

11.08 Solar Generation Zoning Bylaw

11.08.01 Purpose and Applicability

The purpose of this By-law 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 and removal of such 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.

The provisions set forth in this section shall apply to the construction, operation, modification, and/or repair of Large-Scale Ground-Mounted Solar Photovoltaic Installations with a total photovoltaic module area of more than 1,500 square feet proposed to be constructed after the effective date of this section. Smaller scale (no more than 1,500 square feet of photovoltaic module area) solar electric systems need not comply with this section, but shall require a building permit and must comply with all applicable local, state and federal requirements and other provisions of this By-law.

Large-Scale Ground-Mounted Solar Photovoltaic Installations that occupy no more than 5 acres of land on one or more adjacent parcels in common ownership (including those separated by a roadway) proposed to be constructed in the Solar Overlay District are allowed as-of-right but are subject to Site Plan Review as set forth in Section 10.01 and Section 11.08 of this By-law and the requirements of this Section. All other proposed Large-Scale Ground-Mounted Solar Photovoltaic Installations require a Special Permit and Site Plan Review in accordance with this By-law.

11.08.02 Definitions

As-of-Right Siting: As-of-Right Siting shall mean that development may proceed without the need for a special permit, variance, amendment, waiver, or other discretionary approval. Such development is subject to Site Plan Review. Projects conforming to this By-law, including this Section, cannot be prohibited, but can be reasonably regulated by the Building Inspector.

Appurtenant Structures: All structures, the use of which is appurtenant to a Large-Scale Ground-Mounted Solar Photovoltaic Installation, including, but not limited to, equipment shelters, storage facilities, transformers, and substations.

Building Inspector: The person designated by Section 2.01 of this By-law and charged with the enforcement of the the By-law.

Building Permit: A construction permit issued by the Building Inspector; the building permit evidences that the project is compliant with the state and federal building codes as well as this By-law.

Designated Location: The locations designated by the solar overlay district described in Section 4.04.02 of the Bylaw, where Large-Scale Ground-Mounted Solar Photovoltaic Installations may be sited as-of right. Said locations are shown on the Town's Official Zoning Map, which is on file in the Office of the Town Clerk.

Large-Scale Ground-Mounted Solar Photovoltaic Installation: A solar photovoltaic system that is structurally mounted on the ground and is not building-mounted, and has a total photovoltaic module (panel) area of more than 1,500 square feet.

Site Plan Review: Review by the Northfield Planning Board in accordance with Section 10.01 and Section 11.08.03.04 below.

Solar Photovoltaic Array: An arrangement of solar photovoltaic panels.

11.08.03 General Requirements for all Large-Scale Ground-Mounted Solar Power Generation Installations

The following requirements are common to all Large-Scale Ground-Mounted Solar Photovoltaic Installations to be sited in Designated Locations.

11.08.03.01 Compliance with Laws, Ordinances and Regulations

The construction and operation of all Large-Scale Ground-Mounted Solar Photovoltaic Installations shall be consistent 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 photovoltaic installation shall be constructed in accordance with the Massachusetts State Building Code.

11.08.03.02 Building Permit

No Large-Scale Ground-Mounted Solar Photovoltaic Installation shall be constructed, installed or modified as provided in this section without first obtaining a building permit.

11.08.03.03 Fees

The application for a building permit for a Large-Scale Ground-Mounted Solar Photovoltaic Installation must be accompanied by the application fees required for a building permit and Site Plan Review.

11.08.03.04 Site Plan Review

Large-Scale Ground-Mounted Solar Photovoltaic Installations shall undergo Site Plan Review by the Planning Board in accordance with this Section and Section 10.01 of the By-law prior to construction, installation, or modification.

(1) General

All plans and maps shall be prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts.

