WOODBURY COUNTY ZONING COMMISSION

SPECIAL MEETING
AT MOVILLE AREA COMMUNITY CENTER
815 Main Street, Moville, IA 51039

Monday, September 11, 2023 at 5:00 PM

The Zoning Commission will hold a special public meeting on **Monday, September 11, 2023 at 5:00 PM** at the **Moville Area Community Center at 815 Main Street, Moville, IA 51039**. Public access to the conversation of the meeting will also be made available during the meeting by telephone. Persons wanting to participate in the public meeting and public hearings on the agenda may attend in person or call: **(712) 454-1133** and enter the **Conference ID: 518 109 27#** during the meeting to listen or comment. It is recommended to attend in person as there is the possibility for technical difficulties with phone and computer systems.

	AGENDA
1	**CALL TO ORDER**
2	**ROLL CALL**
3	**PUBLIC COMMENT ON MATTERS NOT ON THE AGENDA**
4	**APPROVAL OF MINUTES: July 24, 2023**
5	**ITEM(S) OF ACTION / BUSINESS**
»	**FORMAL APPROVAL OF "ZONING COMMISSION RULES OF PROCEDURE" –** At the July 24, 2023 meeting of the Zoning Commission, the rules of procedure were approved and sent to the Board of Supervisors who formally voted to approve the rules on August 8, 2023. This agenda item is for the Zoning Commission to formally adopt the rules and authorize the chair to sign the Rules of Procedure.
»	**PUBLIC HEARING: PROPOSED *JANET HECK SUBDIVISION* (Parcel #874724300005) -** a one-lot minor subdivision in a 4.0-acre portion of Section 24, T87N R47W (Liberty Township) in the SE ¼ of the SW ¼ on Parcel #874724300005. The property is approximately 1.3 miles northeast of Salix. The property is located in the Agricultural Preservation (AP) Zoning District and in the Special Flood Hazard Area (SFHA) – Zone A. Owner(s): Janet K. Heck, Kevin Heck (Executor), 1739 260th St., Salix, IA 51052.
»	**PUBLIC HEARING: PROPOSED ZONING ORDINANCE MAP AMENDMENT (REZONE) (PARCEL #884506200006)** - Proposal to rezone from the Agricultural Preservation (AP) Zoning District to the Agricultural Estates (AE) Zoning District for 18.526-acres located on Lot Two (2), *Boyle's Addition*, Woodbury County, Iowa, Section 6, T88N R45W (Moville Township) in the County of Woodbury and State of Iowa. The property is known as GIS Parcel #884506200006 and is described as: Lot Two (2), Boyle's Addition, Woodbury County, Iowa. Owner(s)/Applicant(s): Richard F. Luze and Kimberly K. Luze, 2480 Hwy 20, Lawton, IA 51030.
»	**PUBLIC HEARING: SOLAR ENERGY - UTILITY-SCALE SOLAR SYSTEMS – CONSIDERATION OF SOLAR ORDINANCES FOR RECOMMENDATION(S) TO THE BOARD OF SUPERVISORS -** SUMMARY OF PROPOSED ZONING ORDINANCE TEXT AMENDMENTS: AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO AMEND PORTIONS OF: THE *TABLE OF CONTENTS*; SECTION 3.03.4 ENTITLED: *LAND USE SUMMARY TABLE OF ALLOWED USES IN EACH ZONING DISTRICT*; PORTIONS OF: SECTION 6.02 ENTITLED *DEFINITIONS*; AND THE RENUMBERING OF DEFINITIONS AND PAGE NUMBERS. THE PROPOSAL IS TO ADD SOLAR ENERGY SYSTEMS (UTILITY SCALE) AS A CONDITIONAL USE IN THE AGRICULTURAL PRESERVATION ZONING DISTRICT AND ADD A NEW SECTION TO THE ZONING ORDINANCE TO REGULATE SOLAR ENERGY SYSTEMS, UTILITY-SCALE SOLAR ENERGY SYSTEMS, AGRISOLAR, AGRIVOLTAICS, AND COMMUNITY SOLAR SYSTEMS.
6	**PUBLIC COMMENT ON MATTERS NOT ON THE AGENDA**
7	**COMMISSIONER COMMENT OR INQUIRY**
8	**STAFF UPDATE**
9	**ADJOURN**

Minutes - Woodbury County Zoning Commission Meeting – July 24, 2023

The Zoning Commission (ZC) meeting convened on the 24th of July at 6:00 PM in the 1st Floor Board of Supervisor's Meeting Room, in the Woodbury County Courthouse. The meeting was also made available via teleconference.

ZC Members Present:	Chris Zant, Corey Meister, Tom Bride, Barb Parker, Jeff O'Tool
County Staff Present:	Dan Priestley, Dawn Norton, Dan Bittinger
Public Present:	William Walker
Phone:	Jason Meihost

Call to Order
Chair Chris Zant formally called the meeting to order at 6:00 PM.

Public Comment on Matters Not on the Agenda
None

Approval of Previous Meeting Minutes – June 26, 2023
Bride motioned. Second: Parker. Motion carried: 5-0.

Review of Conditional Use Permit Application for a Recommendation to the Board of Adjustment: Request to Setup a Portable Concrete Plant for Hwy 20 Paving for IDOT Project NHSX-020—1(179)—3H-97 on Parcel #884701200009:
Priestley read the staff report into the record. Jason Meihost, Croell, Inc. (Applicant) and Midwest Auto Properties, LLC have filed a conditional use permit application to request to use the property designed as Parcel #884701200009 for a portable concrete plant in support of the Hwy 20 paving project identified as IDOT Project NHSX-020-1(179)—3H-97. The proposed location is south of Hwy 20 and west of Charles Avenue. The property is addressed at 1605 Charles Ave., Lawton, IA 51030. Appropriate landowners and stakeholders were notified. Jason Meihost, Croell, Inc., spoke by telephone. Dust will be mitigated by putting rock surface down and watering surfaces. Operations will only take place during sunup and sundown. No public comment during meeting. Priestley noted there is a well on the parcel. Siouxland District Health department has verified it has been capped and marked. Priestley received phone call from neighboring landowner asking about the grading and the well on the property. Staff recommends that the Zoning Commission recommend approval. O'Tool made a motion as written to recommend approval that the property located on Parcel #884701200009 can be used as a temporary concrete plant to support Iowa DOT Project NHSX-020-1(179)--3H-97. Second: Meister. Motion carried: 5-0.

Review of Conditional Use Permit Application for a Recommendation to the Board of Adjustment: Request for a Private Wind Turbine Installation and Use on Parcel #864626400009.
Priestley read the staff report into the record. William Kyle Walker (owner) has filed a conditional use permit application for the installation and use of a wind turbine. The said turbine along with its support tower was previously installed on this property and the owner has retroactively filed this permit request as required under Section 3.03.4 of the Zoning Ordinance. The property abuts Hwy 141 to the north and Fayette Avenue to the west. This proposal has been properly noticed in the Sioux City Journals legal section on July 18, 2023. The neighbors within 500 FT were duly notified via a July 14, 2023 letter about the July 31, 2023 Board of Adjustment public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been requested to comment. This property is located in the Agricultural Preservation (AP) Zoning District and is located in the Special Flood Hazard Area (SFHA). The portion where the house is located was removed from the floodplain via Letter of Map Revision Based of Fill Case No.: 15-07-1298A. Based on the information received and the requirements set forth in the Zoning Ordinance, the proposal can meet the criteria for approval of the conditional use request based on conditions. Staff recommends approval contingent upon the property owner(s) meeting the following conditions:

- The turbine tower installation/placement shall meet or exceed the 10 FT accessory setback requirements from the west property line as enumerated in the Woodbury County Zoning Ordinance (Section 3.04).

- The turbine tower installation/placement shall comply with the floodplain management regulations of the Woodbury County Zoning Ordinance (Section 5.03).

Bride asked about the relationship with MidAmerican and whether the applicant is using the ag exempt. Walker indicated that the county does not recognize the exemption because he doesn't row crop. O'Tool asked if progress has been made with MidAmerican in terms of hooking up to the grid. Walker indicated he is working with the state electrical. Bride inquired as to who performs the electrical inspection. Walker replied the State of Iowa. Motion by

O'Tool to recommend approval of this conditional use permit request to the Board of Adjustment with the following conditions:

- The property owners shall ensure that:
    - The turbine tower installation/placement shall meet or exceed the 10 FT accessory setback requirements from the west property line as enumerated in the Woodbury County Zoning Ordinance (Section 3.04).
    - The turbine tower installation/placement shall comply with the floodplain management regulations of the Woodbury County Zoning Ordinance (Section 5.03).

Second: Parker. Motion carried: 5-0.

Consider to Adopt Amendment to Rules of Procedure for the Meeting Day, Time, and Location of the Woodbury County Zoning Commission:
Discussion to consider moving the Zoning Commission meeting time to 5:00 p.m. and setting meeting date to 4th Monday of each month. Zoning Commission meeting time is independent of the Board of Adjustment start time. Staff has been asked to adjust meeting times in concern of overtime for security personal. Board members voted 5-0 to move meeting start time to 5:00 p.m. Motion by Bride; second by O'Tool. Carried: 5-0, to amend the Rules of Procedure for the Woodbury County Zoning Commission, Article IV., Section 2. Regular Meetings to read: The Zoning Commission is on-call for its regular meeting scheduled on the fourth Monday of every month beginning at 5:00 p.m. in the 1st Floor Board Room in the Woodbury County Courthouse, subject to formal business to be considered. Notice of the regular meeting shall typically be sent by the Secretary to the members at least 2-days prior to such meeting and shall state the purpose and time of the meeting.

Public Comment on Matters Not on the Agenda
None

Commissioner Comment of Inquiry
None

Staff Update
Priestley informed the Commissioners that the solar ordinance amendment will be considered by the Board of Supervisors with three public hearings to be held on August 1, 8, and 15 at 4:45 PM on each date.

Adjourn
Motion by Meister. Second by Parker. Carried 5-0. Meeting adjourned at 6:28 PM.

RULES OF PROCEDURE
FOR THE
WOODBURY COUNTY ZONING COMMISSION

ARTICLE I: PURPOSE

The Woodbury County Zoning Commission created the foregoing rules with the intent of making its procedures clear, clean, and easy to follow, both for the Commission members and for members of the public.

The following rules of procedure have been approved by the Board of Supervisors on August 8, 2023 and are hereby adopted by the Woodbury County Zoning Commission.

ARTICLE II: MEMBERS

There are 5 members of the Woodbury County Zoning Commission. They shall be residents of unincorporated Woodbury County, Iowa and are appointed by the Woodbury County Board of Supervisors.

ARTICLE III: OFFICERS

Section 1. Officers
The Commission shall select from its membership a Chair and a Vice-Chair who will perform the usual duties pertaining to such office. Per Section 2.01: B of the County Zoning Ordinance, the Zoning Director or his/her appointee, will serve as Secretary.

Section 2. Selection
At the first regular meeting of the calendar year the Commission will pick its officers from its membership. All officers are eligible for re-election.

Section 3. Tenure
The Chair shall take office immediately following their selection and shall hold office for a term of 1 year or until their successor is selected and assumes office.

The Vice-Chair shall take office immediately following their selection and shall hold office for a term of 1 year or until their successor is selected and assumes office.

Section 4. Duties
The Chair will preside at all regular meetings and hearings, appoint committees, and perform such other duties as may be ordered by the Commission. The Vice-Chair shall act in the capacity of the Chair in their absence. If the Chair and Vice-Chair are both absent from a meeting and there is a quorum, the most-senior Commissioner shall serve as Chair of that meeting. The Secretary will record and maintain minutes of the meetings, maintain all records, and perform such other duties as the Zoning Commission may determine.

Section 5. Vacancy
If office of the Chair becomes vacant, the Vice-Chair shall succeed to this office for the unexpired term and the Commission shall select a successor to the office of Vice-Chair for the unexpired term. If only the office of the Vice-Chair becomes vacant, the Commission shall select a successor to the office of Vice-Chair for the unexpired term.

ARTICLE IV. MEETINGS

Section 1. Compliance with the Open Meetings Law
All meetings of the Commission shall be conducted in compliance with Chapter 21 of the Code of Iowa and other applicable law.

Section 2. Regular Meetings
The Zoning Commission is on-call for its regular meeting scheduled on the fourth Monday of every month beginning at 5:00 PM in the 1st Floor Board Room at the Woodbury County Courthouse, subject to formal business to be considered. Notice of the regular meeting shall typically be sent by the Secretary to the members at least 2-days prior to such meeting and shall state the purpose and time of the meeting.

Section 3. Special Meetings
Special meetings may be called at the request of the Chair from time to time as required to conduct the business of the County, provided that at least 24-hours notice of such meeting is given to each member.

Section 4. Quorum and Consensus
The presence of three members shall constitute a quorum. Without a quorum, no business will be transacted and no official action on any matter will take place.

Section 5. Majority Required
A majority of the quorum present is required for the adoption of any matter to come before the Commission.

Section 6. Manner of Acting
Any question to come before the Commission shall be in the form of a motion by a commissioner and shall require a second for consideration. Remarks made by a Commissioner shall be limited to 10-minutes unless an extension is granted by a majority of the Commission. Commissioners shall address the Chair and confine their remarks to the question before the Commission and shall be respectful of other Commissioners and avoid referencing or questioning the motives of another Commissioner.

Section 7. Roll Call Votes.
The Chair shall order a roll call vote when requested by a member. The roll shall be called alphabetically, except the Chair shall be called last.

Section 8. Effects of Abstention.
When a Commissioner abstains due to a conflict of interest, the vote of the Commission shall be computed on the basis of the number of Commissioners not disqualified by reason of conflict of interest. However, at least 3 Commissioners eligible to vote are required for a quorum on any matter. Abstentions that are not due to a conflict of interest shall be counted as a "no" vote.

Section 9. Electronic Participation
Members of the Commission may participate in a meeting by electronic means only in circumstances where participation in person is impossible or impractical. Any member participating electronically shall be connected by a speaker phone, video conference, or other device or software, so that the public can hear any discussion by that member. The vote of any

member participating electronically must be made public at the meeting and the minutes of the meeting shall include sufficient information to indicate the vote of each member participating.

ARTICLE V: ADMINISTRATION

Section 1.
Commission meetings are administered by the Chair. The Chair has the right to:

1. Call the meeting to order
2. Recognize speakers
3. Call for motions on agenda items, and facilitate debate
4. Preserve order and decorum
5. Determine points of order

ARTICLE VI. ORDER OF BUSINESS

Section 2.
The Secretary will prepare an agenda for each meeting and send it to each member typically at least 2-days before the meeting. The order of business shall typically be as follows:

1. Call to order and opening statement by Chair
2. Roll call
3. Public comments on matters not on the established agenda (3-minute limit)
4. Approval of minutes
5. Item of business
6. Public comments on matters not on the established agenda (3-minute limit)
7. Commissioner comments
8. Adjournment

Section 3.
As to an item of business, the order shall typically be as follows:

1. Staff report
2. Petitioner comments
3. Commissioner comments and questions for staff/petitioner
4. Staff/petitioner rebuttal opportunity
4. Public comments
5. Staff/petitioner rebuttal opportunity
6. Vote

ARTICLE VII. MOTIONS AND VOTING

Section 1.
Motions may be made by anyone on the Commission. The Chair will restate the motion before a vote is taken. The Commission typically recognizes three kinds of motions:

A. Main Motion — request for action on an item; can be made by any member, including the Chair.
B. Motion to Amend a Motion — which the Commission must vote on first, then the Commission votes on the underlying motion.
C. Motion to Postpone discussion of a matter until a future meeting.

