

Medfield Solar Zoning Ordinance Recommendations- DRAFT 12.7.20

Recommendations:

1. Expand Large-Scale Solar Photovoltaic Facilities Overlay District to include Business and Business Industrial zones and to include medium scale rooftop and solar parking canopies.
2. Additional solar ordinance to allow by right rooftop accessory solar in residential zones.
3. Municipal property is exempt from local zoning, so no need to change zoning to install solar at DPW or on schools- would recommend including a public process if installing canopies and not just rooftop solar at these locations. See sample language below.

Edits to existing Large-Scale Solar Photovoltaic Facilities Overlay District Article 19

Applicability-

- Add “medium-scale ground mounted solar” defined as “Solar Energy System, Medium-Scale: An active Solar Energy System that occupies more than 1,750 sq ft but less than 40,000 sq ft of surface areas (equivalent to a rated nameplate capacity of about 10-250 kW DC).

Definitions:

SOLAR ENERGY SYSTEM, MEDIUM-SCALE: An active Solar Energy System that occupies more than 1,750 sq ft but less than 40,000 sq ft of surface areas (equivalent to a rated nameplate capacity of about 10-250 kW DC).

SOLAR ENERGY SYSTEM, ROOF-MOUNTED: An Active Solar Energy System that is structurally mounted to the roof of a building or structure

SOLAR ENERGY SYSTEM, GROUND-MOUNTED: An Active Solar Energy System that is structurally mounted to the ground.

SOLAR ENERGY SYSTEM, SOLAR PARKING CANOPY: A special application of a Ground-mounted Solar Energy System that is installed on top of a parking surface or paved surface that maintains the function of the area beneath the canopy.

300-19.4 Solar Photovoltaic Overlay District

This district share consists of the follow land and parcels: All land and parcels within the boundaries of the Industrial Extensive (IE) Zoning District, the Business Industrial (BI) Zoning District, and Business (B) Zoning District.

300-19.7 Dimension, density, and parking requirements.

Height:

| System Type | Siting | Maximum Height |
|-----------------------------|---|---|
| Large-Scale Ground Mounted | Overlay | 18 vertical ft from grade |
| Medium Scale Ground Mounted | Overlay | 12 vertical ft from grade |
| Solar Parking Canopy | Overlay | Subject to site plan review by Special Permit granting authority OR maximum height allowed on the lot or the height of the principle structure |
| Medium Scale Roof Mounted | Overlay where roof pitch is greater than or equal to 15 degrees | Roof-mounted SES may extend up to one foot above the roof surface on which the building is installed, beyond applicable building height limits. Systems shall be mounted on the surface and parallel to the roof surface. |
| Medium Scale Roof Mounted | Overlay, where the roof pitch is less than 15 degrees | Roof mounted SES may extend up to 3 ft above the roof surface on which the system installed is beyond the applicable building height limit. If the surface of the roof is below maximum height, then the SES may extend up to 6 ft above the roof surface. |

Setbacks:

Solar parking canopies in business and business industrial zones shall meet setback requirements for Accessory Structures. OR

Solar parking canopies shall be allowed where parking is permitted in accordance with requirements defined in Section XXX. Planting and landscaping requirements should be met elsewhere on the lot.

| System Type | Siting | Front Setback | Side Setback | Rear Setback |
|-------------|---------|---------------|--------------|--------------|
| Large-scale | Overlay | 50 ft | 100ft | 50ft |

| | | | | |
|-----------------------------|---------|----------------------------------|----------------------------------|----------------------------------|
| Ground Mounted | | | | |
| Medium-Scale Ground Mounted | Overlay | Underlaying setbacks | Underlaying setback | Underlaying setbacks |
| Solar Parking Canopy | Overlay | Allowed where parking is allowed | Allowed where parking is allowed | Allowed where parking is allowed |
| | | | | |

Solar Parking Canopies installed on non-conforming lots shall comply with the underlaying setback requirements or seek Special Permit.

Solar Parking Canopies in non-residential zones shall be allowed where parking is permitted in accordance with requirements defined in Article 8, Off-Street Parking and Loading Regulations. The requirements for screening shall consist of that required for buffers as specified in Article 6, § 300-6.2I and J.

