

**REGULATIONS FOR THE SITING AND OPERATION
OF SOLAR FARM ENERGY SYSTEMS**

DES MOINES COUNTY, IOWA

ORDINANCE NO. 63

Adopted November 14, 2023

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ARTICLE I – GENERAL PROVISIONS

- A. **Purpose.** The purpose of this Ordinance is to establish a set of minimum standards for the siting, placement, construction, installation, operation, maintenance and decommissioning of Solar Farm Energy Systems, in order to protect the public health, safety and community welfare of the residents of Des Moines County.
- B. **Jurisdiction.** This Ordinance and all regulations contained therein shall be applicable to all land within unincorporated Des Moines County, Iowa, and shall exclude all land within the incorporated municipalities located in the County.
1. Whenever a parcel or area of land is annexed by an incorporated municipality, the requirements of this Ordinance shall cease to apply, and the subject parcel or area shall be subject to any and all applicable requirements for a Solar Energy System imposed by the ordinances of said municipality.
- C. **Relation to Other Ordinances and Regulations.**
1. Whenever this Ordinance imposes a greater restriction than is imposed or required by another local ordinance, or by state or federal laws, then the provisions of this ordinance shall prevail.
 2. Whenever another local ordinance, state or federal law imposes a greater restriction than is imposed by this Ordinance, then those stricter standards shall prevail.
 3. All Solar Farm Energy Systems located within the jurisdiction of the *Des Moines County Airport Approach Zone Regulations (Ordinance No. 58)* shall comply with all applicable height and location requirements imposed by that ordinance.
 4. All Solar Farm Energy Systems located within the jurisdiction of the *Des Moines County Floodplain Development Ordinance (Ordinance No. 25)* shall comply with all applicable requirements imposed by that ordinance.
 5. In accordance with Chapter 414.23 of *Iowa Code*, if an incorporated municipality has established a zoning ordinance with a jurisdiction over unincorporated land within two (2) miles of its corporate limits, all land within that two (2)-mile area shall be subject to any and all applicable zoning requirements for a Solar Farm Energy System imposed by that municipality, in addition to the requirements of this ordinance.
- D. **Exemptions.**
1. The regulations contained within this ordinance shall apply only to Solar Farm Energy Systems (SFES), as herein defined, along with any structures and equipment directly associated with a SFES, such as Battery Energy Storage Systems (BESS). No permits, public hearings, or other official action by the County shall be required for Personal Solar Energy Systems, as herein defined, or any directly associated structures and equipment.
 2. The regulations contained within this Ordinance shall not apply to the continued

operations of any Solar Farm Energy Systems that lawfully existed prior to the adoption of this ordinance or any amendment thereto. However, they shall apply to the physical expansion of any such System to encompass additional properties that were previously considered to be nonparticipating.

- E. **Financial Risk and Responsibility.** All costs associated with the permitting, construction, installation, operation, maintenance, repair, modification or decommissioning of a Solar Farm Energy System, shall be entirely the responsibility of the developer, owner, and/or operator of the SFES, and no such costs shall be passed on to Des Moines County, its taxpayers, or individual landowners in the SFES project area. In addition, the developer, owner and/or operator shall be entirely responsible for the cost of any legal actions (including defense and settlement costs) associated with the aforementioned activities regarding a SFES.

- F. **Enforcement and Penalties.** Any violation of the provisions of this ordinance or failure to comply with any of its requirements shall constitute a county infraction, as defined by Chapter 331.307 of the *Iowa Code*. Each day that the violation persists shall constitute a separate repeat offense.
 - 1. In accordance with Chapter 331.307 of the *Iowa Code*, any person or firm that violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than seven-hundred fifty (750) dollars for the first offense, and not more than one thousand (1,000) dollars for each repeat offense, or be imprisoned for not more than thirty (30) days for each offense.
 - 2. Nothing herein contained shall prevent Des Moines County from taking such other lawful action as is necessary to prevent or remedy any violation.

- G. **Severability.** Should any section or provision of this ordinance be declared by the Courts to be invalid or unconstitutional, such decision shall not affect the validity of the Ordinance as a whole, or any part thereof, other than the part so declared to be invalid or unconstitutional.

ARTICLE II – DEFINITIONS

- A. **Word Usage.** The specific terms listed in this Article shall be defined as follows whenever those terms are used within the text of this ordinance.
- B. **Terms Defined.**

ABANDONMENT. The state in which a Solar Farm Energy System, or portion thereof, has ceased to produce energy for at least three-hundred sixty five (365) consecutive days.

ADMINISTRATOR. Shall refer to the Land Use Administrator of Des Moines County, Iowa.

BATTERY ENERGY STORAGE SYSTEM (BESS). An electrochemical device that enables the energy from a Solar Farm Energy System to be stored on site, and be readily available during times of especially high demand or during emergencies.

BOARD OF SUPERVISORS. Shall refer to the Board of Supervisors of Des Moines County, Iowa.

