply with all applicable industry standards, such as the National Electrical Code (NEC/NFPA-70), the American National Standards Institute (ANSI), the Underwriters Laboratories (UL), The American Society for Testing and Materials (ASTM), the Institute of Electric and Electronic Engineers IEEE), the Solar Rating and Certification Corporation (SRCC), the Electrical Testing Laboratory (ETL), and other similar certifying organization, the Maine Uniform Building and Energy Code (MUBEC), fire and life-safety codes (NRPA 1 and NFPA 101), and any other standards applicable to SESs.

E. Certification that the project complies with the utility notification requirements contained in Maine law and accompanying regulations through the Maine Public Utility Commission, unless the applicant intends, and so states on the application, that the system will not be connected to the electricity grid.

F. An emergency action plan approved by the Warren Fire Chief, or designee.

G. Any substantive change to an existing SES project will require review and approval by the Planning Board.

Section 4. Dimensional Standards.

A. **Height** – A Ground mounted SES shall not exceed the height limitations of 18 ft.

B. **Setbacks** – A SES shall be subject to the setbacks of 20 ft. on side and rear lines and 30 ft. from road edge.

C. **Open space ratio and impervious calculations** – SESs shall not be included in calculations for open space or impervious cover.

Section 5 Siting and Performance Standards.

A. Siting and impact.

1. Solar panels are designed to absorb (not reflect) sunlight; and, as such, solar panels are generally less reflective than other varnished or glass exterior housing pieces. However, a SES should be sited to minimize or negate any solar glare onto nearby properties or roadways, without unduly affecting the functionality or efficiency of the SES.
2. The applicant shall incorporate methods to eliminate or minimize the visual impact of the SES such as earthen berms, vegetation, and fencing/screening or reducing the height of facility components. The retention of existing natural

growth is encouraged. The applicant shall indicate any existing vegetation the applicant plans to remove or alter. The required visual buffer will be determined on a case-by-case and site-specific basis at the sole discretion of the Planning Board.

3. It is strongly recommended that proposals not select locations that would result in significant loss of land and natural resources such as farm or forest land. Preference should be given to locating the system on previously developed, degraded, or marginally productive portions of the property. No topsoil or prime agricultural soil shall be removed from the site for the installation of the system, except as necessary to comply with this section or other applicable laws. The appropriate siting of a SES considers and mitigates any adverse impacts to wildlife, prime agricultural land, soils of statewide importance, forests, endangered species habitat, and historic, natural, and other sensitive lands. The appropriate siting of a SES also establishes standards and requirements to assure that the use and enjoyment of lands located adjacent to and in the proximity of the SES are fully protected.
4. Preference is that rooftop siting(s) and locations in industrial or commercial districts be used. As an alternative vacant, previously disturbed land should be considered. For agricultural facilities rooftops are preferable. In the event an agricultural facility does not have adequate roof space, nonproductive, nonarable land should be selected.
5. Placement of SES facilities in front yards will not be permitted without specific approval of the Planning Board.
6. SESs are prohibited on any body of water within the Town of Warren.
7. No SES project shall be built within an area designated as Resource Protection. Shoreland Zoning requirements shall apply to any SES project.

B. Design

1. Reasonable efforts, as determined by the approval authority, shall be made to place all electrical equipment underground, depending on appropriate soil conditions, shape and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.
2. Site lighting shall be limited to that required for safety and operational purposes, and shall meet the performance standards for the same in the Site Plan Ordinance.
3. Signage and advertising shall be limited to that which provides identification and contact information of the owner and/or operator or which provides safety or warning messages to the public. All signage must adhere to the current Sign Ordinance.

4. Fencing of any ground mounted SES is required per State law. Fencing shall be elevated a minimum of six (6) inches to allow for the passage of small terrestrial animals and may consist of agriculture and game fencing. Fencing is not considered part of the installation but must be installed within eighteen (18) months of initial activation of the array.
5. Any SES shall maintain a clear area of ten (10) feet around the perimeter.
6. Location of any underground electrical lines associated with the SES (i.e.: electrical cables, wires..) shall be identified and documented with the Town as part of the application process.

C. Vegetation Management Plan

1. Operators shall submit a vegetation management plan approved by the Warren Fire Chief or CEO. The plan must indicate that vegetation growth will be maintained under and around the installation at levels to provide for safe operation. Native, pollinator-friendly seed mixtures shall be used. Herbicide and pesticide application is prohibited. Roof top panel systems are exempt from having a vegetation management plan.
2. For all projects above one (1) acre (medium-scale, large-scale, and utility-scale), that will result in any clearing of trees or that impact forest land, a forestry-replacement plan (with necessary funding provided by developer) will be developed with the Town Forester, or a Maine Licensed Forester designated by the Warren Board of Selectmen, to fund replacement trees and/or other programs and projects within the Town of Warren.

