

# CITY OF WASHINGTON

## PLANNING & DEVELOPMENT DEPARTMENT

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### MEMORANDUM

TO: Chairman Burdette and Planning and Zoning Commission  
FROM: Jon R. Oliphant, AICP, Planning & Development Director  
SUBJECT: Public Hearing – Ground-Mount Solar Array Zoning Code Text Amendment  
DATE: October 19, 2023

**Summary:** The City's solar energy regulations were first adopted in April 2018 and were twice amended in 2019. Chapter 154.727 specifically prohibits ground-mount solar energy systems. A ground-mount solar energy system is defined in City Code as "a solar energy system that is directly installed onto the ground and is not attached or affixed to an existing structure." A solar energy contractor spoke at the April 3 City Council meeting expressing interest in a code amendment that would allow for the placement of ground mount arrays. Discussion was held at the April and May Committee of the Whole meetings to determine if there was interest in a future code amendment to allow for ground-mount arrays.

An ordinance was previously drafted to allow for ground mount arrays on properties that have non-residential uses. Further Council discussion provided direction to draft an ordinance that would allow ground mount arrays on properties with any uses that include a principal use. Attached is a draft code amendment that would provide for a regulatory framework that allows ground mount arrays on properties that have non-residential or residential uses. Please note that this includes some minor formatting revisions for the roof-mount solar regulations with no content changes.

**Background:** Most of the City's current solar energy regulations are based on the State model ordinance and generally mirror numerous similar ordinances in Illinois. Each of the nearby jurisdictions that regulate solar energy allow for ground-mount arrays, though Eureka only permits them in non-residential areas. Attached is a spreadsheet showing ground-mount solar regulations in many nearby jurisdictions. Based on that feedback, the draft amendment includes the following regulations:

- **Height – Non-Residential Uses:** Cannot exceed 10' above grade when the system is oriented at maximum design tilt. **Height – Residential Uses:** Cannot exceed 8' above grade when the system is oriented at maximum design tilt;
- **Setback – Non-Residential Uses:** The arrays would only be allowed in the rear yards (not in the front or side yards) with a setback of at least 5' or the applicable setback for the zoning district in which the system is located, whichever is greater, and must be at least 10' from any other principal or accessory structure. The system cannot be located within any known dedicated easement. **Setback – Residential Uses:** The arrays would only be allowed in the rear yards with a setback of 30' from the side and rear property lines. The arrays must also be setback at least 10' from any other principal or accessory structure. The system cannot be located within any known dedicated easement;
- **Minimum Lot Size – Non Residential Uses:** 0.75 acres. **Minimum Lot Size – Residential Uses:** Two acres;
- Ground-mount systems cannot exceed half the building footprint of the principal structure and would be exempt from impervious surface calculations if the soil under the collector is not compacted and maintained in vegetation. Foundations, gravel, or compacted soils are considered impervious; and

- Properties with residential uses must have a 6' tall privacy fence around the side and rear property lines prior to the installation of the arrays. The fence must be constructed with a type of material that prevents adjacent property owners from viewing the arrays.

El Paso, Germantown Hills, and Mackinaw are the only areas municipalities with a residential minimum lot size regulation and each has a one-acre minimum requirement. A broader statewide search did not find other municipal examples. Staff analyzed the R-1, R-1A, and Country Estates lot sizes in Washington to help determine what a possible standard could be should there be a desire for a minimum lot size. The minimum residential lot size of two acres would only allow ground mount arrays on approximately 3.5% of such properties within the city limits. Staff would highly recommend not having a minimum lot size of greater than two acres, as such a lot size would prohibit ground mount arrays on most residential properties.

Additionally, staff reviewed other ground-mount solar array ordinances seeking other examples to reduce the visibility of any arrays. No other counties or municipalities have language that requires fencing to be placed either on the property lines or within close proximity of the arrays. This draft ordinance includes the provision that a 6' tall privacy fence be in place around the side and rear property lines prior to the installation of the arrays. While that would reduce the visual impact, it would not be intended to completely prevent adjacent property owners from seeing the arrays.

Staff recommends approval of the draft zoning code text amendment following further discussion, particularly on a minimum lot size. This is scheduled for a public hearing at the November 1 PZC meeting. Following the PZC's recommendation, a first reading ordinance will tentatively be scheduled for consideration at the November 6 City Council meeting.

