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TOWN OF ASHBURNHAM
TOWN CLERK
Town Hall, 32 Main Street
Ashburnham, Massachusetts 01430

Animal Control
Board of Health
Building Commission
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Council on Aging
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Planning Board
Zoning Board of Appeals

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Submission #3-Final Version of By-Law-Article 18

Annual Town Meeting-May 6, 2014

5.21 LARGE-SCALE GROUND-MOUNTED PHOTOVOLTAIC INSTALLATIONS

5.21.1 Purpose

The purpose of this subsection of the Zoning Bylaw is to establish appropriate criteria and standards for the placement, design, construction, operation, monitoring, modification and removal of new large-scale ground-mounted solar photovoltaic installations that address public safety, minimize impacts on scenic, natural and historic resources and to provide adequate financial assurance for the eventual decommissioning of such installations.

5.21.2 Applicability

The provisions set forth in this section shall apply to the construction, operation, and/or repair of large-scale ground-mounted solar photovoltaic installations.

This section applies to large-scale ground-mounted solar photovoltaic installations proposed to be constructed after the effective date of this section. This section also pertains to physical modifications that materially alter the type, configuration, or size of existing installations or related equipment.

5.21.2.A Definitions

Large-Scale Ground-Mounted Solar Photovoltaic Installation: A solar photovoltaic system that is structurally mounted on the ground and including related buildings and structures and equipment not roof-mounted, and has a minimum nameplate capacity of 250kWDC.

Rated Nameplate Capacity: The maximum rated output of electric power production of the Photovoltaic system in Direct Current (DC).

5.21.3 Location

A Large-Scale Ground Mounted Photovoltaic Installation Overlay District is hereby established over all zoning districts in the town of Ashburnham. Large-Scale Ground Mounted Photovoltaic Installations shall be allowed as of right with Site Plan Review in accordance with this section and section 5.10 of this bylaw in the Large-Scale Ground Mounted Photovoltaic Installation Overlay District on all parcels of land under single ownership or control

5.21.4 General Requirements for all Large-Scale Ground-Mounted Photovoltaic Installations

The following requirements are common to all large-scale ground-mounted solar photovoltaic installations.

5.21.4.1 Compliance with Laws, Bylaws and Regulations

The construction and operation of all large scale solar photovoltaic installations shall meet all applicable local, state and federal requirements, including but not limited to all applicable safety, construction, electrical, and communications requirements. All buildings and fixtures forming part of a solar photovoltaic installation shall be constructed in accordance with the State Building Code, and further comply with all other provisions of the Ashburnham Zoning bylaws.

5.21.4.2 Utility Notification

No large-scale ground-mounted solar photovoltaic installation shall be constructed until evidence has been given to the Planning Board that Ashburnham Municipal Light Plant (AMLPL) has been informed of the solar photovoltaic installation owner or operator's intent to install an interconnected customer-owned generator. All proponents should inform themselves of AMLPL's Distributed Generation Interconnection Study to the extent applicable.

5.21.4.2 Building Permit and Building Inspection

No large scale solar photovoltaic installation shall be constructed, installed or modified as provided in this section without first obtaining a building permit.

5.21.4.3 Fees

An application fee for site plan review is required. (See the Planning Board Fee Schedule for the amount required.)

In addition, a Review Fee may be required by the Planning Board which sum shall be based upon an estimate provided by the peer review engineer appointed by the Planning Board to review the project. The Review Fee shall be paid to the town and deposited into a 53G Account prior to commencement of the hearing. Sufficient funds to compensate the town's

engineer shall remain in the account until final payment is made at the end of the process.

5.21.5 Site Plan Review

The proponent is required to provide the Planning Board with the following Application Requirements and must obtain site plan approval from the planning board prior to construction, installation or modification as provided in this section. No large scale solar photovoltaic installation shall be added to, modified or changed without site plan approval from the Planning Board, and without first obtaining a building permit as may be required for such addition, modification or change.

5.21.5.1 Application Requirements

All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts except to the extent that the applicant is exempt pursuant to G.L. c. 112, §81R, and/or a Registered Land Surveyor, as the case may be.

