

# ZONING BYLAW AMENDMENT

PUBLIC HEARING DATE: APRIL 9, 2024, 6PM

## **Amendment #1    pg. 2**

Proposes improvements to the Solar Bylaw and related sections/subsections.

## **Amendment #2    pg. 9**

Proposed to establish regulations for Agrivoltaics. These types of projects have requirements that would not be supported by the bylaw as it is currently written without several requests for waivers. The Planning Board anticipates an application for an Agrivoltaic project later this year, which will support Spencer's local farming community.

## **Amendment #3    pg. 13**

In 2022, the Town voted to adopt regulations for Battery Energy Storage Systems (BESS). This amendment proposes to extract what was added to Article 4.8.9 and relocate it to a newly established Section, 4.8.10, Battery Energy Storage Systems (BESS) with additional regulations.

# Amendment #1

## AMEND THE TOWN'S ZONING BYLAW

To see if the Town will vote to amend the Town of Spencer Zoning Bylaw by deleting the text shown in ~~strikethrough~~ and inserting the underline text as follows:

A. Amend Section 2.2, Definitions to add the new definitions as follows:

BATTERY(IES): A single cell or a group of cells connected together electrically in series, in parallel, or a combination of both, which can charge, discharge, and store energy electrochemically. For the purposes of this bylaw, batteries utilized in consumer products are excluded from these requirements.

BATTERY ENERGY STORAGE SYSTEM (BESS): One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time, not to include a stand-alone 12-volt car battery or an electric motor vehicle. The facility must comply with the State's most current electrical code (527 CMR. 12.00) and the State's most current Fire Code (527 CMR 1.00 and NFPA 855).A Battery Energy Storage System is classified a Tier 1, Tier 2, Tier 3, or Tier 4 BESS as follows:

- A. Tier 1 Battery Energy Storage Systems have an aggregate energy capacity equal to 250KWh or less and are designed and used, to store energy from residential solar energy systems if in a room or enclosed structure, consisting of only a single energy storage system technology.
- B. Tier 2 Battery Energy Storage Systems have an aggregate energy capacity equal to 250KWh or less and are designed and used, to store energy from commercial solar energy systems if in a room or enclosed structure, consisting of only a single energy storage system technology.
- C. Tier 3 Battery Energy Storage Systems are interconnected to high voltage transmission lines and have an aggregate energy capacity greater 250 KWh but less than or equal to 10 MWh.
- D. Tier 4 Battery Energy Storage Systems are interconnected to high voltage transmission lines and have an aggregate energy capacity greater than 10 MWh.

DEDICATED-USE BESS BUILDING: A building that houses battery energy storage system equipment, is classified as Group F-1 occupancy as defined in the International Building Code, and complies with the following:

1. The building's only use is battery energy storage, energy generation, and other electrical grid-related operations.
2. No other occupancy types are permitted in the building.
3. Occupants in the rooms and areas containing battery energy storage systems are limited to personnel that operate, maintain, service, test, and repair the battery energy storage system and other energy systems.
4. Administrative and support personnel are permitted in areas within the buildings that do not contain battery energy storage system, provided the following:
  - a. The areas do not occupy more than 10 percent of the building area of the story in which they are located.
  - b. A means of egress is provided from the administrative and support use areas to the public way that does not require occupants to traverse through areas containing battery energy storage systems or other energy system equipment.

B. Amend Section 4.2 Use Table, Principal Uses, as follows:

1. Add subsection H.12.

Zoning District	RR	SR	LR	VR	TC	C	I	Refer to Section
<u>12</u> Solar Canopy	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>SPP</u>	<u>Y</u>	<u>Y</u>	

C. Amend the Town of Spencer Zoning Bylaw, Section 4.8.9 Solar Photovoltaic Generating Installations:

1. Add definition for Solar Canopy under 4.8.9.C, Definitions.

Solar Canopy: An overhead roof or a overhanging structure over which fabric or metal covering is attached, able to provide shade or shelter from weather conditions such as sun, hail, snow, and rain.

2. Amend Section 4.8.9.F, Required submission document, as follows:

5. Name, address, and contact information for proposed system installer and subject matter expert.

3. Amend Section 4.8.9.F. 16. Site Plan requirements, as follows:

(f) Locations of Floodplain area, as well as Aquifer Protection District (Zone 2), wellhead protection areas, surface water supply protection areas

4. Add sections K and L Section 4.8.9.F. 16. Site Plan requirements, as follows:

(k) Location of natural and cultural resources, including active farmland, and prime farmland soils.

(l) Locations of inventoried historic buildings, Local or National Register Historic Districts, and Scenic Roads or Byways; and archaeologically sensitive areas.