(2) Required Documents

Pursuant to the Site Plan Review process, the project proponent shall provide the following documents:

(a) A site plan showing:

- i.** Property lines and physical features, including roads, for the project site;

- ii. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
- iii. Locations of wetlands and Priority Habitat Areas defined by the Natural Heritage & Endangered Species Program (NHESP);
- iv. Locations of Floodplains or inundation areas for moderate or high hazard dams;
- v. Locations of Priority Heritage landscapes and local or National Historic districts;
- vi. A list of hazardous materials proposed to be located on the site in excess of household quantities and a plan to prevent their release to the environment as appropriate;
- vii. Blueprints or drawings of the solar photovoltaic installation signed by a Professional Engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed layout of the system and any potential shading from nearby structures
- viii. One or three line electrical diagram detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices;
- ix. Documentation of the major system components to be used, including the PV panels, mounting system, and inverter;
- x. Name, address, and contact information for proposed system installer;
- xi. Name, address, phone number and signature of the project proponent, as well as all co-proponents or property owners, if any;
- xii. The name, contact information and signature of any agents representing the project proponent;

(b) Site Control. The project proponent shall submit 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.

(c) Operation & Maintenance Plan. The project proponent shall submit a plan for the operation and maintenance of the Large-Scale Ground-Mounted Solar Photovoltaic Installation, which shall include measures for maintaining safe access to the installation, storm water controls, as well as general procedures for operational maintenance of the installation.

(d) Utility Notification. No Large-Scale Ground-Mounted Solar Photovoltaic 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 solar photovoltaic installation owner or operator's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

(e) Zoning District Designation. The project proponent shall submit a zoning district designation for the parcel(s) of land comprising the project site (submission of a copy of a zoning map with the parcel(s) identified is suitable for this purpose).

(f) Proof of Liability Insurance. The project proponent shall submit to the Planning Board proof of liability insurance for the project.

(g) Financial Surety. The project proponent shall submit a description of financial surety that satisfies Section 11.08.06.

The Planning Board may waive documentary requirements as it deems appropriate.

(3) Setback and Height Requirements

For Large-Scale Ground-Mounted Solar Photovoltaic Installations, including Appurtenant Structures and parking areas, setbacks shall be at least 100 feet from any property boundary; the minimum setback areas are not included in the calculation of the 5-acre maximum specified in this Solar Generation Zoning By-law. The height of a Large-Scale Ground-Mounted Solar Photovoltaic Installation or any Appurtenant Structure, shall not exceed 20 feet.

(4) Appurtenant Structures

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) Design and Performance Standards

(b) 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. Where feasible, lighting of the solar photovoltaic installation shall be directed downward and shall incorporate full cut-off fixtures to reduce light pollution.

(c) Signage. Signs on Large-Scale Ground-Mounted Solar Photovoltaic Installations shall comply with section 11.05 of the By-law. A sign consistent with the By-law shall be required to identify the owner and provide a 24-hour emergency contact phone number. Solar electric installations shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the solar electric installation.

(d) 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.

(e) Roads. Access roads shall be constructed to minimize grading, removal of stone walls or street trees, and minimize impacts to environmental or historical resources.

- (f) **Control of Vegetation.** Herbicides may not be used to control vegetation at the solar electric installation. Mowing or the use of pervious pavers or geotextile materials underneath the solar array are possible alternatives.
- (g) **Hazardous Materials.** Hazardous materials stored, used, or generated on site shall not exceed the amount for a Very Small Quantity Generator of Hazardous Waste as defined by the DEP pursuant to MassDEP regulations 310 CMR 30.000 and shall meet all requirements of the DEP including storage of hazardous materials in a building with an impervious floor that is not adjacent to any floor drains to prevent discharge to the outside environment. If hazardous materials are utilized within the solar electric equipment then impervious containment areas capable of controlling any release to the environment and to prevent potential contamination of groundwater are required.
- (h) **Noise.** Sound or noise levels may not exceed 50 dBA at the boundary of the property.

(6) Safety and Environmental Standards

- 1.1(a) Emergency Services.** The Large-Scale Ground-Mounted Solar Photovoltaic Installation owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the Northfield 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 solar photovoltaic installation shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.
- 1.1(b) 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 this By-law.

11.08.04 Monitoring, Maintenance, and Reporting

11.08.04.01 Solar Photovoltaic 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 and Emergency Medical Services. The owner or operator shall be responsible for the cost of maintaining the solar electric installation and any access road(s), unless accepted as a public way.