CIVIC BUILDING. A building that is regularly used for large public gatherings or services, or the housing of unrelated individuals in a group setting, including schools, daycare facilities, churches and other houses of worship, government offices, hospitals, nursing homes, group homes, and homeless shelters. This term shall not apply to any accessory buildings (garages, sheds, or utility buildings) that are not used for human habitation.

COUNTY ENGINEER. Shall refer to the County Engineer of Des Moines County, Iowa.

DECOMMISSIONING. The complete removal of all components of a Solar Farm Energy System, including solar arrays and accessory structures, following the permanent ceasing of operations – either through abandonment or planned termination at the end of its useful life.

DEVELOPER. The person(s) and/or entit(ies) pursuing the development of a Solar Farm Energy System, who are responsible for submitting a Siting Permit application and all required attachments necessary for the review and approval thereof by the County.

MAINTENANCE, SOLAR FARM ENERGY SYSTEM. Any activity undertaken by the operator of a Solar Farm Energy System during the course of its operational lifespan, for the purpose of making repairs, cleaning the equipment, evaluating its performance, or assessing the condition of individual components.

MAXIMUM HORIZONTAL TILT. The point during the course of a daily rotation (if any) at which the panels of a solar array are the closest to being entirely parallel to the ground surface.

MAXIMUM VERTICAL TILT. The point during the course of a daily rotation (if any) at which the panels of a solar array are the closest to being at a ninety (90)-degree angle to the ground surface.

OCCUPIED DWELLING. A building that contains one or more dwelling units intended for residential use – whether occupied by the owner or unrelated individuals paying rent, and which is occupied for year-round or seasonal use by one or more households, or actively marketed for sale or rent at the time a Solar Farm Energy System is proposed to be built in the nearby vicinity. This term shall not apply to any such building which is vacant year-round and not being actively marketed for sale or rent at the time the System is proposed. It shall also not

apply to any accessory buildings such as garages that are not used for human habitation.

OPERATOR. The person(s) and/or entit(ies) responsible for the day-to-day operation and maintenance of a Solar Farm Energy System, including any third-party subcontractors. This term shall apply to all subsequent operators of the System, if such responsibility is transferred at any point during its operational lifespan.

OWNER, SOLAR FARM ENERGY SYSTEM. The person(s) and/or entit(ies) that own the structures and equipment comprising a Solar Farm Energy System, regardless of whether or not they also own the land upon which it is situated. This term shall apply to all subsequent owners of the System, if ownership is transferred at any point during its operational lifespan.

PARTICIPATING PROPERTY. Any property on which a portion of a Solar Farm Energy System is physically located. In any instance where a property under common ownership is split into multiple adjacent parcels for taxation purposes (using section, quarter-section, and quarter-quarter lines from the Public Land Survey System), the entire property shall be considered a 'participating property', regardless of whether or not each individual tax parcel physically contains a portion of the SFES.

NON-PARTICIPATING PROPERTY. Any property that is located near a Solar Farm Energy System, but does not physically contain a portion of that System.

SITING PERMIT. A written certificate that, once approved by the County, authorizes the developer to proceed to the construction of a Solar Farm Energy System or any associated structures and equipment.

SOLAR ENERGY SYSTEM (SES). A system of infrastructure used for the conversion of solar energy from the sun into electricity, using a series of panels designed to collect energy from the rays of the sun.

SOLAR FARM ENERGY SYSTEM (SFES). A utility-scale SES where the energy produced is primarily intended to be distributed to the electrical power grid for use by the public at-large, either within Des Moines County or elsewhere. Little, if any of the energy produced will be consumed on the subject property and/or adjoining properties. This typically involves over one hundred (100) acres of private agricultural land, where one or more landowners lease the land to a solar energy company, which owns and maintains the solar equipment.

PERSONAL SOLAR ENERGY SYSTEM (PSES). An SES where the energy produced is primarily intended for consumption on the subject property and/or one or more adjoining properties. Excess energy generated by the System may be sold and distributed to an electrical utility provider serving the general public, but as designed, the majority of the energy generated will be consumed on site. This typically involves a private residential, agricultural, or commercial property where the rooftop or ground-mounted solar panels are owned and maintained by the landowner, and the SES covers less than ten (10) acres.

SOLAR ARRAY. An installation comprised of multiple solar panels grouped together and wired into a single circuit, to be attached either to a ground-mounted post or column, or to the roof of a building or structure. Ground-mounted arrays are typically tilted at an angle from the flat ground surface, which may be adjustable to follow the position of the sun throughout the course of a single day.

CLUSTER OF SOLAR ARRAYS. Shall refer to any grouping of adjacent solar arrays that is

not separated from any other grouping of arrays by a roadway, other public right-of-way, utility easement, or greater than fifty (50) feet of open space.

SOLAR PANEL. A photovoltaic device designed to collect energy from the rays of the sun for conversion into electricity, which may either be part of a freestanding utility structure placed directly on the ground surface, or attached to the roof of a separate building or structure.

STRUCTURE. Anything constructed or erected with a permanent location on the ground, including dwellings, civic buildings, retail stores, offices, factories, utility stations, wind turbines, freestanding solar arrays, garages, sheds, barns, livestock pens and grain bins.