5. Amend Section 4.8.9.G. 10. Impact on Agricultural and Environmentally Sensitive Land to add subsections a) and b) as follows:

10. Impact on Agricultural and Environmentally Sensitive Land - The Photovoltaic Generating Installation 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. No more than 50-percent of the total land area proposed for the solar electric field may be occupied by the solar panels, with the remainder of the land remaining as undeveloped open space left in its natural state.

a) LSGMSPGI shall not be located on any parcel that contains 50% of Priority Habitat, Core Habitat or Critical Natural Landscape as defined in 225 CMR 20.00 Solar Massachusetts Renewable Target (SMART) Program, nor shall any trees be removed, or construction of structures, access roads or transmission lines may be placed in these designated areas.

b) In the RR zoning district LSGMSPGI large-scale Photovoltaic Generating Installation shall be located on previously disturbed areas, provided that the special permit granting authority may approve\* undisturbed area in addition to the use of available disturbed area set forth herein.

Previously disturbed areas shall mean land that meets any one of the following conditions at the time of adoption of these bylaws:

1. Land where the original grade and native material has been altered and/or removed for previous development.
2. Land where ALL existing vegetation has been removed for previous development.
3. Land utilized for sand, gravel or rock excavation.

4. Land that has been utilized for agricultural purposes.

Land that has been utilized for Silviculture\*, whether under the Massachusetts Forest Cutting Practices Act (FCPA) or not, or for any of the activities exempt under the FCPA, shall not be considered previously disturbed areas.

If less than 20 acres of contiguous or nearly contiguous previously disturbed area is not present on the lot, then land clearing of up to 5 acres of undisturbed area is may be allowed for the installation. The acreage for clearing of undisturbed area may be increased to a maximum of 10 acres pursuant to waiver request from the developer and approval of the Board as authorized under Section 4.8.9.H. At least 50% of the area of any such installation, with or without a waiver, shall be located on previously disturbed areas.

6. Amend Section 4.8.9.G. 11 Drainage to rename the section “Stormwater and Erosion Control” and add subsections as follows.

11. ~~Drainage~~ Stormwater and Erosion Control. - The design shall minimize the use of concrete and other impervious materials to the greatest extent possible, to minimize erosion and transport of sediment, and prevent contamination of surface water and groundwater from operations on the premises involving the use, storage, handling, or containment of hazardous substances. A permit in accordance with the Spencer Erosion and Sediment Control for Stormwater Management shall be required and ~~can be~~ shall run concurrent with the approval process under this section, in accordance with the Spencer Stormwater Regulations.

- a) Proposed stormwater management plans detailed below shall conform to the more stringent of any conditions or standards of this subsection and the Department of Environmental Protection’s Massachusetts Stormwater Handbook and Spencer Stormwater Regulations, as amended.
- b) All stormwater infrastructure shall be owned and maintained by the owner of the installation and shall be located on the same parcel as the solar installation.
- c) All post-development stormwater, up to and including a 50-year return frequency 24-hour storm, shall be retained on the parcel site and infiltrated into the soil thru low impact development, retention and infiltration basins. At no time may stormwater be carried off site.

Emergency overflows for storms in excess of the 50-year return frequency may be permitted provided it is demonstrated that no flooding or damage

would be caused by the overflow. Attenuation of the discharge may be required as determined by the Special Permit Granting Authority.

- d) All pipes, catch basins and other materials utilized in the stormwater facilities shall be approved by the Spencer U&F Superintendent or his designee.
- e) Stormwater Management Plan
  - i. The Stormwater Management Plan (two paper copies and one electronic copy in PDF format required) with the permit application shall contain sufficient information for the Special Permitting Granting Authority to evaluate the environmental impact and effectiveness of the measures proposed for retaining stormwater on the parcel site.
  - ii. The Stormwater Management Plan shall fully describe the project in drawings, narrative and calculations. It shall include:
    - a. The site's existing and proposed topography with contours at 2-foot intervals;
    - b. A description and delineation of existing stormwater conveyances, impoundments, environmental resources on or adjacent to the site into which stormwater could flow;
    - c. A delineation of 100-year flood plains, if applicable;
    - d. Estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention, or infiltration;
    - e. The existing and proposed vegetation and ground surfaces with areas and runoff coefficients for each;
    - f. Calculations for the 2-year, 10 year, 50 year and 100 year return period utilizing NCRS TR 55 Handbook. Pipe sizes, depth of flow, capacities and velocities shall be included;
    - g. All pipes shall be a minimum 12-inch diameter.
    - h. A drainage area map showing pre- and post-construction watershed boundaries, area and stormwater flow paths at a scale that enables verification of supporting calculations;
    - i. A recharge area analysis that calculates pre-and post-project annual groundwater recharge rates on the parcel;

