

ORDINANCE 9-2020

**ORDINANCE OF THE BOROUGH OF MADISON
ESTABLISHING CHAPTER 195-36.1 OF THE MADISON LAND
DEVELOPMENT ORDINANCE, ENTITLED "SOLAR ENERGY
SYSTEMS"**

WHEREAS, the Borough of Madison Planning Board has recommended that the Madison Land Development Ordinance Section 195-36.1 be established to regulate solar energy facilities and structures; and

WHEREAS, the Borough Council has determined to adopt such amendment.

NOW, THEREFORE, BE IT ORDAINED by the Council of the Borough of Madison, in the County of Morris and State of New Jersey, that:

SECTION 1: Chapter 195 of the Madison Land Development Ordinance, entitled "Land Development", Section 195-36.1 entitled "Solar Energy Systems" is hereby established as follows:

I. ADD NEW SECTION 195-37. SOLAR ENERGY SYSTEMS.

A. The purpose of this ordinance is:

- 1) To amend and supplement the Land Development Code of the Borough of Madison to regulate solar photovoltaic energy facilities and structures and balance the objective of providing reasonable opportunities for on-site solar or photovoltaic electric generation for on-site electricity consumption with protection of the natural and built environment.
- 2) To promote the conservation of energy through the use of planning policies and practices designed to reduce energy consumption and to provide for utilization of renewable energy sources accessory to and directly supportive of a use permitted by Madison Land Development Ordinance.

B. Definitions.

- 1) Solar Photovoltaic Energy System, Accessory. A system of solar photovoltaic modules, panels or arrays for the collection, storage, and distribution of solar energy for space heating or cooling, for water heating (including heat exchange systems with exterior panels), or for electricity, that:
 - a) Is located on the electric consumer's premises;
 - b) Is designed and intended to offset part of the electric consumer's on-site electric energy consumption; and
 - c) Is accessory, subordinate and incidental to the electric consumer's principal use of the premises for other lawful purpose(s).
- 2) Building-Integrated Solar Energy Systems. A solar energy system that is an integral part of a principal or accessory building, rather than a separate mechanical device, replacing or substituting for an architectural or structural component of the building. Building-integrated systems shall include photovoltaic or hot water solar energy systems that are contained within

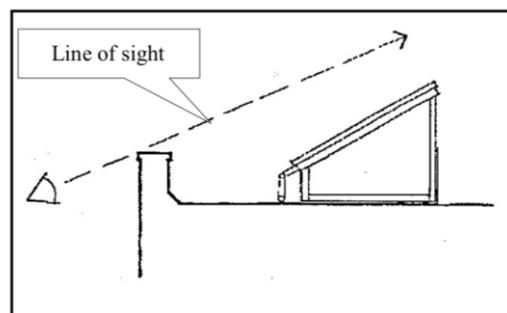
roofing materials, windows, and skylights that do not visually differ from conventional building materials.

- 3) Community Solar System. Local solar facilities shared by multiple community subscribers who receive credit on their electricity bills for their share of the power produced.
 - 4) Ground Mounted Solar Energy System. Systems which are not mounted on existing structures. This does not include parking canopy systems.
 - 5) Public View. The view by the public of a building from any point on a street or walkway which is used as a public thoroughfare, either vehicular or pedestrian.
 - 6) Roof Mounted Solar Energy System. A solar energy system consisting of solar collectors that are installed directly on the roof of a home, commercial building, and/or a permitted accessory structure, such as a garage, pergola, and/or shed.
 - 7) 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 or electrical energy.
 - 8) Solar Collector Surface. Any part of a solar collector that absorbs solar energy for use in the collector's energy transformation process. Collector surface does not include frames, supports and mounting hardware.
 - 9) Solar Mounting Device. Racking, frames or other devices that allow the mounting of a solar collector onto a roof surface or the ground.
- C. Applicability. This section applies to solar energy systems to be installed and constructed after the effective date of the ordinance. Solar energy systems constructed prior to the effective date of this ordinance shall not be required to meet the requirement of this section, provided however, that any upgrades, modifications, or changes that alter the size or placement of existing solar energy systems shall comply with the provisions of this section. Community solar systems operated by the Borough of Madison or a third party contracted by the Borough of Madison are not subject to this ordinance.
- D. Permitted Accessory Use. Solar energy systems shall be allowed as an accessory use, subject to the requirements set forth within this section.
- E. General Regulations.
- 1) In order to maintain a desirable visual environment throughout Madison by preserving and promoting the small town and historical characteristics of the Borough, it is the intention of this section that the installation of solar photovoltaic energy systems be installed in as inconspicuous and unobtrusive a manner as reasonably possible.
 - 2) The design of solar systems shall conform to all applicable local, state and national solar codes and standards. A building permit review by department staff shall be obtained and all design and installation work shall comply with all applicable provisions in the National Electric Code (NEC), the International Residential Code (IRC), International Commercial Building Code, State Fire Code, and any additional requirements set forth by the local utility for grid-connected systems.
 - 3) Electrical wiring connecting solar panel arrays, system transformers, inverters, and utility service shall be installed as flush as possible on structures upon which panels are mounted or installed underground.

