

CHAPTER 79
UTILITY-SCALE SOLAR ENERGY SYSTEMS

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79.01 DEFINITIONS. For the purposes of this chapter, the following terms are defined.

1. “Participating Landowner” means a property owner who has entered into a lease, easement, or other written agreement with the project developer for the installation or operation of a Utility-Scale Solar Energy System.
2. “Repowering” means the process of replacing older photovoltaic devices, inverters, transformers, battery energy storage systems, mounting structures, or other significant components of a Utility-Scale Solar Energy System to extend its operational life, increase efficiency, expand capacity, or improve performance. This includes piecemeal replacements over time or total system overhauls, but excludes routine maintenance and minor repairs that do not increase the system’s capacity, energy output, or footprint by more than 10 percent.
3. “Utility-Scale Solar Energy System” means an energy generation facility comprising one or more freestanding, ground-mounted photovoltaic devices, together with transmission lines, substations, ancillary buildings, collection lines, and accessory equipment (such as inverters, transformers, battery energy storage systems, and weather stations), that converts solar energy into electrical energy primarily for off-site use. This term excludes solar thermal plants, concentrated solar power plants, and small-scale solar systems used exclusively for private purposes.
4. “Wildlife-Friendly Fencing” means fencing designed to allow passage of small wildlife, constructed with woven wire or similar materials, excluding barbed wire, razor wire, or chain-link, with a minimum bottom gap of 6 inches.

79.02 PURPOSE. The provisions of this chapter are adopted to promote public health, safety, comfort, convenience, and general welfare; to reduce street or highway congestion; to avoid excessive concentration of population on public facilities; and to facilitate the provision of transportation, water, sewage, schools, parks, and other public facilities, in accordance with the Comprehensive Plan and supporting maps, as permitted by Chapters 335 and 414 of the Code of Iowa. This chapter does not repeal, abrogate, annul, or impair existing laws, rules, regulations, permits, easements, covenants, or agreements. Where this chapter imposes greater restrictions on the use of buildings or premises, its provisions shall govern.

79.03 EXEMPTIONS. The regulations implementing Section 335.27 of the Code of Iowa do not apply to farmland, farmhouses, farm barns, farm outbuildings, or other structures used primarily for farming purposes, provided such land and structures remain used for farming.

79.04 STANDARDS AND REQUIREMENTS. Utility-Scale Solar Energy Systems shall comply with the National Electrical Code and the standards set forth in this chapter.

79.05 PERMITTED LOCATIONS. Utility-Scale Solar Energy Systems are permitted as a conditional use in the following districts:

1. “Ag” Agriculture Districts;
2. “C” Commercial Districts;
3. “I” Industrial Districts;
4. “I-S” Interchange Service Districts; and
5. “U-T” Urban Transition Districts.

79.06 SIZE LIMITATION. The combined horizontal surface area of all structures within a Utility-Scale Solar Energy System, excluding transmission lines and collection lines, shall not exceed 500 acres.

79.07 PROXIMITY RESTRICTIONS. A conditional use permit shall not be issued for a Utility-Scale Solar Energy System if its perimeter fence or wall is within two miles of the perimeter fence or wall of an existing or approved Utility-Scale Solar Energy System, unless the applicant holds an existing conditional use permit for the nearby system and obtains a separate permit for additional capacity, provided the total combined area does not exceed 500 acres.

79.08 COMMUNITY INFORMATION OPEN HOUSE.

1. Requirement. Before submitting a conditional use permit application, the project developer shall host a community information open house to provide project details in an informal setting. Non-compliance may result in permit denial.
2. Protocol. The open house shall comply with the following:
 - A. Notification. Notify the County Board of Supervisors, the Zoning Administrator, and all property owners within one mile of the proposed system by regular mail at least 10 days prior.
 - B. Date, Time, and Location. Hold the open house on a Monday, Tuesday, Wednesday, or Thursday evening at an accessible location within 5 miles of the project site or at the Sac County Courthouse.
 - C. Content. Include a detailed project explanation, site plan, construction schedule, landscape plan, and decommissioning plan.
 - D. Representation. The Zoning Administrator or designee shall attend to monitor the proceedings.
 - E. Response to Concerns. Solicit and address all comments and concerns with practical mitigation measures.
 - F. Report. Submit a report with the permit application, including the date, time, location, invited property owners, and written comments. The Board of Adjustment may use this report to establish permit conditions.

