# HAMPDEN SOLAR BY-LAW

To see if the Town will vote to modify the current Solar Bylaw with the following amendments:

***Strike Section 6.25 of the Table of uses which reads:***

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6.25 | Solar Energy System(s) | P | P | P | P | P | P | N | P | P | N | See Notes A&C |

***Insert into the table of uses the following Sections 6.25.1 and 6.25.2:***

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6.25.1 | Solar Energy System(s) less than 2,100 Sq. Ft. of panel surface area | P | P | P | P | P | P | N | P | P | N | See Notes A&C |
| 6.25.2 | Solar Energy System(s) with 2,100 S.F. of panel surface area or more | SPB | SPB | SPB | SPB | SPB | SPB | N | SPB | SPB | N | See Notes A&C |

***Delete the entire Section entitled 7.16 Solar Energy System(s) from the Zoning Bylaw and insert the following in its place:***

**7.16 Solar Energy System(s)**

**7.16.1.** **Purpose.** The purpose of this section is to regulate and establish general guidelines for the siting of solar photovoltaic (PV) facilities, hereinafter referred to as solar energy systems. The goals of this section are to:

1. Protect the health, safety and general welfare of the community by allowing the generation of sustainable energy by solar facilities in order to reduce air pollution and greenhouse gases, protect environmental resources, and foster sustainable economic development.

2. Provide standards for the placement, design, construction, operation, monitoring, modification and removal of solar facilities. Such siting standards shall address public safety, minimize impacts on natural resources, and provide adequate financial assurance for the eventual decommissioning of such facilities.

3. Not prohibit or unreasonably regulate the installation of solar energy systems or the building of structures that facilitate the collection of solar energy except where necessary to protect the public health, safety, or welfare.

**7.16.2. Definitions.**

**Appurtenant Structures:** Any structure which is subordinate and customarily incidental to a Solar Energy System, including but not limited to, equipment shelters, storage facilities, transformers and substations.

**Large-Scale Ground-Mounted Solar Energy System**: A solar energy system with solar panels structurally mounted on the ground, in an array that occupies a total footprint area greater than or equal to 2,100 square feet of surface area of panel.

**Solar Energy System:** Any solar collector or other solar energy device, including appurtenant structures, mounted on a building or on the ground, the primary purpose of which is to provide for the collection, storage, conversion and distribution of solar energy for generation of electricity.

**Ground-Mounted Solar Energy System Installation:** A Solar Energy System that is structurally mounted to the ground and is not roof mounted.

**Roof-Mounted Solar Energy System:** A Solar Energy System that is structurally mounted to the roof of a building or structure.

**Small-Scale Solar Energy System Installation:** A Solar Energy System that occupies less than 2,100 square feet of surface area of solar panel.

**7.16.3.** **Applicability**.

1. This section applies to the construction and operation of Large-Scale Ground-Mounted Solar Energy Systems. This section also pertains to physical modifications that materially alter the type, configuration or size of these installations or related equipment throughout the useful life of the system, as well as decommissioning and removal of such systems.

2. The requirements of this section shall apply to a Large-Scale Ground-Mounted Solar Energy System regardless of whether it is the primary use of property or an accessory use.

3. Large-Scale Ground-Mounted Solar Energy Systems may only be constructed or materially modified after the issuance of a special permit from the Planning Board and issuance of a building permit.

4. Small-Scale Solar Energy System Installations that are an accessory structure to an existing residential or non-residential use do not need to comply with this section but shall require a building permit and must comply with the Hampden Zoning By-Law, as applicable.

5. Roof-Mounted Small-Scale Solar Energy System Installation shall conform to height regulations specified for the applicable principal or accessory building type in the underlying zoning district or to such other height as is determined by the Building Inspector to be essential for proper system operation provided that such height will not present any undue hardships on abutting properties. A structural engineering report may be required by the Building Inspector documenting the structural integrity of the structure and its ability to support the proposed roof-mounted solar facility.

**7.16.4. Filing Requirements.** Applicants seeking to construct or modify a Large-Scale Ground- Mounted Solar Energy System shall submit the following information to the Planning Board. The Planning Board may, in its discretion, waive any of the filing requirements.

A. **Contact Information** – Provide the applicant’s and property owner’s name, address, phone number, email address, and signature.

B. **Site Identification** – Provide the address and the map, lot and block number of the proposed site. All maps to be submitted must be drawn at appropriate scales and be signed by a registered professional engineer or licensed surveyor.

