Flushing Township
Solar Energy Zoning Ordinance Provisions

Article 2 DEFINITIONS

ROOF-MOUNTED SOLAR ENERGY COLLECTOR: A solar energy collector that is attached to a building's roof on the parcel of land including solar shingles.

COMMERCIAL SOLAR ENERGY SYSTEM: A utility-scale facility of solar energy collectors with the primary purpose of wholesale or retail sales of generated electricity. Commonly referred to as solar farms.

GROUND-MOUNTED SOLAR ENERGY COLLECTOR: A solar energy collector that is not attached to and is separate from any building on the parcel of land on which the solar energy collector is located (Figure 1).

ON-SITE: A solar energy system designed to help meet the electrical needs within the limits of the area encompassed by the tract area or parcel of record on which the activity is conducted.

RACKING: Racking is any structure or building material used in the mounting of a solar panel (Figure 1).

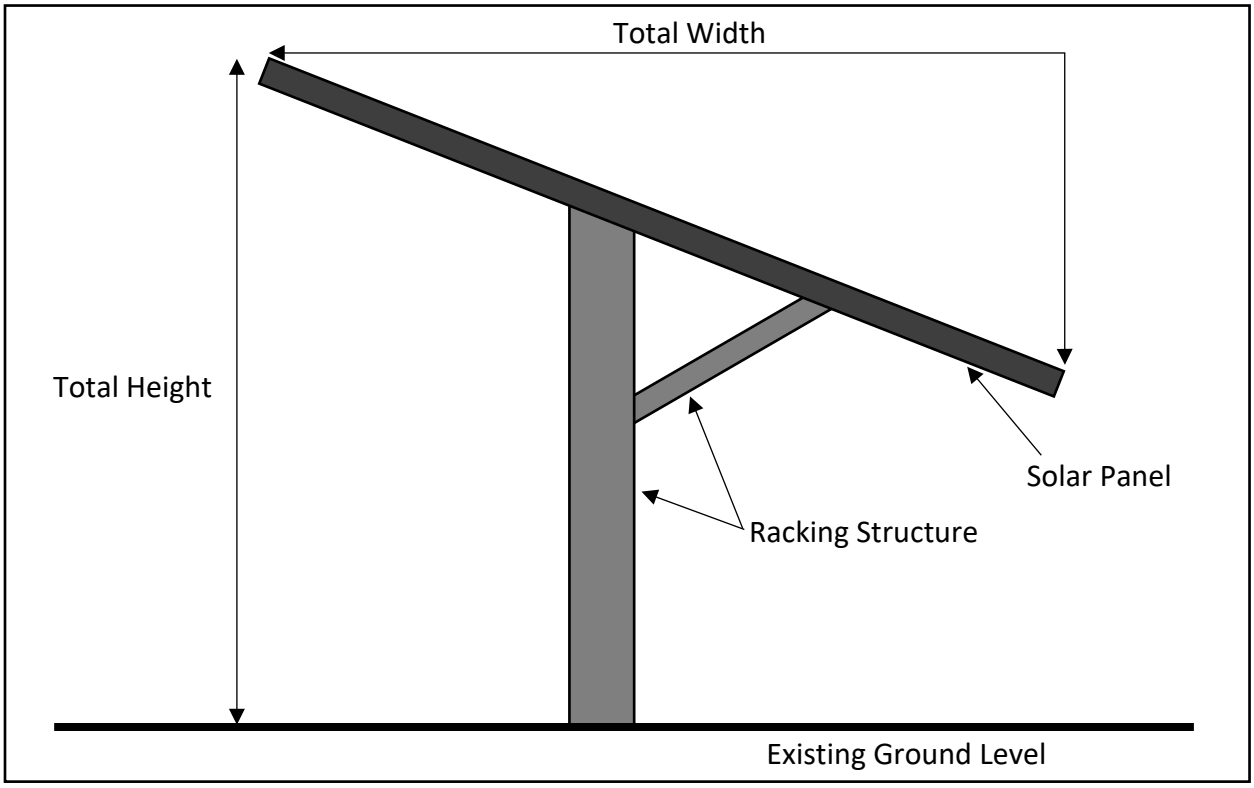

Figure 1

SOLAR COLLECTOR: A device or combination of devices, structure, or part of a device or structure that transforms direct solar energy into thermal, chemical, or electrical energy and that contributes significantly to a structure's energy supply.

SOLAR ENERGY: Radiant energy (direct, diffuse, and reflected) received from the sun.

SOLAR ENERGY SYSTEM: A solar collector or other device or structural design feature of a structure that relies upon sunshine as an energy source and is capable of collecting, distributing, and storing (if appropriate to the technology) the sun's radiant energy for a beneficial use.
SOLAR PANEL: A panel consisting of an array of solar cells used to generate electricity directly from sunlight.
SOLAR SHINGLES: A roofing product made by combining thin film solar technology (which converts sunlight to electricity) with a durable backing to provide a structural roof shingle comparable to traditional roofing shingles.

Article 4 Site Regulations

Sec. 20-419 On-Site Solar Energy Regulation

(a) All Solar Energy Collectors
    (1) The installation of any solar panel (on-site or commercial) shall not negatively impact adjacent properties with additional or excessive storm water runoff and/or drainage.
    (2) It shall be shown that all panels are adequately secured to the surface upon which they are mounted and that the mounting structure has the capability of supporting the panels.
    (3) All panels shall have tempered, non-reflective surfaces.
    (4) Solar energy equipment shall be repaired, replaced, or removed within three months of becoming nonfunctional.
    (5) Each system shall conform to applicable industry standards including those of the American National Standards Institute (ANSI).
    (6) Solar energy collectors shall be installed, maintained, and used only in accordance with the manufacturer's directions. Upon request, a copy of such directions shall be submitted to the building inspector prior to installation. Building inspector approval is required.
    (7) Solar energy collectors and installation and uses shall comply with construction code, electrical code, and other state requirements.

