



**PLANNING & ZONING MEETING AGENDA**  
**Thursday, September 19, 2024 | 6:00 p.m.**  
**Eldridge City Hall | 305 N 3<sup>rd</sup> Street**

1. Call to Order and Roll Call
2. Approval of the Minutes from the July 18, 2024 Meeting
3. Discussion and Consideration of approval of Solar Ordinance
4. Adjournment

Next Meeting: TBD

Karl Donaubaauer  
Scott LaPlante

Mike Martin  
Jennifer Vittorio

Brad Merrick  
Dean Ferguson

## **TITLE D CHAPTER 12**

### **SOLAR ENERGY SYSTEMS**

- 1.00 Purpose
- 2.00 Definitions
- 3.00 Permitted Accessory Use
- 4.00 Principal Uses

#### **1.00 PURPOSE.**

The purpose of this chapter is to allow safe, effective, and efficient use of solar energy conversion systems, and to establish permitted uses for them within the City.

#### **2.00 DEFINITIONS.**

For purposes of this chapter, the following terms are defined:

- A. “Solar energy system” means a device, array of devices, or structural design feature, the purpose of which is to provide for generation of electricity from sunlight, or the collection, storage, and distribution of solar energy for space heating or cooling, daylight for interior lighting, or water heating. Installation types are:
  - 1. “Building-integrated” means an integral part of a principal or accessory building. Building-integrated systems include, but are not limited to, photovoltaic or hot water systems that are contained within roofing materials, windows, skylights, and awnings.
  - 2. “Ground-mount” means a solar energy system mounted on a rack or pole that rests on or is attached to the ground and not a roof or exterior wall of a building. Ground-mount systems can be either accessory or principal uses.
  - 3. “Roof-mount” means a solar energy system mounted on a rack that is fastened to or ballasted on a building roof. Roof-mount systems can be either accessory or principal uses.
  - 4. “Parallel roof-mount” means a roof-mount solar energy system in which the solar panels are installed parallel to the roof underneath and no more than 12” from the surface of the roof. A parallel roof-mount system must not extend beyond the roof surface underneath it.
  - 5. “Wall-mount” means a solar energy system mounted on the side of a principal or accessory building usually, but not always, for the purpose of providing direct supplemental space heating by heating and recirculating conditioned building air.
- B. “Solar farm” means a commercial facility that converts sunlight into electricity by means of photovoltaics (PV) for the primary purpose of wholesale sales of generated electricity. A solar farm is the principal land use for the parcel on which it is located.
- C. “Solar garden” means a commercial solar-electric (photovoltaic) array that provides retail electric power (or a financial proxy for retail power) to multiple households or businesses residing or located off-site from the location of the solar energy system. A community solar system/solar garden is a principal use.
- D. “Solar resource” means a view of the sun from a specific point on a lot or building that is not obscured by any vegetation, building, or object for a minimum of four hours between the hours of 9:00 a.m. and 3:00 p.m. Standard Time on all days of the year.
- E. “Solar access” means unobstructed access to direct sunlight on a lot or building through the entire year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy system.

#### **3.00 PERMITTED ACCESSORY USE.**

Solar energy systems shall be allowed as an accessory use in all zoning districts where structures of any sort are allowed, subject to certain requirements as set forth below.

- A. Height. Solar energy systems must meet the following height requirements for accessory use:
  - 1. Building or roof-mounted solar energy systems shall not exceed the maximum allowed height of a structure in any zoning district.
  - 2. Ground or pole-mounted solar energy systems shall not exceed 12 feet (15 feet?) in height when oriented at maximum tilt.  
(Do we want to allow 15'? Do we want to allow 12' but have a Use on Review for up to 15'?)
- B. Set-back. Solar energy systems must meet the accessory structure setback requirements for the zoning district and primary land use associated with the lot on which the system is located and shall only be in rear yards.
  - 1. Roof or Building-Mount Solar Energy Systems. In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a back yard exposure. Solar collectors mounted on the sides of buildings and serving as awnings are considered to be building-integrated systems and are regulated as awnings.
  - 2. Ground-Mount Solar Energy Systems. Ground-mounted solar energy systems may not extend into the side yard or rear setback when oriented at minimum design tilt.
- C. Location and Visibility.
  - 1. Building-Integrated and Wall-Mount Solar Energy Systems. Building-integrated and wall-mount solar energy systems shall be allowed regardless of whether the system is visible from the public right-of-way, provided the building component in which the system is integrated or mounted meets all required setback, land use, and performance standards for the district in which the building is located. The color of the solar collectors is not required to be consistent with other building materials.
  - 2. Roof-Mount Solar Energy Systems. Roof-mount solar energy systems shall not be restricted for aesthetic reasons if the system is not visible from the closest edge of any public right-of-way other than an alley. Roof-mounted systems that are visible from the nearest edge of the street frontage right-of-way shall not have the highest finished pitch steeper than the roof pitch on which the system is mounted and shall be no higher than 12 inches above the roof. The color of the solar collectors is not required to be consistent with other roofing materials.
  - 3. Ground-Mount Solar Energy Systems. Except as indicated in other parts of this chapter, ground-mount solar energy systems shall be treated as an accessory structure and shall be subject to the requirements of an accessory structure. A ground-mount solar energy system shall not be located in the front yard or side yard of a lot. The City may require screening where it determines there is a clear community interest in maintaining a viewshed.
  - 4. Reflectors. No solar energy system using an external reflector to enhance solar production shall be installed within the City limits.
  - 5. Solar energy systems shall have non-reflective and neutral color with no advertising or logos on system panels or supporting structure other than a small identification of the manufacturer.
- D. Coverage. Roof or building-mount solar energy systems shall provide roof access paths shall be provided as required in the International Fire Code or the International Residential Code as they apply to the structure. Ground-mount systems shall be exempt from impervious surface calculations if the soil under the collector is maintained in vegetation and is not compacted. Foundations, gravel, and compacted soils are considered impervious.