ARTICLE III – MINIMUM SITING AND DESIGN STANDARDS

A. Proximity to Dwellings, Structures and Other Properties.

1. All distance measurements in this section shall be taken in reference to the point at which the other structure, utility line, or boundary line will be closest to any individual solar array within a Solar Farm Energy System.
 - a) Measurements shall be taken along a flat horizontal plane between the two points, to adjust for any significant changes in topography and land surface elevation.
 - b) Measurements shall be taken from the solar array when the panels are positioned at maximum horizontal tilt.
 - c) These distance requirements shall apply to all applicable dwellings, structures and properties in the vicinity of the SFES, regardless of whether they are located within an incorporated municipality or an adjoining county.
 - d) The minimum distances required by this section shall only be waived if written permission for a shorter distance has been obtained from one or more individual property owners, and the waiver shall apply only to those specific propert(ies).
2. The minimum distance between any solar array within an SFES and any of the following shall be three-hundred (300) feet:
 - a) Any occupied dwelling or civic building on a non-participating property.
 - b) The boundary line of any property containing a cemetery.
 - c) The boundary line of any public conservation area, whether owned by Des Moines County Conservation, the Iowa Department of Natural Resources, or any agency of the federal government.
3. The minimum distance between any solar array within an SFES and any of the following shall be one hundred and fifty (150) feet:
 - a) Any occupied dwelling or civic building on a participating property.
 - b) Any structure on a nonparticipating property apart from an occupied dwelling or civic building, such as a detached garage or shed, or a livestock confinement building.
4. The minimum distance between any solar array within an SFES and any of the following shall be seventy-five (75) feet:
 - a) Any structure on a participating property apart from an occupied dwelling or civic building.
 - b) The boundary line of any nonparticipating property.
 - c) Any right-of-way for a roadway (public or private) or a railroad.
 - d) Any above-ground utility lines, such as overhead electric lines or substations.

5. For a Battery Energy Storage System (BESS) or other substation for energy storage on the premises of an SFES, the minimum distance between it and any of the following shall be as follows:
 - a) Five Hundred (500) feet for any occupied dwelling or civic building on a non-participating property, and the boundary line of any property containing a cemetery.
 - b) Two hundred and fifty (250) feet for any structure on a participating property, and any structure apart from an occupied dwelling or civic building on a non-participating property.
 6. No portion of any SFES shall be constructed within any public right-of-way, utility easement, or access easement, unless written permission has been obtained by the intended beneficiar(ies) of that right-of-way or easement and provided to the Board of Supervisors prior to the final public hearing.
 7. For any roadway that is to be newly constructed or widened as part of a project listed in the State or County Five-Year Program, the minimum setback in Section 4(c) of this article shall apply to the planned future right-of-way line for the that roadway at the conclusion of the applicable project.
- B. **Height Restrictions.** All measurements shall be taken from the highest point on a panel when it is positioned at maximum vertical tilt.
1. The height of any solar array within an SFES shall not exceed fifteen (15) feet.
 - a) In any instance where the distance a solar array and the nearest occupied dwelling or civic building will be greater than the minimums outlined in Section A of this Article, the maximum height shall be increased by one (1) foot for every two (2) feet at which that distance exceeds the minimum.
 2. The height of any structure within an SFES shall not exceed the maximum allowable height for any structure located within the jurisdiction of the *Des Moines County Airport Approach Zone Regulations (Ordinance No. 58)*.
- C. **Maintenance of Soil Health.** In order to ensure that the underlying soil on the properties comprising an SFES will remain viable for productive farming operations following its decommissioning, the following standards shall be complied with during and after construction of an SFES.
1. Top soils shall not be removed during development, except in any instance where necessary to remediate chemicals or hazardous substances from a prior use of the property.
 2. Apart from paved or gravel driveways necessary to transport vehicles and equipment around the SFES during regular maintenance work, all areas of soils that underly and surround clusters of solar arrays shall be planted and maintained in perennial vegetation, in order to prevent erosion, manage stormwater runoff, and maintain overall soil health.
 - a) Seed mixes and maintenance practices for vegetation shall be consistent with recommendations made qualified natural resource professionals

(such as those at the Iowa Department of Natural Resources, Natural Resources Conservation Service (NRCS) and the local Soil and Water Conservation District).