- j. A description and drawings of all components of the proposed stormwater management system;
  - k. Hydrologic and hydraulic design calculations for the pre-development and post- development conditions for the design storms specified in the Massachusetts Stormwater Handbook;
  - l. Soils information from test pits performed at the location of proposed Stormwater Management facilities, including soil descriptions, depth to seasonal high groundwater and depth to bedrock. Soils information will be based on site test pits logged by a Massachusetts Certified Soil Evaluator.
- f.) To ensure proper containment and stabilization of the site during the construction phase, a Stormwater Pollution plan to control construction-related impacts, including erosion, sedimentation, and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented. Such plan shall be developed to document compliance with Standard 8 of the Massachusetts Stormwater Handbook.
- g.) A Long -Term Stormwater Operation and Maintenance (O&M) Plan shall be developed and implemented to ensure that stormwater management systems function as designed. Such plan shall be developed to document compliance with Standard 9 of the Massachusetts Stormwater Handbook and the Spencer Stormwater Regulations, and shall contain the following:
- a. Stormwater management system(s) owners;
  - b. The party or parties responsible for operation and maintenance of all aspects of the stormwater management system;
  - c. The routine and non-routine maintenance tasks to be undertaken after construction is complete and a schedule for implementing those tasks;
  - d. A plan that is drawn to scale and shows the location of all stormwater BMPs;
  - e. A schedule for routine inspections as well as a description of storms that would trigger immediate inspections following the storm;
  - f. An inspection and maintenance log form
  - g. An estimated stormwater operations and maintenance budget.

h. Permission from the operator to allow agents of the Town of Spencer to enter and inspect the premises to evaluate and ensure that the responsibility party complies with the Long-Term Stormwater Operation and Maintenance Plan requirements for each BMP.

h.) During times of construction and post-construction where stormwater generated from the project area may inadvertently enter the public way, the developer (owner) shall be responsible for direct costs incurred by the Town, including but not limited to stormwater related clean up, sanding, salting, street sweeping or other necessary management when required for the protection of public health and safety, and repair and/or reconstruction of damaged facilities.

D. Amend the Town of Spencer Zoning Bylaw, Section 5.5 Interpretation notes for height and bulk as follows:

5.5.2 *Exempted elements of a structure.* The maximum height limitation shall not apply to chimneys, TV antennae, towers, ventilators, tanks, silos, roof-mounted solar photovoltaic generating installation, or other such elements, provided that such elements are constructed or erected so as to fall within the boundaries of the lot upon which the structure is located in the event of collapse. In no case shall any element of any structure exceed 51 feet in height from the average of the finished ground level adjoining the structure without a special permit from the Zoning Board of Appeals. The ZBA must make a finding that the requested increase will not be detrimental to the surrounding properties and it will be in harmony with the general purpose and intent of the Zoning Bylaw.



## Amendment #2

### AMEND THE TOWN'S ZONING BYLAW

To see if the Town will vote to amend the Town of Spencer Zoning Bylaw by deleting the text shown in ~~strikethrough~~ and inserting the underline text as follows:

Amend Section 2.2, Definitions to add the new definitions as follows:

A. Amend Section 4.2 Use Table, Principal Uses to add Agrivoltaics less than 5 AC, and Agrivoltaics at least 5 AC as follows:

Zoning District	RR	SR	LR	VR	TC	C	I	Refer to Section
10 <u>Agrivoltaics (Dual-use Solar Photovoltaic Generating Installation)</u> <del>Farm of least 5 acres in size</del>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>4.8.9</u>
11 <u>Agrivoltaics (Dual-use Solar Photovoltaic Generating Installation)</u> <del>Farm less than 5 acres in size</del>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>N</u>	<u>N</u>	<u>SPP</u>	<u>SPP</u>	<u>4.8.9</u>

B. Amend the Town of Spencer Zoning Bylaw, Section 4.8.9 Solar Photovoltaic Generating Installations.

1. Add definition for Agrivoltaics, Dual-Use Solar, and Prime Farmland under 4.8.9.C, Definitions

Agrivoltaics: The simultaneous use of land for both solar photovoltaic power generation and agriculture such that the solar generating installation will not interfere with the continued use of the land beneath the canopy for continuous growth of crops and use of labor and/or machinery as it relates to tilling, cultivating, soil amendments, harvesting, and grazing animals.

Dual-Use Solar: See definition for Agrivoltaics.