- E. Historic Buildings. Solar energy systems on historically designated buildings shall be installed only as allowed by the U.S. Department of Interior.
- F. Site Plan Approvals and permits.
  - 1. Building permit and plan approval required. All solar energy systems require a building permit from the city and shall provide a site plan for review.
  - 2. Site plans shall be accompanied by a scale horizontal and vertical (elevation) drawing. The drawings must show the location of the system on the building or on the property for a ground-mounted system, including property lines, and the property setbacks. In addition, they shall indicate the height of the installation at maximum tilt and the ground footprint at minimum tilt, along with a description of the ground cover to be used under the system.
  - 3. Site plans that meet the design requirements of this chapter shall be granted administrative approval by the Zoning Officer and shall not require Planning and Zoning Commission review. Administrative approval does not indicate compliance with the Building Code or Electric Code.
- G. Approved Solar Components. Electric solar energy system components must have a UL or equivalent listing and solar hot water systems must have an SRCC rating.
- H. Compliance with Building Code. All solar energy systems shall be consistent with the *State Building Code*, and solar thermal systems shall comply with HVAC-related requirements of the *Energy Code*.
- I. Compliance with State Electric Code. All photovoltaic systems shall comply with the *State Electric Code*.
- J. Compliance with State Plumbing Code. Solar hot water systems shall comply with applicable *State Plumbing Code* requirements.
- K. Utility Notification. All solar energy systems that connect with an electric circuit serviced by the local electric utility (grid-tied systems) shall comply with the interconnection requirements of the electric utility. Systems not so connected (off-grid systems) are exempt from this requirement.

#### 4.00 PRINCIPAL USES.

- A. Solar Garden. The City permits the development of community solar gardens, subject to the following standards and requirements:
  - 1. Rooftop Solar Gardens. Subject to the requirements of this Chapter, rooftop solar gardens are a **permitted use in all districts ... or ... Use on Review in all districts and will require approval by the Board of Adjustment. (If Use on Review additional requirements that must be met need to be defined.)**
  - 2. Ground-Mount Solar Gardens. Ground-mount community solar energy systems must be less than two acres in total size, and are a **permitted use in all districts ... or ... a Use on Review in all districts, and will require approval by the Board of Adjustment. (If Use on Review additional requirements that must be met need to be defined.)** The City may require screening where it determines there is a clear community interest in maintaining a viewshed.  
**(As defined Solar Gardens are smaller Solar Farms that serve a small number of commercial, industrial or residential units. Would you anticipate any opposition to this in residential districts?)**
  - 3. Interconnection. An interconnection agreement must be in place with the local electric utility before work commences on installation of a solar garden.
  - 4. Dimensional Standards. All structures must comply with set-back, height, and coverage limitations for the district in which the system is located.
  - 5. Site Security. A solar garden located wholly or partly within the City limits must be surrounded by a fence that meets National Electric Code (NEC) guidelines. The City encourages the project operator or owner to

invest in fencing that facilitates movement of pollinators. All gates must always be locked unless personnel are on site. All components must be located at least four feet from the fence.