- b) Seeds should include a mix of grasses and wildflowers, ideally native to the Southeast Iowa region, which will result in a short stature prairie surrounding the clusters of solar arrays.
 3. During the course of operations for an SFES, all chemicals or solvents used to clean solar panels shall minimize the use of volatile organic compounds, and the operator shall use recyclable or biodegradable products to the greatest extent possible.
 4. Once an SFES has commenced operations, surface-level soil samples shall be taken at regular intervals (no less than once every 10 years), to test for the presence of any of the eight (8) metals identified by the Resource Conservation and Recovery Act (RCRA), including arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.
 - a) Samples shall be taken at a rate of one sample for every 100 acres of land, evenly distributed throughout the SFES.
 - b) Soil sampling shall be conducted in accordance with SW-846 ('Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium'), from the U.S. Environmental Protection Agency (EPA).
 - c) A baseline sample shall be taken prior to the initial construction of the SFES, to be used as a reference for future samples taken during the course of its operation.
 - d) In the event that contamination from any of the eight (8) RCRA metals is identified, and the amount exceeds that which was observed in the baseline sample, the SFES operator shall notify the Board of Supervisors and provide an action plan to address the issue. This plan shall specify what efforts will be undertaken to remove the existing contamination, and to prevent further contamination from occurring in the future.
- D. **Screening.** If deemed necessary, the Board of Supervisors may require that a row of vegetative screening be planted outside the perimeter of the SFES, in instances where one or more homes or civic buildings on nonparticipating properties are located in close proximity.
- E. **Electric Lines.** All electric lines used to transfer energy from a SFES to the nearest substation shall be placed underground, apart from those within a public road right-of-way or an existing overhead electric easement.
- F. **Lighting and Reflection.**
 1. Any lighting that is installed on the premises of an SFES shall be shielded and downcast to the extent that the light does not project directly onto any adjoining properties. Exceptions shall be made only when such lighting is necessary to comply with requirements of the Federal Aviation Administration.

2. An SFES shall be designed and positioned in such a manner as to prevent reflective glare toward any nearby occupied dwellings, civic buildings, roadways, or airport runways.

G. **Access and Security.** All components of an SFES shall be sufficiently secured to prevent any safety hazards to the general public.

1. An SFES shall be fully surrounded with fencing that meets the minimum height and design standards of the National Electrical Code (NEC), and an entrance that is locked at all times outside the occurrence of maintenance activities
 - a) If located outside the perimeter fence surrounding the solar arrays that comprise the SFES, any Battery Energy Storage System (BESS) or other substation for energy storage shall be surrounded by its own fence which meets the same standards as the fencing for the remainder of the SFES.
2. All locked entry points shall be accompanied by signage which prohibits trespassing, warns of any applicable risk of high voltage or other safety hazard, and provides contact information for the owner or operator in case of emergency.

H. **Signs.**

1. No signs shall be installed on the premises of an SFES if they are visible from a public street, apart from owner or manufacturer identification signs and any applicable warning signs outlined in Section F(2) of this article.
2. No solar array or other structure associated with an SFES shall be used to advertise or promote any product or service.

ARTICLE IV – PERMITTING AND REVIEW PROCEDURE

- A. **Administrator.** The Des Moines County Land Use Administrator is hereby appointed to implement and administer the provisions of this Ordinance, and will herein be referred to as the Administrator.
1. The Des Moines County Engineer shall assist in the administration and enforcement of this Ordinance as it pertains to the matter of roadway maintenance and the Road Use Agreement outlined in Article VI of this Ordinance.
- B. **Siting Permits and Required Documents.** Prior to the construction, erection or installation of a Solar Farm Energy System within unincorporated Des Moines County, the developer shall obtain an approved Siting Permit from the County. In total, the developer shall provide all of the following to the Administrator when applying for a Siting Permit:
1. A completed application form for an SFES Siting Permit, using forms supplied by the County, which shall include the following information:
 - a) The location of the proposed SFES and the size of its total physical extent.
 - b) The number of participating properties associated with the SFES.
 - c) The height and size dimensions of the solar arrays and other structures that comprise the SFES, including the height of arrays at maximum vertical tilt, and their width at maximum horizontal tilt.
 - d) The length of the anticipated timeframe for implementation of the project, including the construction and placement of all structures and equipment that comprise the SFES.
 - e) Information regarding the location and extent of properties to be served by the energy generated on site.
 - f) Contact information for all representatives of the developer that will be involved in the permitting and review process.
 2. A Site Plan for the proposed SFES, comprised of a map and any associated diagrams or illustrations, which contains all of the following information:
 - a) The location of all structures that comprise the SFES, including solar arrays as well as any accessory structures and equipment, including utility lines, whether above or below-ground.
 - b) Lines marking a radius of three hundred (300) feet surrounding each cluster of solar arrays (measured when the panels are at maximum horizontal tilt), and a radius of five hundred (500) feet around each BESS or other substation.
 - c) The location of all existing buildings, structures and above-ground utility lines within five hundred (500) feet of each cluster of solar arrays, and within seven hundred (700) feet of any BESS or other substation, with labels to indicate the distance between the two in each case. Setback measurements for structures on non-participating properties may be approximated using aerial photography.