C. **Public Outreach Plan** – Provide a plan that includes the project development timeline, and which indicates how the project proponents will meet the required site plan review notification procedures and otherwise inform abutters and the community.

D. **Site Plans -** The project applicant shall provide the following documents in addition to those required for Site Plan Review. The Planning Board may also require the employment of outside consultants such as may reasonably be required to perform design and engineering review or to address any potential issues with the project and may direct the applicant to deposit funds with The Planning Board for such review pursuant to M.G.L 44, Section 53G.

1. **Site Plan Submittal Requirements.** The project proponent is required to provide the Hampden Planning Board with the following:

a. *Application.* Two original application forms and a designer's certificate.

b. *Fee.* Required fee.

c. *Siting and Design.* Eight full copies of a site plan. The plan shall be on 24" × 36" sheets at a scale of 1"=40' or 1"=200', as appropriate, on as many sheets as necessary. Site plans shall be prepared, stamped, and signed by a Massachusetts licensed professional engineer and/or a registered land surveyor, as applicable. The site plan shall include the following:

1. *Location Map.* Copy of the most recent USGS quadrangle map, at a scale of 1:25,000, showing the proposed facility site and the area within at least two miles from the facility.

2. *Site Plan.* A one-inch equals 200 feet plan of the proposed solar facility site, with contour intervals of no more than ten feet, showing the following:

a. Property lines and physical dimensions of the project site and adjacent parcels within 300 feet of the project site;

b. Location of permanent structures and or building units on the project site and on adjacent parcels of the project site;

c. Location and details of all security measures for the site; and

d. Location of all existing and proposed roads, both public and private, on the project site.

e. 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).

3. *Project Plan.* A plan indicating all proposed changes to the landscape of the site, including temporary or permanent roads or driveways, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures shall include the following:

a. Proposed changes to the landscape of the site, grading, vegetation to be removed or altered, amenities such as lighting or fencing, screening vegetation or structures, and wetlands delineation. Existing trees 10” caliper or larger and existing tree/shrub masses;

b. Location of the Large Scale, Ground-Mounted Solar Energy System, type of mounting devices, access roads, lighting, ground equipment, fencing, electrical infrastructure, and associated equipment;

c. Plans for accessory buildings or other structures, and location and details of all planned security measures;

d. Layout and details of surfacing for access roads and parking including temporary roads and staging areas; and any existing overhead utility lines.

d. *Operation and Maintenance Plan.* The Large-Scale Ground-Mounted Solar Energy System owner or operator shall be responsible for the cost of maintaining the solar installation and any access road(s) and maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, maintenance of screening, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Board of Selectmen, Planning Board, Fire Chief, Emergency Management Director, Building Inspector, Board of Health and Conservation Commission*.* All applications shall include an Operation and Maintenance Plan describing all steps that the applicant proposes to take in the operation and maintenance of the facility and the site.

e. *Schematics*.

1. Schematic or blueprints of the Large Scale, Ground Mounted Solar Energy System installation signed by a professional engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed structures and any shading from nearby structures;

2. Schematic or outline electrical diagram showing proposed solar panels, associated components and electrical interconnection methods, all with the Massachusetts Electrical Code compliant disconnects and overcurrent devices;

3. Description of the major system components to be used, including but not limited to electrical generating components, transmission systems, photovoltaic panels, mounting system, inverter, and interconnection location. If the facility requires pad mount transformers or any type of storage device, they shall be identified.

f. *Compliance Documents.* The applicant will provide the following with the application:

1. Name, address, and contact information for:

a. Proposed system installer,

b. The landowner,

c. The project proponent, as well as all co-proponents; and

d. Any agents representing the applicant.

2. Evidence of Interconnection Services Agreement.

3. Documentation of actual or prospective access and control of the project site sufficient to allow for construction and operation of the proposed Large-Scale Ground-Mounted Solar Energy System installation.

4. A list of any 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.

g. *Notification*.

1. The applicant will provide a list of property owners, their addresses for all parcels of land within 300 feet of the project site, to be obtained from the most recent property listed from the Hampden Board of Assessors.

2. The applicant shall be responsible for the cost of publication of the public hearing notice.

h. *Waiver of Documents***.**The Planning Board reserves the right to waive documentary requirements as it deems appropriate.