79.09 SITE PLAN. A site plan shall be submitted with the conditional use permit application, adhering to the following standards:

- A. Fencing. Restrict physical access with fencing or walls at least 7 feet high, compliant with the National Electrical Code. Perimeter fencing shall be wildlife-friendly, excluding barbed wire, razor wire, or chain-link, unless the Board of Adjustment approves chain-link with barbed wire for critical equipment security.
- B. Signage. Post warning/no-trespassing signs every 50 feet along the fence line.
- C. Emergency Access. Provide fencing details and emergency access information to emergency management personnel.
- D. Permits. Obtain all required state and federal permits before construction.
- E. Setbacks. Above-ground structures (except fences) shall meet the following minimum setbacks, unless participating landowners provide written, notarized waivers, in which case zoning district setbacks apply: 50 feet from property lines, except between properties of participating landowners; 300 feet from dwelling units; 75 feet from right-of-way lines, including future right-of-way lines

(drainage district facilities would have right-of-way lines); 100 feet from wildlife management or state recreation areas; 250 feet from buildings; and 150 feet from cemeteries.

- F. Height. Adhere to zoning district height requirements, except for gen-tie lines, transmission lines, and communication poles.
- G. Advertising. Prohibit advertising materials on the system.
- H. Glare. Utility-Scale Solar Energy Systems shall utilize solar panels equipped with state-of-the-art anti-reflective coatings or equivalent glare-reduction technology available at the time of installation to minimize glare on adjacent properties and roadways to the greatest extent practicable, while complying with all applicable airport zoning ordinances. The system owner shall submit a written certification to the Zoning Administrator, before commencing operations, attesting that the installed solar panels comply with this glare-minimization standard.
- I. Noise. Ensure average noise levels do not exceed 60 dBA (A-weighted Leq) over one hour at the perimeter, verified by a noise study submitted with the application. The Board of Adjustment may require sound measurements from similar systems or post-construction measurements to address complaints.
- J. Power Lines. Place alternating current (AC) power lines underground where feasible, based on soil conditions and topography.
- K. Cleanup. Maintain the site free of waste and detritus, with buffers and landscaping kept healthy.
- L. Construction Timeline. As part of the conditional use permit application, the applicant shall provide a proposed start date and completion date for construction. The Board of Adjustment shall review and approve a reasonable timeline as a condition of permit issuance. Following permit approval, the applicant or system owner shall strictly adhere to the approved timeline. Any deviation must be requested in advance and approved by the Sac County Board of Supervisors. To request a deviation, the applicant or system owner shall submit a written justification explaining the reasons, which must be attributable to circumstances beyond their reasonable control (such as acts of God or unforeseen labor or material shortages that could not reasonably have been anticipated or mitigated). Failure to adhere to the approved timeline without an approved deviation constitutes a violation of this chapter, subject to enforcement provisions including potential permit revocation or other remedies.
- M. Escrow for Complaints. The applicant or system owner shall fund an escrow account in the amount of \$50,000.00, to be held by the County or a designated third-party escrow agent approved by the Zoning Administrator, for the sole purpose of reimbursing the County for costs incurred in investigating, responding to, and repairing or mitigating complaints related to the Utility-Scale Solar Energy System (such as property damage, stray voltage, noise, signal interference, road damage, or other impacts on public or private property or infrastructure). The escrow account shall be established before issuance of a conditional use permit, and the applicant or system owner shall execute an escrow agreement with the County outlining the terms of the account, including access rights, disbursement procedures, and reporting requirements. All expenditures from the escrow account shall be documented in detail by the County, including itemized invoices or statements specifying the date, nature of the complaint or issue, personnel or resources involved, and the amount charged. The County shall maintain accurate records of all transactions and shall provide the system owner with a quarterly statement summarizing account activity, or more frequently upon written request. When the County incurs eligible costs, it shall draw funds from the escrow account and simultaneously provide the system owner with a written notice of disbursement, including an itemized bill. If the escrow account balance falls below \$50,000.00 at any time, the County shall notify the system owner in writing, and the owner shall replenish the account to \$50,000.00 within 30 days of receipt of such notice. Failure to replenish within the specified timeframe may result in suspension of the conditional use permit, cessation of operations, or other enforcement actions. The system owner may dispute any disbursement or billing by submitting a written notice of dispute to