- d) The location of all utility lines, sanitary systems, drainage tile networks, and any associated easements, regardless of whether they are currently being utilized.
 - e) The locations of all driveway entrances for obtaining access to any portion of the SFES, as well as any other private entrances to the public roadway system within one thousand (1,000) feet of each, measured along the road right-of-way line.
 - f) The locations of any vegetative screening areas as required in Article III, Section D of this Ordinance.
 - g) The location and extent of any floodplains, if applicable.
3. A report from a licensed structural engineer containing the following information:
- a) A description of the proposed solar arrays and any BESS or substation, in terms of functional design characteristics, appearance, dimensions, etc.
 - b) Photographs and/or elevation drawings providing a visual depiction of the proposed solar arrays and any BESS or substation.
 - c) A line of sight analysis showing the potential visual impact on residential properties within five hundred (500) feet.
 - d) Documentation to establish that the proposed solar arrays and any BESS or substation have sufficient structural integrity for the proposed use and location, and comply with all applicable industry standards in terms of safety and performance.
 - e) Calculations for the approximate total and average energy to be generated by each individual cluster of solar arrays, as well as in aggregate for the SFES, as anticipated.
4. A Soil Maintenance Plan, which describes the vegetation planting and other soil maintenance practices to be used on the premises of an SFES during and after construction, in order to demonstrate compliance with the requirements of Article III, Section C of this Ordinance.
- a) This plan shall include references to any and all outreach conducted with qualified natural resource professionals such as the Iowa DNR and NRCS, either for this particular SFES or a previous, similar project in Des Moines County or another community with similar climate and soil conditions.
 - b) This plan shall include references to the methods used to control weeds, pests, and other potential hazards to adjoining agricultural properties.
 - c) This plan shall include a description of any chemicals or solvents that will be used for the routine cleaning of solar panels, and details on the method and location of storage if any of these will be regularly stored on site.
 - d) Photographs and illustrations of the proposed practices, including examples from previous projects in similar communities, are strongly encouraged.

5. Formal documentation of any agreements signed between the developer and participating property owners, such as leases and waivers for the minimum distance requirements in Article III, Section A of this ordinance.
6. Formal documentation of agreements with any electric company for the interconnection of the SFES with their power grid.
7. A map and description of all County roadway segments to be used for accessing the SFES during its construction, and for regular operations and maintenance.
 - a) This map shall be accompanied by plans for any necessary traffic control activities and detours for local motorists accessing properties within the project area.
8. Documentation of any and all applicable permits issued by other permitting agencies at the Federal, State or Local level, which confirms compliance with any applicable requirements from those agencies.
 - a) This shall include documentation of an approved National Pollutant Discharge Elimination System (NPDES) permit from the Iowa Department of Natural Resources, along with the associated Erosion and Sediment Control Plan, which outlines the specific control practices to be utilized during construction of the SFES.
 - b) This shall also include any applicable permits from the Federal Aviation Administration (FAA), concerning the reflective glint and glare generated by solar panels in the vicinity of airport runways.
9. An Operations and Maintenance Plan, which contains the following:
 - a) A description of how the SFES will be regularly operated and maintained, including references to any subcontractors or associated firms that will be directly involved.
 - b) The expected frequency and duration of on-site visits and inspections by operations and maintenance personnel.
 - c) The procedures for keeping the individual components of a SFES locked and secured outside of regular operations and maintenance visits.
10. A Stormwater Management Plan, prepared by a licensed engineer, which details the measures to be taken during and after construction of the SFES, to minimize any increase in the volume of stormwater runoff that is a direct result of its construction and ongoing operations.
11. A Road Use Agreement, as outlined in Article VI of this Ordinance, along with a financial security which guarantees payment for all costs associated with the repair of roads and other infrastructure following the construction of the SFES.
12. A Decommissioning Plan, as outlined in Article VII of this Ordinance, along with a financial security which guarantees payment for all costs associated with the decommissioning of the SFES.

13. An Emergency Response Plan, which contains response procedures to be followed in the event of a fire, collapse, personal injury, or other emergency related to an SFES.
 - a) Prior to its submittal to the Board, the Emergency Response Plan shall be reviewed and approved by Des Moines County Emergency Management and the applicable Fire Department(s) serving the SFES project area.
14. A description of the process by which the developer, or a contractor acting on their behalf, will recruit employees for the construction of the proposed SFES. This should specify whether or not this will include local recruitment efforts in Des Moines County and the surrounding region.
15. Payment of the required administrative fee, as outlined in Section G of this Article.

C. **Assistance for County Review.**

1. The Board of Supervisors may choose to utilize the services of a third party consultant to review any of the technical documents submitted along with an application for a Siting Permit, such as the Operations and Maintenance Plan and Decommissioning Plan.
2. Such a consultant may also assist with on-site inspections and other work as necessary to assist the County in its review of the Siting Permit application.
3. The developer shall be responsible for all fees associated with such consultant activities.

D. **Public Hearing and Vote.** Within sixty (60) days of the submission of a complete Siting Permit Application with Site Plan, the Board of Supervisors shall hold a public hearing regarding the proposed SFES.

1. Notification shall be provided to the owners and occupants of all properties within one (1) mile of any solar array, BESS or substation comprising the proposed SFES, and shall be published in a newspaper of general circulation within the community no fewer than four (4) or greater than twenty (20) days prior to the hearing.
2. Following the conclusion of the first public hearing, the Board may require an additional hearing if it is felt that further information is necessary to make a determination on the proposed SFES, or to adequately inform the general public and individual property owners of the impact of the project.
3. Following the conclusion of the final public hearing, the Board shall vote on whether to approve or deny the Siting Permit request.
 - a) The Board may attach additional conditions to the approval of a Siting Permit, which shall be limited to anything deemed necessary to protect the public health, safety and community welfare.
 - b) Approval of a Siting Permit shall be contingent on the submission of a completed Road Use Agreement, Decommissioning Plan, and all associated requirements as listed in Articles VI and VII of this Ordinance.