Lot Coverage

The impervious portion of Ground-mounted Solar Energy Systems shall be subject to any requirements in the Medfield Zoning By-Laws that relate to paving, including impervious lot coverage requirements within the Aquifer Protection District. The systems shall also comply with regulations identified in the Town of Medfield's Stormwater Management By-Law, Municipal Code Chapter 235.

Site Plan Review

Medium-scale Ground-mounted Solar Energy Systems in all districts and Solar Parking Canopies in non-residential districts are subject to site plan review by the Special Permit Granting Authority prior to construction, installation or modification as provided in this section and in accordance with § 300-14.12. The Planning Board will serve as the Special Permit Granting Authority for these systems. In addition to the requirements of § 300-14.12 for site plan approval, applicants should submit the following:

1. A site plan showing:
 - a. Property lines and physical features, including access roads for the project site.
 - b. A locus map showing the site in relationship to the properties, easements, and roadways in reasonable proximity thereto, including buildings, structures driveway openings, off-street parking and all public or private ways.

- c. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation and structures.
- d. Elevations and/or photo simulations of the proposed facility from the nearest public way and possibly other locations at the discretion of the Planning Board.
- e. Drawings of the solar photovoltaic installation signed by a professional engineer licensed to practice in the Commonwealth of Massachusetts showing the proposed layout of the system and any potential shading from nearby structures.
- f. One- or three-line electrical diagram detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with all National Electrical Code compliant disconnects and overcurrent devices.
- g. A stormwater runoff evaluation that includes water and temperature impacts to receptors and a stormwater management plan to mitigate impacts.
- h. An erosion and sedimentation control plan.
- i. Documentation of the major system components to be used, including the PV panels, mounting system, and inverter.
- j. Name, address, and contact information for proposed system installer.
- k. Name, address, telephone number and signature of the project proponent, as well as all co-proponents and/or property owners, if any.
- l. The name, contact information and signature of any agents representing the project proponent.

2. Documentation of actual or prospective access and control of the project site.
3. An operation and maintenance plan.
4. Documentation of the major system components to be used, including the electric generating photovoltaic panels, mounting system, inverter, etc. shall be provided [including applicable material safety data sheets (MSDS)].
5. 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, [including applicable material safety data sheets (MSDS)].
6. **A decommissioning plan in compliance with § 300-19.11C.**
7. 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].

8. Proof of liability insurance.
9. Description of financial surety as required by § 200-19.11E.
10. Photometric plan for any required site lighting with specific cutsheet details.
11. A rendering or photo simulation showing the proposed project at completion.
12. Locations of wetlands and priority habitat areas defined by the Natural Heritage and Endangered Species Program (NHESP); the applicant shall provide evidence of compliance with these regulations.
13. Plans showing provision of water, including that needed for fire protection.
14. Plans showing existing trees of six inches' caliper or larger.

The Planning Board may waive documentary requirements as it deems appropriate. All waiver requests must be written on the site plan

Additional Solar Energy System By-Law to allow for Accessory Use Roof-Mounted Systems

Purpose.

The purpose of this Article is to promote and regulate the use of residential, commercial and municipal solar energy systems within the Town of Medfield and encourage their location and use in a manner which minimizes negative visual and environmental impacts on scenic, natural and historic resources and to the residents of Medfield. The purpose is also to provide adequate financial assurance for the eventual decommissioning of such installations. The provisions set forth in this section shall take precedence over all other sections of the Medfield Zoning Bylaws when considering applications related to the construction, operation and/or repair of solar energy systems.

Definitions .

As used in this Article, the following terms shall have the meanings indicated:

AS-OF-RIGHT SITING: As-of-right siting shall mean that development may proceed without the need for a special permit, variance, amendment, waiver, or other discretionary approval; as- of-right development shall be subject to site plan approval by the Planning Board pursuant to § 300-14.12.

DESIGNATED LOCATION: The locations permitted shall be within the large-scale ground-mounted solar photovoltaic overlay district, hereinafter referred to as "PVOD."

INSTALLATION: A solar photovoltaic system that is structurally mounted on the ground and is not roof-mounted, and has a minimum nameplate capacity of 250 kW DC

ON-SITE SOLAR PHOTOVOLTAIC INSTALLATION: A solar photovoltaic installation that is constructed at a location where other uses of the underlying property occur.

