

## **Article 15: Large-Scale Ground-Mounted Solar Photovoltaic Installation District**

### **PURPOSE**

Section 15.0 The purpose of this Article is to promote the creation of new large-scale ground-mounted solar photovoltaic installations by providing standards for the placement, design, construction, operation, monitoring, modification, maintenance and removal of such installations that address public safety, minimize impacts on scenic, natural and historic resources and provide adequate financial assurance for the eventual decommissioning of such installations.

### **DISTRICT BOUNDARIES (DESIGNATED AREA)**

Section 15.1 The Large-Scale Ground-Mounted Solar Photovoltaic Installation District shall be described as follows: Assessors Map 13, parcel 28.

### **APPLICABILITY**

Section 15.2 This Article applies to Solar Installations proposed to be constructed after the effective date of this Article. This Article also pertains to modifications of these installations or related equipment. This Article does not apply to solar photovoltaic installations that are smaller than 250kW or those which are not ground-mounted.

### **PERMITTED USE**

#### **SECTION 15.3**

- A. Solar Installations

### **DEFINITIONS**

#### **Section 15.4**

**Owner** means the owner of the Solar Installation and includes, where the context permits, the then-current owner.

**Solar Installation** means a large-scale ground-mounted solar photovoltaic system that is structurally mounted on the ground and is not roof-mounted, and that has a minimum rated nameplate capacity of 250 kW (DC) or more (where the nameplate capacity is the maximum rated output of electric power production of the photovoltaic system in direct current).

### **GENERAL REQUIREMENTS FOR LARGE SOLAR INSTALLATIONS**

Section 15.5 Solar Installations proposed to be sited in the Large-Scale Ground-Mounted Solar Photovoltaic Installation District are subject to the requirements set out in this section. These requirements also apply to physical modifications that materially alter the type, configuration, or size material modifications of Solar Installations or related equipment.

- A. **Compliance with Laws, Bylaws and Regulations:** The construction, operation and maintenance of all Solar Installations shall be in compliance with 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 Installation shall be constructed in accordance with the State Building Code.

- B. **Building Permit and Fees:** No Solar Installation shall be constructed, installed or modified without first obtaining a building permit. The application for a building permit for a Solar Installation must be accompanied by the applicable fee.
  
- C. **Planning Board Review:** Prior to the construction or modification of a Solar Installation (as applicable), the applicant must provide the documents detailed in section D below for review by the Planning Board. The purpose of the Planning Board review is to determine whether the proposed use complies with this section and whether the site design conforms to established standards and zoning requirements, including in regard to safety, access, landscaping.
  
- D. **Required Documents**
  - 1. A project summary, together with a site plan showing:
    - a. property lines and physical features, including roads, for the project site;
    - b. proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures; and
    - c. the zoning district designation for the parcel(s) of land comprising the project site;
  - 2. Blueprints or drawings of the Solar Installation showing the proposed layout of the system (including the location of each item of electrical equipment) and any potential shading from nearby structures;
  - 3. One- or three-line electrical diagram detailing the Solar Installation, associated components, and electrical interconnection methods, with all Massachusetts Electrical Code compliant disconnects and overcurrent devices;
  - 4. Documentation of the major system components to be used, including the PV panels, mounting system, and inverter;
  - 5. Name, address, phone number, and signature of the applicant(s), any agent(s) representing the applicant(s), and the owner(s)/developer(s) if the applicant is not the owner or developer. Such data must be provided for all co-applicants and co-owners, if any;
  - 6. Name, address, and contact information of the person responsible for the installation of the proposed project;
  - 7. Description, with accompanying documentation, of proposed access control arrangements for the project site both for the construction phase and the operation of the installation thereafter.

8. An operation and maintenance plan, which must include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operational maintenance of the installation;
  9. Proof of liability insurance;
  10. An estimate of the total costs associated with decommissioning the Solar Installation in accordance with section 15.5L.1, prepared by a qualified engineer, which costs shall include a mechanism for calculating increased costs due to inflation and potential regulatory changes; and
  11. A public outreach plan, including a project development timeline, which indicates how the applicant will inform abutters and the community.
- All plans, maps, blueprints and drawings shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts.