Section 2.
Another Commissioner may then second a motion. The motion dies if no member seconds it.

Section 3.
The Commission may then debate the motion further.

1. Members should keep their discussion concise and limited to the motion on the table.
2. A member may withdraw his/her own motion at any time during debate.

Section 4.
The Chair may then conclude debate by calling for a vote. Each member must respond:

1. Yes ("aye")
2. No ("nay")
3. Abstain

Section 5.
The Chair shall then state whether the motion passes or fails, and the final vote tally

ARTICLE VIII. PUBLIC PARTICIPATION

Section 1.
Any member of the public wishing to address the Commission may do so during the appropriate "public comments" section of the Order of Business.

Section 2.
Comments by any one member of the public shall be limited to 3 minutes.

Section 3.
Any person so addressing the Commission shall step up to the microphone and give their name and address for the record.

Section 4.
Should a person engage in slanderous remarks, personal attacks, or boisterous behavior, the Chair may refuse to recognize the speaker, may ask the speaker to leave, or may have the speaker removed.

ARTICLE IX. AMENDMENTS

Section 1.
The Commission may suspend or amend these rules at any regular or special meeting by a majority vote of the members present.

_____ _____
DATE ADOPTED CHAIRPERSON

_____
ATTESTOR

WOODBURY COUNTY COMMUNITY & ECONOMIC DEVELOPMENT

620 Douglas St. · Sixth Floor · Sioux City, IA 51101 · Phone: 712.279.6609 · Fax: 712.279.6530 · Web: woodburycountyiowa.gov

Daniel J. Priestley, MPA – Zoning Coordinator · dpriestley@woodburycountyiowa.gov

Dawn Norton – Senior Clerk · dnorton@woodburycountyiowa.gov

PRELIMINARY REPORT – SEPTEMBER 5, 2023

JANET HECK SUBDIVISION MINOR SUBDIVISION PROPOSAL

Application Details

Applicant(s)/Owner(s):	Janet K. Heck, Kevin Heck (Executor)
Application Type:	Minor Subdivision
Name of Subdivision:	Janet Heck Subdivision
Application Date:	July 17, 2023
Number of Lots:	1
Total Acres:	4
Extraterritorial Review:	Waived by Salix with Resolution No. 2023-20
Legal Notice Date:	August 29, 2023
Neighbor(s) Notice Date:	August 23, 2023
Stakeholder(s) Notice Date:	July 27, 2023
Zoning Commission Public Hearing Date:	August 28, 2023
Board of Supervisors Agenda Date:	TBD
Attorney:	Ryan Ross, 712-224-7585
Surveyor:	Mike Schulte, 712-790-3489

Property Details

Parcel #:	874724300005
Township/Range:	T87N R47W (Liberty)
Section:	24
Quarter:	SE ¼ SW ¼
Zoning District:	Agricultural Preservation
Floodplain District:	Zone A - Area to be subdivided under 5 acres. No BFE required.
Address:	1739 260th St., Salix, IA 51102

Contents

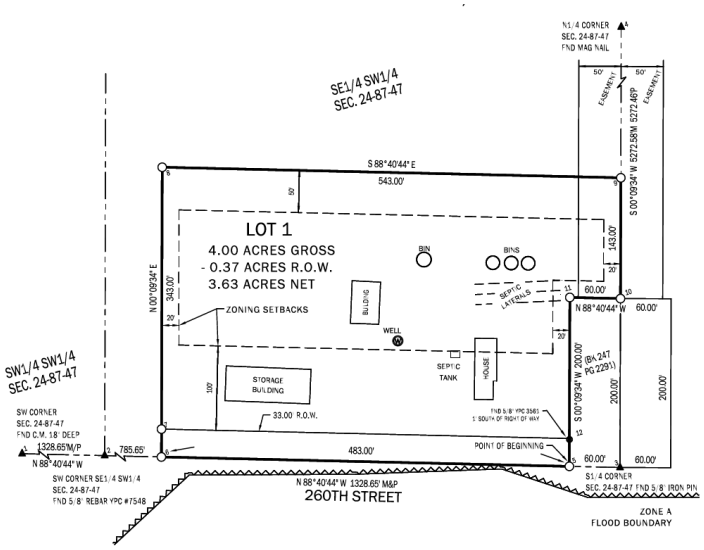
SUMMARY

Kevin Heck, executor for Janet K. Heck has filed for a one (1) lot minor subdivision on the property identified as Parcel #874724300005 and referenced above. This subdivision is being completed to separate the house location from the farm ground. This agricultural subdivision proposal has been properly noticed in the Sioux City Journal legals section on August 29, 2023 The neighbors within 1000 FT have been duly notified via a August 23, 2023 letter about the September 11, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. The Woodbury County Engineer found the proposal in compliance with Iowa Code closure requirements and found that the lot(s) have adequate access. This property is located in the Agricultural Preservation (AP) Zoning District and is located in the Special Flood Hazard Area (SFHA) – Zone A. The City of Salix waived their extraterritorial review authority with the approval of Resolution No. 2023-20. The area of the subdivision is less than 5 acres and Base Flood Elevation (BFE) data is not required. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval.

AERIAL VIEW

Parcel ID	874724300005	Alternate ID	761415	Owner Address	HECK JANET
Sec/Twp/Rng	24-87-47	Class	AD		608 BENNING DR
Property Address	1739 260TH ST SALIX	Acreage	38.77		HOLSTEIN, IA 51025-4401
District	0043				
Brief Tax Description	EX 60' X 200' SE COR SESW				

FINAL PLAT EXCERPT



STAFF RECOMMENDATION & SUGGESTED MOTION

Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. Staff recommends approval. Suggested Motion: Motion to recommend the approval to the Board of Supervisors as proposed.

WOODBURY COUNTY, IOWA
MINOR SUBDIVISION APPLICATION

Applicant: JANET K. HECK KEVIN HECK (EXECUTOR)
Name of Owner

Mailing Address: 1739 260TH ST SALIX IA 51052
Street City or Town State and Zip + 4

Property Address: 1739 260TH ST SALIX IA 51052
Street City or Town State and Zip + 4

Ph/Cell #: 712-490-3079 E-mail Address: KLeck492@gmail.com

To subdivide land located in the SW Quarter of Section 24

Civil Township LIBERTY GIS Parcel # 874724300005

Name of Subdivision: HECK SUBDIVISION

Subdivision Area in Acres 4.0 Number of Lots 1

Attachments:

1. Eight (8) copies of grading plans; if required.
2. Eight (8) copies of final plats (Complete per Section 4.01 of the Subdivision Ordinance).
3. An attorney's opinion of the abstract.
4. A Certified abstractor's certificate to include:
   a. Legal description of proposed subdivision.
   b. Plat showing clearly the boundaries of the subdivision.
   c. A list of names, mailing addresses (including the ZIP + 4), and legal descriptions of all property owners within 1000'.

Surveyor: MIKE SCHULTE MIKE@SCHULTESURVEY.COM Ph/Cell: 712-790-3489

Attorney: RYAN ROSS Ph/Cell: 712-224-7585

I hereby grant permission to the Woodbury County Zoning Staff and elected or appointed officials to conduct on-site inspections.

Owner's Signature: Kevin Heck Exe.

Zoning Director: Coordinator

For Office Use Only:

SESW

Zoning District AP Flood District A Date 7-17-23 No. 6909

Application Fee

4 Lots or less ($300*+ Additional Fees) $300 - cc ending 8055

5 Lots or more ($300* plus $5 per lot + Additional Fees) _____

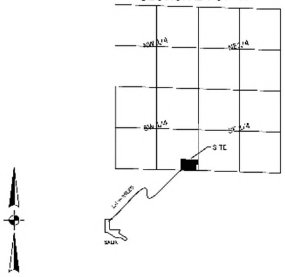
RECEIVED
JUL 17 2023
WOODBURY COUNTY
COMMUNITY & ECONOMIC DEVELOPMENT

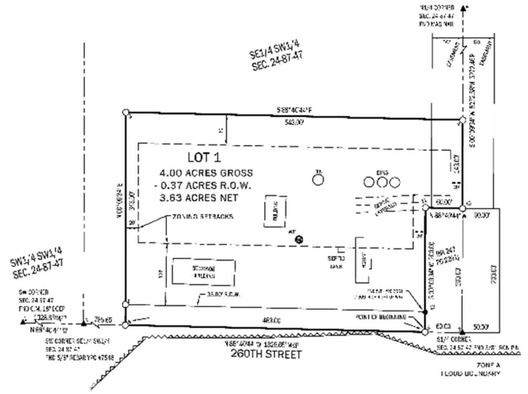
*Owner(s)/applicant(s) shall pay the additional costs associated with the processing, printing, and the mailing of notifications of the public hearings when the number of mailings required exceeds 30. The owner(s)/applicant(s) shall pay the additional costs of the legal publication notice(s) in newspaper(s) when the fees exceed $100.00.

FINAL PLAT
A MINOR SUBDIVISION PLAT OF
JANET HECK SUBDIVISION
WOODBURY COUNTY, IOWA

INDEX LEGEND

SURVEYOR'S NAME/RETURN TO:
MIKE SCHULTE, SCHULTE SURVEYING, INC.
2003 390TH STREET, WESTSIDE, IA 51467
712-790-3489 MIKE@SCHULTESURVEY.COM
REQUESTED BY:
KEVIN HECK
OWNER:
JANET K. HECK ESTATE - KEVIN HECK, EXECUTOR
SURVEY LOCATED:
JANET HECK SUBDIVISION, WOODBURY COUNTY IOWA
SE1/4 OF THE SW1/4 SEC. 24, T87N, R47W, WOODBURY COUNTY, IOWA
SURVEY DATE: 2023/07/17





0 100 200

FLOOD BOUNDARY

PROPERTY IS LOCATED WITHIN ZONE A (NO BASE FLOOD ELEVATIONS DETERMINED)
MAP NUMBER 19193C0400D - EFFECTIVE DATE SEPTEMBER 29, 2011
UNDER 5 ACRES - EXEMPT

UTILITY NOTE

AT THIS TIME, NO ADDITIONAL WOODBURY COUNTY SERVICES ARE PLANNED.
ACCESS WILL BE GAINED FROM THE ADJOINING COUNTY ROAD.

ZONING

EXISTING ZONING: AP
PROPOSED ZONING: AP (SAME)

2 MILE SET BACK

THE CITY COUNCIL OF SALIX, IOWA, PURSUANT TO AUTHORITY GRANTED IN IOWA CODE SECTION 354.9, WAIVED THE CITY'S REVIEW AND APPROVAL OF THE FINAL PLAT OF THE JANET HECK SUBDIVISION, AS WOULD OTHERWISE BE REQUIRED BY THE CITY'S CODE OF ORDINANCES, WITH THE ADOPTION OF:

RESOLUTION NO. 2023-70 ON THE 12th DAY OF JULY, 2023

AUDITOR'S APPROVAL OF NAME

THE COUNTY AUDITOR HEREBY ACCEPTED AND APPROVES THE NAME OF JANET HECK SUBDIVISION, WOODBURY COUNTY, IOWA, FOR USE IN WOODBURY COUNTY, IOWA AS REQUIRED BY IOWA CODE SECTION 354.6(2).

DATED ____________________, 2023

____
PATRICK F. GILL
WOODBURY COUNTY AUDITOR
BY: DIANE SWOBODA PETERSON, DEPUTY

CERTIFICATE OF COUNTY ASSESSOR

I, JULIE CONOLLY, HEREBY CERTIFY THAT ON THE _____ DAY OF ___________, 2023, A COPY OF THIS PLAT WAS FILED IN THE WOODBURY COUNTY ASSESSOR'S OFFICE.

DATED ____________________, 2023

____
JULIE CONOLLY
WOODBURY COUNTY ASSESSOR

SET BACK REQUIREMENTS

EXISTING ZONING: AP	
PROPOSED ZONING: AP (SAME)	
MIN LOT AREA:	2 AC
MIN. LOT WIDTH:	200 FT
FRONT YARD SETBACK:	100 FT
SIDE YARD:	20 FT
ACCESSORY	10 FT
CORNER SIDE YARD:	50 FT
REAR YARD SETBACK:	50 FT
-ACCESSORY	10 FT
MAXIMUM HEIGHT	45 FT

BASIS OF BEARING

[illegible]

POINT	NORTHING	EASTING	DESCRIPTION
1	[illegible]	[illegible]	CONCRETE MONUMENT
2	[illegible]	[illegible]	5/8" REBAR YPC 47548
3	[illegible]	[illegible]	[illegible]
4	[illegible]	[illegible]	MAG NAIL
5	[illegible]	[illegible]	[illegible]
6	[illegible]	[illegible]	5/8" REBAR YPC #17979
7	[illegible]	[illegible]	5/8" REBAR YPC #17979
8	[illegible]	[illegible]	[illegible]
9	[illegible]	[illegible]	5/8" REBAR YPC #17979
10	[illegible]	[illegible]	[illegible]
11	[illegible]	[illegible]	5/8" REBAR YPC #17979
12	[illegible]	[illegible]	CALCULATED AT 33' R.O.W.

LEGEND

SURVEY	FOUND	SET
SECTION CORNER	▲	△
5/8" REBAR YPC #17979 (UNLESS NOTED)	●	○
MAG NAIL	•	◦
PLATTED DISTANCE	P	
MEASURED DISTANCE	M	
SECTION LINE	— — —	——
WELL	Ⓦ	

OWNER/SUBDIVIDER

JANET K. HECK ESTATE - KEVIN HECK EXECUTOR

SURVEYOR

MIKE SCHULTE

DEDICATION

THE JANET K. HECK ESTATE IS THE OWNER OF THE REAL ESTATE DESCRIBED IN THE ATTACHED LEGAL DESCRIPTION AND HAS IN THE PURSUANCE OF LAW, CAUSED SAID DESCRIBED REAL ESTATE TO BE SURVEYED, STAKED AND PLATTED INTO LOTS AS IS PARTICULARLY SHOWN AND SET FOURTH IN THE ATTACHED PLAT AND SAID CERTIFICATE OF MIKE SCHULTE, PLS, A LICENSED SURVEYOR WHO SURVEYED AND PLATTED THE REAL ESTATE TO BE KNOWN AS HECK SUBDIVISION, AND THAT THE SAME IS PREPARED WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES AS OWNER AND PROPRIETOR THEREOF.