- 4) All connections from solar systems to the grid shall be underground where existing electric service is underground.
 - 5) Panels shall be darkish blue, grey or other neutral color and may not include any integrated graphics.
 - 6) A power disconnect and system shut-down device accessible to emergency services personnel shall be installed and marked conspicuously with a sign, which shall identify an emergency contact person and an emergency contact telephone number. The property owner shall make the property available to local emergency first responders for annual training on power disconnect and system shut down procedures that may be required in the case of an emergency. System diagrams shall be provided to local emergency first responders upon installation and updated when alterations to the system are completed.
 - 7) Installations proposed within the Bottle Hill Historic District and Civic Commercial Historic District shall be subject to the following provisions:
 - a) Solar panels shall not alter a historic site's character defining features.
 - b) All modifications to a historic site must be entirely reversible, allowing alterations to be removed or undone to reveal the original appearance of the site.
 - c) Exposed solar energy equipment must be consistent with the color scheme of the underlying structure.
 - d) Solar installations in these historic districts shall be subject to review by the Historic Preservation Commission.
 - 8) All solar photovoltaic equipment, except for roof-mounted solar photovoltaic panels as permitted herein, shall be effectively screened from public rights-of-way, with indigenous deer resistant evergreen plantings, and, to the greatest extent feasible, shall blend with the immediately surrounding area.
 - 9) Building integrated solar energy systems may be visible from the public view and are subject only to the screening and setback requirements for supporting equipment.
 - 10) Solar collectors shall be oriented and/or screened so that any glare is directed away from any adjoining properties and streets.
 - 11) All supporting equipment shall not be located any closer than twenty feet (20') to any other building or structure, except as permitted herein.
 - 12) Solar energy systems shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the system. No such signs shall exceed one square foot in area. In no case shall any identification be visible from the property line.
 - 13) No solar energy system shall be lit. Parking lots under solar canopy systems may be lighted in accordance with Borough lighting regulations.
- F. Roof mounted solar photovoltaic energy systems. Installation or construction of roof mounted solar photovoltaic energy systems shall be subject to the following requirements:
- 1) A roof mounted solar photovoltaic energy system may not be placed on any lot which does not contain a permitted principal structure. A roof mounted system may be installed upon permitted principal and accessory buildings.
 - 2) A roof mounted solar photovoltaic energy system shall serve only the lot where it is located. All supporting ancillary equipment not attached to the

structure housing solar arrays shall be located in the rear yard unless evidence is provided from a solar entity that such equipment cannot be feasibly located in the rear yard location (conforming to rear yard setback as noted herein), the applicant may then place supporting equipment in alternative areas, as follows:

