SECTION 15: LARGE-SCALE GROUND-MOUNTED SOLAR-PHOTOVOLTAIC

SYSTEM BYLAW

15.1-Purpose

The purpose of this bylaw is to regulate the creation of Large-Scale Ground-Mounted Solar-

Photovoltaic Systems by providing standards for the placement, design, construction,

operation, monitoring, modification and removal of such Solar-Photovoltaic Systems that

address public safety; minimize impacts on scenic, natural, and historic resources; and provide

adequate financial assurance for the eventual decommissioning of such Solar-Photovoltaic

Systems.

15.1.1-Applicability. This section applies to Large-Scale Ground-Mounted Solar-Photovoltaic

Systems 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 Solar-

Photovoltaic Systems and/or related equipment.

15.1.1.1-The provisions set forth in this section shall apply to the construction,

operation, and/or repair of Large-Scale Ground-Mounted Solar-Photovoltaic Systems

occupying a footprint greater than 0.1 acres.

15.1.1.2-Smaller scale ground-mounted solar-photovoltaic systems (occupying a

footprint less than or equal to 0.1 acres) and building-mounted solar-photovoltaic

systems do not need to comply with this section but shall require a building permit and

must comply with all other applicable local, state, and federal requirements.

15.2-General Requirements for Large-Scale Ground-Mounted Solar-Photovoltaic Systems

15.2.1-Compliance with Laws, Ordinances and Regulations. The construction and

operation of all Solar-Photovoltaic Systems 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 System shall be constructed in accordance with the

State Building Code and other applicable local, state and federal requirements.

15.2.2-Building Permit. No Solar-Photovoltaic System shall be constructed, installed or

modified as provided in this section without first obtaining a Building Permit including

payment of the required fee.

15.2.3-Fees. The application for a Site Plan approval and/or for a Special Permit for a

Solar-Photovoltaic System shall be accompanied by the appropriate fees for each review

Town of Colrain Zoning Bylaw: Town Meeting Approved Revisions 1/27/2020 63

or permit, as specified in the Rules and Regulations of the Planning Board and the

Zoning Board of Appeals, respectively.

15.3-Site Plan Review Requirements

All Large-Scale and Medium-Scale Ground-Mounted Solar-Photovoltaic Systems shall undergo Site Plan Review by the Planning Board pursuant to Section 13,

Development Site Plan Review, prior to construction, installation or modification, and shall also

comply with the additional provisions of this section.

15.3.1-Required Information. Pursuant to the Site Plan Review process, the solar-photovoltaic

system project proponent shall provide the following information:

15.3.1.1-Name, title, address, contact information and signature of any agents

representing the project proponent;

15.3.1.2-Name, title, address, contact information and credentials for proposed Solar-

Photovoltaic System installer(s);

15.3.1.3-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);

15.3.1.7-Proof of liability insurance. The owner or operator shall provide a certificate of

insurance showing that the project has sufficient liability coverage pursuant to industry

standards, including coverage without limitation during construction, operation, and

maintenance and possible damage outside of the Solar-Photovoltaic System area;

15.3.1.8-Utility Notification. No Solar-Photovoltaic System

shall be constructed until evidence has been provided that the utility company that

operates the electrical grid where the Solar-Photovoltaic System is to be located has

been informed of the Solar-Photovoltaic System owner’s or operator’s intent to install a

grid-connected generator facility. Off-grid systems are exempt from this requirement

15.3.1.9-Blueprints or drawings of the Solar-Photovoltaic System 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

Town of Colrain Zoning Bylaw: Town Meeting Approved Revisions 1/27/2020 64

structures as well as the location and size of proposed parking and driveways, walkways,

access and egress points;

15.3.1.10-Documentation of the major system components to be used, including the

electric generating components, transmission systems, mounting system, inverter;

15.3.1.11-The project proponent shall submit documentation of actual or prospective

authority to access and control the project site sufficient to allow for construction,

operation, and maintenance of the proposed Solar-Photovoltaic System;

15.3.1.13-A copy of an Interconnection Application filed with the utility including a one-

or three-line electrical diagram detailing the Solar-Photovoltaic System, associated

components, and electrical interconnection methods, with all Massachusetts Electrical

Code compliant disconnects and overcurrent devices;

15.3.1.14-A plan for the operation and maintenance of the Solar-Photovoltaic System,

which shall include measures for maintaining safe access to the Solar-Photovoltaic

System, storm water and vegetation controls, as well as general procedures for

operation and maintenance of the Solar-Photovoltaic System.

