

**ORDINANCE NO. 2024-10**

**WHEREAS**, the Board of Commissioners of Carroll County, Maryland (“the Board”), has enacted and codified the "Code of Public Local Laws and Ordinances of Carroll County, Maryland"; and

**WHEREAS**, the Board is charged under State law with the duty and responsibility for establishing comprehensive policies and programs to promote the health, safety, and general welfare of the inhabitants of the County and accordingly deems the subject amendment necessary to accomplish these duties and responsibilities; and

**NOW, THEREFORE, BE IT ENACTED** by the Board of County Commissioners of Carroll County, Maryland:

**ARTICLE I. AMENDMENTS.**

**§ 158.153 SOLAR ENERGY GENERATING SYSTEMS.**

- (A) **Purpose.** The intent of this section is to provide for the safe, effective, and efficient utilization of solar energy generating systems while protecting the rights, health, safety and welfare of adjoining land uses and landowners through appropriate zoning and land use controls.
- (B) **Roof-mounted systems.**
- a. Accessory use roof mounted systems are permitted in all zoning districts except the Historic District.
  - b. Physical size of the system shall be limited to the size of the roof, or roofs of structures.
  - c. Canopies over parking areas are considered roof-mounted systems.
  - d. No portion of the system shall extend more than 25 feet from the highest portion of the principal structure to which it is attached. The total height of the structure, including all portions of the solar facility, shall comply with the height regulations as set forth in the bulk requirements for the underlying zoning district in which the use is proposed.
- (C) **Ground mounted accessory use.** Solar energy generating systems shall be an accessory use when the facility generates electricity in an amount that does not exceed 200% of the electric consumption of the principal use. Facilities functioning as an accessory use shall be permitted in all zoning districts, except the Historic District subject to the following requirements:
- a. **Size limits.**
    - i. **Residential and Conservation Districts.** Ground-mounted systems shall be no larger than the square footage of solar panel surface area allowed based on the size of the lot as shown below. If a combination of roof-mounted and ground-mounted systems is utilized, the total solar panel

surface area cannot exceed the aggregate square footage of the roof areas on the property on which the system is installed. No variance or waiver to the size or setback requirements of the ground-mounted system is allowed in the Residential Districts. A variance may be requested under §158.130(F)(1)(j) for lots more than three acres in size in the Conservation District; documentation from a North American Board of Certified Energy Practitioners (NABCEP) certified professional solar panel installer must be included to demonstrate that the total size allowable is inadequate to power 100% of the home and accessory structures based on the previous 12 months of usage and identify the additional size and number of panels needed to meet 100% of the expected energy use. Wall-mounted systems are not permitted.

<i>Lot Size</i>	<i>Solar Panel Surface Area Maximum Square Footage for Ground-Mounted Systems</i>
Less than or equal to one-half acre	120 square feet
More than one-half acre to one acre	240 square feet
More than one acre to 3 acres	480 square feet
More than 3 acres	Aggregate square footage of the roof, or roofs of structures, situated on the subject property

- ii. **Agricultural District.** The physical size of the system shall be limited to the size of the roof, or roofs of structures, situated on the subject property, when roof-mounted, or no larger than the aggregate of the roof area of all permitted structures on site, when ground-mounted. If a combination of roof-mounted and ground-mounted systems is utilized, the total area cannot exceed the aggregate square footage of the roof areas on the property on which the system is installed. No variance to the size of ground-mounted systems is allowed in the Agricultural District.
- iii. **Commercial, Industrial, and Employment Campus Districts.** In the C-2 and C-3 Districts, size shall be no larger than the aggregate of the roof area of all permitted structures on site. If a combination of roof-mounted and ground-mounted systems is utilized, the total area cannot exceed the aggregate square footage of the roof areas on the property on which the system is installed. Ground-mounted systems up to 120 square feet may be authorized in the C-1 District. No variance or waiver to the size of ground-mounted systems is allowed.

- b. **Setbacks.** Ground-mounted facilities shall satisfy the minimum side, front, and rear yard setback requirements for the principal use and district in which the use is situated. There shall be no variance to the front yard setback.
- c. **Height limits.** Ground-mounted systems may not exceed a total height of ten feet above existing grade.