- c) If the permit request is denied, the Board shall clearly state the reason(s) for doing so, and provide the developer with a copy of a written statement attesting to the same.
 4. Notification of the Board's final decision shall be mailed to the owners and occupants of all properties within one (1) mile of each solar array, BESS or substation comprising the proposed SFES, as well as any other members of the general public that attended as a result of the newspaper publication for the hearing, excluding any such individuals that were present at the meeting in which the decision was made.
- E. **Validity of Permits.** An approved Siting Permit shall be valid for two (2) years following approval by the Board of Supervisors.
 1. If requested by the developer, an extension may be granted by the Board of Supervisors, provided that sufficient evidence is supplied that demonstrates the ongoing viability of the project as first proposed.
 2. A previously approved permit may be revoked by the Board if it determines that a violation has occurred, and all permitted activities shall cease until a new or revised permit has been approved using the procedures outlined in this article.
- F. **Fee Structure.** All applications for a Siting Permit shall be accompanied by the payment of an administrative fee to compensate County staff and officials for the application review process.
 1. For an SFES of two-hundred (200) acres or less in total size, the fee shall be five-thousand (5,000) dollars.
 2. For an SFES of greater than two-hundred (200) acres in total size, the fee shall be twenty-five hundred dollars (2,500) for every one-hundred (100) acres of land, rounded to the nearest one-hundred (100) acres.
 3. For purposes of calculating the fee, the total size of an SFES shall include the sum total of all participating properties comprising the system, including land occupied by buildings, row crops, and open space on those properties.
 - a) If any specific portion of a participating property is not covered by the lease or easement agreement with the SFES operator, then that portion shall be removed from the total size of the SFES, when calculating the fee.

ARTICLE V – ROAD USE AND MITIGATION OF DAMAGES

- A. **Purpose.** The transport of heavy, oversized equipment during the construction of a Solar Farm Energy System is likely to cause substantial traffic disruptions along public roadways in the project area. It is also likely to cause serious damage to or deterioration of County roadways and other associated infrastructure.

Therefore, it is necessary to ensure that local residents and officials are fully prepared for the anticipated traffic disruptions, and that adequate mitigation efforts are undertaken for the damages incurred, without the placement of any financial burden on the County and its taxpayers.

- B. **Road Use Agreement.** The developer of a Solar Farm Energy System shall prepare a Road Use Agreement with the Des Moines County Secondary Roads Department, and submit documentation of such agreement to the Administrator, once approved by both parties.

1. The Road Use Agreement shall clearly outline the roles and responsibilities regarding the use of County roadways during the construction of the SFES, as well as the repair of any such roadways that are damaged as a result of the construction activity.
2. The agreement shall be accompanied by an estimate of the total cost for the repair of roadways and other infrastructure that are likely to be damaged during the construction of the SFES.

- C. **Cost Estimate.** The following requirements shall apply to the cost estimate supplied by the developer, as stipulated in Section B(2) of this Article.

1. At the developer's expense, the cost estimate shall be prepared by a professional engineer licensed in the State of Iowa.
2. A baseline survey shall be conducted, in order to assess and evaluate existing roadway conditions prior to construction of the SFES.
3. The baseline survey shall factor in the presence and condition of any other infrastructure that may be damaged as a result of the construction of the SFES, including above or below-ground utility lines, drainage tile networks, private driveway entrances, or the components of a levee and drainage system.
4. The cost estimate shall encompass the total cost of any and all repairs necessary to return the roadway and all other impacted infrastructure to the condition observed in the baseline survey.
5. The cost estimate shall also include the cost of providing liability insurance coverage to the County, at an amount deemed acceptable by the Board of Supervisors, in the event that the developer's liability insurance coverage lapses for any reason.

6. At their own expense, the developer shall obtain an independent third party review of the supplied cost estimate, to be conducted by an individual or firm of the County's choosing.
 - a) If the third party review does not support the estimate supplied by the developer, the developer shall supply the County with an explanation of the discrepancy, obtained either through further consultation with their engineer, the third party reviewer, and/or other licensed professional(s).
 - b) Approval of the Siting Permit shall be contingent on the submittal of a revised cost estimate that is supported by the third party reviewer.

- D. **Financial Security.** Any and all costs associated with the repair of roadways and other infrastructure damaged as a result of the construction of the SFES shall be paid for entirely by the developer, without any assistance from the County.
 1. Prior to the approval of a Siting Permit for a SFES, the developer shall provide the Board of Supervisors with a surety bond, or another form of financial security deemed acceptable to the Board.
 2. The financial security shall cover no less than three (3) times the total cost identified in Section C of this Article.
 3. The financial security shall only be released when the County Engineer determines, following inspection, that the roadways and associated infrastructure have been repaired to their pre-construction condition.