15.3.2-Project Design

15.3.2.1-Setbacks: All Large-Scale Ground-Mounted Solar-Photovoltaic Systems shall

have front, side, and rear yard setbacks of at least 50 feet. Acreage thresholds apply in

the aggregate to new facilities and expansion of existing facilities. For expansions, the

acreage of the existing facility would be added to those of the proposed expansion to

determine the overall size and generating capacity. Required setback areas shall not be

counted toward a facility’s total acreage.

15.3.2.2-Appurtenant Structures. All appurtenant structures to Solar-Photovoltaic

Systems shall be subject to current zoning regulations concerning the bulk and height of

structures, lot area, setbacks, and building coverage requirements. 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.

15.3.2.3-Lighting. Lighting of Solar-Photovoltaic Systems shall be consistent with Town,

state and federal law. Lighting of other parts of the Solar-Photovoltaic System, 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 System shall be directed downward and shall

incorporate full cut-off fixtures to reduce light pollution.

15.3.2.4 Signage. Signs on photovoltaic Solar-Photovoltaic Systems shall comply with the

Town’s sign regulations in Section 5. A sign consistent with the sign bylaw shall be

Town of Colrain Zoning Bylaw: Town Meeting Approved Revisions 1/27/2020 65

required to identify the owner and provide a 24-hour emergency contact phone

number. Solar-Photovoltaic Systems shall not be used for displaying any advertising

except for reasonable identification of the manufacturer.

15.4-Special Permit Requirements

Large-Scale Ground-Mounted Solar-Photovoltaic Systems shall also require a Special Permit from the Zoning Board of Appeals pursuant to the

provisions of Section 12, Special Permits, and shall comply with the additional provisions of this

section.

15.4.1-Administration and Waivers. The Special Permit-Granting Authority may waive

any of the requirements for a Special Permit submittal and approval if the project

warrants such action. It may also request any additional information it shall need to

render a decision. The Special Permit-Granting Authority shall have the right to retain a

registered professional engineer, planner, designer or other professional to advise the

Board regarding any or all aspects of the Special Permit submittal. The applicant shall be

responsible for the costs of such advice.

15.4.2 Application Process. An applicant for a Special Permit shall file a completed

application with the Town Clerk. The Town Clerk shall acknowledge receipt of the plans

by signing and dating the application form. The application submitted to the Town Clerk

shall include seven (7) copies each of an application form, Site Plan and any narrative

documents as outlined in the submittal requirements. Upon receipt of the application,

the Town Clerk shall transmit copies of the application to the Special Permit-Granting

Authority, Conservation Commission, the Board of Health, the Building Inspector, the

Highway Superintendent, the Fire Chief and the Police Chief. In addition, the Town Clerk

will notify the Historical Commission and Open Space Committee that a copy of the

application is available for review at Town Hall. These Town Boards and municipal

officials shall have 45 days from the date the completed application is received by the

Town Clerk to report to the Special Permit-Granting Authority their findings and

recommendations, and they can attend the public hearing(s). No Special Permit for

Large-Scale Ground-Mounted Solar-Photovoltaic Systems shall be issued until the

Planning Board has approved the Site Plan or unless the required time period for taking

action on a Site Plan has lapsed without action from the Planning Board. The applicant is

also responsible for obtaining all applicable permits or approvals that may be required

for the proposed development from other Town Boards or municipal officials.

15.4.3-Public Hearing. The Special Permit-Granting Authority shall hold a public hearing

within 65 days after the filing of an application and shall take final action on an

application for a Special Permit within 90 days of the close of the public hearing. Notice

and posting of the public hearing shall comply with the provisions of MGL c. 40A, §11,

regarding notice for public hearings. To the extent permitted by law, the Special Permit

Town of Colrain Zoning Bylaw: Town Meeting Approved Revisions 1/27/2020 66

public hearing shall be coordinated with the public hearing required for Site Plan

Review.

15.5-Environmental and Safety Standards

15.5.1-Screening. Design features which will integrate the proposed development into

the existing landscape, maintain neighborhood character, and screen objectionable

features from neighbors and roadways; Solar-Photovoltaic Systems and any

appurtenant structures shall be screened from view by a minimum fifteen (15) foot wide

staggered and group planted shrubs and small trees. Such plantings shall use a mix of

deciduous and evergreen species and may be located within the setback area. Said

vegetative screening shall reach a mature form to effectively screen the Solar-

Photovoltaic System within five years of Solar-Photovoltaic System. Planting of the

vegetative screen shall be completed prior to final approval of the electric Solar-

Photovoltaic System by the Building Inspector. The facility shall be designed to minimize

impacts to agricultural and environmentally sensitive land and to be compatible with

continued agricultural use of the land whenever possible. The use of exotic plants, by

the most recent copy of the “Massachusetts Prohibited Plant List” Department of

Agricultural Resources, is prohibited. Siting shall be such that the view of the solar

electric generating Solar-Photovoltaic System from other areas of Town shall be as

minimal as possible.