EXECUTED THE __________ DAY OF ________________, 2023

____
KEVIN HECK, EXECUTOR JANET K. HECK ESTATE

STATE OF IOWA)
) SS
COUNTY OF WOODBURY)

ON THIS __________ DAY OF ________________, 2023, BEFORE ME THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE PERSONALLY APPEARED KEVIN HECK, EXECUTOR JANET K. HECK ESTATE

____
NOTARY PUBLIC

AUDITOR AND RECORDER'S CERTIFICATE OF RECORDING

STATE OF IOWA)
) SS
COUNTY OF WOODBURY)

DOCKET NO: ____________________

FILED FOR RECORD, THIS ________ DAY OF ________________, 2023 AT _____ O'CLOCK ___M. RECORDED IN PLAT

ENVELOPE ____________, INDEXED AND DELIVERED TO THE COUNTY AUDITOR OF WOODBURY COUNTY, IOWA.

DATED: ______________, 2023

____
PATRICK F. GILL
WOODBURY COUNTY AUDITOR
BY: DIANE SWOBODA PETERSON, DEPUTY

TITLE OPINION

TO: COUNTY AUDITOR AND RECORDER
WOODBURY COUNTY, IOWA
DEAR SIR/MADAM:

WE HAVE THIS DATE EXAMINED A COMPLETE ABSTRACT TO TITLE, PURSUANT TO IOWA CODE SECTION 354.11(1)(C) TO PROPERTY WHICH INCLUDES IN ITS ENTIRETY, PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE ON THE PLAT OF: JANET HECK SUBDIVISION, WOODBURY COUNTY, IOWA LAST CERTIFIED BY ENGLESON ABSTRACT CO., INC., DATED ____________, 2023 AT 8:59 A.M. AND FROM SAID ABSTRACT FIND GOOD AND MERCHANTABLE TITLE TO SAID PREMISES VESTED IN THE ESTATE OF JANET K. HECK, SUBJECT TO THE FOLLOWING LIENS, LIMITATIONS AND EXCEPTIONS:

1. EASEMENT IN FAVOR OF WOODBURY COUNTY RURAL ELECTRIC CO-OPERATIVE ASSOCIATION, DATED SEPTEMBER 5, 1939 AND FILED ON APRIL 18, 1940 IN MISC. RECORD 146, PAGE 179.
2. CONDEMNATION OF EASEMENT IN FAVOR OF NORTHWEST IOWA POWER COOPERATIVE, FILED ON JUNE 5, 1964 IN BOOK 748, PAGE 357.
3. EASEMENT IN FAVOR OF FARMERS DRAINAGE DISTRICT, DATED JULY 14, 1981 AND FILED ON SEPTEMBER 4, 1981 IN ROLL 113, IMAGE 1551.
4. EASEMENT IN FAVOR OF NORTHWEST IOWA POWER COOPERATIVE, DATED JANUARY 6, 1982 AND FILED ON JANUARY 19, 1982 IN ROLL 118, IMAGE 1424.
1. EASEMENT IN FAVOR OF NORTHWEST IOWA POWER COOPERATIVE, DATED FEBRUARY 1, 1994 AND FILED ON JUNE 3, 1993, IN ROLL 264, IMAGE 1944.

ALL CERTIFIED REAL ESTATE TAXES AND SPECIAL ASSESSMENTS DUE AND PAYABLE HAVE BEEN PAID. REAL ESTATE TAXES AND SPECIAL ASSESSMENTS NOT CERTIFIED ARE A LIEN IN AN UNDETERMINED AMOUNT.

DATED: ____________________, 2023.

____
RYAN C. ROSS
ATTORNEY AT LAW

LEGAL DESCRIPTION

PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 24, TOWNSHIP 87 NORTH, RANGE 47 WEST OF THE 5TH P.M., WOODBURY COUNTY, IOWA AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 24; THENCE NORTH 88°40'44" WEST ALONG THE SOUTH LINE OF SAID SOUTHWEST 1/4, A DISTANCE OF 60.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING NORTH 88°40'44" WEST ALONG SAID SOUTH LINE, 483.00 FEET; THENCE NORTH 00°09'34" EAST, 343.00 FEET; THENCE SOUTH 88°40'44" EAST, 543.00 FEET TO THE EAST LINE OF SAID SOUTHWEST 1/4; THENCE SOUTH 00°09'34" WEST ALONG SAID EAST LINE, 143.00 FEET; THENCE NORTH 88°40'44" WEST, 60.00 FEET; THENCE SOUTH 00°09'34" WEST, 200.00 FEET TO THE POINT OF BEGINNING, CONTAINING 4.00 ACRES, MORE OR LESS, SUBJECT TO ANY AND ALL EASEMENTS APPARENT OR OF RECORD.

TREASURER'S CERTIFICATE OF TAXES AND SPECIAL ASSESSMENTS

I, TINA BERTRAND, TREASURER OF WOODBURY COUNTY, IOWA, DO HEREBY CERTIFY THAT THE LAND DESCRIBED IN THE ATTACHED AND FOREGOING SURVEYOR'S CERTIFICATE IS FREE FROM CERTIFIED TAXES AND CERTIFIED SPECIAL ASSESSMENTS.

DATED: ____________________, 2023

____
TINA BERTRAND
WOODBURY COUNTY TREASURER

CERTIFICATE OF WOODBURY COUNTY ZONING COMMISION

I, CHRIS ZELLMER ZANT, DO HEREBY CERTIFY THAT I AM THE CHAIRMAN OF THE WOODBURY COUNTY ZONING COMMISSION OF WOODBURY COUNTY, IOWA AND DO FURTHER CERTIFY THAT SAID COMMISSION HAS HERETOFORE TAKEN UNDER ADVISEMENT THE PLAT OF HECK SUBDIVISION, WOODBURY, IOWA, AND THAT SAID WOODBURY COUNTY ZONING COMMISSION OF WOODBURY COUNTY, IOWA DID ON THE __________ DAY OF __________, 2023 APPROVE THE SAME AND DOES FURTHER HEREBY RECOMMEND TO THE WOODBURY COUNTY BOARD OF SUPERVISORS, WOODBURY COUNTY, IOWA, THE ACCEPTANCE AND APPROVAL OF SAID PLAT.

DATED: __________, 2023

CHRIS ZELLMER ZANT
CHAIRMAN
WOODBURY COUNTY ZONING COMMISSION

COUNTY ENGINEER'S CERTIFICATE

I, MARK NAHRA, P.E., THE COUNTY ENGINEER OF WOODBURY COUNTY, IOWA, DO HEREBY CERTIFY THAT THE BOUNDARY LINES OF SAID PLAT WERE MATHEMATICALLY CHECKED AND CONFORM WITH THE REQUIREMENTS AS PROVIDED FOR IN THE SUBDIVISION ORDINANCE, THAT ALL DIMENSIONS BOTH LINEAL AND ANGULAR NECESSARY FOR THE LOCATION OF LOTS, TRACTS, STREETS, AND EASEMENTS ARE SHOWN, AND THAT IMPROVEMENTS MEET ACCEPTED ENGINEERING DESIGN PRACTICE AND WERE CONSTRUCTED IN CONFORMANCE WITH THE WOODBURY COUNTY SUBDIVISION ORDINANCE FOR THE UNINCORPORATED AREA OF WOODBURY COUNTY, IOWA.

DATED: ____________________, 2023

____
MARK NAHRA, P.E.
WOODBURY COUNTY ENGINEER

BOARD OF SUPERVISORS' RESOLUTION
RESOLUTION NO.____________________

RESOLUTION ACCEPTING AND APPROVING JANET HECK SUBDIVISION, WOODBURY COUNTY, IOWA.
WHEREAS, THE OWNERS AND PROPRIETORS DID ON THE ______ DAY OF ____________, 2023, FILE WITH THE WOODBURY COUNTY ZONING COMMISSION A CERTAIN PLAT DESIGNATED AS JANET HECK SUBDIVISION, WOODBURY COUNTY, IOWA; AND

WHEREAS, THE ZONING COMMISSION OF WOODBURY COUNTY, IOWA HAS RECOMMENDED THE ACCEPTANCE AND APPROVAL OF SAID PLAT; AND

WHEREAS, THE COUNTY ENGINEER OF WOODBURY COUNTY, IOWA HAS RECOMMENDED THE ACCEPTANCE AND APPROVAL OF SAID PLAT.

NOW THEREFOR, BE, AND IT IS HEREBY RESOLVED BY THE WOODBURY COUNTY BOARD OF SUPERVISORS, WOODBURY COUNTY, STATE OF IOWA, THAT THE PLAT OF JANET HECK SUBDIVISION, WOODBURY COUNTY, IOWA BE, AND THE SAME IS HEREBY ACCEPTED AND APPROVED, AND THE CHAIRMAN AND SECRETARY OF THE WOODBURY COUNTY BOARD SUPERVISORS OF WOODBURY COUNTY, STATE OF IOWA ARE HEREBY DIRECTED TO FURNISH TO THE OWNERS AND PROPRIETORS A CERTIFIED COPY OF THE RESOLUTION AS REQUIRED BY LAW.

PASSED AND APPROVED THIS __________ DAY OF __________, 2023.

____________________ ATTEST: ____________________
MATTHEW UNG
CHAIRMAN - BOARD OF SUPERVISORS
WOODBURY COUNTY, IOWA

PATRICK F. GILL
SECRETARY

SURVEYOR'S CERTIFICATE

I, MIKE SCHULTE, A DULY LICENSED LAND SURVEYOR UNDER THE PROVISIONS OF THE LAWS OF THE STATE OF IOWA, HOLDING CERTIFICATE NO. 17979, DO HEREBY CERTIFY THAT THE SUBDIVISION PLAT OF HECK SUBDIVISION, WOODBURY, IOWA, IS A TRUE REPRESENTATION OF A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, AND THE THE SAME IS LOCATED UPON AND COMPRISES THE WHOLE OF THE DESCRIBED PROPERTY. I DO HEREBY CERTIFY THAT THERE ARE CONTAINED IN SAID DESCRIPTION THE LOTS AS DESCRIBED IN THE SUBDIVISION PLATTED; THAT THE LOTS ARE OF THE DIMENSION, NUMBERS, NAMES, AND LOCATIONS AS SHOWN ON SAID PLAT, AND THAT 5/8" REBARS WERE SET AND FOUND AT EACH CORNER OF EVERY LOT OF SAID SUBDIVISION.

____
MIKE SCHULTE DATE
LICENSE NUMBER: 17979
LICENSE RENEWAL DATE IS DECEMBER 31, 2023
PAGES COVERED BY THIS SEAL: 1 OF 1

PROFESSIONAL LAND SURVEYOR
MIKE SCHULTE
17979
IOWA

MINOR SUBDIVISION FINAL PLAT - JANET HECK SUBDIVISION - WOODBURY COUNTY, IOWA

SCHULTE SURVEYING, INC.

CED STAFF - REVIEW CRITERIA (SUBDIVISION ORDINANCE)	
The County's Zoning and Subdivision Ordinances require certain actions from County staff and the Planning and Zoning Commission. Per these requirements, CED staff:	
	shall review a subdivision application for completeness and for approval of a final plat by ensuring it is submitted in accordance with the standards for a subdivision plat per Iowa Code.
	Staff reviewed the subdivision application, deemed it complete, and verified the final plat's conformance to the County's Zoning Ordinance, Subdivision Ordinance, and the Code of Iowa, all as required by law.
	shall accept payment of applicable fees, and distribute copies of the final plat to the Planning & Zoning Commission, the appropriate county departments and public utilities; and
	Staff received the application fee and the account is paid-in-full. Staff also distributed copies of the application, final plat, and other materials to all relevant stakeholders as required.
	shall coordinate with the County Engineer who shall review the final plat to determine conformance with the engineering design standards of these regulations and to verify accuracy of the legal descriptions and survey data; and
	Staff have received written confirmation that the County Engineer has reviewed and determined that te final plat conforms to the engineering and design standards of these regulations, and he has verified the accuracy of the legal descriptions and survey data.
	shall review the final plat to determine conformance with the design standards of these regulations and with the required form of the plat and related documents; and
	Staff verified that the final plat conforms to the design standards of these regulations, as well as the required form of the final plat.
	shall assure conformance with the goals and objectives of the County's General Plan, the CED staff may make recommendations for conditions for approval including use restrictions required to preserve and improve the peace, safety, health, welfare, comfort, and convenience of the future residents of the subdivision and neighboring properties.
	Staff attest to the final plat conforming to the goals and objectives of the county plan. Staff recommends approval of the final plat.

ZONING COMMISSION - REVIEW CRITERIA (SUBDIVISION ORDINANCE)	
The County's Zoning and Subdivision Ordinances require certain actions from County staff and the Planning and Zoning Commission. Per these requirements, the Planning and Zoning Commission:	
	shall conduct a public hearing on a final plat for a minor subdivision. Notice of the date, time and location of the hearing will be mailed to the owners of all property within 1,000 feet for the subject property not less than four nor more than twenty days prior to the date of the hearing; and
	Staff have ensured that the legal requirements have been met for publicly noticing this public hearing, all as required by law. Staff have also ensured the notice requirement for adjacent landowners within 1000 FT have also been met.
	shall review the final plat and the staff reports and other information presented to determine whether the plat conforms to the ordinances, general plan and other policies of the county; and
	Staff have compiled, reviewed, and analyzed all relevant materials to determine whether the plat conforms to the ordinances, general plan, and other policies of the County, or not. Staff provided this information in a "Staff Report" format and made them available to the Commission well in advance of the required public hearing. The Commission also held a public hearing to review, analyze, and discuss the final plat and other relevant information.
	may recommend specific conditions for approval including use restrictions required to preserve and improve the peace, safety, health, welfare, comfort, and convenience of the future residents of the subdivision and neighboring properties; and
	Staff does not recommend any specific conditions for this final plat. However, specific conditions (if any) may be recommended by the Commission.
	shall forward a report of its finding and a recommendation to the Board of Supervisors. The recommendation shall be in the form of a resolution to be certified as part of the final plat materials. A copy of the report and the resolution shall also be forwarded to the property owner, the subdivider and the land surveyor for the subdivision.
	During its required public hearing on the final plat, the Board of Supervisors will receive the final staff report and the Commission's recommendation on said plat and shall approve, approve with conditions, or disapprove the plat. The Supervisors may table the matter with the consent of the subdivider. Approval shall be in the form of a resolution to be certified as part of the final plat. Staff will coordinate with the subdivider and land surveyor to ensure all copies and recordings are submitted and received, all as required by law.