**E. Design Standards:**

1. **Lighting:** Lighting of Solar Installations shall comply with Article 5 of these bylaws and shall otherwise 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. Where feasible, lighting of the installation shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.
2. **Signage:** Signs on Solar Installations shall comply with Article 5 of these bylaws. A sign consistent with the sign bylaw shall be required to identify the facilities owner and operator, if different, and provide a 24-hour emergency contact phone number. Solar Installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the installation.
3. **Noise:** The Planning Board may require some or all associated electrical equipment to be located in a sound-insulating enclosure to reduce acoustic noise. The location of the enclosure must be approved by the Board. Any such equipment which the Board does not require to be so located must comply with the provisions of Article 5 of these bylaws. The Board may also require that the applicant perform and provide the results of a sound impact assessment.
4. **Prevention of Access:** All Solar Installations shall be constructed to prevent unauthorized access and/or climbing.

5. **No-Cut Zone:** A 50' no-cut zone shall be observed around the inside perimeter of the lot on which the Solar Installation is located, provided that trees may be pruned or topped if necessary to ensure solar absorption by the panels of the installation.

F. **Safety and Environmental Standards:**

1. **Emergency Services:** The owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the local fire chief. Upon request the owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the installation shall be clearly marked. The owner or operator shall identify and provide contact details for the person responsible for public inquiries and shall update this information throughout the life of the installation, as required.
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 installation or what is otherwise prescribed by applicable laws, regulations, and bylaws.

G. **Setbacks:**

1. The Solar Installation, including all equipment comprising the system, shall be set back a minimum of 50 feet from each boundary line of the lot on which the installation is located.

H. **Appurtenant Structures:** The site and appurtenant structures shall be subject to all applicable provisions of these bylaws, and such other reasonable standards as the Planning Board may determine, concerning bulk and height, lot area, setbacks, open space, parking, building coverage requirements and use restrictions. 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.

I. **Utilities:**

1. **Notification:** No Solar Installation shall be constructed until evidence has been given to the Planning Board that the utility company that operates the electrical grid where the installation is to be located has been informed of the owner or operator's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

2. **Connections:** All utility connections from the installation must be placed underground unless it is impracticable to do so. The Planning Board will determine impracticability on the basis of soil conditions, shape and topography of the site and the requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider.
- J. **Monitoring and Maintenance:** The owner or operator shall monitor access to and safety of the site and shall maintain the facilities in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, integrity of security measures, and landscape maintenance. Site access shall be maintained to a level acceptable to the local Fire Chief and Emergency Medical Services. The owner or operator shall be responsible for the cost of maintaining the installation and site and any access road(s) (unless accepted as a public way).
- K. **Decommissioning Requirements**
1. **Discontinuance of Operations:** Any Solar Installation that has reached the end of its useful life shall be decommissioned. The owner or operator shall notify the Planning Board by certified mail of the proposed date of discontinued operations and plans for decommissioning. The owner shall complete decommissioning of the installation no more than 150 days after the proposed date of discontinued operations. Decommissioning shall consist of:
    - a. physical removal of the Solar Installation, all structures, equipment, security barriers and transmission lines from the site;
    - b. disposal (including recycling to the extent possible) of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations; and
    - 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.
  2. **Abandonment:** Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the Solar Installation shall be considered abandoned when it fails to operate for more than one year without the written consent of the Planning Board. The owner of an abandoned Solar Installation must complete the decommissioning of the installation in accordance with the

- requirements of section 15.5.K.1 above within 150 days of the date the installation has been deemed abandoned.
3. **Lease Expiry:** If, upon expiry of any term of the ground lease for the Solar Installation, the lease is not renewed, the owner of the Solar Installation must complete the decommissioning of the installation in accordance with the requirements of section 15.5.K.1 above within 150 days of the expiry of the lease.
  4. **Failure to Decommission:** If the owner of the Solar Installation fails to complete the decommissioning as required, the Town may enter the property and physically remove the installation and otherwise complete the decommissioning.
  5. **Financial Surety:** The owner of a Solar Installation shall provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of decommissioning in the event the Town must decommission the installation. The Planning Board shall determine the amount and form of the surety. Such surety will not be required for Town- or State-owned facilities.