D. Rooftop Solar Energy Systems

1. **Solar Access** - A property owner may obtain a solar easement from another property owner for the purpose of ensuring adequate exposure to sunlight for an integrated or rooftop SES. Such easement shall be recorded in the Knox County Registry of Deeds with a legally sufficient instrument.
2. **Tree Removal** - The removal of trees or natural vegetation for an integrated or rooftop SES shall be limited to the extent practicable and shall comply with all the requirements of the Warren zoning code regarding tree removal, and any applicable state or federal requirements.
3. **Height Restrictions** - A rooftop SES shall conform to any height restrictions for roof-mounted mechanical devices or equipment for the applicable zoning district. A rooftop SES shall be positioned on the roof so as not to extend above or beyond the edge of any ridge, hip, valley, or eave, provided that where it is mounted on a sloped roof, the SES shall not vertically exceed the highest point of the roof to which it is attached by more than five (5) feet, and not exceed the town's building height restriction.

4. **Lighting**. Any integrated or rooftop SES shall not be illuminated and shall be designed and installed to prevent off-site glare.

5. **Historic Preservation** - Where an integrated or rooftop SES is proposed to be installed on a property located within an historic district or which is listed on or eligible for listing on the National Register of Historic Places, the proposed installation shall be coordinated with any review required by the zoning ordinance for exterior renovations or additions to such Structures.

   Location of any underground electrical lines associated with rooftop arrays (i.e.: electrical cables, wires..) shall be identified and documented with the town as part of the application process.

E. Natural Resources Mitigation Fee.

1. A SES located within the Town of Warren is subject to a Natural Resource Mitigation Fee. The intent of this fee is to offset impacts of the SES on identified farm soils. Developers shall pay a mitigation fee of 50% of the average value per acre of disturbed area or facility size (whichever is greater) when choosing to build on farm soils identified by the State of Maine as Soils of Statewide Importance. Such funds shall be deposited into a Town account for the purposes of natural resource conservation.

F. Abandonment, Decommissioning, and Surety.

1. **Removal requirements.** Any SES which has reached the end of its useful life or has been abandoned consistent with this section shall be removed. Any SES that performs at less than 15% efficiency shall be deemed to have reached the end of its useful life and shall be discontinued. The owner or operator shall physically remove the installation no more than 364 days after the date of discontinued operations. The owner or operator shall notify the approval authority by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

   a. Physical removal of all solar energy systems, structures, equipment, security barriers and transmission lines from the site;

   b. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations;

   c. Stabilization of the site to minimize erosion. The approval authority may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to extant vegetation.

2. **Abandonment** - Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the SES shall be considered abandoned when it fails to operate for more than one year without the written consent of the approval authority. If the owner or operator of the SES fails to remove the

installation in accordance with the requirements of this section within 364 days of abandonment or the proposed date of decommissioning, the Town retains the right to enter and remove an abandoned, hazardous, or decommissioned SES. As a condition of site plan approval, the applicant and landowner shall agree to allow entry to remove an abandoned or decommissioned installation.

3. **Surety Bonds** - Medium-scale, Large-scale, and Utility-scale projects will be required to establish a bond for decommissioning costs. Small-scale projects are exempt. Proof of financial assurance shall be held by the Town of Warren.

    a. The applicant will provide financial assurance for the decommissioning costs, in the form of a performance bond or surety bond for the total cost of decommissioning. The financial assurance mechanism shall be effective prior to the commencement of construction.

    b. The value of the surety shall be based on a professional engineer's estimate submitted by the applicant and approved by the Planning Board. The Town may hire, at the applicant's expense, a qualified professional to review the engineer's estimate.

    c. Every five years, subsequent to the initial effective date of the surety, the owner shall submit an updated engineer's estimate and surety to the Planning Office for review and approval. The Town may hire, at the applicant's expense, a qualified professional to review the engineer's estimate.

Definitions:

SOLAR ENERGY SYSTEM (GROUND-MOUNTED)

A solar energy system converts solar energy to electric or thermal energy. Solar energy systems are further categorized into four types based on the size of the facility. Size is measured by calculating the square footage of all impacted acreage.

SMALL-SCALE ENERGY CONVERSION SYSTEM

A system with a facility size less than 1 acre (43,560 sq. ft.)

MEDIUM-SCALE ENERGY CONVERSION SYSTEM

A system with a facility size greater than or equal to 1 acre (43,560 sq. ft.), but less than 10 acres (435,600 sq. ft.)

LARGE-SCALE ENERGY CONVERSION SYSTEM

A system with a facility size greater than or equal to 10 acres (435,600 sq. ft.), but less than 20 acres (871,000 sq. ft.)

UTILITY-SCALE ENERGY CONVERSION SYSTEM

A system with a facility size greater than or equal to 20 acres (871,000 sq. ft.)

PRIME AGRICULTURAL SOILS

Agricultural land with soils designated as prime or of statewide significance by the U.S. Natural Resources Soil Services soil surveys.