RESOLUTION NO. 2023-20

A RESOLUTION WAIVING THE SALIX CITY COUNCIL'S RIGHT TO REVIEW AND APPROVE A MINOR SUBDIVISION TO BE KNOWN AS HECK SUBDIVISION LOCATED OUTSIDE CITY LIMITS IN WOODBURY COUNTY, IOWA

WHEREAS, the owner of property legally described as:

PART OF THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 24, TOWNSHIP 87 NORTH, RANGE 47 WEST OF THE 5TH P.M., WOODBURY COUNTY, IOWA AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH 1/4 CORNER OF SAID SECTION 24; THENCE NORTH 88°40'44" WEST ALONG THE SOUTH LINE OF SAID SOUTHWEST 1/4, A DISTANCE OF 60.00 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING NORTH 88°40'44" WEST ALONG SAID SOUTH LINE, 483.00 FEET; THENCE NORTH 00°09'34" EAST, 343.00 FEET; THENCE SOUTH 88°40'44" EAST, 543.00 FEET TO THE EAST LINE OF SAID SOUTHWEST 1/4; THENCE SOUTH 00°09'34" WEST ALONG SAID EAST LINE, 143.00 FEET; THENCE NORTH 88°40'44" WEST, 60.00 FEET; THENCE SOUTH 00°09'34" WEST, 200.00 FEET TO THE POINT OF BEGINNING, CONTAINING 4.00 ACRES, MORE OR LESS, SUBJECT TO ANY AND ALL EASEMENTS APPARENT OR OF RECORD.

in the County of Woodbury and State of Iowa has advised the City of Salix of plans for a Minor Subdivision of the property to be named Heck Subdivision; and

WHEREAS, the property is located in Woodbury County, Iowa within the two-mile radius of the City of Salix, Iowa's incorporated limits; and

WHEREAS, Salix has established by ordinance pursuant to Iowa Code Section 354.9 jurisdiction to govern the division of land within a two-mile radius of the City's corporate limits; and

WHEREAS, the property owner will be completing a subdivision review including submitting the Final Plat of HECK SUBDIVISION to the Woodbury County Planning and Zoning Commission for compliance with Woodbury County, Iowa's subdivision ordinance for rural subdivisions; and

WHEREAS, Iowa Code Section 354.9 authorizes the City to waive by resolution its right to review and approve a subdivision within a two-mile radius of the City's boundaries if the property is in unincorporated area of Woodbury County which had adopted an ordinance governing the division of land; and

WHEREAS, the City Council of the City of Salix, Iowa has considered the proposed minor subdivision for the legally described area above and is satisfied that a minor subdivision review and approval by the City of Salix is not needed for the proposed development.

NOW, THEREFORE, BE IT RESOLVED that:

1. The City Council of the City of Salix, Iowa, pursuant to authority granted in Iowa Code Section 354.9, hereby waives the City's review and approval the Final Plat of the HECK ADDITION Minor Subdivision as would otherwise be required by the City's Code of Ordinances.

2. The Mayor is authorized to sign a Certified Resolution on behalf of the City of Salix, Iowa in connection with the HECK ADDITION Minor Subdivision for recording with the Woodbury County Recorder.

Council Member Burkhart introduce the resolution and moved that said resolution be adopted; seconded by Council Member Clayton, and after due consideration thereof by the Council, the Mayor put the question on the motion and, the roll being called, the following name Council Members voted:

	Aye	Nay	Absent	Abstain
Denise Burkhart	x			
Karen Allen	x			
Cindy Van Auken	x			
Emily Clayton	x			
Donnie Nelson			x	

PASSED AND APPROVED this 12th day of July 2023.

Kevin Nelson, Mayor

Attest:

City Clerk

I, Kathy Brouillette, City Clerk, do hereby certify that the foregoing Resolution 2023-20 was duly and properly adopted by the City Council of the City of Salix, Iowa at its regular meeting the 12th day of July, 2023.

City Clerk

LEGAL NOTIFICATION

Published in the Sioux City Journal's Legal Section on August 29, 2023.

NOTICE OF PUBLIC HEARINGS REGARDING A PROPOSED MINOR SUBDIVISION, A PROPOSED ZONING ORDINANCE MAP AMENDMENT (REZONE), AND A PROPOSED ZONING ORDINANCE TEXT AMENDMENT TO REGULATE SOLAR ENERGY SYSTEMS BEFORE THE WOODBURY COUNTY ZONING COMMISSION DURING A SPECIAL MEETING AT THE MOVILLE AREA COMMUNITY CENTER

The Woodbury County Zoning Commission will have a special meeting and will hold public hearings on the following items hereafter described in detail on September 11, 2023 at 5:00 PM or as soon thereafter as the matters may be considered.

Said hearings will be held at the Moville Area Community Center at 315 Main Street, Moville, IA 51039 in the large meeting room. Copies of said items may now be examined at the office of Woodbury County Community and Economic Development located on the 6th floor of the Woodbury County Courthouse, 620 Douglas Street Sioux City, IA 51101 by any interested persons.

All persons who wish to be heard in respect to these matters should appear at the aforesaid hearings in person. The option is available to call: 712-454-1133 and enter the Conference ID: 518 109 27# during the meeting to listen or comment. However, it is recommended to attend in person as there is the possibility for technical difficulties with phone and computer systems.

Item One (1)
MINOR SUBDIVISION

PROPOSED MINOR SUBDIVISION: To be known as Janet Heck Subdivision, a one-lot minor subdivision in a 4.0-acre portion of Section 24, T87N R47W (Liberty Township) in the SE ¼ of the SW ¼ on Parcel #874724300005. The property is approximately 1.3 miles northeast of Salix. The property is located in the Agricultural Preservation (AP) Zoning District and in the Special Flood Hazard Area (SFHA) – Zone A. Owner(s): Janet K. Heck, Kevin Heck (Executor), 1739 260th St., Salix, IA 51052.

Item Two (2)
ZONING ORDINANCE MAP AMENDMENT (REZONE)

Pursuant to Section 335 of the Code of Iowa, the Woodbury County Zoning Commission will hold a public hearing to consider the application for a zoning ordinance map amendment (rezone) to the Woodbury County Zoning Ordinance and/or Map for the Unincorporated Area of Woodbury County Iowa by Richard Luze and Kimberly Luze.

The proposed amendment is to rezone from the Agricultural Preservation (AP) Zoning District to the Agricultural Estates (AE) Zoning District for 18.505-acres located on Lot Two (2), Boyle's Addition, Woodbury County, Iowa, Section 6, T88N R45W (Moville Township) in the County of Woodbury and State of Iowa. The property is known as GIS Parcel #884506200006 and is described as:

Lot Two (2), Boyle's Addition, Woodbury County, Iowa

Owner(s)/Applicant(s): Richard F. Luze and Kimberly K. Luze, 2680 Hwy 20, Lawton, IA 51030.

Item Three (3)
SOLAR ENERGY SYSTEMS

SUMMARY OF PROPOSED ZONING ORDINANCE TEXT AMENDMENTS: AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO AMEND PORTIONS OF: THE TABLE OF CONTENTS; SECTION 3.02.4 ENTITLED: LAND USE SUMMARY TABLE OF ALLOWED USES IN EACH ZONING DISTRICT; PORTIONS OF: SECTION 6.02 ENTITLED DEFINITIONS; AND THE RENUMBERING OF DEFINITIONS AND PAGE NUMBERS. THE PROPOSAL IS TO ADD SOLAR ENERGY SYSTEMS, UTILITY SCALE AS A CONDITIONAL USE IN THE AGRICULTURAL PRESERVATION ZONING DISTRICT AND ADD A NEW SECTION TO THE ZONING ORDINANCE TO [illegible] SOLAR ENERGY SYSTEMS, UTILITY-SCALE SOLAR ENERGY SYSTEMS, AGRISOLAR, AGRIVOLTAICS, AND COMMUNITY SOLAR SYSTEMS.

PROPERTY OWNER(S) NOTIFICATION	
Total Property Owners within 1000 FT via Certified Abstractor's Listing:	6
Notification Letter Date:	August 23, 2023
Public Hearing Board:	Zoning Commission
Public Hearing Date:	September 11, 2023
Phone Inquiries:	1
Written Inquiries:	0
The names of the property owners are listed below.	
When more comments are received after the printing of this packet, they will be provided at the meeting.	

MAP

Property Owner(s)	Mailing Address				Comments
Estate of Janet Heck	608 Benning Dr.	Holstein	IA	51025 -4401	No comments
The Betty Jean Kelly Trust	7066 Reed St.	Arvada	CO	80003	No comments
Northwest Iowa Power Cooperative	PO Box 240	Le Mars	IA	51031	No comments
James J. Yanak and Janet M. Yanak	1719 260th St.	Salix	IA	51052 -8020	No comments
Edwin D. Hale and John A. Hale	PO Box 67	Storm Lake	IA	50588	No comments
Edward J. O'Meara, Michael J. O'Meara, Ardis A. O'Meara Pineo	4137 Amherst Ave.	Dallas	TX	75225	No comments

STAKEHOLDER COMMENTS	
911 COMMUNICATIONS CENTER:	No comments
FIBERCOMM:	No comments
IOWA DEPARTMENT OF NATURAL RESOURCES (IDNR):	No comments
IOWA DEPARTMENT OF TRANSPORTATION (IDOT):	No comments
LOESS HILLS NATIONAL SCENIC BYWAY:	No comments
LOESS HILLS PROGRAM:	No comments
LONGLINES:	No comments
LUMEN:	No comments
MAGELLAN PIPELINE:	No comments
MIDAMERICAN ENERGY COMPANY (Electrical Division):	MEC electric has no conflicts with this item. – Casey Meinen, 7/28/23.
MIDAMERICAN ENERGY COMPANY (Gas Division):	No conflicts for MEC "Gas" on this item. – Tyler Ahlquist, 7/28/23.
NATURAL RESOURCES CONSERVATION SERVICES (NRCS):	No comments
NORTHERN NATURAL GAS:	No comments
NORTHWEST IOWA POWER COOPERATIVE (NIPCO):	Received the attached proposal in the mail on 8/14/2023. Have reviewed the location of this zoning proposal change. NIPCO has a 69kV transmission line running along the south boundary of this property. As long as the property owners, tenants, renters do not place anything under or around the transmission line within 50ft of the centerline, NIPCO has no objections to this request. – Jayme Huber, 8/16/23.

WOODBURY COUNTY COMMUNITY & ECONOMIC DEVELOPMENT

RECEIVED
AUG 14 2023
NIPCO
LE MARS, IA

Northwest Iowa Power Cooperative
PO Box 240
Le Mars, IA 51031

DATE: August 11, 2023
TO: Property Owners Within 1000 Feet
FROM: Daniel Priestley, MPA, Zoning Coordinator
RE: *Janet Heck Subdivision*, Minor Subdivision Proposal
GIS Parcel #874724300005

This notice is to advise you that Kevin Heck, executor for Janet K. Heck has filed a **one (1) lot minor subdivision application** with Woodbury County.

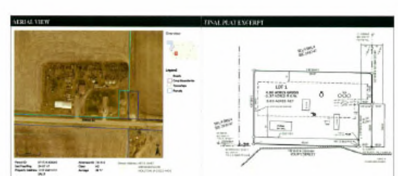
The **proposed subdivision** is to be known as Janet Heck Subdivision, a one-lot minor subdivision in a 4.0-acre portion of Section 24, T87N R47W (Liberty Township) in the SE ¼ of the SW ¼ on Parcel #874724300005. The property is approximately 1.3 miles northeast of Salix. The property is located in the Agricultural Preservation (AP) Zoning District and in the Special Flood Hazard Area (SFHA) – Zone A. Owner(s): Janet K. Heck, Kevin Heck (Executor), 1739 260th St., Salix, IA 51052.

If you have questions about the application, you may call the **Woodbury County Community and Economic Development office at 712-279-6609**.

The **Zoning Commission public hearing** on the **Minor Subdivision application** will be held on **Monday, August 28, 2023** during their meeting which begins at **6:00 PM** in the Board of Supervisors' Meeting Room, Number 104, Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. Please enter through the 7th Street entrance. Security procedures are in place when entering the building. Persons wanting to participate in the public hearing may attend in person or call **712-454-1133** and enter the Conference ID: **516 721 138#** to listen or comment. It is recommended to attend in person as there is the possibility for technical difficulties with phone and computer systems.

You may forward your written comments by mail or email to: **Woodbury County Community and Economic Development, 6th Floor, Woodbury County Courthouse, 620 Douglas St., Sioux City, IA 51101**; Emails should be sent to **Dan Priestley at: dpriestley@woodburycountyiowa.gov**. Only signed comments will be considered and should be received no later than **10:00 AM** on **Friday, August 25, 2023**.

See aerial mapping and plat excerpt on the next page.



NUSTAR PIPELINE:	No issues from NuStar. – Matt McGee, 7/28/23.

SIOUXLAND DISTRICT HEALTH DEPARTMENT:	No comments
WIATEL:	No comments
WOODBURY COUNTY ASSESSOR:	No comments
WOODBURY COUNTY CONSERVATION:	No comments
WOODBURY COUNTY EMERGENCY MANAGEMENT:	No comments
WOODBURY COUNTY EMERGENCY SERVICES:	No comments
WOODBURY COUNTY ENGINEER:	**SEE REVIEW MEMO BELOW**
WOODBURY COUNTY RECORDER:	I have no comments. – Diane Swoboda Peterson, 8/7/23.
WOODBURY COUNTY RURAL ELECTRIC COOPERATIVE (REC):	No comments
WOODBURY COUNTY SOIL AND WATER CONSERVATION DISTRICT:	The WCSWCD has no comments regarding this proposal. – Neil Stockfleth, 7/31/23.

Woodbury County Secondary Roads Department

759 E. Frontage Road • Moville, Iowa 51039
Telephone (712) 279-6484 • (712) 873-3215 • Fax (712) 873-3235

COUNTY ENGINEER
Mark J. Nahra, P.E.
mnahra@woodburycountyiowa.gov

ASSISTANT TO THE COUNTY ENGINEER
Benjamin T. Kusler, E.I.T.
bkusler@woodburycountyiowa.gov

SECRETARY
Tish Brice
tbrice@woodburycountyiowa.gov

To: Dan Priestley, Woodbury County Zoning Coordinator

From: Mark J. Nahra, County Engineer

Date: August 17, 2023

Subject: Janet Heck Subdivision – a minor subdivision application

The Secondary Road Department has reviewed the information provided for the above referenced subdivision forwarded with your memo dated July 27, 2023.

I am offering the following comments for your consideration.

- We checked the closure on the plat and found it in compliance with the requirements for the full subdivision of 1 in 10,000 and 1 in 5,000 for each lot as required by Section 355.8 of the Code of Iowa.