(D) **Ground mounted principal use.** Solar energy generating systems shall be a permitted use “P” or conditional use “C” in accordance with the following table. The letter “X” indicates that the use is prohibited:

<b>Solar Energy Generating Systems</b>	Agriculture	Cons.	R-40,000	R-20,000	R-10,000	R-7,500	C-1	C-2	C-3	I-1	I-2	EC
Ground-mounted	X	X	X	X	X	X	X	C	P	P	P	C
*Solar energy generating facilities mounted on parking canopies are considered roof-mounted systems.												

- a. Size limits.
  - i. **C-2, C-3, I-1, and I-2 Districts.** There shall be no size limits.
  - ii. **EC District.** Ground-mounted systems shall be no more than 25 acres or 50% of the site gross area, whichever is lesser.
- b. Solar energy generating systems are prohibited in the Historic District.

(E) **Solar energy generating systems, development process.**

- a. Accessory use solar energy generating systems conforming to §158.153(B) or §158.153(C) are permitted on properties with agricultural land preservation easements, but this allowance does not preempt any programmatic policies or restrictions documented in the deed of easement.
- b. Commercial solar energy generating systems producing more than 200% of the baseline annual energy usage of the principal use of the property are prohibited on properties with agricultural land preservation easements in any zoning district unless expressly permitted in the deed of easement.
- c. All ground-mounted solar energy generating systems, including associated buildings and access roads, that cover more than 5,000 square feet of area shall be subject to Chapter 155, Development and Subdivision of Land, including §155.052 Site Plan Process.
- d. Any existing or proposed solar energy generating systems for which a development plan has been submitted and accepted for review prior to November 1<sup>st</sup>, 2024, shall not be subject to these provisions, but shall be subject to the requirements for solar energy generating systems regulations in effect at the time of the development plan submittal.

(F) **Solar energy generating systems, site requirements for all zoning districts.**

Requirements do not apply to roof-mounted or accessory use, unless otherwise noted.

- a. **Setbacks.**
  - i. Setbacks shall be a minimum of 400 feet from the proposed developments property boundaries including rights-of-way.
  - ii. Setbacks are measured from property boundary to solar panels and/or structures associated with the solar facility. They do not apply to landscaping, fencing, wiring, or power lines.
  - iii. The Planning Commission may reduce the required setback for any yard setback adjoining a non-residential use property boundary, provided that suitable supplemental landscaping is provided as determined by the Planning commission. In no case is a setback permitted to be less than 100 feet.
- b. **Height Limits.**
  - i. No portion of a ground mounted system shall exceed a total height of 15 feet above grade.
- c. **Location and appearance.** Solar energy generating systems should minimize visual impact to adjoining properties and properties of historic and scenic significance.
  - i. All solar generating panels and accessories are to be sited down slope from ridge lines, toward the interior of the property whenever possible.
  - ii. The siting of solar energy generating systems should avoid visual corridors that are scenic viewsheds or scenic areas from sites of significant interest, scenic roads, or historic resources.
  - iii. To the extent possible, panels and accessories shall use materials, colors, and textures that blend the facility into the existing environment.
  - iv. Ground-mounted systems may not be affixed to a block wall or a fence.
- d. **Signs.**
  - i. A sign, not to exceed four square feet, shall be clearly visible and posted at each entrance to the solar energy generating system site to identify the property owner, the solar energy generating system operator, and the twenty-four-hour emergency contact phone number. Information on the sign shall be kept current.
  - ii. Placards shall be posted to identify the location of the AC power supply emergency disconnects. All other signage required by the electrical, building, or fire code shall be posted as required.
  - iii. No other signage shall be permitted without approval from the Zoning Administrator.
  - iv. The site, fencing, or barriers shall not be used to display any advertisements.
- e. **Glare.** Applies to principal and accessory use solar energy generating systems.
  - i. Glare must be mitigated away from adjoining properties and adjacent roads. All solar panels used shall utilize glare-mitigation technology.