Prime Farmland: Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a

favorable temperature and growing season, an acceptable level of acidity or alkalinity, an acceptable content of salt or sodium, and few or no rocks. Its soils are permeable to water and air. Prime farmland is not excessively eroded or saturated with water for long periods of time, and it either does not flood frequently during the growing season or is protected from flooding. – National Resource Conservation Service (NRCS) of the U.S. Department of Agriculture (USDA) - digital soils maps created by Natural Resources Conservation Service, U.S. Department of Agriculture, can be found at <https://www.mass.gov/info-details/massgis-data-soils-ssurgo-certified-nrcs>

2. Add subsection (c) under 4.8.9.G. 1 and amend as follows:

(b) Setbacks: The solar installation and all appurtenant structures shall have a setback from front property lines and public ways of at least 200 feet, and a setback from side and rear property lines and public ways of at least 100 feet. If the solar installation abuts an open field, farm or pasture it shall have a setback from front, side and rear property lines and public ways of at least 300 feet. This may be reduced at the discretion of the Planning Board if sufficient natural vegetation exists in the setback area, but to not less than 100 feet. No facilities are permitted between the front of the principal building and the front lot line.

~~Maximum Height of Structures~~

- ~~• Residential Districts: 10<sup>2</sup>~~
- ~~• Non-Residential Districts: 15<sup>2</sup>~~

(c) Maximum Height of Structures

Residential Districts: 10'

Non-Residential Districts: 15'

Agricultural Uses: 20'

3. Add Subsection 17 under Section 4.8.9.G. 17, Requirements for Agrivoltaic Structures as follows:

17. Requirements for Agrivoltaic Structures.

No LSGMSPGI over five acres in size shall be located on land that is categorized as Prime Farmland or Farmland of Statewide Importance (in accordance with Natural Resources Conservation Service, USDA mapping and criteria) and is being actively farmed or has been actively farmed in the last five years, except unless the landowner or LSGMSPGI developer or applicant can demonstrate to the Planning

Board that it has analyzed the financial and technical feasibility of Agrivoltaics and has found that an Agrivoltaic installation is not financially or technically feasible on the property. In order to make such a demonstration, the landowner, LSGMSPGI developer or applicant shall engage the services of a professional in Agrivoltaics such as a soil scientist, an agronomist, or other credentialed professional to demonstrate that an Agrivoltaics installation is not financially or technically feasible on the property in question. In such case, the solar array shall leave space for future farming activity.

For all land that is Prime Farmland or Farmland of Statewide Importance, regardless of current use or size of the array, soil shall be managed and conserved, so that the land remains suitable for future farming activities.

1. For Agrivoltaic structures, a farm plan shall be prepared by a qualified agricultural expert that is deemed acceptable by the Planning Board. This plan shall adequately demonstrate the feasibility of an agricultural operation within the area of the solar array infrastructure including the use of and access necessary to provide water, labor, and equipment necessary to facilitate such dual use system.
2. The following soil management requirements, design, and reporting requirements shall apply to all Agrivoltaic installations installed on Prime Farmland and Farmland of Statewide Importance, which is being actively farmed or has been actively farmed in the last five years.
  - a) Conduct a baseline soil health analysis by a qualified soil scientist, in accordance with standards established by the Natural Resources Conservation Service of the USDA, such as Soil Health Technical Note No. 450-06, Cropland In-Field Soil Health Assessment Guide, or equivalent, prior to construction; submit the baseline soil health analysis to the Planning Board during the permitting process, prior to receiving approval;
  - b) Submit a plan for minimizing soil disturbance during construction including grading, compaction, soil removal and soil replacement:
    - a) Avoid grading, cuts and fills, topsoil removal; avoid the addition of offsite soil without prior approval from the Planning Board;

- b) Avoid disturbing existing level field areas; utilize existing farm roads, field edges and light construction equipment to minimize soil compaction and disturbance. Reduce road widths to 12 feet.
  - c) Where soils need to be graded, leveled and smoothed, such as filling potholes, this shall be done with minimal overall impact, with all displaced soils returned to the areas affected;
  - d) Temporarily halt use of heavy construction equipment following heavy rain storms or a large storm event, when soils are saturated; the site shall be inspected and necessary corrections made prior to resuming construction.
  - e) Seed/overseed entire site with cover crops/green manure crops prior to any construction.
3. No concrete or asphalt shall be used under the solar arrays, except under battery storage units or other necessary electrical equipment pads; this shall not apply to access roads, which may be constructed using asphalt or gravel, to the extent required to create stable access roads;
4. Conduct a second soil health analysis by a qualified soil scientist, as described above, after construction is complete, to ensure that soil quality has not been degraded and that soils have not been unduly compacted. If soil quality has been degraded or if soils have been unduly compacted, making the soils unsuitable for future agricultural operations, applicant shall submit a plan to the Special Permit Granting Authority to correct the damage.