**2. Design Standards.**

a. *Screening.* A Large-Scale Ground-Mounted Solar Energy System shall be screened, to the extent possible, from abutting properties.

1. *General.* Screening shall consist of landscaping, fence, grassed earthen berm, or some combination of these screening devices. If utilizing a natural buffer, planted height of 6 feet with a distance of 4 to 6 feet in between, and maintained to 12 to 14 feet in height. When a screen consists of plant materials, said materials shall provide screening at the time of planting and be of a type that will be expected to form a year-round, dense screen.

2. *Abutting Residential Uses.* When such facility is directly abutting existing residential uses, including instances where such abutters are separated by a road or driveway, such screening shall consist of:

1. Project site of greater than six acres: A minimum of 100 feet of vegetation buffer with 50 feet being undisturbed closest to the residential property, and the other 50 feet being allowed to be selectively cleared.
2. A green mesh screen affixed to the security fence shall be installed on the fence in areas visible to abutting property.
3. Permit for screening reduction: An applicant may request permission to reduce such buffer requirements in such instances it is determined to not have a detrimental effect to the abutters and in such instances where the buffer will have a detrimental effect on the ability to generate power.

3. *Abutting Nonresidential Uses.* Screening as determined to be adequate in the form of either vegetation or fencing.

b. *Lighting.* Lightingshall be consistent with local, state and federal law, and in compliance with Section 7.7 Development and Performance Standards of the Hampden Zoning Bylaws. Lighting shall further be directed downward and shall incorporate full cut-off fixtures to reduce light pollution. 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 shielded from abutting properties.

c. *Signage.* All Large-Scale Ground-Mounted Solar Energy Systems shall have signage that includes 1. “No Trespassing”; 2. Voltage identification and electrocution hazards; 3. Owner identification; 4. Reasonable identification of manufacturer; and 5. 24-hour emergency contact phone number.

d**.** *Utility Connections*. All utility connections from the Large-Scale Ground-Mounted Solar Energy System to existing overhead utilities shall be underground, unless the Planning Board determines that soil conditions, topography or other site factors make such connection unreasonable or unfeasible or the utility provider determines that such connection to be unsafe or impractical. Electrical transformers for utility interconnections may be above ground only if required by the utility provider. All Large-Scale Ground-Mounted Solar Energy System installations shall conform to the requirements of the interconnection agreement and/or such further requirements as may be promulgated from time to time, as appropriate and as approved by the connecting utility.

e. *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. Structures should be shaded from view by vegetation and/or joined or clustered to not create adverse visual impacts.

f.*Emergency Services***.** The Large-Scale Ground-Mounted Solar Energy System owner or operator shall provide a copy of the project summary, electrical schematic, and Site Plan to the local Fire Chief, Highway Superintendent, and Emergency Management Director.

1. Upon request the owner or operator shall cooperate with local emergency services in developing an emergency response plan including the training of any municipal first responders prior to commencing operation of such facilities.
2. All means of shutting down the Large-Scale Ground-Mounted Solar Energy System and storage units shall be clearly marked.
3. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.

g. *Unauthorized Access.* All Large-Scale Ground-Mounted Solar Energy Systems shall be designed to prevent unauthorized access in compliance with any and all federal, state and local regulations. Electrical equipment shall be locked where possible. Video surveillance cameras shall be oriented in such a fashion so as to minimize capturing activity outside the solar facility. All Large-Scale Ground-Mounted Solar Energy Systems shall be enclosed in an 8-foot fence with clearance of 6-8 inches from the bottom of the fence to the ground.