- ii. A glare hazard analysis, certified by the installer prior to installation, is required to assess the impacts of glare, and if applicable, a plan to mitigate any glare hazard with additional screening shall be provided.
- f. **Electrical Connections.** Applies to all solar energy generating systems, including accessory uses and roof-mounted facilities.
  - i. All electrical components and wiring must be Underwriter Laboratories certified, carry the UL trademark label, and meet current National Electrical Code requirements. All systems must meet all applicable construction and electrical codes.
  - ii. Reasonable efforts shall be made to place all utility connections from the solar installation underground. Electrical transformers for utility interconnections may be above ground if required by the utility provider.
  - iii. Prior to interconnection with the local utility grid, a copy of the conditional approval from the local utility must be provided to, or at the time of, permit application.
  - iv. A copy of the signed certificate of completion from the utility company shall be provided prior to occupancy permit issuance.
  - v. When batteries are included, they must be placed in a secure container or enclosure per manufacture's specifications and screened from view.
- g. **Vegetative Stabilization.**
  - i. The removal of topsoil shall be minimized to the maximum extent practicable, and all topsoil shall remain on site unless otherwise addressed in the decommissioning plan.
  - ii. Areas under and around the solar panels shall be planted in native grasses or in pollinator-friendly habitat or a combination thereof. Exceptions can be made if a plan is submitted for review and approval related to the agricultural co-use of the area.
  - iii. Ground cover, grass, and other non-buffer vegetation shall be maintained and not exceed a height of 36 inches at any time except as required for management of pollinator-friendly vegetation.
  - iv. To the extent practicable, ground cover shall be established prior to installation of solar panels.
- h. **Fencing.**
  - i. The solar energy generating system shall be enclosed by a security fence that is located between the landscaped buffer and the facility.
  - ii. The fence shall be a minimum of six feet in height and suitable to prevent unauthorized access.
  - iii. The fence shall be constructed to meet any applicable state and federal rule or standard addressing the physical security of the power system facilities.
  - iv. Fencing shall be constructed of quality materials and opaque in nature to assist in screening.
  - v. The use of barbed wire is prohibited.

i. **Buffer.**

- i. A landscaped buffer shall be provided along all property lines or along the exterior of the solar array. The buffer must be designed to provide four-season visual screening of the solar facility and include multi-layered, staggered rows of major and minor trees and shrubs that are a mix of evergreen and deciduous vegetation, with an emphasis on species native to Carroll County.
- ii. Buffer shall conform with the plant quantity requirements of Section §157.20(C) of the Carroll County Maryland Code of Public Local Laws and Ordinances. Buffers shall be a minimum of 35 feet wide. Planting units (PU) shall be generated at one PU per 10 linear feet of area to be screened.
- iii. Major trees shall be a minimum of six feet in height with a minimum caliper of two inches at the time of planting. Evergreen trees shall be a minimum of six feet in height at installation.
- iv. Minor trees shall be at least five feet in height and 1.5-inch caliper at installation. Shrubs shall be a minimum of 3-gallon container stock and at least 24 inches in height at installation.
- v. Buffer screening height shall be a minimum of 12 feet. Screening may be achieved with a berm, vegetation at the time of planting, or a combination of berm and vegetation.
- vi. If forest or hedgerows exists where screening or buffering is required, it must be preserved to the maximum extent practicable and supplemented with new plantings where necessary to provide the required screening or buffering.
- vii. Buffers shall be installed in accordance with best management practices to ensure growth and plant materials survival.
- viii. All required buffers shall be preserved and maintained to effectively provide visual screening year-round. Dead or dying buffer materials shall be replaced with similar plant materials on an annual basis.
- ix. The operator or property owner shall enter into a surety agreement with the county to provide adequate guaranty to the county in the form of an irrevocable letter of credit, or other security approved by the county. The guaranty shall ensure the establishment of the plantings in an amount determined by the county. The surety shall remain in place for a period of five years following installation.

j. **Lighting.**

- i. Proposed exterior lighting shall be submitted on a lighting plan for review as part of the site plan process.
- ii. Lighting of the solar energy generating system and associated structures shall be limited to the minimum necessary for safety and operational purposes and shall be reasonably shielded from abutting properties.