## Amendment #3

### AMEND THE TOWN'S ZONING BYLAW

To see if the Town will vote to amend the Town of Spencer Zoning Bylaw by deleting the text shown in ~~strikethrough~~ and inserting the underline text as follows:

- A. Amend the Town of Spencer Zoning Bylaw, Section 4.2 Use Table, Principal Uses to add Residential and Battery Energy Storage Systems, as follows:

Zoning District	RR	SR	LR	VR	TC	C	I	Refer to Section
<u>13</u> <u>Tier 1 Residential Energy Storage Systems</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>	<u>4.8.10</u>
<u>14</u> <u>Tier 2 Battery Energy Storage System</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>4.8.10</u>
<u>15</u> <u>Tier 3 Battery Energy Storage System (stand alone)</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>4.8.10</u>
<u>16</u> <u>Tier 4 Battery Energy Storage System (stand alone)</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>SPP</u>	<u>4.8.10</u>

- B. Amend the Town of Spencer Zoning Bylaw, Section 4.8.9 Solar Photovoltaic Generating Installations:

1. Remove text from Section 4.8.9. G. Design and Performance Standards, 1. (b) as follows: (to be added to newly created section, 4.8.10)

(b) Setbacks: The solar installation and all appurtenant structures shall have a setback from front property lines and public ways of at least 200 feet, and a setback from side and rear property lines and public ways of at least 100 feet. If the solar installation abuts an open field, farm or pasture it shall have a setback from front, side and rear property lines and public ways of at least 300 feet. This may be reduced at the discretion of the Planning Board if sufficient natural vegetation exists in the setback area, but to not less than 100 feet. No facilities are permitted between the front of the principal building and the front lot line.

An Energy Storage System shall have a setback from front property lines and public ways of at least 300 feet, and a setback from side, and rear property lines and public ways of at least 200 feet. If the solar installation abuts an open field, farm, or pasture the battery storage shall have a setback from front, side, and rear property lines and public ways of at least 400 feet. (Amended 11/10/2022 Art. 10)

2. Remove 1 – 4, under Section 4.8.9. G. Design and Performance Standards, 16. “Battery” Energy Storage Systems (to be moved to newly created section 4.8.10) and amend as follows:

16. Battery Energy Storage System: Applicant-Developer shall submit plans for proposed on-site BESS’s for review by the Spencer Fire Department and by such consultants as deemed necessary by the Planning Board, at the expense of the applicant. Plans shall include but not be limited to storage unit specifications, battery type, battery storage configuration, and fire extinguishing system. (Added 11/10/2022 Art. 10) Battery Energy Storage Systems shall meet the additional requirements set forth by Section 4.8.10 of this bylaw.

- ~~1. Safety Data Sheets (SDS) shall be included and meet the requirements set forth by appendix D of 29 CFR 1910.1200.~~
- ~~2. The energy storage system shall be equipped with a fire suppression system capable of extinguishing a fire within the container, and immediate notification of the LSSI owner, the Spencer Fire Department and the Spencer Police Department.~~
- ~~3. Energy storage units shall comply with NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, and will all applicable state and federal regulations.~~
- ~~4. Energy Storage System (ESS) capacity shall not exceed the total nameplate capacity of the permitted LSGMSPGI. Example: an LSSI rated at 20kWh shall not install battery storage exceeding a total capacity of 20 kWh.~~

- C. Add Subsection Section 4.8.10. Battery Energy Storage Systems (BESS) as follows:

#### **4.10 Battery Energy Storage Systems (BESS)**

- A. **Purpose.** The purpose of this bylaw is to provide for the construction and operation of Battery Energy Storage Systems (BESS) and to provide standards for the placement, design, construction, monitoring, modification, and removal of energy

storage systems that address public safety, protection of the Town and private drinking water supply, minimize impacts on scenic, natural and historic resources of the Town of Spencer, and provide adequate financial assurance for decommissioning. The provisions set forth in this section shall take precedence over all other sections when considering applications providing for the construction, operation, and/or repair of Battery Energy Storage Systems.

B. **Definitions.** – Refer to definitions in Section 2.2.

C. **Applicability.**

1. **Building-integrated Battery Energy Storage Systems**

- a.) Battery Energy Storage Systems that are building-integrated, whether a residential or commercial building, shall not be erected, constructed, installed, or modified as provided in this section without first obtaining a building permit from the Building Inspector.
- b.) Building-integrated battery energy storage systems may be coupled with rooftop solar or behind the meter applications for peak shaving.
- c.) Building-integrated battery energy storage systems may be located in any zoning district of the Town of Spencer.

2. **Co-located Battery Energy Storage Systems**

- a.) Battery Energy Storage Systems co-located with on-site solar power generation shall be permitted in the same districts as LSGMSPGI's by Special Permit and Site Plan Review.
- b.) The storage capacity of a co-located BESS shall not exceed the maximum generation capacity of the co-located solar photovoltaic installation.

