



**Planning & Development  
Scott County, Iowa**

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Item 05  
08/16/2022

**Chris Mathias, Director**

Administrative Center  
600 West Fourth Street  
Davenport, Iowa 52801-1106

August 3, 2022

**To: Mahesh Sharma, County Administrator**  
**From: Chris Mathias, Planning Director**  
**Re: Public Hearing and First Reading of Proposed Solar Ordinance and Comprehensive Plan Amendment**

Planning Staff have been meeting with the Planning & Zoning Commission over the last year to discuss solar energy generation. The Zoning Ordinance currently does not address solar energy generation in any way. It's important that Scott County adds specific language to the zoning code that specifies where large utility-scale solar farms can be located. Moreover, the Code needs to differentiate between those larger solar uses and the smaller consumer-scale solar uses such as roof mounted solar systems or solar arrays placed in yards at residences, businesses and farms.

Staff presented the first draft of the ordinance changes at the June 21<sup>st</sup>, 2022 Commission meeting. The Commission then held a July 5<sup>th</sup> solar work session to only focus on that specific ordinance and the most important issues, such as setbacks, CSR limitations, site requirements and application requirements like project timelines and decommissioning plans. From that meeting, Planning Staff were directed to prepare for a public hearing at the August 2<sup>nd</sup> meeting. The Commission voted (4-0) to recommend approval of creating a new zoning district, "Utility Solar - Floating" (US-F), as well as other changes to the Zoning Code that will address solar energy generation. The Commission also voted 4-0 to recommend approval of a comprehensive plan amendment to clarify County policy regarding clean, renewable and efficient energy.

In short, the solar ordinance changes will require large solar farm (utility-scale) uses to apply for a rezoning to the US-F floating zone in order to be considered a permitted use. The code specifies that this rezoning should only happen on land that has a CSR2 rating under 60.0, the historic Scott County standard of what is considered "prime agricultural land." The ordinance also calls out smaller consumer-scale solar uses such as roof mounted solar systems or solar arrays placed in yards at residences, businesses and farms. The ordinance codifies the current methodology that Staff uses to approve these types of uses. These smaller consumer scale solar uses should be encouraged, have the same restrictions as an accessory building and only require a building permit and site plan zoning review to be approved.

Staff would like to bring the Commission's recommendations to the Board of Supervisors Committee of the Whole on August 16<sup>th</sup> and present these ordinance changes in full detail. We are also asking to hold a public hearing on adopting the ordinance text and the comprehensive plan amendment at the Board Meeting on August 18<sup>th</sup>, 2022.

*August 2<sup>nd</sup>, 2022 Planning & Zoning Commission Public Hearing Meeting:*

- **Vote (recommend adoption of Zoning Ordinance text to create a "Utility Solar-Floating" (US-F) zoning district): 4-0, All Ayes**



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- **Vote (recommend adoption of an amendment to Objective 3 of the Comprehensive Plan): 4-0, All Ayes**

Members Present: Scheibe, Piatak, Rochau, Steward

Members Absent: Armstrong, Maxwell, Schnekloth



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To: Planning and Zoning Commission

From: Chris Mathias, Planning Director

Date: July 26, 2022

**Re: Public Hearing on Proposed Solar Regulations for Scott County**

On Tuesday August 2<sup>nd</sup>, 2022 the Planning and Zoning Commission will host a public hearing to consider amendments to the Zoning Ordinance. These amendments will add language pertaining to regulation of consumer and utility-scale solar projects. Throughout this memo, you will find all the explicit changes to the text of the Zoning Code. At the end of the document we've also included text for a proposed Comprehensive Plan amendment that was also discussed at the last Commission meeting.