15.5.2-Vegetation Control. Herbicides shall only be applied by properly licensed

personnel, as enforced by the Department of Agricultural Resources. Mowing, grazing or

using geotextile materials underneath the solar arrays are possible alternatives.

15.5.3-Noise. Noise generated by Solar-Photovoltaic Systems and machinery shall

conform to applicable state and local noise regulations, including DEP’s Division of Air

Quality noise regulations, 310 CMR 7.10. Sound or noise levels may not exceed 50 dBA,

at the boundary of the property. A source of sound will be considered in violation of said

regulations if the source:

15.5.3.1-increases the broadband sound level by more than 10 dBA above

ambient;

15.5.3.2-produces a “pure tone” condition, when an octave band center

frequency sound pressure level exceeds the two (2) adjacent center frequency

sound pressure levels by three (3) decibels or more.

Said criteria are measured both at the property line and at the nearest inhabited

residence. “Ambient” is defined as the background A-weighted sound level that

is exceeded 90% of the time measured during equipment hours, unless

established by other means with the consent of the DEP.

Town of Colrain Zoning Bylaw: Town Meeting Approved Revisions 1/27/2020 67

15.5.4-Access Roads. Access roads shall be constructed to minimize impact to

environmental or historic resources.

15.5.5-Emergency Services. The Solar-Photovoltaic Systems 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

Solar-Photovoltaic System shall be clearly marked. The owner or operator shall identify

a responsible person for public inquiries throughout the life of the Solar-Photovoltaic

System.

15.5.6-Solar-Photovoltaic System Maintenance. The owner or operator shall maintain

the Solar-Photovoltaic System 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-Photovoltaic System and any access road(s).

15.5.7- Modifications. All material modifications to a Solar-Photovoltaic System made

after issuance of the required building permit shall require approval by the Planning

Board and the Special Permit-Granting Authority, where applicable.

15.6-Abandonment or Decommissioning

15.6.1-Removal Requirements. Any Solar-Photovoltaic System that has reached the end of its

useful life or has been abandoned shall be removed. The owner or operator shall physically

remove the Solar-Photovoltaic System no more than 150 days after the date abandonment or

the end of its useful life. The owner or operator shall notify the Planning Board and Special

Permit Granting Authority (where applicable) by certified mail of the proposed date of

discontinued operations and plans for removal. Decommissioning shall consist of:

15.6.1.1-Physical removal of all Solar-Photovoltaic Systems, structures, equipment,

security barriers, transmission lines, and other components from the site.

15.6.1.2-Disposal of all solid and hazardous waste in accordance with local, state, and

federal waste disposal regulations.

15.6.1.3-Stabilization or re-vegetation of the site as necessary to minimize erosion. The

Planning Board and the Special Permit Granting Authority (where applicable) may allow

the owner or operator to leave landscaping or designated below-grade foundations in

order to minimize erosion and disruption to vegetation.

Town of Colrain Zoning Bylaw: Town Meeting Approved Revisions 1/27/2020 68

15.6.2-Abandonment. Absent notice of a proposed date of decommissioning or written notice

of extenuating circumstances, the Solar-Photovoltaic System shall be considered abandoned

when it fails to operate for more than one year without the written consent of the Planning

Board and Special Permit Granting Authority (where applicable). If the owner or operator of the

Solar-Photovoltaic System fails to remove the Solar-Photovoltaic System in accordance with the

requirements of this section within 150 days of abandonment or the proposed date of

decommissioning, the Town may seek a court order to enter the property and physically

remove the Solar-Photovoltaic System.

15.6.3-Financial Surety. Proponents of projects shall provide a form of surety issued by an

entity with sufficient financial strength, either through escrow account, bond or otherwise, to

cover the cost of removal in the event the Town must remove the Solar-Photovoltaic System

and remediate the landscape, in an amount and form determined to be reasonable by the

Planning Board and the Special Permit Granting Authority (where applicable), but in no event to

exceed more than 125 percent of the cost of removal and compliance with the additional

requirements set forth herein. 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.