Solar Energy Facilities – Recommended Zoning

I. Purpose and Intent

The purpose of this chapter is to facilitate the development and operation of renewable energy systems based on sunlight, because it is in the public interest to provide for and encourage renewable energy systems and a sustainable quality of life. Solar energy systems are appropriate in all zoning districts when measures are taken, as provided in this chapter, to minimize adverse impacts on neighboring properties and protect the public health, safety and welfare.

II. Definitions

BUILDING-INTEGRATED PHOTOVOLTAIC (BIPV) SYSTEMS – A solar energy system that consists of integrating photovoltaic modules into the building structure, such as the roof or the façade and which does not alter the relief of the roof.

COLLECTIVE SOLAR – Solar installations owned collectively through subdivision homeowner association, college student groups, "adopt-a-solar-panel" programs, or other similar arrangements.

FREESTANDING OR GROUND-MOUNTED SOLAR ENERGY SYSTEM – A solar energy system that is directly installed in the ground and is not attached or affixed to an existing structure.

MAJOR SOLAR COLLECTION SYSTEM OR MAJOR SYSTEM – An area of land or other area used for a solar collection system principally used to capture solar energy and convert it to electrical energy to transfer to the public electric grid in order to sell electricity to or receive a credit from a public utility entity, but also may be for on-site use. Facility consists of one or more ground- or roof-mounted solar collector devices, solar-related equipment and other accessory structures and buildings, including light reflectors, concentrators, and heat exchangers, substations, electrical infrastructure, transmission lines and other appurtenant structures and facilities. Major solar collection systems are defined as systems with a total surface area greater than 2000 square feet.

MINOR SOLAR COLLECTION SYSTEM OR MINOR SYSTEM – A solar photovoltaic cell, panel, or array, or solar hot air or water collector device, which relies upon solar radiation as an energy source for collection, inversion, storage and distribution of solar energy for electricity generation or transfer of stored heat, accessory to the use of the premised for other lawful purposes. Minor solar collection systems are defined as roof- or building-mounted solar collectors greater than 60 square feet on any code-compliant structure, and ground-mounted solar collectors with the total surface area greater than 60 square feet and less than 2000 square feet.

NET-METERING – A billing arrangement that allows solar customers to get credit for excess electricity that they generate and deliver back to the grid so that they only pay for their net electricity usage at the end of the month.

PERMIT GRANTING AUTHORITY – The Town authority charged with granting permits for the operation of solar energy systems.

PHOTOVOLTAIC (PV) SYSTEMS – A solar energy system that produces electricity by the use of semiconductor devices, called photovoltaic cells, which generate electricity whenever light strikes them.

INSTALLER – A person who performs installations in accordance with applicable electrical and building codes, the manufacturer's installation instruction, and prior to operation, the electrical connections must be inspected by the Town Code Enforcement Officer and by an appropriate electrical inspection person or agency, as determined by the Town. In addition, any connection to the public utility grid must be inspected by the appropriate public utility.

ROOFTOP OR BUILDING MOUNTED SOLAR SYSTEM - A solar power system in which solar panels are mounted on top of the structure of a roof either as a flush-mounted system or as modules fixed to frames which can be tilted toward the south at an optimal angle.

SOLAR ACCESS – Space open to the sun and clear of overhangs or shade including the orientation of streets and lots to the sun so as to permit the use of active and/or passive solar energy systems on individual proprieties.

SOLAR COLLECTOR – A solar photovoltaic cell, panel, or array, or solar hot air or water collector device, which relies upon solar radiation as an energy source for the generation of electricity or transfer of stored heat.

SOLAR EASEMENT - An easement recorded pursuant to NY Real Property Law § 335-b, the purpose of which is to secure the right to receive sunlight across real property of another for continued access to sunlight necessary to operate a solar collector.

SOLAR ENERGY EQUIPMENT / SYSTEM – Solar collectors, controls, energy storage devices, heat pumps, heat exchangers, and other material, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation and then distributed. Solar systems include solar thermal, photovoltaic and concentrated solar.

SOLAR PANEL – A device for the direct conversion of solar energy into electricity.

SOLAR STORAGE BATTERY – A device that stores energy from the sun and makes it available in an electrical form.

SOLAR-THERMAL SYSTEMS – Solar thermal systems which directly heat water or other fluid using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.

