

**5.13 SOLAR ENERGY SYSTEMS** (Added 3/19)

**5.13.1 Purpose:**

This solar energy systems ordinance is enacted in accordance with the purposes outlined in RSA 672:1-III-a. The purpose of this ordinance is to accommodate solar energy systems in appropriate locations, while protecting the public's health, safety and welfare. In addition, this ordinance provides a permitting process for solar energy systems to ensure compliance with the provisions of the requirements and standards established herein.

**5.13.2 Definitions:**

- a. Photovoltaic System (also referred to as Photovoltaic Installation): An active solar energy system that converts solar energy directly into electricity.
- b. Rated Nameplate Capacity: The maximum rated output of electric power production of the photovoltaic system in watts of Direct Current (DC).
- c. Solar Access: The access of a solar energy system to direct sunlight.

- d. Solar Collector: A device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical, or electrical energy.
- e. Solar Energy: Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.
- f. 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.
- g. Solar Energy System, Active: A solar energy system whose primary purpose is to harvest energy by transforming solar energy into another form of energy or transferring heat from a collector to another medium using mechanical, electrical, or chemical means.
- h. Solar Energy System, Grid-Intertie: A photovoltaic system that is connected to an electric circuit served by an electric utility.
- i. Solar Energy System, Ground-Mounted: An Active Solar Energy System that is structurally mounted to the ground and is not roof-mounted; may be of any size (small, medium, or large-scale).
  - 1. Solar Energy System, Large-Scale: An Active Solar Energy System that occupies more than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of about 250kW DC or greater).
  - 2. Solar Energy System, Medium-Scale: An Active Solar Energy System that occupies more than 1,750 but less than 40,000 square feet of surface area (equivalent to a rated nameplate capacity of about 10 - 250 kW DC).
  - 3. Solar Energy System, Off-Grid: A photovoltaic solar energy system in which the circuits energized by the solar energy system are not electrically connected in any way to electric circuits that are served by an electric utility.
  - 4. Solar Energy System, Passive: A solar energy system that captures solar light or heat without transforming it to another form of energy or transferring the energy via a heat exchanger.
  - 5. Solar Energy System, Roof-Mounted: An Active Solar Energy System that is structurally mounted to the roof of a building or structure; may be of any size (small-, medium- or large-scale).
  - 6. Solar Energy System, Small-Scale: An Active Solar Energy System that occupies 1,750 square feet of surface area or less (equivalent to a rated nameplate capacity of about 10 kW DC or less).
  - 7. Solar Thermal System: An Active Solar Energy System that uses collectors to convert the sun's rays into useful forms of energy for water heating, space heating, or space cooling.

5.13.3 Use Regulations (Table 1):

	<b>Residential Zones (R/A, MH, RPC, FMU)</b>	<b>Commercial Zones (GCBD, CLIO, PRE, TC)</b>	<b>Industrial Zone (IND)</b>
<b>PRINCIPLE USE</b>			
Medium-Scale Ground-Mounted Solar Energy System	C	P	P
Large-Scale Ground-Mounted Solar Energy System	X	C	C
<b>ACCESSORY USE</b>			
Roof-Mounted Solar Energy System	P	P	P
Small-Scale Ground-Mounted Solar Energy System	P/C <sup>1</sup>	P/C <sup>1</sup>	P/C <sup>1</sup>
Medium-Scale Ground-Mounted Solar Energy System	C	C	C

P = Permitted; C = Conditional Use Permit

<sup>1</sup> Small-Scale Ground Mounted Solar Energy Systems shall be permitted by right if the application conforms to all of the following requirements:

1. The solar energy system is sited in the rear yard only and the application shall not include the clear-cutting of vegetation or the removal of mature trees located within 20-feet of any lot boundary.
2. The solar energy system is sited a minimum of 50-feet from the front property boundary (or any lot boundary that directly borders a road frontage) and a minimum of 35-feet from all property boundaries.
3. The solar energy system complies with the minimum setback requirements of the Wetland Conservation and Shoreland Protection Districts.
4. The solar energy system does not exceed a maximum height (tallest point of structure) of 12-feet above natural grade.
5. Small-scale solar energy systems on commercial, industrial, mixed-use, or multi-family residential properties shall be subject to the Stratham Site Plan Regulations.