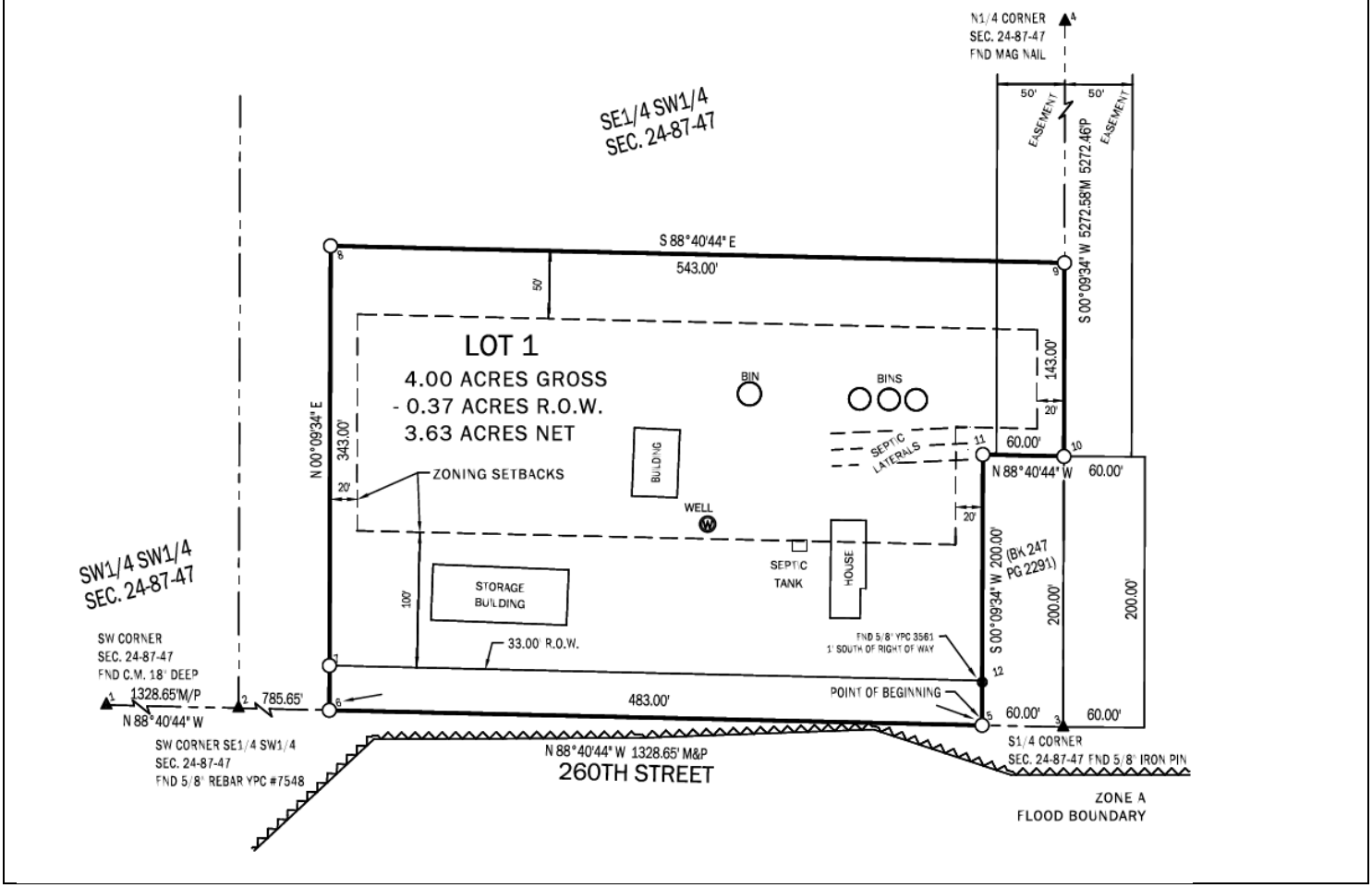
- I reviewed the parcel for access. The existing driveways meet current standards and may continue to be used to access lot 1. If a new driveway is needed to access the remaining farm property, a driveway permit will need to be filed with my department. Since the property borders on a Farmer's Drainage District lateral, permission from the drainage district must also be sought prior to construction.

- I have no other concerns or issues with this minor subdivision application.

If there are any more questions or issues that arise later, please contact this office.

Cc: File

PLAT MAP EXCERPT



Woodbury County, IA / Sioux City

Summary

Parcel ID	874724300005
Alternate ID	761415
Property Address	1739 260TH ST SALIX IA 51052
Sec/Twp/Rng	24-87-47
Brief Tax Description	EX 60' X 200' SE COR SESW (Note: Not to be used on legal documents)
Deed Book/Page	2022-10472 (8/25/2022)
Gross Acres	38.77
Net Acres	38.77
Adjusted CSR Pts	2900.44
Zoning	AP - AGRICULTURAL PRESERVATION
District	0043 LIBERTY/WESTWOOD
School District	WESTWOOD COMM
Neighborhood	N/A

Owner

Deed Holder
HECK JANET
608 BENNING DR
HOLSTEIN IA 51025-4401
Contract Holder
Mailing Address
HECK JANET
608 BENNING DR
HOLSTEIN IA 51025-4401

Land

Lot Area 38.77 Acres ;1,688,821 SF

Residential Dwellings

Residential Dwelling	
Occupancy	Single-Family / Owner Occupied
Style	1 Story Frame
Architectural Style	N/A
Year Built	1955
Condition	Above Normal
Roof	Asph / Gable
Flooring	
Foundation	Conc
Exterior Material	WOOD
Interior Material	Drwl
Brick or Stone Veneer	
Total Gross Living Area	1,300 SF
Main Area Square Feet	1300
Attic Type	None;
Number of Rooms	0 above; 0 below
Number of Bedrooms	0 above; 0 below
Basement Area Type	Full
Basement Area	1,300
Basement Finished Area	
Plumbing	1 Standard Bath - 3 Fi;
Appliances	
Central Air	Yes
Heat	Yes
Fireplaces	
Porches	
Decks	
Additions	
Garages	484 SF - Att Frame (Built 1955);

Agricultural Buildings

Plot #	Type	Description	Width	Length	Year Built	Building Count
0	Crib		34	50	1950	1
0	Steel Utility Building		40	100	1968	1
0	Bin - Grain Storage (Bushel)		0	0	1971	2
0	Bin - Grain Storage (Bushel)		0	0	1973	2

Sales

Date	Seller	Buyer	Recording	Sale Condition - NUTC	Type	Multi Parcel	Amount
8/23/2022	HECK RONALD	HECK JANET	2022-10472	No consideration	Deed		$0.00

⊞ Show There are other parcels involved in one or more of the above sales:

Valuation

	Classification	2023 Ag Dwelling / Agriculture	2022 Ag Dwelling / Agriculture	2021 Ag Dwelling / Agriculture	2020 Ag Dwelling / Agriculture	2019 Ag Dwelling / Agriculture
+	Assessed Land Value	$95,160	$73,920	$73,920	$69,410	$69,410
+	Assessed Building Value	$10,660	$6,260	$6,260	$5,730	$5,730
+	Assessed Dwelling Value	$154,250	$127,530	$127,530	$113,860	$113,860
=	**Gross Assessed Value**	**$260,070**	**$207,710**	**$207,710**	**$189,000**	**$189,000**
-	Exempt Value	$0	$0	$0	$0	$0
=	**Net Assessed Value**	**$260,070**	**$207,710**	**$207,710**	**$189,000**	**$189,000**

Sioux City Special Assessments and Fees

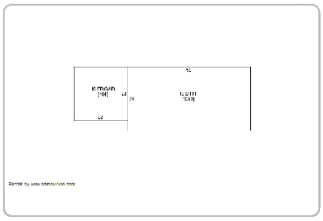
Click here to view special assessment information for this parcel.

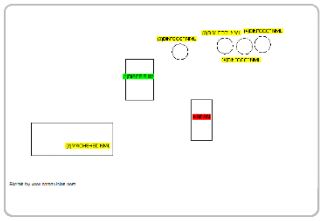
Woodbury County Tax Credit Applications

Apply for Homestead, Military or Business Property Tax Credits

Photos

Sketches



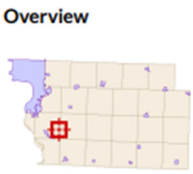


No data available for the following modules: Commercial Buildings, Yard Extras, Permits, Sioux City Tax Credit Applications, Sioux City Board of Review Petition.

Schneider GEOSPATIAL

User Privacy Policy GDPR Privacy Notice
Last Data Upload: 7/26/2023, 6:59:33 PM

ZONING MAP



Overview

Legend

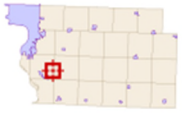
- Roads
- Corp Boundaries
- Townships
- Parcels

County Zoning

- AE
- AP
- GC
- GC-PD
- GI
- LI
- LI-PD
- SR
- WR

Parcel ID	874724300005	**Alternate ID**	761415	**Owner Address**	HECK JANET
Sec/Twp/Rng	24-87-47	**Class**	AD		608 BENNING DR
Property Address	1739 260TH ST SALIX	**Acreage**	38.77		HOLSTEIN, IA 51025-4401
District	0043				
Brief Tax Description	EX 60' X 200' SE COR SESW				
	(Note: Not to be used on legal documents)				

EFFECTIVE FLOODPLAIN MAP



Overview

Legend

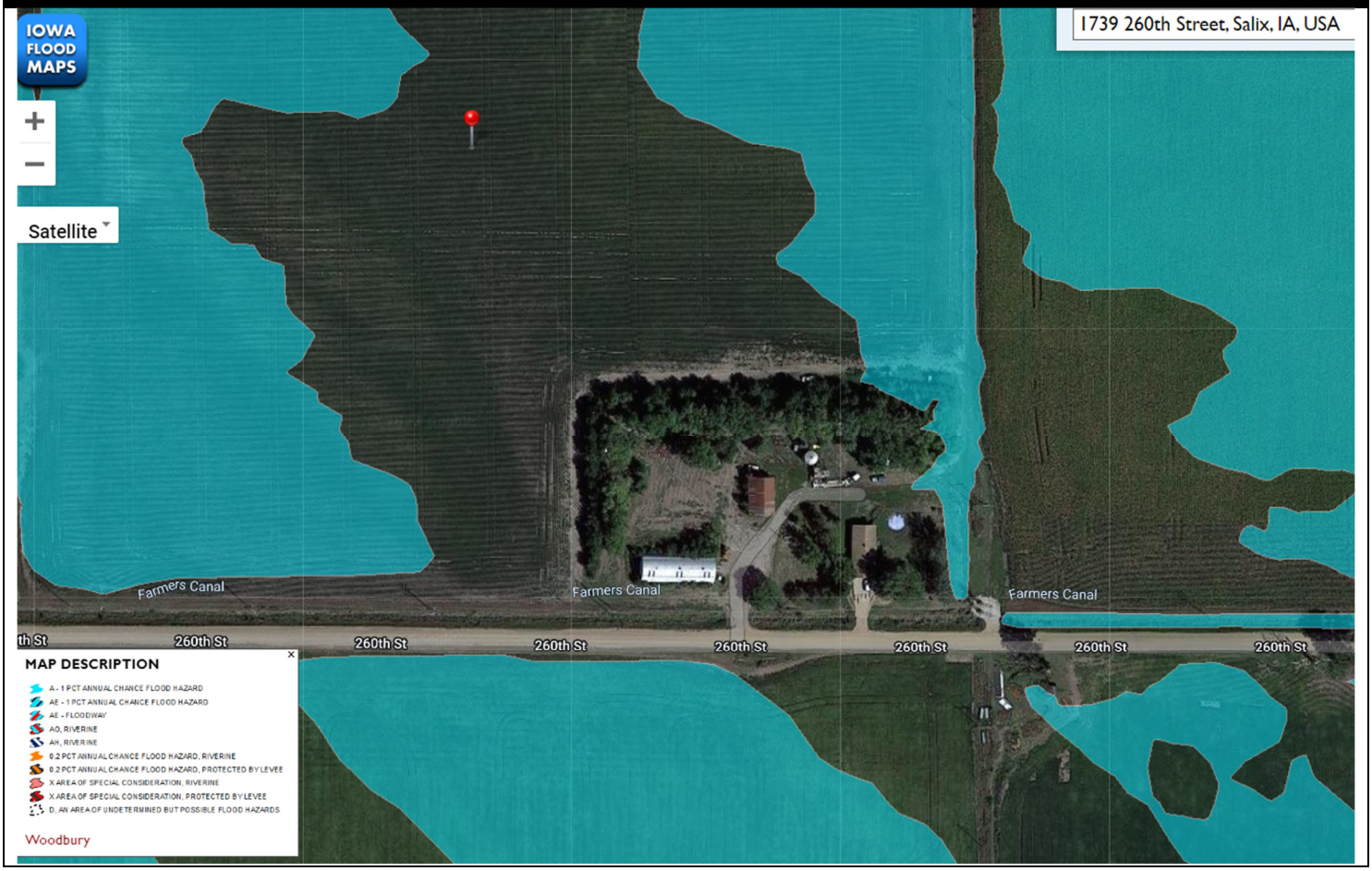
- Roads
- Corp Boundaries
- Townships
- Parcels

FEMA Flood Map

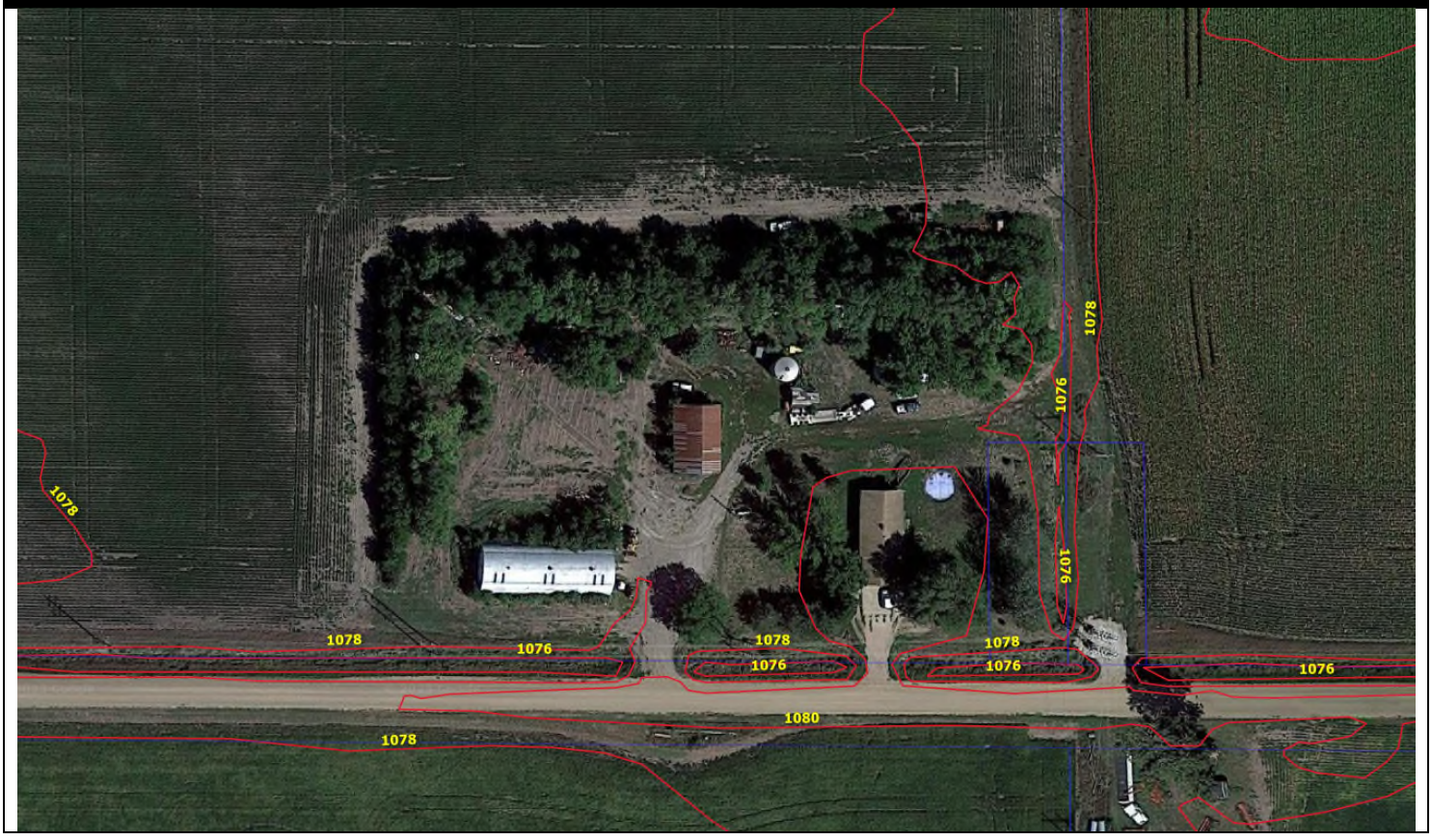
- A,
- AE,
- AE, FLOODWAY
- AH,
- AO,
- X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- X, AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