PHOTOVOLTAIC SYSTEM (also referred to as Photovoltaic Installation): An active solar energy system that converts solar energy directly into electricity.

RATED NAMEPLATE CAPACITY: The maximum rated output of electric power production of the photovoltaic system in direct current (DC).

RELATED EQUIPMENT OR FACILITIES: Any equipment, building, structure, access way, landscaping or other means used to support the operation, or disguise the appearance, of a solar photovoltaic tower, antenna, or transmitting or receiving equipment of any kind.

SOLAR ENERGY SYSTEM: A device or structural design feature, a substantial purpose of which is to provide daylight for interior lighting or provide for the collection, storage, and distribution of solar energy for space heating or cooling, electricity generation, or water heating. Solar Energy Systems include the following system types:

SOLAR ENERGY SYSTEM, ACTIVE: A solar energy system whose primary purpose is to harvest solar energy into another form of energy or to transfer heat from a collector to another medium using mechanical, electrical, or chemical means. Active Solar Energy Systems include, but are not limited to, the following installation types:

SOLAR ENERGY SYSTEM, ROOF-MOUNTED: An Active Solar Energy System that is structurally mounted to the roof of a building or structure. This is intended to serve as an accessory use to the primary use on the property.

SOLAR PHOTOVOLTAIC ARRAY: An arrangement of solar photovoltaic panels.

UTILITY: A system of wires or conductors and supporting structures that functions in the transmission of electrical energy or communication services (both audio and video) between generating stations, substations, and transmission lines.

Use Regulations

1. Roof-Mounted Solar Energy Systems shall be permitted as a by-right accessory use in all use districts.
2. The installation of Roof-mounted Solar Energy Systems that:
 - A. comply with the regulations provided in this section; and
 - B. are located on properties with nonconforming uses or structures; and

C. do not increase the nonconformity of such nonconforming uses or structures except with respect to the dimensions of the Roof- mounted Solar Energy System in question shall not be considered a change, extension or alteration that requires a finding by the Zoning Board of Appeals per M.G.L. c.40A s.6.

3. In residential districts: Small-scale Ground-mounted Solar Energy Systems and Medium-scale Ground-mounted Solar Energy Systems shall be permitted subject to site plan review by the Special Permit Granting Authority.
4. Where Solar Energy Systems would be installed in a Historic District, the system shall require approval by the Historic District Commission.

| | A | RE | RT | RS | RU | B | BI | IE |
|-----------------------------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|
| Principal Use | No | No | No | No | No | NO | No | Yes |
| Medium-Scale Ground Mounted | No | No | No | No | No | Yes | Yes | Yes |
| Large-Scale Ground Mounted | No | No | No | No | No | Yes | Yes | Yes |
| Solar Parking Canopy | No | No | No | No | No | Yes | Yes | Yes |
| Roof Mounted | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Small-Scale Ground Mounted | SP | SP | SP | SP | SP | SP | SP | SP |

Height and Set Backs

| | | |
|----------------------------|---|---|
| Roof Mounted Accessory Use | Overlay where roof pitch is greater than or equal to 15 degrees | Roof-mounted SES may extend up to one foot above the roof surface on which the building is installed, beyond applicable building height limits. Systems shall be mounted on the surface and parallel to the roof surface. |
| Roof Mounted Accessory Use | Overlay, where the roof pitch is less than 15 degrees | Roof mounted SES may extend up to 3 ft above the roof surface on which the system installed is beyond |

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| | | <p>the applicable building height limit.</p> <p>If the surface of the roof is below maximum height, then the SES may extend up to 6 ft above the roof surface.</p> |
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All roof mounted solar energy systems shall comply with underlaying setbacks.

Municipal Solar Energy Systems

Notwithstanding the Solar Energy Use Provisions above, solar energy systems, whether ground- mounted or roof-mounted, of any scale, may be installed as of right on municipally-owned or leased property in all zoning districts. Ground-mounted solar energy systems on municipally-owned or leased land require site plan review.

The same dimensional, design and general requirements that apply to privately installed and operated solar energy systems shall apply to solar energy systems installed on municipally-owned property.