Items that have changed or been clarified since our last meeting:

- Section E(2) has been edited to reflect the Commission's concerns on how CSR2 rating would be calculated or could be manipulated by the applicant.
- The ability for applicants to have off-site mitigation to offset potential impacts on environmentally-sensitive areas on site (F(2)) has been removed.
- Setbacks from any residence *not* within the land area owned or leased by the applicant are 1,000'. This matches the setback from residential zoning. Setbacks to the other zoning districts are also now specifically listed.
- Special provisions for the "Disruption to Existing Agricultural Operations" have been added to allow the Commission to recommend ag nuisance waivers, and to allow adjacent farmers to petition for enhanced setbacks.
- Added I(3)e. which specifies that any citations and/or fines leveraged by the County in response to a failure to execute the approved decommissioning plan as described in subsection d above shall be leveraged against the applicant.
- The 20kw requirement for a consumer system has been removed. We've already had a permit in for a residential consumer solar system that exceeds this limitation. Without this limitation we would continue to regulate consumer systems based on height, size and setback limitations of accessory structures. We would also require that the system be an accessory use and that its primary purpose would be meeting electrical demands at that location.

**The specific changes to the Ordinance are proposed as follows:**



## 6-5. DEFINITIONS

Edit Definition

20. CORN SUITABILITY RATING (CSR2): The most current official index for ranking the productivity of soils and their suitability for row-crop production in Iowa. The CSR2 index has replaced CSR as the system that rates soils from five (5) to one hundred (100), with one hundred (100) reserved for those soils a) located in areas of the most favorable weather conditions in Iowa, b) that have high yield potential, and c) that can be continuously row cropped. (A detailed description of the CSR2 system, including methodology and CSR2 estimates for various soil types, may be found in publications of the Agricultural Extension Service, Iowa State University.)

Add Definition

105. SOLAR ACCESS EASEMENT: A recorded easement which provides continued access to incident sunlight necessary to operate a solar collector.

Add Definition

106. SOLAR ARRAY: A group of solar panels connected together.

Add Definition

108. SOLAR ENERGY GENERATION, CONSUMER SCALE A solar energy system of interconnected solar panels/arrays for the primary purpose of meeting electrical demands at that location. These systems are typically intended to offset electrical demands for the owner and are not intended to be net annual generators of electricity.

Add Definition

109. SOLAR ENERGY GENERATION, UTILITY-SCALE: A group of interconnected solar panels/arrays that convert sunlight into electricity for the primary purpose of wholesale or retail sales of generated electricity. This definition does not apply to consumer scale solar installations that are constructed primarily to provide power for use on-site.

Add Definition

110. SOLAR GLARE: The effect produced by light reflecting from a solar panel with intensity sufficient to cause annoyance, discomfort or loss in visual performance and visibility.



## Add Definition

111. SOLAR PANEL: A device composed of groups of individual solar cells used to convert solar energy into electrical current.

## 6-21. "US-F" Utility Solar-Floating District

- A. General Intent:** The US-F Floating District is intended and designed to provide areas for utility-scale solar energy generation sites. The adopted Smart Planning Objectives of the Scott County Comprehensive Plan promote renewable energy use and increased energy efficiency.

Prior to the establishment of any such district, adequate information shall be submitted regarding the effects of the proposed use upon the adjoining property and area, and other matters relating to habitat and natural resource conservation, preservation of prime agricultural land, public safety, public health, and general welfare. It is not the intent of this ordinance to allow Utility-scale solar energy generation sites on prime agricultural land.

- B. Principal Permitted Uses:** Land, buildings, or other infrastructure may be used for any of the following, in so far as the regulations contained in Sections E, F, and G are met:

1. Any use permitted in the underlying (original) zoning district.
2. Utility-scale solar energy generation sites.

- C. Accessory Permitted Uses:** Accessory uses, structures, and other infrastructure customarily incidental to any permitted principal use.

- D. Special Permitted Uses:** None.