Parcel ID	874724300005	**Alternate ID**	761415	**Owner Address**	HECK JANET
Sec/Twp/Rng	24-87-47	**Class**	AD		608 BENNING DR
Property Address	1739 260TH ST SALIX	**Acreage**	38.77		HOLSTEIN, IA 51025-4401
District	0043				
Brief Tax Description	EX 60' X 200' SE COR SESW				
	(Note: Not to be used on legal documents)				

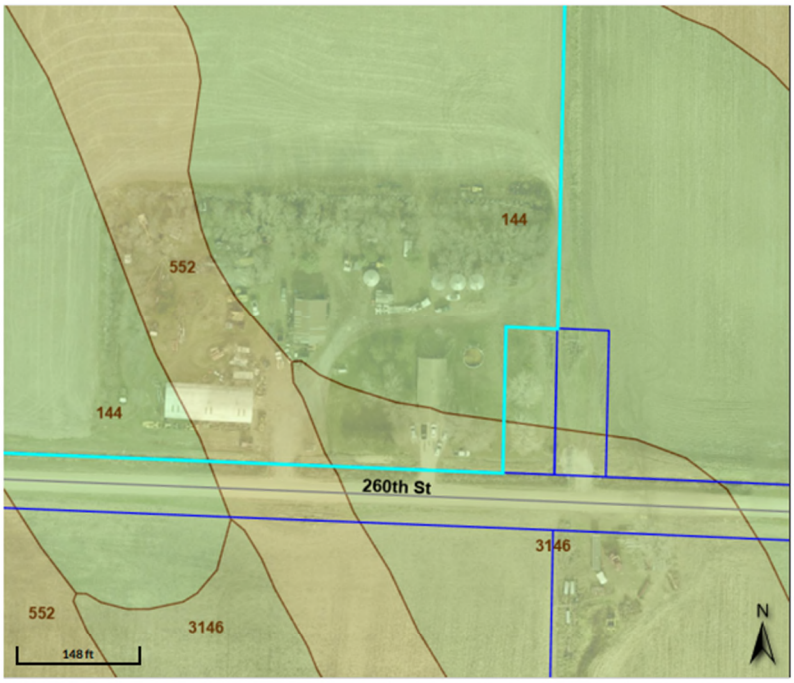
DRAFT FLOODPLAIN MAP



ELEVATION MAP



SOIL MAP



Overview

Legend

- Roads
- Soils
- 0.000000 - 5.000000
- 5.000001 - 20.000000
- 20.000001 - 30.000000
- 30.000001 - 40.000000
- 40.000001 - 50.000000
- 50.000001 - 60.000000
- 60.000001 - 70.000000
- 70.000001 - 80.000000
- 80.000001 - 90.000000
- 90.000001 - 100.000000
- Corp Boundaries
- Townships
- Parcels

Parcel ID	874724300005	**Alternate ID**	761415	**Owner Address**	HECK JANET
Sec/Twp/Rng	24-87-47	**Class**	AD		608 BENNING DR
Property Address	1739 260TH ST SALIX	**Acreage**	38.77		HOLSTEIN, IA 51025-4401
District	0043				
Brief Tax Description	EX 60' X 200' SE COR SESW (Note: Not to be used on legal documents)				

SOIL REPORT

Summary

Parcel ID	874724300005	
Gross Acres	38.77	
ROW Acres	0.00	
Gross Taxable Acres	38.77	
Exempt Acres	0.00	
Net Taxable Acres	38.77	*(Gross Taxable Acres - Exempt Land)*
Average Unadjusted CSR2	78.11	*(3028.5 CSR2 Points / 38.77 Gross Taxable Acres)*

Agland Active Config *2017 CSR2*

Sub Parcel Summary

Columns

Description	Acres	CSR2	Unadjusted CSR2 Points	Adjusted CSR2 Points
100% Value	35.38	77.74	2,750.36	2,750.36
Non-Crop	3.39	82.05	278.14	150.08
Total	**38.77**		**3,028.50**	**2,900.44**

Soil Summary

Columns

Description	SMS	Soil Name	CSR2	Adjusted Acres	Unadjusted CSR2 Points	Adjusted CSR2 Points
100% Value	144	BLAKE SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	91.00	14.62	1,330.42	1,330.42
100% Value	3549	MODALE SOILS, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	76.00	4.93	374.68	374.68
100% Value	3146	ONAWA-ALBATON COMPLEX, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	72.00	0.08	5.76	5.76
100% Value	552	OWEGO SILTY CLAY, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	66.00	15.75	1,039.50	1,039.50
Non-Crop	144	BLAKE SILTY CLAY LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	91.00	2.08	189.28	96.93
Non-Crop	3146	ONAWA-ALBATON COMPLEX, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	72.00	0.40	28.80	16.66
Non-Crop	552	OWEGO SILTY CLAY, 0 TO 2 PERCENT SLOPES, RARELY FLOODED	66.00	0.91	60.06	36.49
Total				**38.77**	**3,028.50**	**2,900.44**

IOWA DEPARTMENT OF NATURAL RESOURCES

GOVERNOR KIM REYNOLDS
LT. GOVERNOR ADAM GREGG
DIRECTOR KAYLA LYON

8/29/2023

KEVIN HECK (EXECUTER)
C/O MIKE SCHULTE
2003 390TH STREET
WESTSIDE, IA 51467

Project Description: BFE request for parcels 874724300002 and 874724300005 with a separate BFE given for the farmhouse at 1739 260th St. (Farmer's Ditch)

Project Latitude / Longitude Location(s): Buildings and Associated Fill 42.3305/-96.2625; Woodbury County

Iowa DNR Project ID Number: 2023-1078

Dear MIKE SCHULTE:

This is in reference to your request for determination of the "100-year" flood elevation (a.k.a. the base flood elevation, or BFE) for the existing structure / property identified on your application. The Flood Insurance Rate Map (FIRM) for Woodbury County shows a portion of this property as being in the Special Flood Hazard Area (SFHA).

Based on the information available, we have estimated the current existing condition 100-year flood elevation, NAVD88 at the location referenced above (See Figure 1). You may download additional copies, or verify the Iowa DNR Flood Plain and Dam Safety Section (Department) official response document(s) for this project at the Iowa DNR Flood Plain PERMT website using the tracking number above. (PERMT Website Address: https://programs.iowadnr.gov/permt/)

Please be aware when planning future construction that elevating beyond the required 1 foot above the BFE will not only reduce flood risk, but might also result in lower flood insurance rates.

Please contact me by phone at 515-393-1891 or by email at Meesha.Legg@dnr.iowa.gov with any questions.

Sincerely,

Meesha Legg Digitally signed by Meesha Legg Date: 2023.08.29 11:41:56 -05'00'

Meesha Legg
Flood Plain Management and Dam Safety Section

CC: KEVIN HECK (EXECUTER); 1739 260TH STREET, SALIX, IA, 51052, KHECK492@GMAIL.COM
Dan Priestley; 620 Douglas St Fl 6, Sioux City, IA, 51101-1247, dpriestley@woodburycountyiowa.gov

Attachment

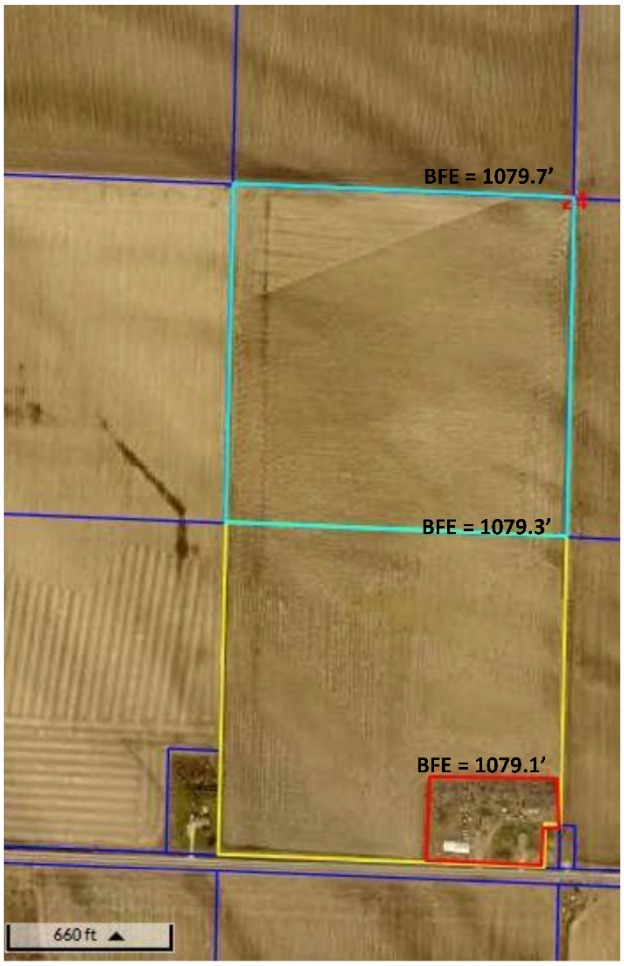


Figure 1. BFEs (NAVD88) for the parcels 874724300002 and 874724300005 with a separate BFE given for the farmhouse. The BFE is given at the most upstream point for each area. Each area is highlighted in a different color.

WOODBURY COUNTY COMMUNITY & ECONOMIC DEVELOPMENT

620 Douglas St. · Sixth Floor · Sioux City, IA 51101 · Phone: 712.279.6609 · Fax: 712.279.6530 · Web: woodburycountyiowa.gov

Daniel J. Priestley, MPA – Zoning Coordinator · dpriestley@woodburycountyiowa.gov

Dawn Norton – Senior Clerk · dnorton@woodburycountyiowa.gov

PRELIMINARY REPORT – SEPTEMBER 5, 2023

ZONING ORDINANCE MAP AMENDMENT PROPOSAL (REZONE PARCEL #884506200006 to AE)

Application Details

Applicant(s)/Owner(s):	Richard & Kimberly Luze
Application Type:	Zoning Ordinance Map Amendment
Current Zoning District:	Agricultural Preservation
Requested Zoning District:	Agricultural Estates
Current Use:	Residential
Proposed Use:	Residential
Average CSR Rating:	NRCS Document Included
Engineer/Surveyor:	Alan Fagan (712-539-1471)
Pre-application Meeting:	July 25, 2023
Application Date:	August 1, 2023
Stakeholder Notification:	August 4, 2023
Neighbors' Notification:	August 23, 2023
Legal Publication:	August 29, 2023
Zoning Commission Public Hearing:	September 11, 2023
Board of Supervisors Public Hearings:	September 19, 26, and October 3 19 at 4:45 PM

Property Details

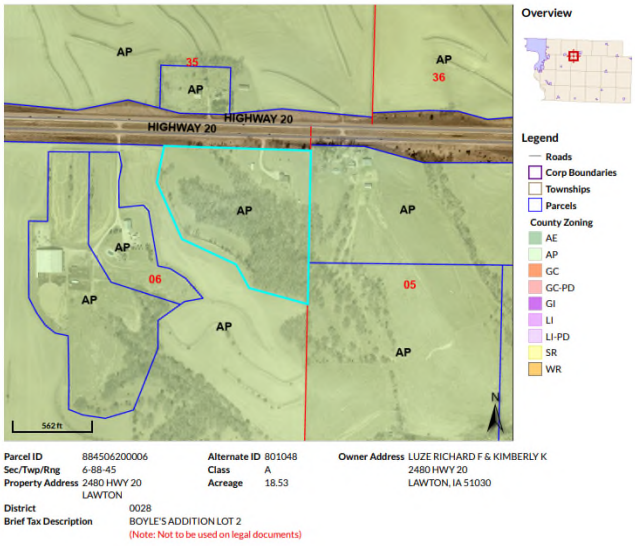
Parcel #:	884506200006
Township/Range:	T88N R45W (Moville)
Section:	6
Subdivision:	Boyle's Addition
Lot:	2
Acres:	18.53
Zoning District:	Agricultural Preservation
Floodplain District:	X (Not in Floodplain)
Legal Description:	Lot Two (2), Boyle's Addition, Woodbury County, Iowa
Address:	2480 Hwy 20, Lawton, IA 51030

Contents

SUMMARY

Richard and Kimberly Luze (Applicants/Owners) have filed a Zoning Ordinance Map Amendment application with Woodbury County to request for their property (Parcel #884506200006) to be rezoned from the Agricultural Preservation (AP) Zoning District to the Agricultural Estates (AE) Zoning District. The applicants are making this request to pursue an eventual split of their parcel to facilitate the ability to add a neighboring single-family dwelling in the future as there are presently two houses located within the existing quarter-quarter section. The split will likely consist of approximately three acres from the existing 18+ acres. This will be initiated at a future date. The neighbors within 1000 FT have been notified via a August 23, 2023 letter about the September 11, 2023 Zoning Commission public hearing. Appropriate stakeholders including government agencies, utilities, and organizations have been notified and have been requested to comment. This property is located in the Agricultural Preservation (AP) Zoning District and is not located in the floodplain. This requested zoning change is compliant with the future land use map of Woodbury County's development plan as this area is designed within the rural residential area. Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval.

AERIAL VIEW



FUTURE LAND USE MAP EXCERPT (Rural Residential – Yellow)

STAFF RECOMMENDATION & SUGGESTED MOTION

Based on the information received and the requirements set forth in the Zoning and Subdivision Ordinance, the proposal meets the appropriate criteria for approval. Staff recommends approval. Suggested Motion: Motion to recommend the approval to the Board of Supervisors as proposed.