III. **Standards for Minor Solar Collection Systems**

A. APPLICABILITY

1. The requirements of this Section shall apply to all Minor solar energy systems (residential, commercial, multi-family and condominium) modified or installed after the effective date of this Section.

2. Solar energy systems for which a valid permit has been properly issued or for which installation has commenced prior to the effective date of this article shall not be required to meet the requirements of this section except in accordance with PERMITTING and SAFETY paragraphs:

3. All solar energy systems shall be designed, erected, and installed in accordance with all applicable codes, regulations and standards.

4. Solar energy collectors shall be permitted only to provide power for use by owners, lessees, tenants, residents, or other occupants of the premises on which they are erected, but nothing contained in this provision shall be construed to prohibit "collective solar" installation or the sale of excess power through a "net billing" or "net-metering" arrangement in accordance with New York Public Service law § 66-j or similar state or federal statute.

B. PERMITTING

1. Rooftop and Building-Mounted Solar Collectors: Rooftop and building mounted solar collectors are permitted in all zoning districts in the Town subject to the following:

a. Building permits shall be required for installation of all rooftop and building-mounted solar collectors.

b. Any height limitations of the Town Code shall not be applicable to solar collectors provided that such structures are erected only to such height as is reasonably necessary to accomplish the purpose for which they are intended to serve, and that such structures do not obstruct solar access to neighboring properties.

c. Placement of solar collectors on flat roofs shall be allowed as of right in non-historic districts, provided that panels do not extend horizontally past the roof line.

2. Building-Integrated Photovoltaic (BIPV) Systems: BIPV systems are permitted outright in all zoning districts.

3. Ground-Mounted and Free Standing Solar Collectors: Ground-mounted and free standing solar collectors are permitted as accessory structures in all zoning districts of the Town, subject to the following conditions:

a. Building permits are required for the installation of all ground-mounted solar collectors.

b. The location of the solar collector meets all applicable setback requirements for accessory structures in the zoning district in which it is located.

c. The height of the solar collector and any mounts shall not exceed [20] feet when oriented at maximum tilt.

d. Solar energy equipment shall be located in a manner to reasonably minimize view blockage for surrounding properties and shading of property to the north, while still providing adequate solar access for collectors.

e. Freestanding solar energy collectors shall be screened when possible and practicable through the use of architectural features, earth berms, landscaping, or other screening which will harmonize with the character of the property and surrounding area.

f. The total surface area of all solar collectors on the lot shall not exceed 2000 square feet and, when combined with all other buildings and structures on the lot, shall not exceed the maximum lot coverage for the zoning district plus ten (10) percent.

4. Solar-Thermal Systems: Solar-thermal systems are permitted in all zoning districts subject to the following condition: Building permits are required for the installation of all solar-thermal systems.

5. Solar energy systems and equipment shall be permitted only if they are determined by the Town not to present any unreasonable safety risks, including, but not limited to, the following:

a. Weight load

b. Wind resistance

c. Ingress or egress in the event of fire or other emergency.

6. Installations in designated historic districts shall require a certificate of appropriateness from the Town's Historical Society unless such installations are not visible from the street.

C. SAFETY

1. All solar collector installations must be performed in accordance with applicable electrical and building codes, the manufacturer's installation instructions, and industry standards, and prior to operation the electrical connections must be inspected by the Town Code Enforcement Officer and by an appropriate electrical inspection person or agency, as determined by the Town. In addition, any connection to the public utility grid must be inspected by the appropriate public utility.

2. Solar energy systems shall be maintained in good working order.

3. Rooftop and building-mounted solar collectors shall meet New York's Uniform Fire Prevention and Building Code standards.

4. If solar storage batteries are included as part of the solar collector system, they must be placed in a secure container or enclosure meeting the requirements of the New York State

Building Code when in use and when no longer used shall be disposed of in accordance with the laws and regulations of the Town and other applicable laws and regulations.

5. If a solar collector ceases to perform its originally intended function for more than 12 consecutive months, the property owner shall remove the collector, mount and associated equipment by no later than 90 days after the end of the twelve-month period.

IV. **Standards for Major Solar Collection Systems**

A. Where applicable, and unless more restrictive regulations apply, the standards for minor systems shall apply to solar collectors and installation for major systems.

B. A major system may be permitted in the areas which are Industrial Zoned only. All major systems require a special use permit from the Planning Board subject to the terms and conditions listed below.