- E. The Planning and Zoning Commission and Board of Supervisors shall consider the following characteristics of any land being petitioned for a rezoning to a "US-F" Floating District:**

1. Present Use.
2. Corn Suitability Rating (CSR2): No land shall be rezoned to the "US-F" district with soil that scores an average CSR2 score of 60.0 or higher. Calculation of Iowa CSR2 ratings of a specific area of land is strictly limited to the following:



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- a. Average CSR2 is to be calculated using current Soil Survey Geographic Database (SSURGO) data furnished by the United States Department of Agriculture Natural Resources Conservation Service (NRCS).
  - b. Average CSR2 is to be calculated using the Decision Tool “Calculating a Weighted Average CSR2” available through Iowa State University Extension’s website (<https://www.extension.iastate.edu/agdm/wholefarm/html/c2-87.html>).
  - c. The Area of Interest (AOI) established in “Calculating a Weighted Average CSR2” must be delineated to reflect the precise, contiguous land area being developed with arrays, buildings, and utility and access infrastructure, and shall not include land area set aside for conservation or agriculture, or land otherwise undisturbed by development.
  - d. The AOI must be established and CSR2 must be calculated prior to the start of site preparation work, including grading or top soil removal or displacement. If site preparation work is completed prior to submitting an application for rezoning, historical CSR2 data may be utilized to reflect pre-development site characteristics.
  - e. The Planning and Zoning Commission and Board of Supervisors shall consider any AOI with a Weighted Average CSR2 of 60 or greater as Prime Agricultural Land.
3. Access/proximity of existing utility infrastructure or other needed infrastructure, as well as the feasibility of extending such facilities, if necessary.
  4. Particular suitability or adaptability of the land to accommodate the proposed use.

**F. Site requirements for rezoning land to a “US-F” Floating District:**

1. *Floodplain/Floodway:* No portion of the site proposed to be developed may be located in a mapped 100-year or 500-year floodplain.
2. *Habitat and Natural Resource Consideration:* The potential impact on any environmentally-sensitive areas such as lakes, ponds, streams, rivers, wetlands, steep slopes, aquifers and recharge areas, natural wooded areas, prairie and other wildlife habitats shall be identified and considered for reasonable mitigation.
3. *Setbacks:* Setbacks for all structures (including the solar arrays themselves) must adhere to the minimum principal setback standards for the zoning district where the project is located; greater setbacks may be recommended based on the application.
  - a. All buildings, accessory buildings, and other infrastructure shall be located the following distances from the nearest boundary of each zoning district:

A-P:	500 feet
A-G:	500 feet
R-1:	1,000 feet
R-2:	1,000 feet
CAD-R:	1,000 feet
C-1:	100 feet



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C-2: n/a  
CAD-PVC: 100 feet  
I: n/a  
I-F: n/a  
SW-F: n/a

- b. All buildings, accessory buildings, and other infrastructure shall be located 1,000 feet from any residential dwelling unit *not* within in the land area leased or owned by the applicant.
  - c. When a solar array is to be built on two or more parcels that are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcels.
4. *Screening*: Adequate safeguards shall be taken to fence or screen any on-site hazards from the public. A landscape buffer may be required to be installed and maintained. The need for screening requirements will be evaluated as part of the review by Staff and the approval process and will be based on the surroundings of the site.
5. *Utility connections*: All utility connections serving the solar shall be placed underground unless topography, soil quality, or other conditions make this unfeasible.
6. *Glare minimization*: All solar panels must be constructed to diminish glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.
7. *Compliance with local, state, and federal regulations*: Utility scale solar installations shall comply with applicable local, state and federal regulations.
8. *Accessory structures*: All accessory structures shall be subject to bulk and height regulations of structures in the underlying zoning district, unless specified differently in the rezoning ordinance.
9. *Signage*: No signs other than appropriate warning signs, or standard signs for operation or identification, shall be allowed.
10. *Fencing/security*: A security fence must be installed along all exterior sides of the utility scale solar installation and be equipped with a minimum of one gate and locking mechanism on the primary access side. Security fences, gates and warning signs must be maintained in good condition until the utility scale solar installation is decommissioned.
11. *Disruption to Existing Agricultural Operations*: Any development plan must provide documentation that the project will not negatively affect the operation of existing agricultural drainage tiles on adjacent properties.
  - a. The Commission may recommend to the Board of Supervisors that an agricultural nuisance waiver be included within the application if determined to be applicable. Such waiver would restrict applicants from filing lawsuits for private nuisance against legitimate agriculture operations in the vicinity of the solar installation.