OFFICE OF PLANNING AND ZONING WOODBURY COUNTY

Zoning Ordinance
Section 2.02(4)
Page 1 of 8

Rezoning Application & Zoning Ordinance Map Amendment

Owner Information:

Owner Richard + Kimberly K. Luze
Address 2480 Hwy 20
Lawton IA 51030
Phone 712-899-0024 712-560-5107

Applicant Information:

Applicant Richard + Kimberly Luze
Address 2480 Hwy 20
Lawton IA 51030
Phone 712 899-0024 712-560-5107

Engineer/Surveyor Al Fagan Phone 712 938-2228 cell 712 539-1471

Property Information:

Property Address or Address Range 2480 Highway 20, Lawton, IA 51030
Quarter/Quarter Lot 2 Boyle Addition Sec 6 Twnshp/Range 88 45 ~~W~~ W
Parcel ID # 884506200006 or GIS # NENE AP 2750-Map-X Total Acres 18.53
Current Use Residential Proposed Use Residential no change
Current Zoning Agricultural Preservation Proposed Zoning Agricultural Estates
Average Crop Suitability Rating (submit NRCS Statement) See attached

The filing of this application is required to be accompanied with all items and information required pursuant to section 2.02(4)(C)(2) through (C)(4) of Woodbury County's zoning ordinances (see attached pages of this application for a list of those items and information).

A formal pre-application meeting is recommended prior to submitting this application.

Pre-app mtg. date 7/25/2023 Staff present Dan Priestly

The undersigned is/are the owner(s) of the described property on this application, located in the unincorporated area of Woodbury County, Iowa, assuring that the information provided herein is true and correct. I hereby give my consent for the Woodbury County Planning and Zoning Office and zoning commission members to conduct a site visit and photograph the subject property.

This Rezoning Application / Zoning Ordinance Map Amendment is subject to and shall be required, as a condition of final approval, to comply with all applicable Woodbury County ordinances, policies, requirements and standards that are in effect at the time of final approval.

Owner Kimberly K Luze Applicant Kimberly K Luze
Date 8/1/2023 Date 8/1/2023

Fee: $400 **Case #:** 6914
Check #: 5636
Receipt #:

Woodbury Co Treasurer

Date Received
RECEIVED
AUG 1 2023
WOODBURY COUNTY
COMMUNITY & ECONOMIC DEVELOPMENT

We, the owners of 2480 Highway 20, Lawton, IA, would like to amend the zoning of said property from Agricultural Preservation to Agricultural Estates. This would permit us to pursue a split of the current parcel/property. We would like to separate our current residence and approximately 3 acres from the remainder 15+ acres of the property for an additional residence to be built on in the future.

Richard F Luze — 8/1/2023
(Richard F Luze) (Date)

Kimberly K Luze — 8/1/2023
(Kimberly K Luze) (Date)

DRAFT – SUBJECT TO CHANGES

ORDINANCE NO. ___

A ZONING DISTRICT DESIGNATION MAPPING AMENDMENT TO THE WOODBURY COUNTY, IOWA ZONING ORDINANCE

WHEREAS the Board of Supervisors of Woodbury County, Iowa, adopted a Zoning Ordinance on July 22, 2008, by Resolution No. 10,455 being recorded in the Office of the Woodbury County Recorder, and

WHEREAS the Woodbury County Board of Supervisors has received a report in respect to amending the said Ordinance from the Woodbury County Zoning Commission which held a public hearing on the amendment; all as by law provided. Which the amendment is attached hereto marked item One (1), and hereby made a part hereof; and

WHEREAS the Woodbury County Board of Supervisors has received said report, studied and considered the same, and has held hearings on said amendment, all as by law provided; and

WHEREAS the Woodbury County Board of Supervisors has concluded that the said ordinance shall amend the aforesaid Zoning Ordinance;

NOW THEREFORE, BE IT RESOLVED by the Woodbury County Board of Supervisors, duly assembled, that the aforesaid Zoning District is amended as shown on said attached item One (1); and the previous zoning district designation shall be repealed upon the effective date of this amendment.

Dated this ____ day of _____, 2023.

THE WOODBURY COUNTY, IOWA BOARD OF SUPERVISORS

_____
Matthew Ung, Chairman

_____
Jeremy Taylor, Vice Chairman

_____
Daniel Bittinger II

_____
Mark Nelson

_____
Keith Radig

Attest:

_____
Patrick Gill, Woodbury County Auditor

Adoption Timeline:
Public Hearing and 1st Reading:
Public Hearing and 2nd Reading:
Public Hearing and 3rd Reading:
Adopted:
Effective:

ITEM ONE (1)

Property Owner(s): Richard F. Luze and Kimberly K. Luze, 2480 Hwy 20, Lawton, IA 51030. Property Address, 2480 Hwy 20, Lawton, IA 51030.

Petitioner Applicant(s): Richard F. Luze and Kimberly K. Luze, 2480 Hwy 20, Lawton, IA 51030.

Pursuant to Section 2.02:4 of the Woodbury County Zoning Ordinance, and in accordance with Section 335 of the Code of Iowa, the Woodbury County Zoning Commission held a public hearing on **September 11, 2023**, to review and make a recommendation for amendments to the Woodbury County Zoning Ordinance and Mapping for the unincorporated area of Woodbury County, Iowa as follows:

Amendment to rezone from the Agricultural Preservation (AP) Zoning District to the Agricultural Estates (AE) Zoning District for 18.526-acres located on Lot Two (2), Boyle's Addition, Woodbury County, Iowa, Section 6, T88N R45W (Moville Township) in the County of Woodbury and State of Iowa. The property is known as GIS Parcel #884506200006 and is described as:

Lot Two (2), Boyle's Addition, Woodbury County, Iowa

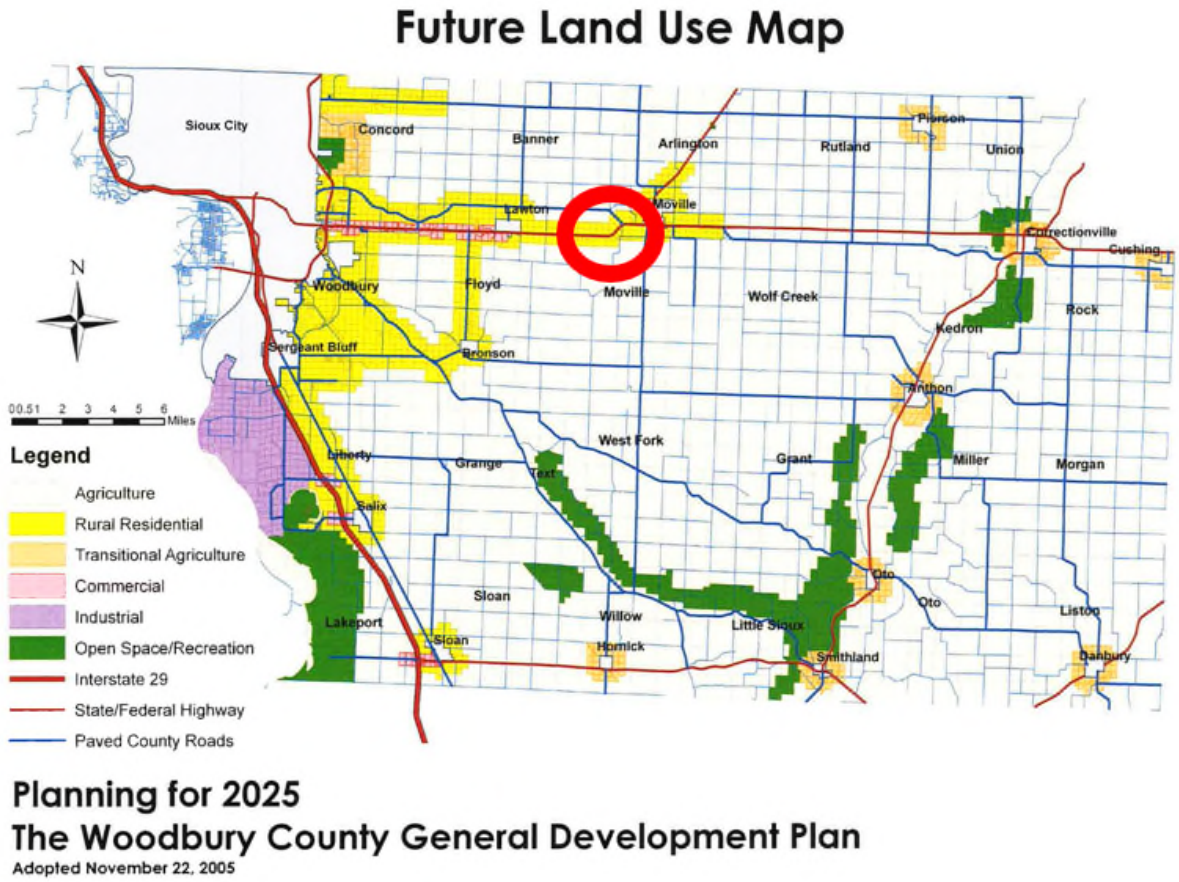
EVALUATION CRITERIA

The Zoning Commission shall base their recommendations and the Board of Supervisors shall base their decision on any requested amendment of the zoning district map on the following criteria:

Conformance with the goals and objectives set forth in the approved general development plan for Woodbury County including the future land use map.

The 2005 Future Land Use Map shows this area as Rural Residential. The parcel is currently zoned Agricultural Preservation (AP) and the request is to change to Agricultural Estates (AE). The request conforms to the goals and objectives of the general development plan as it relates to the following land use goals:

- **Residential Goal 5.1:** Encourage non-farm residential development to locate near cities or on existing hard surfaced roadways, particularly in areas that can be served by urban services such as public water and sewer systems.
- **Residential Goal 5.2:** Encourage residential development to locate in areas with suitable accessibility, soils, and terrain.
- **Land Use Goal 1.2:** Adopt development regulations that promote efficient, stable land uses with minimum conflicts and provision of public infrastructure.



EFFECTIVE PLAN (ABOVE)

Future Land Use

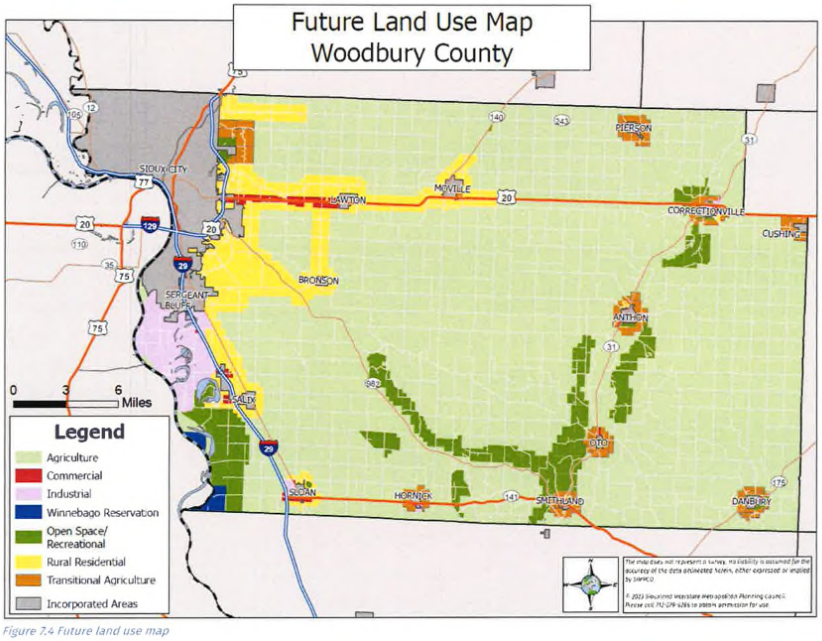


Figure 7.4 Future land use map

DRAFT PLAN FOR 2040 (ABOVE - NOT ADOPTED)

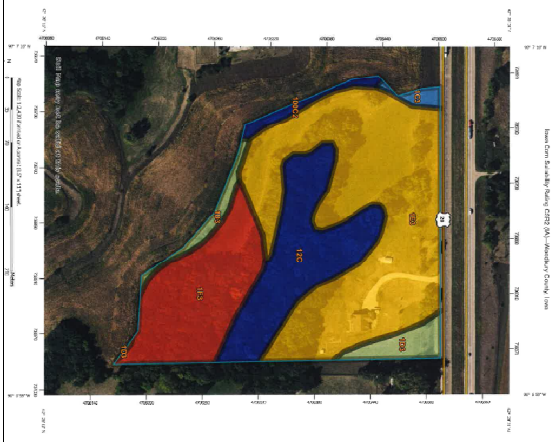
Compatibility and conformance with the policies and plans of other agencies with respect to the subject property.

There are no conflicts with the policies and plans of other agencies.

Consideration of the Corn Suitability (CSR) of the property.

Iowa Corn Suitability Rating CSR2 (IA)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1C3	Ida silt loam, 5 to 9 percent slopes, severely eroded	58	0.2	1.2%
1D3	Ida silt loam, 9 to 14 percent slopes, severely eroded	32	1.2	6.3%
1E3	Ida silt loam, 14 to 20 percent slopes, severely eroded	18	9.8	51.1%
1F3	Ida silt loam, 20 to 30 percent slopes, severely eroded	8	3.9	20.1%
12C	Napier silt loam, 5 to 9 percent slopes	89	3.8	19.6%
100C2	Monona silty clay loam, 5 to 9 percent slopes, eroded	85	0.4	1.9%
Totals for Area of Interest			19.2	100.0%



Compatibility with adjacent land uses.

The rezone to AE is compatible with the area residential uses. The AE Zoning District retains much of the land use characteristics that are offered in the AP Zoning District. The major different between the two is that AE allows for more than two houses in a quarter-quarter section. An additional house in the area on AG land should not adversely impact the neighboring properties.

Compatibility with other physical and economic factors affecting or affected by the proposed rezoning.

This proposal is compatible with other physical and economic factors in the project area as there are no major infrastructure improvements required. In the event of a lot split, the property owner must prepare an easement to share the same driveway as the Iowa DOT will likely not grant a new driveway. This matter will be addressed at the time of any future split.

Any other relevant factors.

None.

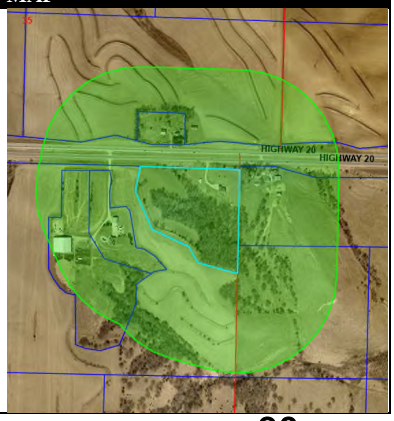
LEGAL NOTIFICATION

Published in the Sioux City Journal's Legal Section on August 29, 2023.

PROPERTY OWNER(S) NOTIFICATION

Total Property Owners within 1000 FT via Certified Abstractor's Listing:	8
Notification Letter Date:	August 23, 2023
Public Hearing Board:	Zoning Commission
Public Hearing Date:	September 11, 2023
Phone Inquiries:	3
Written Inquiries:	1
The names of the property owners are listed below.	
When more comments are received after the printing of this packet, they will be provided at the meeting.	