the Zoning Administrator within 30 days of receiving the notice of disbursement or quarterly statement, specifying the grounds and including supporting documentation. Upon receipt of a valid dispute, the County and the system owner shall attempt to resolve the matter through good-faith negotiations within 15 days; if unresolved, the dispute shall be submitted to binding mediation by a disinterested mediator selected from a list of qualified neutrals maintained by the Iowa Mediation Service or another mutually agreed-upon organization. The mediator shall be impartial, with no financial or personal interest in the outcome, and shall have experience in zoning, land use, or contract disputes. The mediation shall be conducted in accordance with the rules of the selected service, and the costs of mediation (including mediator fees) shall be paid by the system owner unless otherwise determined by the mediator based on the merits. The mediator's decision shall be final and binding, and any adjustments to the escrow account shall be implemented within 10 days of the decision. If the owner prevails, the County shall reimburse the escrow account for any improperly disbursed funds from its general funds or other non-escrow sources. Any interest accrued by the funds in this account may be used at the discretion of the Board of Supervisors for community betterment projects or property tax relief. After all components have been entirely removed and decommissioning is complete, any remaining funds in the account shall become the property of the County, to be used at the discretion of the Board of Supervisors for community betterment projects or property tax relief.

79.10 LANDSCAPE PLAN. A landscape plan shall address visual impacts and include:

1. Topsoil. Retain topsoil unless part of remediation efforts.
2. Vegetation. Plant and maintain perennial vegetation (such as grasses and pollinator-friendly wildflowers) to prevent erosion and manage runoff, using non-invasive, neonicotinoid-free seed mixes recommended by natural resource professionals (such as the Department of Natural Resources or Sac County Conservation).

79.11 EMERGENCY RESPONSE PLAN. A preliminary emergency response plan shall be submitted with the permit application, including procedures for safe shutdown, de-energizing, or isolation during emergencies; inspection and testing of alarms, interlocks, and controls; and response to dangerous conditions, including shutdown, repair, and fire department notification. A final, site-specific plan shall be provided to the system owner, local fire department, emergency responders, and Sac County Emergency Management before construction. Signage at locked entrances shall include the utility's name and phone number, the site operator's name and phone number, and the facility's 911 address and GPS coordinates.

79.12 ROADWAY USE AND REPAIR AGREEMENT. A proposed roadway use and repair agreement shall be submitted with the permit application, with construction prohibited until a final agreement is approved. The agreement shall include:

1. Identification of roads for transporting system components and obtaining required permits.
2. An independent pre-construction road survey by a county-approved consultant, documenting conditions and proactive measures to prevent damage (such as surface stabilization and drainage improvements).
3. Restoration of roads and bridges to pre-construction conditions or better at the applicant's expense.
4. Financial assurance for road repairs, with an optional escrow account at the Board of Adjustment's discretion.

79.13 DRAINAGE DISTRICT PROTECTION AND REPAIR AGREEMENT. An application for approval to construct across established Sac County drainage districts, with the affected drainage district trustees, shall be submitted with the permit application, with construction prohibited until a final agreement is approved. The agreement shall require repair of damage to drainage facilities per Section 468.186 of the Code of Iowa. These drainage district applications can be obtained through the drainage clerk in the Sac County Auditor's office or the Sac County drainage department.