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- b. Farmers in A-P or A-G districts adjacent to the proposed area to be rezoned may file a written request to the Commission to consider enhanced setbacks from their zoning district boundary of up to 1,000 feet (see Section F(3)a) to prevent disruption to their agricultural operations. The Commission may recommend to the Board of Supervisors that those requests be honored and considered official conditions of rezoning approval, and included in the ordinance to rezone.

### G. Procedure for Rezoning Land to “US-F” Floating District:

Developer/landowner must apply to the Planning and Zoning Commission for approval of a specific development plan involving one of the principal permitted uses listed in Section B. The development plan must include a site plan for the development in accordance with Section 6-29 (Site Plan Regulations). The standard rezoning procedures contained in Section 6-31 (Zoning Amendment Procedures) shall be followed, beginning with the Planning and Zoning Commission holding a public hearing for rezoning before making a recommendation to the Board of Supervisors.

1. Development Plan must include the following:
  - a. *Site plan*: Site plan shall show the location and spacing of every solar panel/array and all other facilities to be constructed
  - b. *Grading plan*: This plan shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.).
  - c. *Utility plan*: Planned location of all utilities, including underground or overhead electric lines.
  - d. *Project timeline*: Project timeline showing how the site will be developed from beginning to end, including how the applicant will inform adjacent property owners.
  - e. *Landscaping/Screening plan*: Planned location of all plants and screening.
  - f. *Road Impact Analysis*: An inventory of the existing road network to be utilized for construction and maintenance of the facility and details on how the project will impact those roads over the life of the project, including during installation and decommissioning.
  - g. *Interconnection agreement*: Provide the interconnection agreement with the utility company
  - h. *Installation, operation, and maintenance plan*:
    - (1) *Maintenance, repair or replacement of facility*: Maintenance shall consist of, but not be limited to, repairs to structures or components, part replacement, painting, and maintenance of security measures. All applicable local, state and federal requirements should be followed when maintaining or conducting repairs to the site.





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(2) *Access*: Show location of access easements. Site access shall be maintained to provide access for adequate maintenance and emergency responders.

(3) *Soil erosion and sediment control considerations*: The applicant agrees to conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by the state department of natural resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal. If subject to NPDES requirements, the applicant must submit the permit for review and comment, and an erosion and sediment control plan before beginning construction. The plan must include both general "best management practices" for temporary erosion and sediment control both during and after construction and permanent drainage and erosion control measures to prevent damage to local roads or adjacent areas and to prevent sediment-laden run-off into waterways.

(4) *Stormwater management*: The plan shall include details on stormwater rate and runoff management as well as pollutant removal and flood reduction. The applicant shall include a detailed analysis of pre- and post-development stormwater runoff rates for review. Such review will incorporate appropriate stormwater management practices as required by the County Engineer, the Scott County Code of Ordinances and any State of Iowa best practices. The plan shall include detention of specified rainfall events, and infiltration components consistent with practices as detailed in the state stormwater management manual.

(5) *Ground cover and buffer areas*: Ground around and under solar arrays and in project site buffer areas shall be planted and maintained in perennial vegetated ground cover, and meet the following standards:

- a. Top soils shall not be removed during development, unless part of a remediation effort.
- b. Soils shall be planted and maintained in perennial vegetation for the full operational life of the project to prevent erosion, manage runoff and build soil. Seeds should include a mix of grasses and wildflowers native to the region of the project site 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. Non-native or naturalized species may be selectively planted for maintenance purposes as part of an approved site plan.
- c. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such



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as those from the Department of Natural Resources, County Soil and Water Conservation Service, or Natural Resource Conservation Service.

d. Plant material must not have been treated with systemic insecticides, particularly neonicotinoids.

e. Other practices, such as small-scale farming or grazing, may be allowed in the project area as part of the conditions of approval for the project.