3. Battery Energy Storage systems not co-located with on-site solar generation shall be permitted in the Commercial (C), Industrial (I), Suburban Residential (SR), Village Residential (VR) Zoning Districts, by special permit and site plan review from the Planning Board. Battery Energy Storage Systems not co-located with on-site solar generation are prohibited in the Aquifer Protection Overlay District.

- a.) The nameplate capacity of an Energy Storage system shall not exceed the maximum total kw of renewable energy that can be produced on the 3-phase distribution line that the energy storage system will be interconnected to.

- b.) Modifications to, retrofits or replacements of an existing battery energy storage system that increase the total battery energy storage system designed discharge duration or power rating shall be subject to this bylaw.

**D. General Requirements**

- 1. Applicant-Developer shall submit plans for proposed on-site battery storage unit(s) for review by the Spencer Fire Department and by such consultants as deemed necessary by the Planning Board, at the expense of the applicant. Plans shall include but not be limited to storage unit specifications, battery type, battery storage configuration, and fire extinguishing system. (Added under Section 4.8.9 11/10/2022 Art. 10)
  - a) Safety Data Sheets (SDS) shall be included and meet the requirements set forth by appendix D of 29 CFR 1910.1200.
  - b) The energy storage system shall be equipped with a fire suppression system capable of extinguishing a fire within the container, and immediate notification of the Large-Scale Solar Installation owner, the Spencer Fire Department and the Spencer Police Department.
  - c) Energy storage systems shall comply with NFPA 855, Standard for the Installation of Stationary Energy Storage Systems, and with all applicable state and federal regulations.
- 2. In accordance with Section C above, all Tier 2, Tier 3 and Tier 4 battery energy storage systems shall require a special permit and site plan approval by the Planning Board prior to construction, installation, or modification as provided in this bylaw.
- 3. The construction, operation, and decommissioning of all battery storage energy storage systems shall be consistent with all applicable local, state, and federal requirements, including but not limited to all applicable environmental, safety, construction, fire, and electrical requirements.
- 4. A building permit and an electrical permit shall be required for installation of all battery energy storage systems.

**E. Application Materials.**



1. In addition to requirements of Section 7.2 Special Permits and Section 7.4 Site Plan Review, the application for a special permit under this Section 4.8.10 shall include the following:
  - a.) A site plan prepared, stamped and signed by a Professional Engineer licensed to practice in Massachusetts, that shows the following:
  - b.) An existing condition plan with property lines and physical features, including topography and roads, characteristics of vegetation (trees-mature, old growth, shrubs, open field, etc.), wetlands, streams, ledge, for the project site:
    - 1) Proposed changes to the landscape of the site, including grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures, driveways, snow storage, and storm water management systems; including total acreage of disturbed area, total vegetation cleared, not including mowed fields;
    - 2) Trees with a DBH of 20" or greater within project parcel(s) shall be identified to determine tree loss, along with inventorying of diseased or hazard trees slated to be removed due to proposed development;
    - 3) Property lines and physical dimensions of the subject property with contour intervals of no more than 10 feet;
    - 4) Property lines of adjacent parcels within 300 feet.
    - 5) Location, dimensions, and types of existing major structures on the property;
    - 6) Location of the proposed battery energy storage structures, foundations, and associated equipment;
    - 7) The right-of-way of any public or private road that is contiguous with the property;
    - 8) Any overhead or underground utilities;
    - 9) At least one color photograph of the existing site, measuring eight (8) inches by ten (10) inches;
    - 10) Locations of active farmland and prime farmland soils, wetlands, permanently protected open space, Priority Habitat Areas and BioMap 2 Critical Natural Landscape Core Habitat mapped by the

Natural Heritage & Endangered Species Program (NHESP) and “Important Wildlife Habitat” mapped by the DEP;

- 11) Locations of floodplains or inundation areas for moderate or high hazard dams;
  - 12) Locations of local or National Historic Districts; and
  - 13) Stormwater management and erosion and sediment control.
- c.) A preliminary equipment specification sheet that documents the proposed battery energy storage system components, inverters and associated electrical equipment that are to be installed, including manufacturer and model. A final equipment specification sheet shall be submitted prior to the issuance of building permit;
  - d.) One- or three-line electrical diagram showing associated components, and electrical interconnection methods, with all NEC compliant disconnects and overcurrent devices;
  - e.) Contact information and signature of the project proponent, as well as all co-proponents, if any, and all property owners;
  - f.) Contact information and signature of agents representing the project proponent, if any;
  - g.) Contact information for the person(s) responsible for public inquiries throughout the life of the system;
  - h.) An operations and maintenance plan for Battery Energy Storage System. Such plan shall describe continuing battery energy storage system maintenance and property upkeep, as well as design, construction, installation, testing and commissioning information;
  - i.) Battery Energy Storage System technical specifications, including manufacturer and model;
  - j.) Electrical schematic;
  - k.) Documentation that shows the owner of the Energy Storage System has site control, which shall include easements and access roads;
  - l.) Documentation that shows the owner of the Energy Storage System has notified the electric utility of this installation.