- a) Fifty percent of the actual rear yard setback or a minimum of twenty (20) feet, whichever is greater.
 - b) Side yard with a minimum setback that is equal to the respective minimum zone requirements or fifty (50%) percent of the actual setback line; whichever is greater.
- 3) Roof mounted solar photovoltaic energy system panels shall not extend above the existing height of the roof: more than 12” on structures with pitched roofs with 3% slope or greater; or from 24” to a maximum of 48” on structures with flat roofs (flat roof shall be defined as a roof pitch less than 3% slope) provided a minimum four-foot perimeter setback is provided. Roof-mounted solar energy systems shall not exceed the maximum permitted height in the zone district for the structure or building on which they are mounted. For roof-mounted solar energy systems installed on a sloped roof, the system must be installed at the same angle as the roof on which it is installed with a maximum distance, measured perpendicular to the roof, of 12 inches between the roof and highest edge or surface of the system. In no instance shall it extend above the ridge of a peaked roof.
 - 4) Panels shall not overhang or otherwise extend beyond any rooftop structure.
 - 5) Exterior piping associated with the roof-mounted solar energy system shall be allowed to extend beyond the perimeter of the building on any facade of an accessory structure. Where exterior cables or piping are visible from any public right-of-way, they shall be treated architecturally to blend in with the building color and materials.
 - 6) No system shall cover more than 80% of the entire roof area.
 - 7) No system shall be mounted to a fence.
 - 8) Where parapets are in place and rooftop orientation allows, solar collectors mounted on flat roofs shall be mounted behind a building parapet, below the line of sight from the nearest edge of the right-of-way(s) adjacent to front- and street-side yards (see below Illustration).



G. Parking lot roof canopy mounted solar photovoltaic energy systems. Installation or construction of roof canopy mounted solar photovoltaic energy systems shall be subject to the following requirements:

- 1) Site plan approval is required
 - 2) An applicant for a parking lot roof canopy mounted solar photovoltaic energy system shall obtain all permits required by the Uniform Construction Code.
 - 3) Parking lot roof canopy mounted solar photovoltaic energy systems shall be constructed above parking spaces and shall not be located in a front yard or any area between the front façade of a principal building and the street.
 - 4) A minimum 10-foot wide buffer, consisting of plantings, fencing, berming or some combination thereof, shall be required adjacent to any residential property line to serve as a year-round buffer.
 - 5) The maximum permitted height of the system shall be twenty-two feet, as measured from the grade plane to the highest point of the mounting equipment, structure and/or panels, whichever is greatest.
 - 6) The parking lot roof canopy mounted solar photovoltaic energy system shall serve only the lot upon which it is located and may not serve any other lot either in common ownership or otherwise. All supporting equipment, such as transformers, inverters, power line interconnections, etc. shall be installed only in the rear or side yard area of any lot.
 - 7) The proposed location for all supporting equipment shall conform to the rear yard and side yard setback requirements for an accessory building or the requirements for parking setback in the zone (whichever is greater) in which the property is located (and in no case shall be located in the front yard).
- H. Ground-mounted solar photovoltaic energy systems. Where permitted, a ground-mounted solar photovoltaic energy system may be installed subject to the following requirements:
- 1) Accessory to principal permitted use.
 - 2) A ground-mounted solar photovoltaic energy system shall not be constructed on any lot which does not contain a permitted principal structure.
 - 3) A ground-mounted solar photovoltaic energy system shall serve only the permitted principal structure and permitted accessory buildings located on the tax lot upon which the energy system is located.
 - 4) Ground mounted solar photovoltaic energy systems shall require site plan approval.
 - 5) Ground-mounted systems shall be designed to minimize impacts on critical habitat areas, especially habitats of threatened and endangered species.
 - 6) Issuance of a construction permit. An applicant for a ground-mounted solar or photovoltaic energy system permit shall obtain all permits required by the Uniform Construction Code (UCC).
 - 7) Access. No new driveway access shall be created. Access shall be provided utilizing existing driveways. Any interior access road required between and among ground-mounted solar photovoltaic energy system arrays and components shall be designed as grassed roadways to minimize the extent of soil disturbance, water runoff and soil compaction.
 - 8) Maximum height. The maximum height of solar panel arrays from existing ground level shall not exceed 8 (eight) feet. System components shall not exceed the maximum permitted height for an accessory structure in the zone in which located.