**3. Environmental Standards.**

1. *Land Clearing.* Clearing of natural vegetation shall be limited to what is necessary for the construction, access to, operation and maintenance of the Large-Scale Ground-Mounted Solar Energy System installation or otherwise prescribed by applicable laws, regulations and bylaws*.* Projects shall minimize the volume of cut and fill, the number of removed trees 10” caliper or larger, the length of removed stone walls, the area of wetland vegetation displaced, the removal of topsoil from the site, the extent of storm water flow increases from the site, soil erosion, and threat of air and water pollution. The Planning Board may consider any tree removal or other clearing within one year prior to the application date.No more than 50% of the land parcel utilized for Large-Scale Ground-Mounted Solar Energy Systems shall contain land requiring clearing of forest.The Planning Board shall have the authority to require new plantings of trees or other plants to compensate for the removal of others as required by the project. The Planning Board may require the planting and ongoing maintenance, including replanting, of any trees, screening, or vegetation as a condition of the special permit for the life of the project.
2. *Excessive Slope.* Consideration must also be given to excessive slope on project sites and limitation of the removal of topsoil from the site.
3. *Surface Area of Project Site.* No more than 50% of the total land area proposed for the Large-Scale Ground-Mounted Solar Energy System may be occupied by the solar panels, with the remainder of the land remaining as undeveloped open space left in its natural state. Projects on agricultural and environmentally sensitive land shall be designed to minimize impact to agricultural and environmentally sensitive land and to be compatible with continued agricultural use of the land whenever possible.
4. *Plantings.* To the greatest extent possible, a diversity of plants species shall be used, with preference given to species that are native to New England. Use of plants identified by the most recent copy of the “Massachusetts Prohibited Plant List” maintained by the Massachusetts Department of Agricultural Resources is prohibited. Herbicides shall be applied only by licensed personnel in conformance with all applicable state regulations.
5. *Rare and Endangered Species.* The applicant shall provide evidence of compliance with the Massachusetts Endangered Species Act and requirements of the Commonwealth of Massachusetts Natural Heritage and Endangered Species Program.
6. *Wetlands.*  The applicant shall provide evidence of compliance with the Massachusetts Wetlands Protection Act, Massachusetts Rivers Protection Act and Town of Hampden General Bylaws.
7. *Storm Water.* The applicant shall demonstrate compliance with all local, state and federal storm water management laws and regulations. All Large-Scale Ground-Mounted Solar Energy Systems shall be designed to maximize on-site infiltration of storm water. Impervious paving of areas beneath solar arrays is prohibited.

**7.16.5**. **Additional** **Large-Scale Ground-Mounted Solar Energy Systems Requirements.**

1. **Lot Size**. The minimum lot size for Large-Scale Ground-Mounted Solar Energy Systems shall be six (6) acres.
2. **Setbacks**. A Large-Scale Ground-Mounted Solar Energy System shall maintain a minimum front yard setback distance of 100 feet and a minimum side yard and rear yard setback distance of 100 feet. Where a proposed Large-Scale Ground-Mounted Solar Energy System does not abut a residential zoning district or use, the Planning Board may reduce the above-listed minimum setback distances as provided in Zoning Bylaw.
3. **Height**. The height of the solar panels in a Large-Scale Ground-Mounted Solar Energy System shall not exceed twelve (**12**) feet in height above finished grade.
4. **Noise**. Noise generated by the operation of Large-Scale Ground-Mounted Solar Energy System and associated equipment and machinery shall conform to applicable regulations, including the Massachusetts DEP's Division of Air Quality noise regulations, 310 CMR 7.10.
5. **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 Mass DEP 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 outdoor environment. If hazardous materials are utilized within the Large-Scale Ground-Mounted Solar Energy System, then impervious containment areas capable of controlling any release to the environment and to prevent potential contamination of groundwater are required.
6. **Emergency Service and Access**. Large-Scale Ground-Mounted Solar Energy Systems’ access roads shall be constructed and maintained to allow for safe access by local emergency vehicles. Access roads shall be constructed to minimize grading, removal of stonewalls or street trees and to minimize impacts to environmental or historic resources.
7. The owner or operator shall provide a copy of the project summary, electrical schematic, and Site Plan to the local Fire Chief, Police Chief, Highway Superintendent, and Emergency Management Director.
8. Upon request, the owner or operator shall cooperate with local emergency services in developing an emergency response plan including the training of any municipal first responders prior to commencing operation of such facilities.
9. All means of shutting down the Large-Scale Ground-Mounted Solar Energy System shall be clearly marked.
10. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.
11. **Fire Protection.** An underground water storage tank with a capacity of no less than thirty thousand (30,000) gallons shall be sited within the 100 ft. setback with access from a public way or other road to which the fire department and other emergency services will have access. The Town shall have continuous access to the tank and the ability to ensure proper maintenance by the operator. This requirement may be waived if the Planning Board determines that a sufficient water source exists on site for fire protection.
12. **Operation and Maintenance.** The Large-Scale Ground-Mounted Solar Energy System owner or operator shall maintain the facility and the site in good condition. Maintenance shall include, but not be limited to, maintenance of plants and grass, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Fire Chief, Highway Superintendent, and Emergency Management Director. The owner or operator shall be responsible for the cost of maintaining the Large-Scale Ground-Mounted Solar Energy System and any access road(s).
13. **Liability Insurance.** Prior to the issuance of the permit, the applicant shall be required to provide evidence of liability insurance for the property.
14. **Modifications.** All material modifications to the Large-Scale Ground-Mounted Solar Energy System installation made after issuance of the required building permit shall require approval of the modified Site Plan with the Planning Board and Building Inspector.