1. A site plan showing:
 - (a) Existing conditions on the site including property lines and physical features including existing grades, vegetation, roads, buildings, and other significant features.
 - (b) Proposed changes to the site, including landscape, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures; a landscape plan (in plan view) identifying plant material to be used to screen all appurtenant structures and identifying plant material or fencing to be used to satisfy the requirement for a buffer between installation and property edge as per Section 5.21.8.3, and structures.
 - (c) Schematic or blueprints of the solar photovoltaic installation signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts, except to the extent that the applicant is exempt pursuant to G.L. c. 112, §81R, showing the proposed layout of the structures and any potential shading from nearby structures.
 - (d) Schematic or outline electrical diagram showing proposed solar panels and associated components, and electrical interconnection methods, with all Massachusetts Electric Code compliant disconnects and overcurrent devices.
 - (e) Documentation of the major system components to be used, including the photovoltaic panels, mounting system, and inverter.
 - (f) Name, address, and contact information for proposed system installer.
 - (g) Name, address, phone number and signature of the project proponent, as well as all co-proponents or property owners, if any.

- (h) Name, contact information and signature of any agents representing the project proponent, if any.
2. Documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed solar photovoltaic installation.
3. An operation and maintenance plan, which shall include measures for maintaining safe access to the installation, storm water controls, and general procedures for operational maintenance of the installation.
4. Proof of liability insurance in an amount sufficient to cover loss or damage to persons and structures occasioned by the failure of the facility.
5. Payment of financial surety that satisfies Section 5.21.11.3
6. Other reasonable documentation requested by the Planning Board.

5.21.6 Design Standards

5.21.6.1 Dimensional and Density Requirements

Setbacks

For large scale ground-mounted solar photovoltaic installations, front, side and rear setbacks and Lot Coverage shall be as follows:

- (1) Front yard. The front yard depth shall be at least 40 feet; provided, however, that where the lot abuts the front yard shall not be less than 50 feet.
- (2) Side yard. Each side yard shall have a depth at least 25 feet; provided, however, that where the lot abuts the side yard shall not be less than 50 feet.
- (3) Rear yard. The rear yard depth shall be at least 25 feet; provided, however, that where the lot abuts a the rear ear yard shall not be less than 50 feet.
- (4) Lot coverage. For purposes of determining compliance with lot coverage standards of the underlying zone (See Schedule of Dimensional Regulations), the total surface area of all ground-mounted and freestanding solar collectors including solar photovoltaic cells, panels, and arrays, shall be considered impervious and as structures. The horizontal area projected on the ground surface of a ground mounted system, regardless of the mounted angle, the areas of buildings and accessory structures, and other impervious surfaces shall be calculated as part of the overall lot coverage.
- (5) When a proposed large-scale ground-mounted solar photovoltaic installation does not abut a residential zoning district or use, the Planning Board may waive the above dimensional requirements for front, side and rear yard setbacks as provided in subsection 5.21.10 (Waivers). In no case, however, shall the front, side or rear yard setback be less than 10 feet.

5.21.6.2 Lighting

Lighting of solar photovoltaic installations shall be consistent with local, state and federal law. Lighting of other parts of the installation, such as appurtenant structures, shall be limited to that required for safety and operational purposes, and shall be reasonably shielded from abutting properties. Lighting of the solar photovoltaic installation shall be directed downward and inward and shall incorporate full cut off fixtures to reduce light pollution.

5.21.6.3 Signage

Solar photovoltaic installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer. Signage identifying the owner and/or operator of the solar installation and a 24-hour emergency contact telephone number shall be provided at all points of access. In all other respects, any signs shall comply with the applicable requirements of the underlying zoning district.

5.21.6.4 Utility Connections

Reasonable efforts, as determined by the Planning Board, shall be made to place all utility connections from the solar photovoltaic installation 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.

5.21.6.5 Appurtenant Structures

All appurtenant structures to large-scale ground-mounted solar photovoltaic arrays shall conform to the setback requirements of the zoning district in which the installation is located. All such appurtenant structures, including but not limited to, equipment shelters, storage facilities, transformers, and substations, shall be architecturally compatible with each other. Whenever reasonable, structures should be shaded from view by vegetation and/or joined or clustered to avoid adverse visual impacts.

5.21.7 Safety and Environmental Standards

5.21.7.1 Emergency Services

The large scale solar photovoltaic installation owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the local Fire Chief and AMLP. Upon request the owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked. The owner or operator shall provide the name, phone number, and email of the person responsible for public inquiries throughout the life of the installation.

5.21.7.2 Land Clearing, Soil Erosion and Habitat Impacts

Clearing of natural vegetation shall be limited to what is necessary for the construction, operation and maintenance of the large scale ground-mounted solar photovoltaic installation or otherwise prescribed by applicable laws, regulations, and bylaws.