- 9) Ground mounted systems shall not be counted in the calculation of maximum impervious coverage unless the area under the panels, excluding any footings, consists of an impervious material.
- 10) Ground mounted systems shall not exceed five (5)% of the total land area of the tract on which it is located. The area of the system shall be measured by the aggregate of all land on which the system is located, excluding transmission lines and subsurface elements.
- 11) Yard placement & visual buffering. All components of a ground-mounted solar photovoltaic energy system (solar panel arrays, supporting equipment including transformers, inverters, electric utility line connections, etc.) shall be installed only in yards not facing public rights-of-way and shall not be located closer to the side property line than the existing side yard/perimeter setback (whichever is greater) of the principal building upon the lot, subject to the following visual compatibility, placement and design standards.
 - a) The ground mounted system and its components shall be shielded by a minimum ten-foot wide landscaped buffer of plantings and/or plantings and berming around the perimeter of the facility. The buffer shall screen the system from view from adjoining residences, preserved open space, the public traveled way, including public rights-of-way, roads and publicly accessible trails.
 - b) Perimeter landscaped screen buffer. Landscaped screen buffer plantings shall be indigenous evergreen species for year-round screening, which shall grow to sufficient height within five (5) years to completely screen the system from off-site view. The landscaped screen buffer plantings shall be continually maintained to provide a permanent visual screen of the facility.
 - c) Where existing features may effectively serve to shield portions of the installation and its components from view, such features may be substituted for portions of the required perimeter landscaped buffer. Such features include, but are not limited to:
 - [1] Existing hedgerows or forested areas, which may be supplemented with additional plantings to achieve year-round effective visual screening of the installation and its components;
 - [2] Existing buildings, such as barns, garages, greenhouses, outbuildings, etc;
 - [3] Existing topographic features or structures such changes in elevation, ridgelines, retaining walls and similar features.
 - d) Where any of the above features may be substituted for the required perimeter landscaped buffer, such features shall be maintained for as long as ground-mounted solar or photovoltaic energy system remains on site. Where such features may be removed over time by will or act of God, the required perimeter landscaped buffer shall be provided within either two (2) months of the removal of such features.
- 12) Solar panel array ground mounting. To minimize land disturbance and facilitate future site rehabilitation, solar panel arrays shall be mounted to the ground through the use of earth screws, auger driven piers or a similar system that does not require the use of bituminous or concrete material.

- 13) Grading. The ground-mounted system and its components should be designed to follow the natural topography to the greatest extent possible to minimize the disturbance of soils.
 - 14) Soil erosion control, soil stabilization. All ground areas occupied by the ground-mounted solar photovoltaic energy system shall be planted and maintained with shade tolerant grasses for the purpose of soil stabilization. A seed mixture of native, non-invasive shade tolerant grasses shall be utilized to promote biodiversity and natural habitat.
- I. Review process.
- 1) No installation of solar energy systems shall be permitted without a zoning permit.
 - 2) For site plans, the Zoning Officer shall issue a denial of zoning permit and shall refer the application to the Planning Board for review.
 - 3) In the event that an application is made pursuant to the terms of this article for premises that are located in the Bottle Hill or Civic Commercial Historic District, approval must be obtained from the Madison Historic Preservation Commission (HPC). Applicants shall submit plans to the Zoning Officer for review, and, if appropriate, a zoning permit may be issued, conditioned upon HPC review and approval.
- J. Decommissioning, removal, restoration. All ground mount or parking lot canopy solar photovoltaic energy systems shall be maintained in continuous operation. A decommissioning plan shall accompany all applications for ground-mounted or parking canopy systems.
- 1) Solar photovoltaic energy facilities and structures (roof or ground) which have not been in active and continuous service for a period of eighteen (18) months shall be decommissioned and removed from the property to a place of safe and legal disposal.
 - 2) Upon cessation of activity and as part of decommissioning any ground-mount or parking lot canopy system, the Applicant shall submit a performance bond in a form and manner satisfactory to the Borough Engineer to ensure availability of adequate funds to restore the site to a useful condition. The Applicant shall further:
 - a) Deactivate, disconnect and remove all structures, unless otherwise noted herein.
 - b) Restore the surface grade and soil after removal of aboveground structures and equipment, including but not limited to removal of all components of the system including footings.
 - c) Replace soil, as necessary, within the top 12 inches of the soil profile, which shall be comprised of topsoil meeting the texture of loam as described in the USDA soil classification system, and the pH shall be in the range of 6.5 to seven. Tests shall be reviewed and approved by the Borough.
 - d) Decompact land where necessary to promote healthy plant growth prior to installation of topsoil and vegetation. Tests shall be reviewed and approved by the Borough.
 - e) Restore soil areas with native grasses, agricultural crops or plant species suitable to the area and which do not include any invasive species.