(b) On-Site Roof-Mounted Solar Energy Collector
    (1) Solar energy collectors shall be such a weight to be safely supported by the building. Building inspector approval is required.
    (2) Solar energy collectors shall be considered part of the building and meet all the required building height and setback requirements.
    (3) Solar energy collectors shall not project more than 2 feet above highest point of roof or exceed maximum building height limitations allowed in that zoning district.
    (4) Solar energy collectors shall not be located within 3 feet of any peak, eave, or valley to maintain adequate accessibility.

(c) On-Site Ground-Mounted Solar Energy Collector

(1) Ground-mounted solar energy systems are only permitted in the side and rear yards, unless permitted in front yard by issuance of a discretionary special use permit pursuant to Section 20-1804(A) of the Ordinance.

(2) Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at any designed tilt angle.

(3) Ground-mounted solar energy collectors shall not exceed 12 feet in height measured from the ground at the base of such equipment. The height of the ground-mounted solar energy collector shall be measured from ground level to the highest point of the solar panel.

(4) There shall be a minimum of 25 feet from all-natural features including water courses, wood lots, wetlands, and 100-year floodplains.

(5) The total area of ground-mounted solar energy collections shall be included in calculations to determine lot coverage and shall not exceed the maximum lot coverage.

(6) For the RU-1, RU-2, RU-4, RSA, C-1, C-2, C-3, M-1, and M-2 zoning districts, ground-mounted solar energy collectors requesting a lot coverage of 15 percent or less be considered an accessory use. A Discretionary Special Use Permit may be considered for ground-mounted solar energy collectors requesting a lot coverage over 15 percent.

(7) Ground-mounted solar energy collectors shall meet the requirements of Sec. 20-400 Accessory Structures.

Article 7 District Regulations
Section 20-701 Zoning District Uses

ZONING DISTRICT USES **SCHEDULE OF USES (Uses Permitted by Right (P), Uses Permitted by Non-Discretionary Special Use Permits (NS), Uses Permitted by Discretionary Special Use Permit (DS), Accessory Uses and Buildings (A)**									
TYPE OF USES	DISTRICTS								
	RSA	RU-1	RU-2	RU-4	C-1	C-2	C-3	M-1	M-2
ACCESSORY USES, STRUCTURES, AND BUILDINGS									
On-Site Roof-Mounted Solar Energy Collector	A	A	A	A	A	A	A	A	A
On-Site Ground-Mounted Solar Energy Collector (15 percent Lot Coverage or Less)	A	A	A	A	A	A	A	A	A
On-Site Ground-Mounted Solar Energy Collector (Over 15 percent of Lot Coverage)	DS	DS	DS	DS	DS	DS	DS	DS	DS
INDUSTRIAL AND RELATED USES									
Commercial Solar Energy Collector	DS							DS	DS

Article 18 Special Use Permits Article

Section 20-1804 Requirements for Permitted Special Land Uses

(OO) Commercial Solar Energy Collector System

(a) The commercial solar energy collector system must meet all requirements in Sec. 20-419(a) all solar energy collectors and (b) roof-mounted solar energy collectors.

(b) All commercial solar energy collector systems that are ground-mounted shall follow the following requirements:

(1) Ground-mounted solar energy collectors shall not exceed 12 feet in height measured from the ground at the base of such equipment. The height of the ground-mounted solar energy collector shall be measured from ground level to the highest point of the solar panel.

(2) The total area of ground-mounted solar energy collections shall be included in calculations to determine lot coverage and shall not exceed a maximum lot coverage of 25 percent regardless of the residing zoning district.

(c) Required to be on lots larger than 2 acres.

(d) Any commercial solar energy collector system adjoining any residential development shall be provided with a buffer of at least 60 feet along the adjacent property line. Such buffer shall be planted with evergreen and other suitable plantings and used for no other purposes. A landscaped planting area of at least 60 feet shall also be provided along all street frontage. The Planning Commission may approve to substitute the above described greenbelt for an obscuring fence, wall, and other protective barriers as long as it meets requirements in Sec. 20-408.

(1) The planting of native ground covers that shall be maintained on site during the operation, until the site is decommissioned.

(2) Provide verification that adequate infrastructure exists to transport the electricity generated into the larger grid system.

(3) Power and communication lines running between the banks of the solar panels may be placed above ground, provided the lines are placed no higher than top of the solar panels.

(4) Power and communication lines to electric substations or interconnections with buildings shall be buried underground.

(e) Exception for underground power communication lines:

(1) Where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines.

(2) When required by the utility company.

(3) Unless otherwise determined by the Planning Commission.

(f) The installation of the solar energy collectors shall not disturb the existing topography.

(g) A decommissioning plan shall be required to ensure that facilities are properly removed after their useful life. Decommissioning of solar panels must occur in the event they are not in use for 90 days. The plan shall include provisions for removal of all structures,

foundations, electrical equipment and internal or perimeter access roads, restoration of soil and vegetation, and a plan ensuring financial resources will be available to fully decommission the site. The applicant shall submit a financial guarantee in the form of a bond in favor of Flushing Township equal to 125 percent of the costs to meet the requirements of the decommissioning plan. The type of guarantee is subject to the Planning Commission's approval.

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