11.08.04.02 Modifications

All material modifications to a Large-Scale Ground-Mounted Solar Photovoltaic Installation made after issuance of the required building permit shall require approval by the Planning Board.

11.08.04.03 Annual Reporting

The owner or operator of the installation shall submit an Annual Report which certifies compliance with the requirements of this By-law and the approved site plan, including control of vegetation, noise standards, and adequacy of road access. The annual report shall also provide information on the maintenance completed during the course of the year and the amount of electricity generated by the facility. The report shall be submitted to the Selectboard, Planning Board, Fire Chief, Emergency Management Director, Building Inspector, Board of Health, and Conservation Commission (if a wetlands permit was issued) no later than 45 days after the end of the calendar year.

11.08.05 Abandonment or Decommissioning

11.08.05.01 Removal Requirements

Any Large-Scale Ground-Mounted Solar Photovoltaic Installation which has reached the end of its useful life or has been abandoned as set forth in Section 11.08.05.02 below shall be removed. The owner or operator shall physically remove the installation no more than 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:

- (1) Physical removal of all Large-Scale Ground-Mounted Solar Photovoltaic Installation structures, equipment, security barriers and transmission lines from the site.
- (2) Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
- (3) 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.

11.08.05.02 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.

If 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 retains the right, after the receipt of an appropriate court order, to enter and remove an abandoned, hazardous, or decommissioned Large-Scale Ground-Mounted Solar Photovoltaic Installation. As a condition of Site Plan approval, an applicant

shall agree to allow entry to remove an abandoned or decommissioned installation. the costs for the removal will be charged to the property owner in accordance with the provisions of M.G.L. 139, Section 3A as a tax lien on the property.

11.08.06 Financial Surety

Applicants for Large-Scale Ground-Mounted Solar Photovoltaic Installations shall provide a form of surety, either through escrow account, bond, or other form of surety approved by the Planning Board, 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 Applicant. Such surety will not be required for municipally- or state-owned facilities. The Applicant 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.

New language to be added in Section 10.01, shown below in *italics*, and add a new Section 10.01.05:

Article X. Special Requirements for Specified Uses

10.01 Site Plan Review by the Planning Board is required for: all industrial and commercial uses involving structure(s) with 10,000 square feet or more of enclosed floor area; a lot containing 10 acres or more; *Large-Scale Ground-Mounted Solar Photovoltaic Installations with a total photovoltaic module area of more than 1,500 square feet (see Section 10.01.05);* or as required by other sections of this By-law. In addition, the Zoning Board of Appeals may require Site Plan Review for any commercial or industrial use requiring a special permit.

(Sections 10.01.01, 10.01.02, 10.01.03, 10.01.04 remain unchanged.)

10.01.05 Site Plan Review Requirements for Solar Facilities

Section 11.08 describes the provisions for Site Plan Review of Large-Scale Ground-Mounted Solar Photovoltaic Installations with a total photovoltaic module area of more than 1,500 square feet. Additional requirements for the Site Plan Review process in these cases is described in section 11.08.03.04.

Add a new Section 4.04:

4.04 Solar Overlay District

4.04.01 Purpose

The Solar Overlay District is hereby established as an overlay district and shall be superimposed on other existing districts. The purpose of the district is to identify those areas in Northfield for which As-of-Right Siting is available for certain Large-Scale Ground-Mounted Solar Photovoltaic Installations (see Section 11.08).

4.04.02 District Boundaries

The Solar Overlay District is defined as all those areas delineated as Solar Overlay Zone on the overlay map entitled "Northfield Solar Overlay Zone Map", dated 2011 and on file with the Town Clerk.

The district shall include the following zones:

Zone 1: The eastern end of town parcel 25-A-1, the western boundary being defined by the following three straight line segments: beginning at point (42° 42.332 N, 72° 29.069 W), then proceeding to point (42° 42.076 N, 72° 29.127 W), then proceeding to point (42° 42.030 N, 72° 29.301 W), and then proceeding to point (42° 41.933 N, 72° 29.285 W).

Zone 2: Entire town parcel 29-E-1, approximately 80 acres, bordered roughly by the Connecticut River on the east, the railroad on the north, and Bennett Brook Road on the west.