Attachment

**ORDINANCE NO. \_\_\_\_\_**

**AN ORDINANCE AMENDING THE SOLAR ENERGY CODE  
TO ALLOW FOR GROUND MOUNT SOLAR ENERGY SYSTEMS ON REAL  
PROPERTIES THAT HAVE RESIDENTIAL AND NON-RESIDENTIAL USES**

**WHEREAS**, the City of Washington, Tazewell County, Illinois (the “City”), is a home rule unit of government; and

**WHEREAS**, the City has established municipal zoning regulations for the purpose of improving and protecting the public health, safety, comfort, convenience and general welfare of the people; and

**WHEREAS**, within the municipal zoning regulations, the City previously established a Solar Energy Code (the “Code”) within Chapter 154, the Zoning Code, which provides for solar energy regulations; and

**WHEREAS**, the City currently expressly prohibits ground mount solar energy systems; and

**WHEREAS**, allowance of ground mount solar energy systems would likely increase the number of properties to obtain solar energy systems, particularly those that do not have strong south-facing roofs or those that have other nearby structures or vegetation that interfere with roof sun angles; and

**WHEREAS**, the allowance of certain ground mount solar energy systems would offer advantages to citizens, as it could reduce utility costs for those that install such systems; and

**WHEREAS**, in light of the benefits provided by ground mount solar energy systems, the City believes that ground mount solar energy systems should now be allowed, with restrictions, on real properties located in the City limits that have residential and non-residential uses; and

**WHEREAS**, the City desires to amend the Code to allow for such ground mount solar energy systems and the corporate authorities of the City, in the interest of the public health, safety and welfare have determined that it is appropriate to regulate ground mount solar energy systems due to their impact, both from an economical and a public welfare standpoint; and

**WHEREAS**, a public hearing on proposed textual amendments to the Code regarding the regulation of ground mount solar energy systems was held before the Planning and Zoning Commission on \_\_\_\_\_, 2023, in the manner prescribed by the City’s Municipal Code and by Illinois law; and

**WHEREAS**, after holding such public hearing, the Planning and Zoning Commission has unanimously recommended approval of the textual amendments; and

**WHEREAS**, the City Council has determined it is necessary and in the best interests of the City that the textual amendments to the Code be passed to allow for certain ground mount solar energy systems in residential and non-residential areas.

**NOW, THEREFORE, BE IT ORDAINED** by the City Council of the City of Washington, Illinois as follows:

Section 1: The recitals; as set forth above, are incorporated herein as though fully set forth and shall be considered the express findings of the City Council.

Section 2: That the minutes of the Planning and Zoning Commission made at the public hearing held on \_\_\_\_\_, 2023, and the recommendation of staff contained in its Memorandum to the Planning and Zoning Commission dated \_\_\_\_\_, 2023, are hereby incorporated by reference as additional findings of the City Council, as completely as if fully recited herein at length. All exhibits, if any, submitted at the public hearing are hereby incorporated by reference as fully as if attached hereto.

Section 3: That Chapter 154 of the City Code of the City of Washington, Tazewell County, Illinois, be, and the same hereby is amended by deleting Section 154.727 in its entirety and replacing it as follows:

**“§ 154.727 GROUND MOUNT AND ROOF MOUNT SOLAR ENERGY SYSTEMS**

(A) Ground Mount Solar Energy Systems and Roof Mount Solar Energy Systems *are* designed to serve only the occupants of the parcel on which they are located ~~and placed on the roof of a principal structure or an accessory structure shall not require a special use.~~ Ground Mount Solar Energy Systems shall ~~not be permitted~~ *are installed onto the ground and shall not require a special use.* Roof Mount Solar Energy Systems are placed on the roof of a principal structure or an accessory structure and shall not require a special use. Such systems are accessory structures allowed only on zoning lots with a principal structure. An application shall be submitted to the Code Enforcement Officer demonstrating compliance with all applicable provisions of the City Code and with the following requirements:

(1) Ground Mount Solar Energy System Requirements for Real Property With Non-Residential Uses

(a) Height: Ground Mount Solar Energy Systems shall not exceed ten (10) feet above the grade of the real property when the system is oriented at maximum design tilt.