Small-Scale Ground Mounted Solar Energy Systems that do not conform to all of the criteria above shall be permitted by Conditional Use Permit only.

5.13.4 Dimensional Regulations:

Solar Energy System structures must comply with Table 4.2 of the Zoning Regulations unless otherwise permitted by section 5.13.

5.13.4.1 Exceptions:

- a. Mechanical equipment and appurtenances necessary to the operation or maintenance of the building or structure itself, for the installation of roof-mounted solar energy systems may exceed the maximum height limitation of the underlying zoning district by no more than 25% of the zoning districts maximum allowed height.
- b. Ground mount installations shall be limited to a height (tallest point of structure) of no more than twenty one (21) feet above natural grade. (Rev. 3/20)

5.13.4.2 Setbacks:

- a. Small-scale ground-mounted solar energy systems must adhere to all of the setback requirements of the applicable zoning district. All ground-mounted solar energy systems in residential districts shall be installed either in the side yard or rear yard to the greatest extent practicable.

- b. Medium- and Large-scale ground-mounted solar energy systems shall be set back a minimum of 60 (sixty) feet from the front property line or any boundary with a public right-of-way and adhere to all other setback requirements for structures of the applicable zoning district (Rev. 3.22).

5.13.5 Lot Coverage:

Solar energy systems shall not be included in calculations for lot coverage or impervious cover as defined in the Town of Stratham Site Plan Review Regulations.

5.13.6 Site Plan Review Requirements and Performance Standards:

Applicability: Any Solar Energy systems requiring a Conditional Use Permit shall be subject to Site Plan Review as follows:

5.13.6.1 Site Plan Document Requirements:

Pursuant to the Site Plan Review process, the project proponent shall provide the following documents, as deemed applicable by the Planning Board:

- a. A site plan showing:
  - i. Property lines and physical features, including roads, for the project site;
  - ii. Proposed changes to the landscape of the site, grading, vegetation clearing and planting, exterior lighting, screening vegetation or structures;
  - iii. Blueprints or drawings of the solar energy system showing the proposed layout of the system, any potential shading from nearby structures, the distance between the proposed solar collector and all property lines and existing on-site buildings and structures, and the tallest finished height of the solar collector;
  - iv. Documentation of the major system components to be used, including the panels, mounting system, and inverter;
  - v. Name, address, and contact information for proposed system installer;
  - vi. Name, address, phone number and signature of the project proponent, as well as all co- proponents or property owners, if any;
  - vii. The name, contact information and signature of any agents representing the project proponent; and
  - viii. Zoning district designation for the parcel(s) of land comprising the project site.
  - ix. Proof that the project proponent will meet the required Site Plan Review notification procedures

5.13.7 Site Plan Review Design Standards:

- 5.13.7.1. Utility Notification - No grid-intertie photovoltaic system shall be installed until evidence has been given to the Site Plan Review Authority that the owner has submitted notification to the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement
- 5.13.7.2. Utility Connections - Reasonable efforts, as determined by the Site Plan Review Authority, shall be made to place all utility connections from the solar photovoltaic installation underground, depending on appropriate soil conditions, shape, and topography of the site and any requirements of the utility provider. Electrical transformers for utility interconnections may be above ground if required by the utility provider
- 5.13.7.3 Safety - The medium-scale ground-mounted solar energy system owner or operator shall provide a copy of the Site Plan Review application to the local fire chief. All means of shutting down the solar installation shall be clearly marked