- E. **Construction – Notification of Local Officials.** Prior to the commencement of construction for a SFES, a set of detailed plans for roadway usage, traffic control, and the timing and duration of operations shall be provided to the Administrator, as well as Des Moines County Secondary Roads, Des Moines County Emergency Management, Des Moines County Sheriff's Department, and Fire Department(s) serving the project area.
 1. The Administrator and the other aforementioned entities shall be notified in the event that any substantial delays in the completion of construction will be necessary, and the details shall be provided regarding the revised timeframe and duration of the project.

- F. **Construction – Notification of Property Owners.** Prior to the commencement of construction for a SFES, the developer shall, at their own expense, provide mailed notification to the owners and occupants of all property within one and one-quarter (1.25) miles of any public roadway segment to be utilized for the transport of solar equipment.
 1. This notification shall identify the roadway segments to be utilized, any necessary detours or other traffic control plans, and the anticipated timing and duration of the activities, with specific dates identified whenever possible.
 2. In order for the County to confirm compliance with this requirement, a copy of the notification letter shall be provided to the Administrator, along with a list and/or map of the property owners that were contacted.

- G. **Construction Monitoring and Emergency Repairs.** The Administrator and County Engineer shall monitor the construction process and notify the developer if any major damages to County roadways or utility infrastructure have occurred as a result of these activities, rendering those roads or utilities unusable without immediate repair.
1. If deemed necessary to ensure the safe and efficient movement of traffic on the County Roadway system, the Administrator may require the developer to cease with the continued transport of solar energy equipment until the area of major damage has been rectified.
 - a) The use of detours as a result of such unforeseen damages shall not be implemented until the developer has notified the Administrator and County Engineer of any additional roadways to be used in transporting the equipment.
 - b) The costs for completing such emergency repairs shall be borne entirely by the developer, the same as any other repair activities after construction is complete, as outlined in Section D of this Article.

ARTICLE VI – DECOMMISSIONING AND ABANDONMENT

- A. **Purpose.** Given that the infrastructure associated with a Solar Farm Energy System has a useful life of limited duration, it is necessary to ensure that the SFES and all of its components are safely removed from the site, and that such removal activities do not place any financial obligation on the County and its taxpayers.
- B. **Decommissioning Standards.** The decommissioning of a SFES shall comply with the following minimum standards:
1. All structures, utility lines, and equipment associated with the SFES shall be removed, including the entirety of any such structures located below ground level.
 2. Following the removal of structures, utility lines and equipment, all remaining materials and debris shall be removed, and the site shall be inspected to identify the presence of any potentially hazardous substances or contaminants. Such substances shall be removed and remediated in accordance with any and all applicable state and federal laws at the time of decommissioning, and to the satisfaction of the Board of Supervisors.
 3. All areas of ground that had been disturbed to construct and operate the SFES shall be graded, reseeded, and otherwise restored to their condition prior to the establishment of the SFES, to the satisfaction of the Board of Supervisors.
 4. The structures and equipment comprising a SFES shall be recycled to the greatest extent practicable, and under no circumstances shall any of the solar panels be disposed of in a landfill within Des Moines County.
- C. **Decommissioning Plan – Submission Requirements.** Prior to the approval of any Siting Permit for a SFES, the developer shall submit a Decommissioning Plan to the Administrator, which complies with all requirements listed in Section B of this Article, and includes each of the following:
1. A description of the planned procedure to remove all structures, utility lines, and other equipment associated with the SFES, along with any remaining materials or debris.
 - a) This shall include a description of the process through which the site will be inspected to identify any hazardous substances or contaminants that may have been deposited on or below the ground surface, as well as the process to remove and remediate those materials.
 2. A description of the planned procedure to restore all previously disturbed land to its condition prior to the construction of the SFES.
 3. A description of the disposal process for the major components of all solar arrays comprising the SFES.

4. Documentation of existing conditions prior to the establishment of the SFES, for the County to use as a baseline reference in determining whether the land has been restored to its pre-development condition during decommissioning.
 - a) This shall include aerial and ground level photographs, written descriptions, or any other such documentation that the Board determines necessary for documenting the existing condition of the properties involved.
 - b) Specific measurements shall be provided for the Corn Suitability Rating (CSR) and the extent of soil compaction.
5. An estimate of the total cost for the decommissioning of the SFES, as outlined further in Section D of this Article, along with a written financial plan that adequately ensures that the operator will be able to supply the necessary funds at the time of decommissioning.
 - a) The financial plan shall stipulate that all costs associated with the decommissioning of the SFES shall be borne entirely by the owner or operator, without any assistance from the County.
 - b) The financial plan shall stipulate that the terms will apply to all future successors, assigns, or heirs to which responsibility for operating the System may be transferred at a later date.
6. A statement that the owner or operator will notify the County in advance of the planned decommissioning of a SFES, and a description of the means by which the County will be notified.
7. A statement that Des Moines County shall have access to the SFES, and to the funds to effect or complete decommissioning no less than three hundred sixty-five (365) consecutive days after the structure(s) have ceased operations.

D. **Cost Estimate.** The following requirements shall apply to the cost estimate supplied by the developer, as stipulated in Section C(5) of this Article.