5.21.7.3 Landscaped Buffer Strip

A landscaped buffer strip is intended to provide in a reasonable time a visual barrier between the Large scale ground-mounted solar photovoltaic installation and adjacent parcels. Except for vehicular and pedestrian passways, the areas shall be used only for an interplanting of deciduous and evergreen trees and shrubs, with lawn or other suitable and appropriate ground cover. The buffer must provide coverage of three feet in height from the proposed grade to the top of the majority of the planting material at time of installation. Reasonable leeway may be provided by the Planning Board to allow for expected growth of the buffer strip over time. The buffer strip shall occupy at least 20% of the depth between the property line and the mandated setback of the zoning district where the installation is located. Where considered appropriate in the judgment of the Planning Board, walls and fences may be used in addition to in lieu of plantings. A planting plan showing the types, sizes and locations of material to be used shall be subject to the approval of the Planning Board. The Planning Board may waive the requirements of the visual barrier where it deems it advisable.

5.21.8 Monitoring and Maintenance

5.21.8.1 Installation Conditions

The large scale ground-mounted solar photovoltaic installation owner or operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Fire Chief, AMLP and Emergency Medical Services. The owner or operator shall be responsible for the cost of maintaining the solar photovoltaic installation and any access road(s), unless accepted as a public way.

5.21.8.2 Modification Conditions/Change in Ownership or Operator

Any material modifications to a solar photovoltaic installation made after issuance of the required building permit shall require approval by the Planning Board, and AMLP as the case may be.

If the owner and/or operator of a large-scale ground-mounted solar photovoltaic installation changes, written notice shall be given to the Planning Board and AMLP within 30 days of such change, and such notice shall include the contact information for the new owner/operator and the effective date of the change.

5.21.9 Waivers

1. The Planning Board may waive strict compliance with any requirement of the Design Standards, Safety and Environmental Standards section of this bylaw, or any rules and regulations promulgated hereunder, where:
 - (a) Such action is allowed by federal, state and local statues and/or regulations;
 - (b) It is in the public interest;
 - (c) It is not inconsistent with the purpose and intent of this by-law.
2. Any applicant may submit a written request to be granted such a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of the by-laws does not further the purposes or objectives of this by-law.
3. All waiver requests shall be discussed and voted on by the Planning Board.
4. If the Planning Board deems additional time or information is required in the review of a waiver request, the Planning Board may continue the request for a waiver until such time as the Planning Board deems it is ready to vote on said request.

5.21.10 Abandonment or Decommissioning

5.21.10.1 Removal Requirements

Any large scale ground mounted solar photovoltaic installation which has reached the end of its useful life or has been abandoned shall be removed. The owner or operator shall physically remove the installation no more than one hundred and fifty (150) days after the date of discontinued operations. The owner or operator shall notify the Planning Board by certified mail of the proposed date of discontinued operations and plans for removal. Decommissioning shall consist of:

- (a) Physical removal of all large scale ground solar photovoltaic installations, arrays, structures, equipment, security barriers and above ground transmission lines from the site, if any.
- (b) Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
- (c) Stabilization or re-vegetation of the site as necessary to minimize erosion. The Planning Board may allow the owner or operator to leave landscaping or designated below grade foundations in order to minimize erosion and disruption to vegetation.

5.21.10.2 Abandonment

Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the solar photovoltaic installation shall be considered abandoned when it fails to operate for more than one year

without the written consent of the Planning Board. The AMLP shall have the right of first refusal as to whether it will choose to assume responsibility for the abandoned solar operation. If the AMLP chooses to forgo such responsibility and assume the operation, and the owner or operator of the large- scale ground-mounted solar photovoltaic installation fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the town may enter the property and physically remove the installation.

5.21.11.3 Financial Surety

The Planning Board shall require the applicant for a large-scale ground-mounted solar photovoltaic installation to provide a form of surety, either through the Planning Board or AMLP before construction to cover the estimated cost of removal as set forth herein. If setting up a surety with the Planning Board, the form of surety must be either through escrow account, bond or otherwise, to cover the cost of removal in the event the town must remove the installation and remediate the landscape, in an amount and form determined to be reasonable by the Planning Board, but in no event to exceed more than 125 percent of the cost of removal and compliance with the additional requirements set forth herein, as determined by the project proponent. Such surety will not be required for municipally- or state-owned facilities. The project proponent shall submit a fully inclusive estimate of the costs associated with removal, prepared by a qualified engineer. The amount shall include a mechanism for calculating increased removal costs due to inflation or otherwise due to a Cost of Living Adjustment.

A True Copy, Attest:

Linda A. Ramsdell, CMMC
Town Clerk