- 5.13.7.4. Visual Impact - Reasonable efforts, as determined by the Site Plan Review Authority, shall be made to minimize visual impacts by preserving natural vegetation, screening abutting properties, or other appropriate measures
- 5.13.7.5 Land Clearing, Soil Erosion and Habitat Impacts - Clearing of natural vegetation should be limited to what is necessary for the construction, operation and maintenance of ground-mounted solar energy systems or as otherwise prescribed by applicable laws, regulations, and bylaws/ordinances
- 5.13.7.6 Site Plan Review—Full compliance with the Town of Stratham Site Plan Review Regulations shall be required for all Large Scale Ground Mount Installations
- 5.13.7.7 The owner of a Medium or Large Scale ground mounted solar energy system shall establish a performance bond, or provide the Town of Stratham with an irrevocable letter of credit in the same amount, ensuring adequate funds to return the site to pre- solar energy system condition. In the event of a transfer of ownership, the seller shall be responsible for notifying the buyer of this requirement and for notifying the Town of the transfer
- 5.13.8 Monitoring and Maintenance:
- 5.13.8.1 Solar Energy System Installation Conditions - The large-scale ground- mounted solar energy system owner or operator shall maintain the facility in good condition. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to the local Fire Chief Emergency Management Director, and Emergency Medical Services. The owner or operator shall be responsible for the cost of maintaining the solar energy system and any access road(s), unless accepted as a public way.
- 5.13.8.2 Modifications - All material modifications to a large-scale ground- mounted solar energy system made after issuance of the required building permit shall require approval by the Site Plan Review Authority.
- 5.13.9 Abandonment or Decommissioning:
- 5.13.9.1 Removal Requirements:
- a. Any medium or large-scale ground-mounted solar energy system which has reached the end of its useful life or has been abandoned, consistent with Section 5.13.9.2 of this bylaw/ordinance shall be removed. The owner or operator shall physically remove the installation no more than 150 days after the date of discontinued operations. The owner or operator shall notify the Site Plan Review Authority by certified mail of the proposed date of discontinued operations and plans for removal.
- Decommissioning shall consist of:
- i. Physical removal of all solar energy systems, structures, equipment, security barriers and transmission lines from the site.
  - ii. Disposal of all solid and hazardous waste in accordance with local, state, and federal waste disposal regulations.
  - iii. Stabilization or re-vegetation of the site as necessary to minimize erosion. The Site Plan Review Authority may allow the owner or operator to leave landscaping or designated below-grade foundations in order to minimize erosion and disruption to vegetation.

#### 5.13.9.2 Abandonment:

Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the medium or large-scale ground-mounted solar energy system shall be considered abandoned when it fails to operate for more than one year without the written consent of the Site Plan Review Authority. If the owner or operator of the solar energy system fails to remove the installation in accordance with the requirements of this section within 150 days of abandonment or the proposed date of decommissioning, the Town retains the right, after the receipt of an appropriate court order, to enter and remove an abandoned, hazardous, or decommissioned large-scale ground-mounted solar energy system. As a condition of Site Plan approval, the applicant and landowner shall agree to allow entry to remove an abandoned or decommissioned installation

#### 5.13.9.3 Return to Pre-development Condition: (Rev. 3/23)

In the event that a medium- or large-scale ground-mounted solar energy system is abandoned, the owner of the property shall be required to return the land to its pre-development condition. Accordingly, applicants for ground-mounted medium- and large-scale solar energy systems shall be required to provide the Planning Board, as part of its application materials, a plan for decommissioning ground-mounted solar energy facilities and restoring the site to its pre-development condition. Additionally, the property owner must sign a Declaration, to be recorded at the Registry of Deeds, committing the owner to removing the solar panels and restoring the site to its pre-development condition within 90 days of abandonment of a medium- or large-scale solar energy system.

#### 5.13.9.4 Removal of Abandoned Ground-mounted solar energy system: (Rev. 3/23)

Any ground-mounted solar energy system that is not operated for a continuous period of twelve (12) months shall be considered abandoned and hazardous to the public health and safety, unless the owner of said ground-mounted solar energy system provides proof of quarterly inspections. The owner shall remove the abandoned structure(s) within ninety (90) days of receipt of a declaration of abandonment from the Town notifying the owner of such abandonment. A declaration of abandonment shall only be issued following a public hearing, noticed per Town regulations, with notice to abutters and the last known owner/operator of the ground-mounted solar energy system. If the abandoned ground-mounted solar energy system is not removed within ninety (90) days pursuant to the requirements of Section 5.13.9.3, the Town may execute enforcement proceedings to compel action. If there are two (2) or more users of a single ground-mounted solar energy system, this provision shall not become effective until all users cease using the ground-mounted solar energy system