1. At the developer's expense, the cost estimate shall be prepared by a professional engineer licensed in the State of Iowa.
2. The cost estimate shall encompass all costs associated with the decommissioning of the SFES, including the deconstruction, transportation, and disposal of equipment, as well as site clean-up activities.
3. The cost estimate shall also include the anticipated cost of repairing roadways or other infrastructure following the removal and transport of all equipment, calculated under the same procedure outlined in Section C of Article V.
4. The cost estimate shall also include the cost of providing liability insurance coverage to the County, in the event that the developer's liability insurance coverage lapses for any reason.
5. When preparing the cost estimate, under no circumstances shall the salvage value of the equipment be deducted from the total cost of decommissioning.

6. At their own expense, the developer shall obtain an independent third party review of the supplied cost estimate, to be conducted by an individual or firm of the County's choosing.
 - a) If the third party review does not support the estimate supplied by the developer, the developer shall supply the County with an explanation of the discrepancy, obtained either through further consultation with their engineer, the third party reviewer, and/or other licensed professional(s).
 - b) Approval of the Siting Permit shall be contingent on the submittal of a revised cost estimate that is supported by the third party reviewer.
 7. In order to account for inflation and any unanticipated future trends and influences, the cost estimate shall be reevaluated and updated three (3) years after the approval of the Siting Permit, and at every subsequent three (3) year interval, following the same process undertaken in the initial calculation.
- E. **Financial Security.** Any and all costs associated with the decommissioning of an SFES shall be paid for entirely by the owner and/or operator, without any assistance from the County or individual landowners in the project area.
1. Prior to the approval of a Siting Permit for a SFES, the developer shall provide the Board of Supervisors with a surety bond, or another form of financial security deemed acceptable by the Board. This shall be used to complete the decommissioning of the SFES, should the owner or operator fail to do so.
 2. The financial security shall cover no less than three (3) times the total cost estimate outlined in Section D of this Article.
 3. Following the initial approval of a Siting Permit for an SFES, the owner or operator shall continually renew the financial security every three (3) years throughout the lifespan of the SFES. At the time of each renewal, the cost estimate shall be reevaluated under the same procedure as outlined in Section D of this Article, and the bond shall cover no less than three (3) times the updated estimate for total cost.
 4. The owner or operator shall provide the Board with a notice of their intent to continue operations no less than one hundred and eighty (180) days prior to the three (3) year anniversary of the previous bond filing or renewal, and shall supply the renewed financial security to the Board no less than ninety (90) days prior to that anniversary.
 - a) If the financial security has not been renewed at ninety (90) days prior to the anniversary of the previous bond filing or renewal, then the owner or operator shall take the steps to begin the decommissioning of the SFES at that time.
 5. Each time that the financial security is filed or renewed, it shall be accompanied by a written agreement that stipulates that it will apply to all future successors, assigns, or heirs to which responsibility for operating the System may be transferred between the time of the filing and the next renewal.
 6. The financial security shall only be released once the Board of Supervisors can

confirm that the land has been restored to its condition prior to the construction of the SFES, including the remediation of any contamination.

F. **Confirmation of Decommissioning.**

1. The owner and/or operator shall supply the County with documentation of on-site conditions following the completion of decommissioning. This shall include aerial and ground level photographs, written descriptions, or any other such documentation that the Board determines necessary for documenting the condition of the properties involved.
2. If the supplied documentation does not meet the satisfaction of the Board, the County may conduct its own inspection of the site, either directly or through the use of a third party consultant, and the owner and/or operator shall be responsible for compensating the County for these activities.

G. **Determination of Abandonment.** Any SFES, or portion thereof, that has not been in operation for a period of three hundred sixty-five (365) consecutive days shall be deemed to be abandoned by the Administrator, and notification of this determination shall be submitted to the owner and/or operator at this time.

1. Following the determination of abandonment, the owner or operator shall within ninety (90) consecutive days, either reactivate the use of the structure(s) or begin the process of dismantling and removing them.
 - a) This required timeframe for reactivation shall only be extended if the owner or operator is able to provide sufficient evidence or documentation to the Board of Supervisors that the failure to reactivate is due to either a natural catastrophic event or a mechanical or technological failure that the owner or operator is actively working to remedy at the time.
2. If the owner and/or operator desires to reinstate and maintain operations for the SFES, they shall provide the Board of Supervisors with substantial evidence of their intention and ability to do so within ninety (90) consecutive days of the abandonment determination, and resubmit such evidence every one-hundred eighty (180) days after the initial ninety (90) day period.
3. In the absence of any intent to reinstate operations, failure to begin the dismantling and removal of an abandoned SFES within ninety (90) consecutive days shall constitute a violation of this Ordinance, subject to penalties as specified in Article I, Section E.
4. If the solar panels and other structures are not removed as required, the Board may initiate the removal of the SFES using the funds set aside through the surety bond or other financial security, as outlined in Section E of this Article. As needed, the Board may take any other legally authorized steps to recover the cost of the removal, including the sale of removed materials, or initiation of judicial proceedings against the owner or operator.