(b) Setback: Ground Mount Solar Energy Systems must be setback a minimum of five (5) feet from the rear property line or the applicable setback for the zoning district in which the system is located, whichever is greater. Such systems must

also be setback at least ten (10) feet from any other principal or accessory structure.

(c) Allowance: Subject to the requirements set forth herein, Ground Mount Solar Energy Systems are allowed on real property that has a non-residential use, regardless of the real property's zoning classification.

(d) Minimum Lot Size: Ground Mount Solar Energy Systems are only permitted on real property with a non-residential use if such property has a minimum lot size of 0.75 acres.

(e) Placement: Ground Mount Solar Energy Systems are only allowed to be placed in the rear yard of the real property. The system must not be located within any known dedicated easement on the real property.

(f) Lot Coverage: The total coverage of the Ground Mount Solar Energy System shall not exceed half the building footprint of the principal structure. Ground Mount Solar Energy Systems shall be exempt from impervious surface standards/calculations if the soil under the solar collector is maintained in vegetation and not compacted. For purposes of this section, foundations, gravel, or compacted soils are considered impervious.

(2) Ground Mount Solar Energy System Requirements for Real Property With Residential Uses

(a) Height: Ground Mount Solar Energy Systems shall not exceed eight (8) feet above the grade of the real property when the system is oriented at maximum design tilt.

(b) Setback: Ground Mount Solar Energy Systems on real property with a residential use must have a setback of a minimum of thirty (30) feet from the side and rear property line. Such systems must also be setback at least ten (10) feet from any other principal or accessory structure.

(c) Allowance: Subject to the requirements set forth herein, Ground Mount Solar Energy Systems are allowed on real property that has a residential use, so long as the property is in an R-1, R-2, R-1A, or CE District in the City.

(d) Minimum Lot Size: Ground Mount Solar Energy Systems are only permitted on real property with a residential use if such property has a minimum lot size of two (2) acres.

- (e) Placement: Ground Mount Solar Energy Systems are only allowed to be placed in the rear yard of real property. The system must not be located within any known dedicated easement on the real property.*
- (f) Lot Coverage: The total coverage of the Ground Mount Solar Energy System shall not exceed half the building footprint of the principal structure. Ground Mount Solar Energy Systems shall be exempt from impervious surface standards/calculations if the soil under the solar collector is maintained in vegetation and not compacted. For purposes of this section, foundations, gravel, or compacted soils are considered impervious.*
- (g) Screening: A solid six (6) foot privacy fence must exist or be constructed around the side and rear property lines prior to the installation of the Ground Mount Solar Energy System. The solid fence must be constructed with material (wood, vinyl, etc.) so that it restricts adjacent property owners from viewing the Ground Mount Solar Energy System.*

### (3) Roof Mount Solar Energy System Requirements

- (a) Height for System on Principal Structure: Roof Mount Solar Energy Systems placed on a principal structure shall not exceed the height of the principal structure on the zoning lot where the system is located.
- (b) Height for System on Accessory Structure: Roof Mount Solar Energy Systems placed on an accessory structure shall not exceed the height of the accessory structure on the zoning lot where the system is located.
- (c) Mounting on Pitched Roofs: Roof Mount Solar Energy Systems on pitched roofs shall not be permitted to tilt or rotate at a slope greater or less than the roof to which it is attached. Such Roof Mount Solar Energy Systems cannot extend more than eight inches (8”) from the roof surface to which it is attached. The roof shall be considered a part of a building completely covering and permanently attached to such building and can be flat or pitched. Any roof that has a pitch of more than 1.5 inches in 12 inches shall be considered a separate roof side.
- (d) Mounting on Flat Roofs: Roof Mount Solar Energy Systems on flat roofs on residential or non-residential structures shall not extend more than two feet (2’) vertically or extend above the building parapet, whichever is less.
- (e) Setback: The solar collector surface and mounting devices for Roof Mount Solar Energy Systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built. Exterior piping for solar

systems generating heated water may extend beyond the perimeter of the building on a side yard exposure. Any Roof Mount Solar Energy Systems proposed to be placed on the roof of an accessory structure that do not meet the side or rear setbacks in place at the time of installation must have a variance approved by the Planning and Zoning Commission.