**7.16.6.** **Additional** **Approval Criteria.** The Planning Board shall review and act upon a proposed application to construct or materially modify a Large-Scale Ground-Mounted Solar Energy System taking into consideration the reasonable fulfillment of the following objectives:

1. Conformance with the provisions of this section of the Zoning Bylaw.

2. Protection of Town resources and abutting properties by minimizing any undue disturbance from noise, traffic, lighting, hazardous materials, signage, glare or storm water runoff.

3. Integration of the proposed site plan development into the existing landscape through design features such as vegetative buffers and retention of open space and agricultural land.

**7.16.7. Change in Ownership***.* If the owner and/or operator of a Large-Scale Ground-Mounted Solar Energy System changes, notice shall be given to the Planning Board with the contact information of the new owner/operator within one month of the change in ownership and/or operations.

**7.16.8. Removal for Decommissioning and or Abandonment.**

**1. Decommissioning Removal Requirements**. Any Large-Scale Ground-Mounted Solar Energy System, or any substantial part thereof, that has discontinued operations shall be removed. The owner or operator shall notify the Planning Board and Building Inspector by certified mail sixty (60) days prior to the proposed date of shutdown and the anticipated schedule for removal and site restoration along with a site plan indicating the proposed site conditions after the decommissioning is completed, including topography at the same contour interval that was provided in the initial site plan approval, if topographical changes will be made. The owner or operator shall physically remove the system no later than one hundred eighty (180) days after the date of discontinued operations. At a minimum, decommissioning shall consist of:

1. Physical removal from the site of the solar panels, structures, equipment, security barriers, and electrical transmission lines.
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 Building Inspector may allow the owner or operator to leave landscape screening, and/or access roads in place in order to minimize erosion and disruption of vegetation. Anything that was not at the site previous shall be removed including, but not limited, to underground conduit, manholes, and wires. Site to be restored without any structures and returned to its original state.

**2. Abandonment**. Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the Large-Scale Ground-Mounted Solar Energy System shall be considered to have discontinued operations when it fails to operate for more than one hundred eighty (180) days without the written consent of the Planning Board.

**3**. **Action by Town.** If the owner or operator fails to remove the Large-Scale Ground-Mounted Solar Energy System in accordance with the requirements of this section within one hundred eighty (180) days after either abandonment or the proposed date of decommissioning, the Town may, to the extent it is otherwise duly authorized by law, enter the property and physically remove the system at the owner’s expense. As a condition of Site Plan or Special Permit approval, an applicant must agree to allow entry to remove an abandoned or decommissioned Large-Scale Ground-Mounted Solar Energy System.

**7.16.9. Financial Surety**. Applicants of Large-Scale Ground-Mounted Solar Energy Systems shall provide a form of surety, either through escrow account, bond or otherwise, to cover the cost of decommissioning and 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, shall it be less than125 percent of the cost of decommissioning, removal, and compliance with any additional requirements set forth herein or in the resulting Special Permit. The amount of the surety shall be reviewed every three (3) years and increased as necessary to account for inflation and other changes relevant to decommissioning the site.

**7.16.10.** **Annual Report.**The owner or operator of the Large-Scale Ground-Mounted Solar Energy System installation shall submit an Annual Report demonstrating and certifying compliance with the Operation and Maintenance Plan, and the requirements of this bylaw and their approved site plan including control of vegetation, noise standards, and adequacy of road access. The annual report shall also provide information on the maintenance of the landscape screening and panel maintenance completed during the year and the amount of electricity generated by the facility, as well as proof of continued insurance coverage. The report shall be submitted to the Board of Selectmen, Planning Board, Fire Chief, Emergency Management Director, Highway Superintendent, Building Inspector, Stormwater Committee, and Conservation Commission (if Wetlands Permit was issued) no later than 45 days after the end of the calendar year.

**7.16.11. Severability.** The provisions of this bylaw are severable, and if any such provision shall be held invalid by a court of competent jurisdiction, such decision shall not impair or otherwise affect any other provision of the bylaw; or take any other action relative thereto.