- iii. Lighting shall be activated by motion sensors and shall be shielded and downcast to prevent light from shining onto adjacent parcels, roads, or into the night sky.

k. **Access.**

- i. Fire apparatus access roads leading to all ground-mounted solar energy generating systems shall have an improved surface with an unobstructed width of 18 feet.
- ii. No variances to the access road width are permitted.

l. **Decommissioning.**

- i. A decommissioning plan shall be submitted for review and approval by the Zoning Administrator as part of the site plan approval process.
- ii. The operator or property owner shall provide written notice by certified mail to the Zoning Administrator whenever the solar energy generating system is out of active production for more than six months. Any facility that ceases to produce electricity for twelve months shall be considered abandoned.
- iii. The operator or property owner shall either recommence production of electricity and schedule a site inspection with the Zoning Administrator to verify that all use requirements are intact or shall initiate decommissioning of the site.
- iv. The operator or property owner shall notify the Zoning Administrator by certified mail of plans to decommission a solar energy generating system, including the proposed date of discontinued operation.
- v. A decommissioned site shall be restored to its original predevelopment condition within 12 months of the proposed date of discontinued operation or abandonment.
- vi. Failure to comply with the requirements of this section shall authorize, but not require, the county to remove the solar energy generating system and restore the site to its predeveloped condition at the expense of the property owner.
- vii. Prior to issuance of a building permit, the operator or property owner shall provide a bond, surety, letter of credit, or other financial assurance in a form acceptable to the county to secure payment of 125% of the anticipated cost of removal of associated site improvements and restoration of the site to its predevelopment condition. The financial assurance will be reviewed and approved by the Zoning Administrator and shall remain in full force and effect while the solar energy generating system remains in place. The financial assurance shall be established with automatic renewals.
- viii. The county may review the amount of security every five years and increase or decrease the amount required if the county determines, in its sole discretion, that the posted security no longer equals 125% of the decommissioning cost.

- ix. Notice must be provided to the County within 30 days of the sale or transfer of the lease or property, and a new financial guarantee must be provided by the new lease holder or property owner.
- x. Use of the surety may be used to repair unsafe or hazardous conditions or decommissioning.
- xi. Restoration to predevelopment conditions shall be documented in the decommissioning plan and include:
  1. Removal of all above and below ground solar electric systems, buildings, cabling, electrical components, foundations, pilings, and any other associated facilities.
  2. Disposal of all solid and hazardous waste shall be in accordance with local, state, and federal waste disposal regulations.
  3. Removal of all concrete pads, graveled areas, fences, and access roads unless agreement is presented, in writing, in which the property owner agrees for these features to remain.
  4. Removal of substations, overhead poles, and/or aboveground electric lines located on-site or within a public right-of-way that are not usable by any other public or private utility.
  5. Replacement of topsoil removed or eroded.
  6. Stabilization of the site with approved vegetative cover unless the property owner requests in writing not to revegetate due to plans to produce agricultural crops.
  7. Onsite burial of any material associated with the solar energy generating system during restoration of the site to predevelopment conditions is prohibited.

**§158.071.01 AGRICULTURAL AND CONSERVATION DISTRICTS: REGULATION OF PRINCIPAL USES**

<i>LAND USE CATEGORY SUBCATEGORY DESCRIPTION</i>	<i>AGRICULTURAL</i>	<i>CONSERVATION</i>	<i>ADDITIONAL REGULATIONS</i>
Solar energy generating systems	X	X	158.002, 158.153

**§158.075.01 RESIDENTIAL DISTRICTS: REGULATION OF PRINCIPAL USES**



<i>Land Use Category</i> <i>Subcategory</i> <i>Description</i>	<i>R-40,000</i>	<i>R-20,000</i>	<i>R-10,000</i>	<i>R-7,500</i>	<i>Additional Regulations</i>
Solar energy generating systems	X	X	X	X	158.002, 158.153

**§158.082 COMMERCIAL INDUSTRIAL, EMPLOYMENT CAMPUS DISTRICT:  
REGULATION OF PRINCIPAL USES**

<i>LAND USE CATEGORY</i> <i>DESCRIPTION</i>	<i>C-1</i>	<i>C-2</i>	<i>C-3</i>	<i>I-1</i>	<i>I-2</i>	<i>EC</i>	<i>ADDITIONAL REGULATIONS</i>
Solar energy generating systems, ground-mounted	X	C	P	P	P	C	158.002, 158.081, 158.153

**§158.081 EC EMPLOYMENT CAMPUS DISTRICT.**

(H) **Solar energy generating systems.** Ground-mounted solar energy generating systems may be approved as part of or separate from the development plan, pending conditional use approval. The ground-mounted solar field may be no more than 25 acres in size or not to exceed 50% of the total gross acreage or whatever is lesser. Roof-mounted solar energy systems may be approved as part of the development plan, subject to the requirements of § 158.153, or mounted on a canopy in a parking area.