m.) Emergency Operations Plan. A copy of the approved Emergency Operations Plan shall be given to the system owner, the Spencer Fire Department, and the Town's fire code official (Building Inspector). A permanent copy shall also be placed in an approved location to be accessible to facility personnel, fire code officials, and emergency responders. The emergency operations plan shall include the following information:

1. Procedures for safe shutdown, de-energizing, or isolation of equipment and systems under emergency conditions to reduce the risk of fire, electric shock, and personal injuries, and for safe startup following cessation of emergency conditions.
2. Procedures for inspection and testing of associated alarms, interlocks, and controls. This includes hazmat appliances for conducting atmospheric monitoring with a scientific officer to support.
3. Procedures to be followed in response to notifications from the Battery Energy Storage Management System, when provided, that could signify potentially dangerous conditions, including shutting down equipment, summoning service and repair personnel, and providing agreed upon notification to fire department personnel for potentially hazardous conditions in the event of a system failure.
4. Emergency procedures to be followed in case of fire, explosion, release of liquids or vapors, damage to critical moving parts, or other potentially dangerous conditions. Procedures can include sounding the alarm, notifying the fire department, evacuating personnel, de-energizing equipment, and controlling and extinguishing the fire.
5. Response considerations similar to a safety data sheet (SDS) that will address response safety concerns and extinguishment when an SDS is not required.
6. Procedures for dealing with battery energy storage system equipment damaged in a fire or other emergency event, including maintaining contact information for personnel qualified to safely remove damaged battery energy storage system equipment from the facility.

7. Other procedures as determined necessary by the Town to provide for the safety of occupants, neighboring properties, and emergency responders.
8. Procedures and schedules for conducting drills of these procedures and for training local first responders on the contents of the plan and appropriate response procedures.
  - a. Trainings must be provided and organized by the applicant.
- n.) Proof of liability insurance: The applicant shall be required to provide evidence of liability insurance in an amount and for a duration sufficient to cover loss or damage to persons and property caused by the failure of the system.
- o.) A noise study, prepared by a qualified individual with experience in environmental acoustics, to assess the impact of all noise sources generated from the project to abutting properties, and determine the appropriate layout, design, and control measures. The report should include details of assessment methods, summarize the results, and recommend the required outdoor as well as any indoor control measures.

**F. Design and Site Standards**

1. In addition to the standards for Special Permit and Site Plan Review in the Zoning Bylaw, the applicant shall adhere to the following standards and provide such information on the site plan:
  - a) Utility Lines. All on-site utility lines shall be placed underground to the extent feasible and as permitted by the serving utility.
  - b) Signage. The signage shall include the type of technology associated with the systems, any special hazards associated, the type of suppression system installed, and 24-hour emergency contact information. All information shall be clearly displayed on a light reflective surface. Clearly visible warning signs concerning voltage shall be placed at the base of all pad-mounted transformers and substations.
  - c) Lighting. Lighting of the systems shall be limited to that minimally required for safety and operational purposes and shall be reasonably shielded and downcast from abutting properties.

- d) Setbacks. Battery Energy Storage System shall have a setback from front property lines and public ways of at least 300 feet, and a setback from side, and rear property lines and public ways of at least 200 feet. If the solar installation abuts an open field, farm, or pasture the battery storage shall have a setback from front, side, and rear property lines and public ways of at least 400 feet.
- e) Fire protection. Battery Energy Storage Systems not co-located with solar photovoltaic installations shall be located on properties serviced by the public water system or by a water supply acceptable to the Planning Board and Spencer Fire Department.
- f) Radius bounds. The outer boundary of a 100' radius of the Battery Energy Storage System shall be marked and maintained to indicate a safety distance for fire protection. The location and type of marker shall meet the standards of the Spencer Fire Department.
- g) Vegetation and Tree-Cutting. Areas within ten (10) feet on each side of a system shall be cleared of combustible vegetation and other combustible growth. Single specimens of trees or shrubbery and cultivated ground covers such as green grass, ivy, succulents, or similar plants shall be exempt provided that they do not form a means of readily transmitting fire. Clearing of natural vegetation shall be limited to that which is necessary for the construction, operation and maintenance of the system and that which is otherwise prescribed by applicable bylaws and regulations.
- h) Noise. The 1-hour average noise generated from the systems, components, and associated ancillary equipment shall not exceed a noise level of 60 dBA as measured at the property line.