(f) Color: Roof Mount Solar Energy Systems shall match, as closely as possible, the color of the roof to which it is attached.

(g) Safety: Roof Mount Solar Energy Systems, excluding building integrated solar energy systems, shall allow for adequate roof access for firefighting purposes to the south facing or flat roof upon which the panels are mounted.

(4) Requirements Applicable to Both Ground Mount Solar Energy Systems and Roof Mount Solar Energy Systems

(a) Reflection Angles: Reflection angles for solar collectors shall be oriented such that they do not project glare onto adjacent properties.

(b) Visibility: Solar energy systems 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 solar collectors. They shall be designed to blend into the architecture of the building or be screened from routine view from public rights-of-way provided that the screening shall not affect the operation of the system.

(c) Approved Solar Components: Electric solar energy system components shall have a UL listing or approved equivalent and solar hot water systems shall have an SRCC rating.

(d) Compliance with Building Codes: All solar energy systems shall meet approval of any currently adopted International Building Code, National Electric Code, and Illinois Plumbing Code.

(e) Utility Notification: All grid-intertie solar energy systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.

(f) Restrictions on Solar Energy Systems Limited: Consistent with 765 ILCS 165, no homeowner's agreements, covenants, common interest community or other contracts between multiple property owners within a subdivision shall prohibit or restrict homeowners from installing solar energy systems.

(g) Historic Buildings: Solar energy systems on designated historic landmarks or within designated historic districts must receive approval of the Historic Preservation Commission, consistent with the standards for solar energy systems on historically designated buildings published by the U.S. Department of Interior.”

Section 4: All ordinances or parts of ordinances in conflict with this Ordinance are hereby repealed insofar as they are in conflict with this Ordinance.

Section 5: If any provision of this Ordinance is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

Section 6: This Ordinance shall be in full force and effect from and after its passage, approval and publication as required by law.

**PASSED AND APPROVED** this \_\_\_\_\_ day of \_\_\_\_\_ 2023.

**AYES:** \_\_\_\_\_

**NAYS:** \_\_\_\_\_

**ATTEST:**

\_\_\_\_\_  
**MAYOR**

\_\_\_\_\_  
**CITY CLERK**



## Area City/County Ground-Mount Solar Regulations

City/County	Regulations		
	Height	Setbacks	Other
Bloomington	4' in residential districts; 15' in other districts	Same as accessory structures	
East Peoria	20' (side/rear); 30" (front - w/SU)	Same as accessory structures	Only allowed on lots w/principal structure
El Paso	10' at maximum tilt in any zoning district	30' (side/rear)	Lot size must be at least one acre Cannot exceed half the building footprint of the principal structure
Eureka	10'	30' (side/rear)	Only allowed on lots w/principal structure Cannot exceed half the building footprint of the principal structure Only allowed in non-residential areas
Germantown Hills	10' at maximum tilt in any zoning district	30' (side/rear)	Lot size must be at least one acre Cannot exceed half the building footprint of the principal structure
Mackinaw	10' at maximum tilt in any zoning district	30' (side/rear)	Lot size must be at least one acre Cannot exceed half the building footprint of the principal structure
Morton	Cannot exceed the maximum allowable height for an accessory structure in the underlying zoning district	Same as accessory structures	Reflection angles shall be oriented such that they do not project glare onto adjacent properties
Normal	4' in residential districts; 15' in other districts	Same as accessory structures	Can only be located in rear yards within residential districts
Pekin	Cannot exceed the maximum allowable height for an accessory structure when oriented at maximum tilt	Same as accessory structures	Only allowed on lots w/principal structure Reflection angles shall be oriented such that they do not project glare onto adjacent properties
Peoria	14'	10' from principal structure, 6' from other accessory structures	
Peoria County	Cannot exceed the maximum allowable height for an accessory structure in the underlying zoning district	Same as accessory structures	
Peoria Heights	8' at maximum tilt	Same as accessory structures, no less than 5'	Cannot be located within 50' of any principal structure unless the adjacent owner joins the application
Tazewell County	20' at maximum tilt	Same as accessory structures (side/rear)	Reflection angles shall be oriented such that they do not project glare onto adjacent properties
Woodford County	18' at maximum tilt	10' (side/rear)	