**§158.083 COMMERCIAL AND INDUSTRIAL DISTRICTS: REGULATION OF ACCESSORY USES.**

(A) **Accessory uses in the Commercial Districts.** Accessory uses in the commercial districts shall be as follows:

(k) Solar energy generating systems, subject to the requirements of § 158.153.

(B) **Accessory uses in the Industrial Districts.** Accessory uses in the industrial districts shall be as follows:

(i) Solar energy generating systems, subject to the requirements of § 158.153.

§158.130 Exceptions and Modifications.

**(F) Application; limits.**

(1) A person shall apply to the Zoning Administrator for a variance or administrative adjustment from the following requirements as specified in this chapter or as specified in Chapter 155 unless a simultaneous application for a conditional use has been filed with the BZA pursuant to § 158.133(D).

(j) Area of solar energy generating systems as accessory uses in the C Conservation District; and

**§158.156 INDUSTRIAL PARK.**

(A) An Industrial Park is a self-contained development area of at least ten acres that is cohesive, with a common development scheme, and approved as a single development plan.

(1) An Industrial Park is permitted in the I-1 District, and principal uses include all uses permitted by right or authorized by conditional use in the I-1 District, except the following:

(f) Solar energy generating systems, ground-mounted; and

**ARTICLE II. SEVERABILITY.**

Should any provision, section, paragraph, or subparagraph of this ordinance, including any code, or text adopted hereby, be declared null and void, illegal, unconstitutional, or otherwise determined to be unenforceable by a court having jurisdiction; the same shall not affect the validity, legality, or enforceability of any other provision, section, paragraph or subparagraph hereof, including any code or text adopted hereby. Each such provision, section, paragraph, or subparagraph is expressly declared to be and is deemed severable.

**ARTICLE III. EFFECTIVE DATE.**

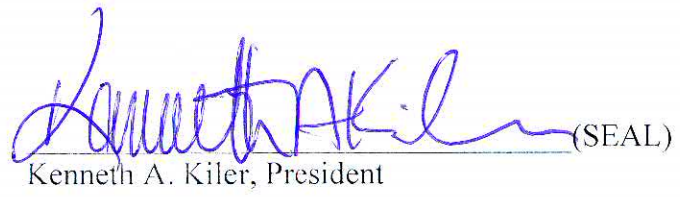
This Ordinance shall become effective December 5, , 2024.

ADOPTED December 5, 2024

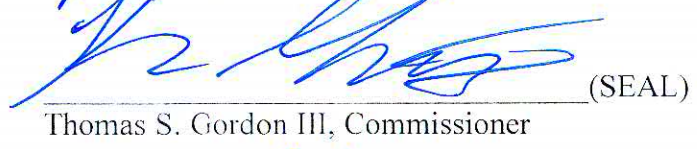
ATTEST:

THE COUNTY COMMISSIONERS OF  
CARROLL COUNTY, MARYLAND,  
a body corporate and politic  
of the State of Maryland

  
Vivian Daly, County Clerk

 (SEAL)  
Kenneth A. Kiler, President

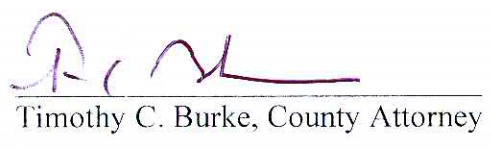
 (SEAL)  
Joseph A. Vigliotti, Vice-President

 (SEAL)  
Thomas S. Gordon III, Commissioner

 (SEAL)  
Michael R. Guerin, Commissioner

 (SEAL)  
Edward C. Rothstein, Commissioner

Approved for legal sufficiency:

  
Timothy C. Burke, County Attorney