## **G. Safety**

1. System Certification. Battery energy storage systems and equipment shall be listed by a Nationally Recognized Testing Laboratory to UL 9540 (Standard for battery energy storage systems and Equipment) or approved equivalent, with subcomponents meeting each of the following standards as applicable:
  - a. UL 1973 (Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail Applications),
  - b. UL 1642 (Standard for Lithium Batteries),
  - c. UL 1741 or UL 62109 (Inverters and Power Converters),

- d. Certified under the applicable electrical, building, and fire prevention codes as required.
- e. Alternatively, field evaluation by an approved testing laboratory for compliance with UL 9540 (or approved equivalent) and applicable codes, regulations and safety standards may be used to meet system certification requirements.

#### H. Special Permit Criteria

1. The Planning Board may approve an application if the Board finds that the system complies with the Site Plan Review and Approval criteria and with the conditions for granting Special Permits. Battery energy storage systems shall also satisfy the following additional criteria:
  - a. Environmental features of the site are protected, and surface runoff will not cause damage to surrounding properties or increase soil erosion and sedimentation of nearby streams and ponds.
  - b. The Planning Board may impose conditions as it finds reasonably appropriate to safeguard the town or neighborhood including, but not limited to, screening, lighting, noise, fences, modification of the exterior appearance of electrical cabinets, battery storage systems, or other structures, limitation upon system size, and means of vehicular access or traffic features.
  - c. No occupancy permit shall be granted by the Building Commissioner, nor shall the site be energized or interconnected to the utility until the Planning Board has received, reviewed, and approved an as-built plan that demonstrates that the work proposed on the approved site plan, including all stormwater management components and associated offsite improvements, have been completed in accordance with the approved plan and certified same to the Building Commissioner.
  - d. The Planning Board may, in its discretion, approve an as-built plan upon provision of a type of surety as determined by the Planning Board, to secure incomplete work where such work is not immediately necessary for lawful operation of the system without negative effect on public health and safety and surrounding properties.
  - e. The applicant shall make every effort to coordinate necessary surveying and finalization of the as-built plans and submission of required construction control documents prior to the conclusion of construction. Notwithstanding the above, a temporary occupancy permit may be granted with the approval of

the Planning Board subject to conditions for completion of work imposed by the Board.

## I. Decommissioning

1. As part of the applicant's submission to the Board, the applicant shall submit a decommissioning plan, to be implemented upon abandonment or in conjunction with removal from property. The plan shall include:
  - a. A narrative description of the activities to be accomplished, including who will perform that activity and at what point in time, for complete physical removal of all battery energy storage system components, structures, equipment, security barriers, and transmission lines from the property.
  - b. Disposal of all solid and hazardous waste in accordance with local, state, and federal regulations.
  - c. The anticipated life of the battery energy storage systems.
  - d. The estimated decommissioning costs and how said estimate was determined.
  - e. The method of ensuring that funds will be available for decommissioning and restoration.
  - f. The method by which the decommissioning cost will be kept current.
  - g. The manner in which the site will be restored, including a description of how any changes to the surrounding areas and other systems adjacent to the battery energy storage system, such as, but not limited to, structural elements, building penetrations, means of egress, and required fire detection suppression systems, will be protected during decommissioning and confirmed as being acceptable after the system is removed.
  - h. A listing of any contingencies for removing an intact operational battery energy storage system from service, and for removing an energy storage system from service that has been damaged by a fire or other event.
2. Decommissioning Fund. The owner and/or operator of the energy storage system, shall continuously maintain for the life of the facility a fund or bond payable to the Town, , in form and an amount to be determined by the SPGA, securing removal of the battery energy storage system. All costs of the financial security shall be borne by the applicant. The amount shall include a mechanism for calculating increased removal costs due to inflation.

3. An inspection of the completed decommissioned area shall be reviewed by a consultant hired by the Planning Board before approving the decommissioning work in accordance with the Decommissioning Plan. The owner and/or operator shall pay for the cost of this review with such payment being provided by the owner and/or operator prior to the consultant undertaking said review, in accordance with MGL Chapter 44, Section 53G.
- J. Abandonment. The battery energy storage system shall be considered abandoned when it ceases to operate consistently for more than twelve (12) months. The system shall be presumed abandoned if the owner and/or operator fails to respond affirmatively within thirty (30) days to a written inquiry from the Building Inspector as to the continued validity and operation of the system. If the owner or operator fails to comply with decommissioning upon any abandonment, the Town, may, at its discretion, access the decommissioning funds for the removal of a system and restore the site in accordance with the decommissioning plan.
- K. Severability. If any provision of this By-Law is found to be invalid by a court of competent jurisdiction, the remainder of this By-Law shall not be affected but remain in full force. The invalidity of any provision of this By-Law shall not affect the validity of the remainder of the Spencer Zoning By-Law.