79.14 WATER FLOW AND DRAINAGE PROTECTION.

1. **Prohibition on Altering Natural Water Flow and Drainage.** No Utility-Scale Solar Energy System shall be designed, constructed, operated, maintained, or decommissioned in a manner that alters, impedes, or redirects the natural flow of surface water or subsurface drainage patterns on the project site or adjacent properties, except as expressly permitted by a drainage district protection agreement or other applicable state or federal regulations.
2. **Pre-Construction Drainage Assessment.** Before issuance of a conditional use permit, the applicant shall submit a comprehensive drainage assessment prepared by a licensed professional engineer or qualified hydrologist. The assessment shall include, but not be limited to: a detailed analysis of existing surface and subsurface drainage patterns (including natural watercourses, wetlands, and floodplains) on the project site and adjacent properties within one-half mile of the project boundaries; identification of any potential impacts of the proposed system on existing drainage patterns, including changes to runoff rates, volumes, or directions; and proposed mitigation measures to ensure that the natural flow of water and drainage patterns will not be altered, including the use of permeable surfaces, retention basins, or other stormwater management practices.
3. **Design and Construction Standards.** The design and construction of the system shall incorporate measures to preserve existing drainage patterns, including: maintaining natural contours and slopes of the land to the maximum extent practicable during site preparation and grading; ensuring that solar panels, mounting structures, access roads, and other infrastructure are installed in a manner that does not impede or redirect surface water flow or subsurface drainage; and installing and maintaining erosion control measures (such as silt fences, sediment traps, or vegetative buffers) during construction to prevent sediment from entering natural watercourses or drainage systems.
4. **Ongoing Maintenance and Monitoring.** The applicant or system owner shall regularly inspect and maintain all drainage-related infrastructure, including culverts, ditches, and stormwater management features, to ensure continued compliance with this section; submit an annual drainage compliance report to the Zoning Administrator and the County drainage engineer documenting the condition of drainage systems and any maintenance or corrective actions taken; and promptly address any complaints or concerns regarding altered water flow or drainage, implementing corrective measures as directed by the Sac County Board of Supervisors.
5. **Restoration Upon Decommissioning.** The decommissioning and site reclamation plan required under Section 79.17 shall include specific measures to restore the project site to its pre-construction drainage conditions, including removal of any infrastructure that may have altered surface or subsurface drainage patterns; regrading and revegetation of the site to restore natural contours and drainage patterns, consistent with the recommendations of a licensed professional engineer or qualified hydrologist; and verification of restored drainage conditions through a post-decommissioning drainage assessment submitted to the Zoning Administrator and County drainage engineer.
6. **Enforcement and Remedies.** Any violation of this section, including the alteration of natural water flow or drainage patterns, shall be subject to the enforcement provisions of this chapter. The Sac County Board of Supervisors may require the applicant or system owner to implement immediate corrective actions to restore natural drainage patterns; fund an escrow account, in an amount determined by the Board of Supervisors, to cover the costs of investigating and remedying drainage-related complaints or damages; and suspend construction, operation, or decommissioning activities until compliance is achieved.
7. **Coordination with Drainage District Agreements.** The requirements of this section shall be implemented in coordination with any drainage district protection and repair agreement required under Section 79.13. In the event of a conflict between this section and an approved drainage district agreement, the more restrictive provision shall apply.

79.15 INSURANCE. Before construction, the applicant shall submit a certificate of insurance to the Zoning Administrator showing general liability coverage of at least \$1,000,000.00 per occurrence for the system's

installation and operation, separate from public utility requirements. The applicant shall provide annual proof of coverage.

79.16 REPOWERING OF UTILITY-SCALE SOLAR ENERGY SYSTEMS.

1. Purpose and Intent. The purpose of this section is to ensure that repowering of Utility-Scale Solar Energy Systems does not circumvent the conditional use permit application process or compliance with the standards of this chapter. Repowering activities shall be treated as the installation of a new or substantially modified system, promoting public health, safety, and welfare by requiring adherence to current standards, including but not limited to setbacks, glare minimization, noise limits, drainage protections, and decommissioning requirements.
2. Permit Requirements. All repowering activities for Utility-Scale Solar Energy Systems permitted or constructed after the effective date of this chapter shall require a new conditional use permit application, as outlined in Sections 79.04 through 79.15. The application must demonstrate compliance with all current standards. Repowering that increases the system's capacity or footprint shall be subject to the size limitations (Section 79.06) and proximity restrictions (Section 79.07) as if it were a new project.
3. Updated Plans and Assessments. As part of the new permit application, the applicant shall submit updated versions of the site plan (Section 79.09), landscape plan (Section 79.10), emergency response plan (Section 79.11), roadway use and repair agreement (Section 79.12), drainage district protection agreement (Section 79.13), water flow and drainage assessment (Section 79.14), and insurance certificate (Section 79.15). The decommissioning plan (Section 79.17) shall be reevaluated to reflect the repowered system's components and estimated removal costs, with financial assurance adjusted to at least 110 percent of the new net costs.
4. Community Engagement. Before submitting a repowering permit application, the project developer shall host a new community information open house, following the protocol in Section 79.08, to address potential impacts of the repowering activities.
5. Exemptions. Routine maintenance or minor repairs not meeting the definition of repowering (such as replacing fewer than 10 percent of panels without a capacity increase) are exempt from this section. Such activities must still comply with ongoing maintenance requirements (such as noise, glare, and cleanup standards in Section 79.09).
6. Compliance and Verification. A certification of compliance with this section, prepared by a qualified independent inspector approved by the Zoning Administrator, must be submitted before commencing repowering activities. The system owner shall conduct annual tests or inspections of repowered components (such as for glare, noise, and drainage) and submit results to the Zoning Administrator within 30 days of completion.
7. Enforcement and Penalties. Failure to obtain a new conditional use permit for repowering, or to comply with this section, shall result in a penalty of up to \$10,000.00 per month of non-compliance, in addition to the violations and penalties outlined in Section 79.19. Continuous non-compliance for more than six months may result in suspension of the original permit, cessation of operations, or mandatory decommissioning. Each day of violation shall be treated as a separate offense.