- f) Provide quantity takeoffs, unit prices and overall cost estimates for decommissioning in current dollars.
 - g) Provide for the retention of buffers and plantings.
 - h) Restore parking areas and their surfaces for any parking under decommissioned canopy solar installations.
- 3) If the property owner fails to remove the system and restore the system in accordance with the decommissioning plan, the Borough may perform the work in place of the owner. All costs incurred by the Borough in connection with the same shall be a lien on the property upon which the work is performed. In the event that the Borough incurs any additional costs in enforcing the lien or collecting the money owed, the owner shall be obligated to reimburse the Borough for the additional costs and expenses, including reasonable attorneys' fees.
 - 4) The Borough of Madison expressly reserves the right to require the removal of any solar energy system, or portion thereof, which is improperly constructed or maintained or which poses an imminent safety hazard. In the event that the Borough incurs any additional costs in enforcing the lien or collecting the money owed, the owner shall be obligated to reimburse the Borough for the additional costs and expenses, including reasonable attorneys' fees.

K. Permitted Accessory Solar Energy Systems.

- 1) Building integrated systems are permitted as accessory uses in all zoning districts.
- 2) Roof mounted systems are permitted as accessory uses in all zoning districts.
- 3) Parking lot canopy systems are permitted accessory uses in the following districts in the rear yard only as regulated herein:
 - a) R-5 District
 - b) R-5A District
 - c) CC District
 - d) OR District
 - e) PCD-O District
 - f) Gateway District
 - g) P District
 - h) OSGU District
 - i) University District
- 4) Ground mounted systems shall be permitted as accessory uses only in the PCD-O and OSGU Districts, upon finding by the reviewing Board that rooftop and/or parking lot canopy systems are not reasonably feasible due to specific site/building conditions. Community solar systems operated by the Borough of Madison or a third party contracted by the Borough of Madison are not subject to the 5% land area cap.
- 5) Additional Submission Requirements. In addition to the application requirements in all applicable construction codes and the Borough Land Use Ordinance, all applications for solar energy systems shall be accompanied by a property survey showing the proposed location or locations of the solar energy system and distance from property lines. In addition, photographs showing the property from the public view, and the location of the proposed solar energy system, must be submitted so as to determine compliance with the visibility and other provisions of this ordinance.

L. Abandonment.

- 1) Where a solar energy system is out of service for a continuous eighteen-month period, there shall be a rebuttable presumption that the system has been abandoned.
- 2) The Borough may issue a notice of abandonment to the owner of a renewable energy system that is deemed to have been abandoned. The notice shall be sent return receipt requested.
- 3) The owner shall have the right to respond to the notice of abandonment within 30 days from notice receipt date.
- 4) If the owner provides information that demonstrates the renewable energy system has not been abandoned, the Borough shall withdraw the notice of abandonment and notify the owner that the notice has been withdrawn.
- 5) If the Borough determines that the renewable energy system has been abandoned, the owner of the renewable energy system shall remove the renewable energy system and properly dispose of the components at the owner's sole expense within six months after the owner receives the notice of abandonment.
- 6) In the event that the owner fails to remove the renewable energy system, the Borough or its employees or contractors may enter the property to remove the renewable energy system (but shall not be obligated to remove the same), and in the event that the Borough performs the removal, all costs of such removal shall be reimbursed to the Borough by the owner. In the event the owner fails to reimburse the Borough, the Borough may place a lien on the property in the amount of the costs of said removal. In the event that the Borough incurs any additional costs in enforcing the lien or collecting the money owed, the owner shall be obligated to reimburse the Borough for the additional costs and expenses, including reasonable attorneys' fees.

SECTION 2: This ordinance shall take effect as provided by law.

ADOPTED AND APPROVED

ROBERT H. CONLEY, Mayor

Attest:

ELIZABETH OSBORNE, Borough Clerk