1. Height and setback restrictions
    a. The maximum height for ground-mounted solar panels located on the ground or attached to a framework located on the ground shall not exceed 20 feet in height above the ground.
    b. The minimum side yard and rear setback shall be 25 feet; the minimum front yard setback shall be 50 feet. The minimum setback to an inhabited structure on an adjacent lot shall be 50 feet.
    c. Based on site specific conditions, including topography, adjacent structures, and roadways, a landscaped buffer may, at the discretion of the Planning Board and/or Zoning Enforcement Officer, be required around all equipment and solar collectors to provide screening from adjacent residential properties and road but shall not result in shading solar collectors.
2. Design standards
    a. Removal of trees and other existing vegetation shall be minimized, and offset with planting elsewhere on the property if the proposed vegetation does not shade solar collectors.
    b. Roadways within the site shall be constructed to Town standards and of materials appropriate to the site and shall be designed to minimize the extent of roadways constructed and soil compaction.
    c. All on-site utility and transmission lines shall, to the extent feasible, be placed underground.
    d. Solar collectors and other facilities shall be designed and located in order to prevent reflective glare toward any inhabited buildings on adjacent properties and roads.
    e. All electrical equipment, including any structure for batteries or storage cells, shall be enclosed by a minimum six-foot-high perimeter fence topped with an additional outward-facing fencing section at the top. Enclosure shall include a self-locking gate and be provided with landscape screening.

f. A major solar collection system to be connected to the utility grid shall provide documentation from the utility company acknowledging the major solar collection system will be connected to the utility grid in order to sell electricity to the public utility.

3. Signs

a. A sign not to exceed eight square feet shall be displayed on or near the main access point and shall list the facility name, owner and phone number.

b. A clearly visible warning sign concerning voltage must be placed at the base of all pad-mounted transformers and substations.

c. Solar collection systems shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the system.

4. Areas of Potential Sensitivity shall be shown on site plans and shall be given special consideration. Those areas consist of the following.

a. One-hundred-year flood hazard zones considered an A or AE Zone on the FEMA Flood Maps.

b. Historic and/or culturally significant resources in an historic district or historic district transition zone.

c. Within 100 feet landward of a freshwater wetland.

d. Adjacent to, or within, the control zone of any airport.

e. State owned lands.

f. Unique Natural Areas

g. Properties with Conservation Easements or owned by a land conservation organization.

h. Public trails

i. Productive farmland and/or Prime Soils and Soils of Statewide Importance, as defined by United States Department of Agriculture.

5. Property Operation and Maintenance Plan. A property operation and maintenance plan is required, describing continuing solar collection system maintenance and property upkeep, such as mowing and trimming.

6. Abandonment

a. All applications for a major solar collection system shall be accompanied by a decommissioning plan to be implemented upon abandonment, or cessation of activity, or in conjunction with removal of the facility, prior to issuance of a building permit.

b. In the event the facility is not completed and functioning within 18 months of the issuance of the final site plan approval, the Town may notify the operator and/or the owner to complete construction and installation of the facility within 180 days. If the owner and/or operator fail to perform, the Town may notify the owner and/or operator to implement the decommissioning plan. The decommissioning plan must be completed within 180 days of notification by the Town.

c. The decommissioning plan must ensure the site will be restored to a useful, nonhazardous condition without delay, including, but not limited to, the following:

i. Removal of aboveground and below-ground equipment, structures and foundations.

ii. Restoration of the surface grade and soil after removal of equipment.

iii. Revegetation of restored soil areas with native seed mixes, excluding any invasive species.

iv. The plan shall include a time frame for the completion of site restoration work.

Plans shall include an estimated cost schedule and a decommissioning security in the form of bonds to guarantee the availability of funds for the system removal. The bond amount equals the decommissioning and reclamation costs for the entire system. The bond must remain valid until the decommissioning obligations have been met. Therefore, the bond must be renewed or replaced if necessary to account for any changes in the total decommissioning cost. A licensed professional engineer, shall estimate decommissioning cost of the system. The cost schedule shall take into account a reasonable rate of inflation.

d. Upon cessation of activity of a constructed facility for a period of one year, the owner and/or operator shall implement the decommissioning plan. Within 180 days of notice being served, the owner and/or operator can either restore operation equal to 80% of approved capacity or implement the decommissioning plan.