79.17 ABANDONMENT AND DECOMMISSIONING.

1. Abandonment. A Utility-Scale Solar Energy System is deemed abandoned if the owner notifies the County of discontinued use, or if use is discontinued for 180 consecutive days, as determined by the Zoning Administrator. Within 180 days of abandonment, the owner shall remove all above- and below-ground facilities at the owner's complete financial cost. The Zoning Administrator may grant a 90-day extension. If the owner fails to comply, the County may remove the system and assess the costs as a property tax per Section 331.384 of the Code of Iowa. Alternatively, the owner may submit a banking plan for future reactivation within 180 days of abandonment, updated every 180 days for up to two years, after which the system must be reactivated or removed. An abandoned Utility-Scale Solar Energy System shall be deemed a nuisance pursuant to the applicable ordinances of the County.

2. Decommissioning and Site Reclamation Plan. Each Utility-Scale Solar Energy System shall have a decommissioning plan for nonoperational systems and terminated projects approved by the Board of Supervisors. Such plan shall contain:
 - A. A description of the system components and a sequence and description of the activities required to remove those components in compliance with this section.
 - B. A report prepared by a qualified third party (to be approved by the Sac County Board of Supervisors in advance) setting forth the procedures and estimated net cost associated with removal of the components and with returning all public roads, including hard-surface roads, to the same or better condition as before decommissioning. All system and accessory facilities, including but not limited to concrete, steel, cables, wires, and conduit, shall be removed entirely above ground level, and removed to a depth of 6 feet below ground level, with the exception of feeder lines. Both above- and below-ground removal shall be completed within 180 days of discontinuing use, at the complete financial cost of the system owner. No decommissioned material shall be disposed of within the County, including on private or public lands or at private or public waste management sites, dumps, or landfills.
 - C. Cash in an amount no less than 110 percent of the total estimated net removal and restoration costs for the entire project, as determined by the report, must be deposited into a designated account owned and controlled by the County before the project begins. The funds shall remain in place and be reviewed for accuracy upon project completion, remaining in effect until decommissioning. The company owning the system shall remain fully responsible for all decommissioning costs, including any costs exceeding the 110 percent amount held in the account. Any interest accrued may be used at the discretion of the Board of Supervisors for community betterment projects or property tax relief. After all components have been entirely removed and decommissioning is complete, any remaining funds shall become the property of the County, to be used at the discretion of the Board of Supervisors for community betterment projects or property tax relief.

The plan shall be updated every five years. Decommissioning is required after one year of no electricity generation or discontinued construction or repairs, with a 180-day completion period, extendable at the Zoning Administrator's discretion if ongoing efforts are demonstrated.

79.18 PERMIT FEES. Permit fees are set by the Sac County Board of Supervisors and listed in the Solar Construction Permit schedule.

79.19 VIOLATIONS AND PENALTIES. Each day that a violation of this chapter occurs or continues shall be treated as a separate and distinct offense. This includes each day that any Utility-Scale Solar Energy System operates in violation of the provisions of this chapter, which shall also be treated as a separate offense. If multiple violations occur, each shall be treated as an independent and separate offense, even if they occur on the same day. Each violation, including each day of non-compliant operation, shall result in an individual fine of \$855.00, applied separately and cumulatively to each offense.

79.20 SEVERABILITY. If any of the provisions of this chapter are illegal or void, then the lawful provisions of this chapter, which are separable from the unlawful provisions, shall be and remain in full force and effect, the same as if the chapter contained no illegal or void provisions.

79.21 REPEALER. All ordinances or parts of ordinances in conflict with the provisions of this chapter are hereby repealed.