6. Other Standards. Ground-mount systems must comply with all required standards for structures in the district in which the system is located.
  7. Ground Cover. The City encourages (but does not require) owners of ground-mount solar gardens to plant the land underneath the solar collectors in pollinator friendly wildflowers. Such plantings must be maintained in such a way that they do not go to weeds or become predominately grass but afford passers-by a predominantly flower view during blooming season. Such plantings shall be considered flower beds and shall be exempt from the mowing requirements of Title B, Chapter 9. If wildflowers are not planted, the land underneath the collectors must be neatly maintained in compliance with Title B, Chapter 9 of the Code of Ordinances.
  8. Building Permit and Site Plan Review. Development of a solar garden inside the City limits requires the issuance of a building permit and site plan review. Principle use solar arrays must be designed by an Iowa licensed design professional.
  9. Is distance requirement from other solar gardens or solar farms necessary, i.e. 1 mile, 1000', 500', etc. as we do for billboards?
  10. Decommissioning. The City requires that, as part of the construction permit application, a decommissioning plan shall be submitted to ensure that the facilities are properly removed after their useful life. Decommissioning of the solar garden must occur in the event it (or a majority part of it) is not in use for 12 consecutive months. The plan shall include provisions for removal of all structures and foundations, restoration of the soil and vegetation, and a plan ensuring financial resources will be available to fully decommission the site. Disposal of the solar panels, racks, and foundations must meet state requirements applicable at the time of decommissioning. The City **may** require the posting of a bond, letter of credit, or the establishment of an escrow account to ensure proper decommissioning.
- B. Solar Farm: The City permits the development of solar farms, subject to the following standards and requirements:
1. Development. A solar farm may be developed only on land zoned **SA-Suburban Agricultural and I-1 Light Industrial Districts at the time of the development is a permitted use in these districts ... or ... Solar Farms are a Use on Review and will require approval by the Board of Adjustment. (If Use on Review additional requirements that must be met need to be defined.)**
  2. Building Permit. Development of a solar farm inside the City limits requires the issuance of a building permit.
  3. Stormwater and NPDES. If the City has stormwater management, erosion, or sediment control provisions, or NPDES permit requirements at the time of the development, solar farms shall be subject to those requirements.
  4. Ground Cover and Buffer Areas. Ground around and under solar arrays and in project buffer areas shall be planted and maintained in perennial vegetated ground cover, and meet the following standards:
    - (a) Topsoil shall not be removed during development unless it is part of a remediation effort.
    - (b) Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage run off, and build soil. Seeds may include a mix of grasses and wildflowers, but shall be predominantly wildflowers, ideally native to the region that will result in a short stature prairie with a diversity of forbs or flowering plants that bloom throughout the growing season. Blooming shrubs may be used in buffer areas as appropriate for visual screening. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Iowa Department of Natural Resources, Scott County Soil and Water Conservation Service, or the Natural Resource Conservation Service. Plant material must not have been treated with systemic insecticides, particularly neonicotinoids. Such plantings must be maintained in such a way that they do not go to

weeds or become predominantly grass but afford passers-by a predominantly flower view during blooming season. Such plantings shall be considered flower beds and shall be exempt from the mowing requirements of Title B, Chapter 9. If wildflowers are not planted, the land underneath the collectors must be neatly maintained in compliance with Title B, Chapter 9.

- (c) The City may require screening where it determines there is a clear community interest in maintaining a viewshed.
5. Foundations. A qualified engineer shall certify that the foundation and design of the solar panels' racking, and support is within accepted professional standards, given local soil and climate conditions.
6. Other Standards and Codes. All solar farms shall be in compliance with all applicable local, State, and federal regulatory codes, including the *State Building Code*, as amended; and the *National Electric Code*, as amended.
7. Power and Communication Lines. Power and communication lines running between banks of solar panels and to nearby electric substations or interconnections with buildings shall be buried underground. Exemptions may be granted by the City in instances where shallow bedrock, water courses, or other elements of the natural landscape interfere with the ability to bury lines, or distance makes undergrounding infeasible, at the discretion of the City's consulting engineer.
8. Site Security. A solar farm located wholly or partly within the City limits must be surrounded by a fence that meets National Electric Code (NEC) guidelines. The City encourages the project operator or owner to invest in fencing that facilitates movement of pollinators. All gates must always be locked unless personnel are on site. All components must be located at least four feet from the fence.
9. Building Permit. Development of a solar farm inside the City limits requires the issuance of a building permit.
10. Site Plan Required. A detailed site plan for both existing and proposed conditions must be submitted, showing location of all solar arrays, other structures, property lines, rights-of-way, easements, zoning districts, service roads, floodplains, wetlands and other protected natural resources, topography, electric equipment, and all other characteristics requested by the City. The site plan shall be reviewed by City Staff and the City Engineer. **Approved by resolution by City Council?**
11. Aviation Protection. For solar farms located within 500 feet of an airport or within approach zones of an airport, the applicant must complete and provide the results of the Solar Glare Hazard Analysis Tool (SGHAT) for the Airport Traffic Control Tower cab and final approach paths, consistent with the Interim Policy, FAA Review of Solar Energy Projects on Federally Obligated Airports, or most recent version adopted by the FAA.
12. Agricultural Protection. Solar farms must comply with site assessment or soil identification standards that are intended to protect agricultural soils.
- 11. Is distance requirement from other solar gardens or solar farms necessary, i.e. 1 mile, 1000', 500'?**
13. Decommissioning. A decommissioning plan shall be required to ensure that facilities are properly removed after their useful life. Decommissioning of the installation must occur if a majority of the solar panels are not in use for 12 consecutive months. The plan shall include provisions for removal of all structures and foundations, restoration of soil and vegetation, and a plan ensuring financial resources will be available to fully decommission the site. Disposal of the solar panels, racks, and foundations must meet State requirements applicable at the time of decommissioning. The City **shall** require the posting of a bond, letter of credit, or the establishment of an escrow account to ensure proper decommissioning.