(6) *Cleaning chemicals and solvents*: During operation of the proposed installation, all chemicals or solvents used to clean photovoltaic panels should be low in volatile organic compounds and the operator should use recyclable or biodegradable products to the extent possible. Any on-site storage of chemicals or solvents shall be referenced.

i. *Decommissioning plan*:

(1) The application must include a decommissioning plan that describes the anticipated life of the utility scale solar installation; the anticipated manner in which the project will be decommissioned, including plans to recycle components; the anticipated site restoration actions; the estimated decommissioning costs in current dollars; and the method for ensuring that funds will be available for decommissioning and restoration.

(2) The applicant shall provide the basis for estimates of net costs for decommissioning the site (decommissioning costs less salvage value). The cost basis shall include a mechanism for calculating adjusted costs over the life of the project.

(3) Restoration or reclamation activities shall include, but not be limited to, the following:

a. Restoration of the pre-construction surface grade and soil profile after removal of structures, equipment, graveled areas and access roads.

b. Re-vegetation of restored soil areas with crops, native seed mixes, native tree species, plant species suitable to the area, consistent with the county's weed control plan.

c. For any part of the energy project on leased property, the plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding restoration of agricultural crops or forest resource land. Any use of remaining structures must be in conformance with the regulations in effect at that time.

d. Following a continuous one-year period in which no electricity is generated, or if substantial action on the project is discontinued for a period of one year, the permit holder will have one year to complete decommissioning of the utility scale solar installation. Decommissioning



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shall be completed in accordance with the approved decommissioning plan. The land owner or tenant must notify the county when the project is discontinued.

e. Any citations and/or fines leveraged by the County in response to a failure to execute the approved decommissioning plan as described in subsection d above shall be leveraged against the applicant.

2. Developer/landowner must apply for all State, federal, and other required permits for the proposed development and provide copies of the applications for review.
3. The Board of Supervisors will receive the Commission's recommendation, as well as information received during the Commission's public hearing process, and will hold a public hearing in accordance with Section 6-31 (Zoning Amendment Procedures). Based on the Commission's recommendation, County staff comments, a review of the required State, federal, and other required permits, and comments from the applicant and the public, the Board may approve or deny the application. If approved, the site plan approval conditions (Section 6-29) will be included with the ordinance changing the zoning. Final County approval is contingent on State, Federal, or other permit approval as may be required.
4. If the application is adopted by the Board of Supervisors, the department staff shall update the zoning map to show the specific location of the "US-F" District, including the required separation spacing to other zoning districts.

#### **H. Minimum Lot Area, Lot Width, Setback, and Maximum Height**

**Requirements:** The lot area, building and structure setbacks and heights of buildings, structures, or other infrastructure will be determined and approved through the established site plan review procedures (Section 6-29).

- I. **Consumer-Scale Solar Energy Generation:** Certain smaller-scale solar energy generation projects, such as roof-mounted arrays and small ground-mounted solar fields, are exempt from the regulations established in this section. Solar energy generation projects shall be considered "consumer-scale" and exempt from Section 6-21 when they meet *all* of the following criteria:
  1. Building and structure setbacks and heights of buildings, structures, or other infrastructure meet the requirements established for accessory buildings in the applicable zoning district.
  2. The generation system is an accessory use to a permitted principal use in the applicable zoning district.

#### **Proposed Comprehensive Plan Amendment:**



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The proposed changes to Objective 3 of the Comprehensive Plan are shown in red line text below.

**Objective 3. Clean, renewable, and efficient energy:** Scott County encourages ~~that~~ planning, zoning, development, and resource management **to** be undertaken in a manner that promotes clean and renewable energy use **and production** and increased energy efficiency. **As with all non-farm development, Scott County intends for the majority of renewable energy production to occur within the boundaries of existing cities and not on productive agricultural soils and other agricultural areas when in conflict with efficient farming practices.**