MAP



Property Owner(s)	Mailing Address				Written Comments
Richard F. Luze & Kimberly K. Luze	2480 Hwy 20	Lawton	IA	51030	No comments.
Steve Mrla	1540 Dallas Ave.	Lawton	IA	51030	No comments.
Brian L. Berkenpas & Lisa Marling-George	2470 Hwy 20	Lawton	IA	51030	No comments.
BrianLisa, LLC	2470 Hwy 20	Lawton	IA	51030	No comments.
Trustee of the Vicki J. Atwell Revocable Living Trust	2514 Hwy 20	Lawton	IA	51030	**SEE COMMENT BELOW.**
Violet M. Reinholdt	2605 Glen Ellen Road	Sioux City	IA	51106 -7124	No comments.
Life Estate to Trustee of the James R. Cross Revocable Trust	1371 Grundy Ave.	Moville	IA	51039	No comments.
Bradley H. Hopp & Megan L. Hopp	2475 Hwy 20	Lawton	IA	51030	No comments.

Daniel Priestley

From: Vicki Atwell <atwellvicki@gmail.com>
Sent: Tuesday, August 22, 2023 11:27 AM
To: Daniel Priestley
Subject: subject letter on rezoning

CAUTION: This email originated from **OUTSIDE** of the organization. Please verify the sender and use caution if the message contains any attachments, links, or requests for information as this person may NOT be who they claim. **If you are asked for your username and password, please call WCICC and DO NOT ENTER any data.**

Dear Sir, I sure hope you get this because I am not a computer expert. Not sure on how to get it signed either.

Just want to let you know that I have questions about why it has to be rezoned if they are just wanting to take the small parcel for themselves and I imagine sell the larger piece. Can't it stay AP?

I guess I have some concerns about it being turned into a housing development. I know you said for that to happen a lot of things have to be done.

You also said I could still use my farm as I have been. That will be good.

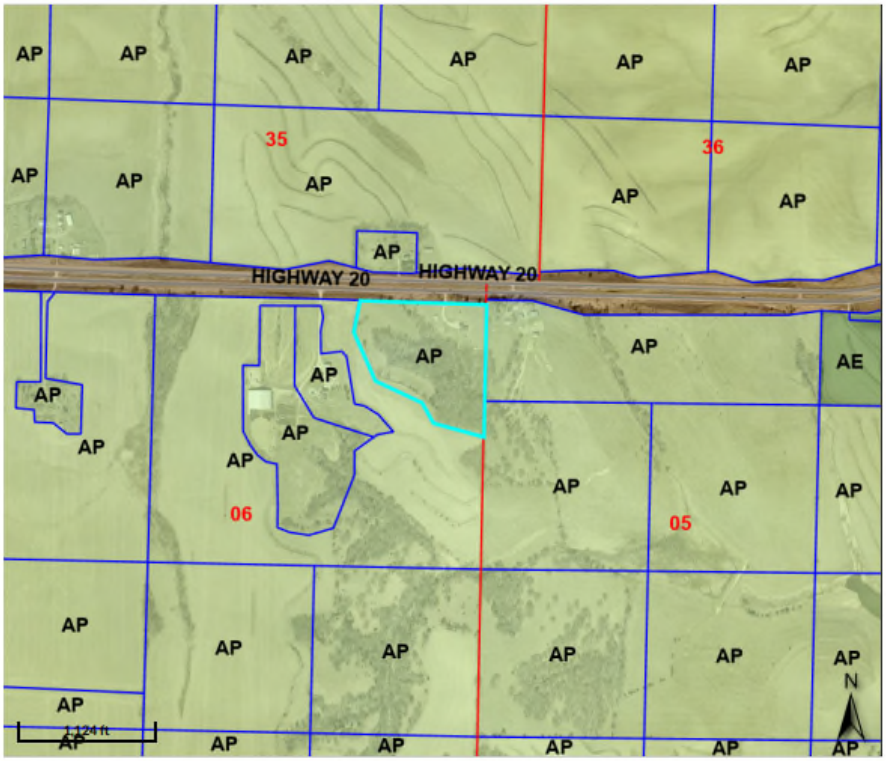
Thank you for you help and patience.

Sincerely,

Vicki Atwell

STAKEHOLDER COMMENTS	
911 COMMUNICATIONS CENTER:	No comments.
FIBERCOMM:	No comments.
IOWA DEPARTMENT OF NATURAL RESOURCES (IDNR):	No comments.
IOWA DEPARTMENT OF TRANSPORTATION (IDOT):	No comments.
LOESS HILLS NATIONAL SCENIC BYWAY:	No comments.
LOESS HILLS PROGRAM:	No comments.
LONGLINES:	No comments.
LUMEN:	No comments.
MAGELLAN PIPELINE:	No comments.
MIDAMERICAN ENERGY COMPANY (Electrical Division):	I have reviewed the proposed rezoning for MEC electric, and we have no conflicts. – Casey Meinen, 8/8/23.
MIDAMERICAN ENERGY COMPANY (Gas Division):	No conflicts for MEC "Gas". – Tyler Ahlquist, 8/7/23.
NATURAL RESOURCES CONSERVATION SERVICES (NRCS):	No comments.
NORTHERN NATURAL GAS:	No comments.
NORTHWEST IOWA POWER COOPERATIVE (NIPCO):	Have reviewed this zoning request. NIPCO has no issues with this request. – Jeff Zettel, 8/7/23.
NUSTAR PIPELINE:	No comments.
SIOUXLAND DISTRICT HEALTH DEPARTMENT:	No comments.
WIATEL:	No comments.
WOODBURY COUNTY ASSESSOR:	No comments.
WOODBURY COUNTY CONSERVATION:	No comments.
WOODBURY COUNTY EMERGENCY MANAGEMENT:	No comments.
WOODBURY COUNTY EMERGENCY SERVICES:	No comments.
WOODBURY COUNTY ENGINEER:	No comments.
WOODBURY COUNTY RECORDER:	I have no comments. – Diane Swoboda Peterson, 8/7/23.
WOODBURY COUNTY RURAL ELECTRIC COOPERATIVE (REC):	No comments.
WOODBURY COUNTY SOIL AND WATER CONSERVATION DISTRICT:	The WCSWCD has no comments regarding this rezoning proposal. – Neil Stockfleth, 8/4/23.

ZONING MAP

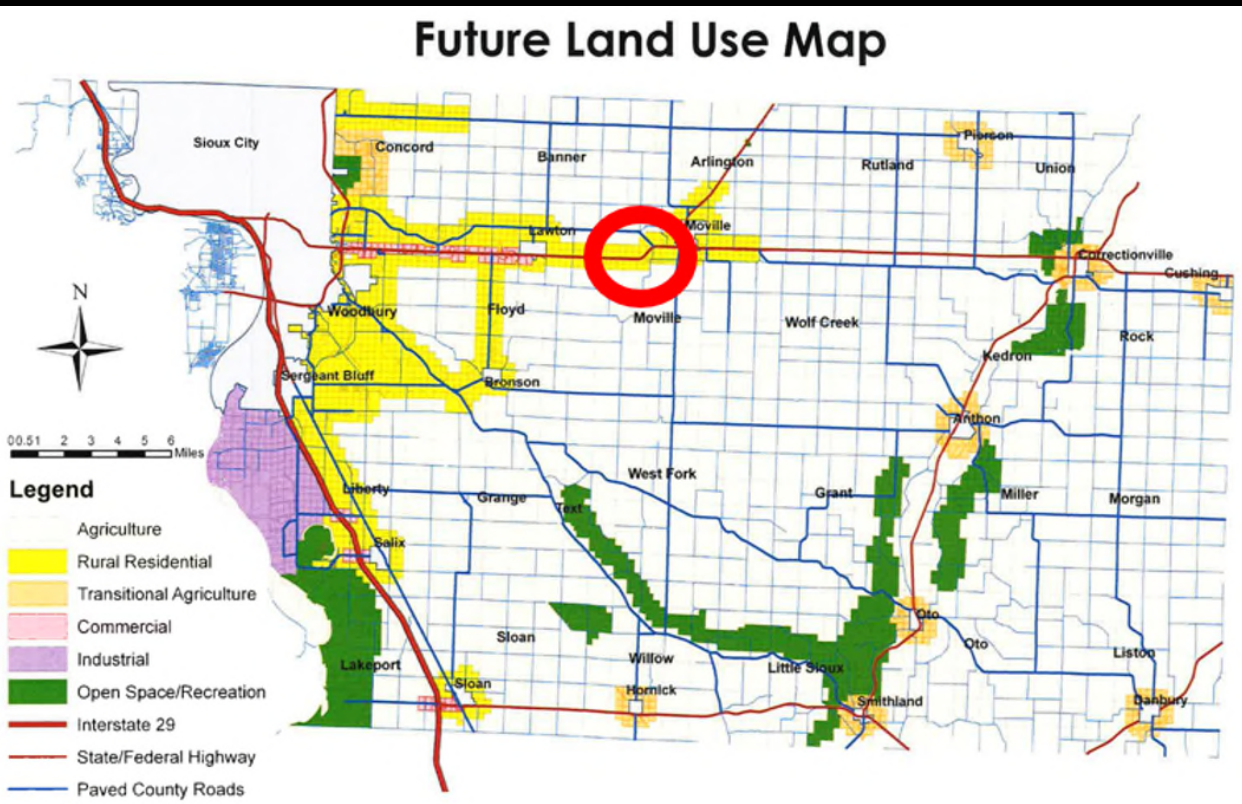


Legend
- Roads
- Corp Boundaries
- Townships
- Parcels

County Zoning
- AE
- AP
- GC
- GC-PD
- GI
- LI
- LI-PD
- SR
- WR

Parcel ID	884506200006	**Alternate ID**	801048	**Owner Address**	LUZE RICHARD F & KIMBERLY K
Sec/Twp/Rng	6-88-45	**Class**	A		2480 HWY 20
Property Address	2480 HWY 20 LAWTON	**Acreage**	18.53		LAWTON, IA 51030
District	0028				
Brief Tax Description	BOYLE'S ADDITION LOT 2				
	(Note: Not to be used on legal documents)				

FUTURE LAND USE MAP



Planning for 2025
The Woodbury County General Development Plan
Adopted November 22, 2005

Woodbury County, IA / Sioux City

Summary

Parcel ID	884506200006
Alternate ID	801048
Property Address	2480 HWY 20 LAWTON IA 51030
Sec/Twp/Rng	6-88-45
Brief Tax Description	BOYLE'S ADDITION LOT 2 (Note: Not to be used on legal documents)
Deed Book/Page	697-9110 (5/7/2008)
Gross Acres	18.53
Exempt Acres	10.16
Net Acres	8.37
Adjusted CSR Pts	0
Zoning	AP - AGRICULTURAL PRESERVATION
District	0028 MOVILLE/LAWTON-BRONSON
School District	LAWTON BRONSON
Neighborhood	N/A

Owner

Deed Holder
LUZE RICHARD F & KIMBERLY K
2480 HWY 20
LAWTON IA 51030
Contract Holder
Mailing Address
LUZE RICHARD F & KIMBERLY K
2480 HWY 20
LAWTON IA 51030

Land

Lot Area 18.53 Acres ;807,167 SF

Residential Dwellings

Residential Dwelling	
Occupancy	Single-Family / Owner Occupied
Style	1 Story Frame
Architectural Style	N/A
Year Built	2009
Condition	Normal
Roof	Asph / Hip
Flooring	
Foundation	Conc
Exterior Material	HARDBOARD
Interior Material	Drwl
Brick or Stone Veneer	
Total Gross Living Area	2,261 SF
Main Area Square Feet	2261
Attic Type	None;
Number of Rooms	5 above; 3 below
Number of Bedrooms	2 above; 2 below
Basement Area Type	Full
Basement Area	2,261
Basement Finished Area	1,750 - Living Qtrs. W/ Walk-out
Plumbing	1 Cust Bath - 3 Fixt; 1 Standard Bath - 3 Fi; 2 Shower Stall Bath -3; 1 Toilet Room (1/2 Bat; 1 Sink; 1 Shower Stall/Tub;
Appliances	1 Range Unit; 1 Dishwasher;
Central Air	Yes
Heat	FHA - Electric
Fireplaces	1 Gas;
Porches	1S Frame Open (225 SF);
Decks	Wood Deck (432 SF); Concrete Patio (432 SF);
Additions	
Garages	949 SF - Att Frame (Built 2009);

Yard Extras

#1 - (1) Shed W14.00 x L24.00 336 SF, Metal Shed, High Pricing, Built 2014

Sales

Date	Seller	Buyer	Recording	Sale Condition - NUTC	Type	Multi Parcel	Amount
5/7/2008	BOYLE KENNETH J & KELLY M	LUZE RICHARD F & KIMBERLY K	697/9110	CHANGE IN CLASS - MUST BE DEFINED	Deed		$70,398.00

Permits

Permit #	Date	Description	Amount
5849	06/16/2014	Utility Shed	8,000
5105	09/15/2008	New Dwlg	357,000

Valuation

		2023	2022	2021	2020	2019
	Classification	Ag Dwelling / Agriculture	Ag Dwelling / Agriculture	Ag Dwelling / Agriculture	Ag Dwelling / Agriculture	Residential
+	Assessed Land Value	$14,750	$11,460	$11,460	$10,830	$78,170
+	Assessed Building Value	$0	$0	$0	$0	$0
+	Assessed Dwelling Value	$585,030	$441,280	$441,280	$383,580	$347,070
=	**Gross Assessed Value**	**$599,780**	**$452,740**	**$452,740**	**$394,410**	**$425,240**
-	Exempt Value	($8,400)	($6,980)	($6,980)	($6,160)	$0
=	**Net Assessed Value**	**$591,380**	**$445,760**	**$445,760**	**$388,250**	**$425,240**

Sioux City Special Assessments and Fees

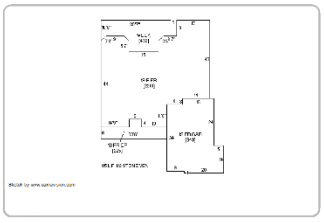
Click here to view special assessment information for this parcel.

Woodbury County Tax Credit Applications

Apply for Homestead, Military or Business Property Tax Credits

Photos

Sketches



No data available for the following modules: Commercial Buildings, Agricultural Buildings, Sioux City Tax Credit Applications, Sioux City Board of Review Petition.

Schneider GEOSPATIAL

User Privacy Policy GDPR Privacy Notice
Last Data Upload: 8/3/2023, 6:42:49 PM

EFFECTIVE FLOODPLAIN MAP

Overview

Legend

- Roads
- Corp Boundaries
- Townships
- Parcels

FEMA Flood Map

- A,
- AE,
- AE, FLOODWAY
- AH,
- AO,
- X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- X, AREA WITH REDUCED FLOOD RISK DUE TO LEVEE

Parcel ID	884506200006	**Alternate ID**	801048	**Owner Address**	LUZE RICHARD F & KIMBERLY K
Sec/Twp/Rng	6-88-45	**Class**	A		2480 HWY 20
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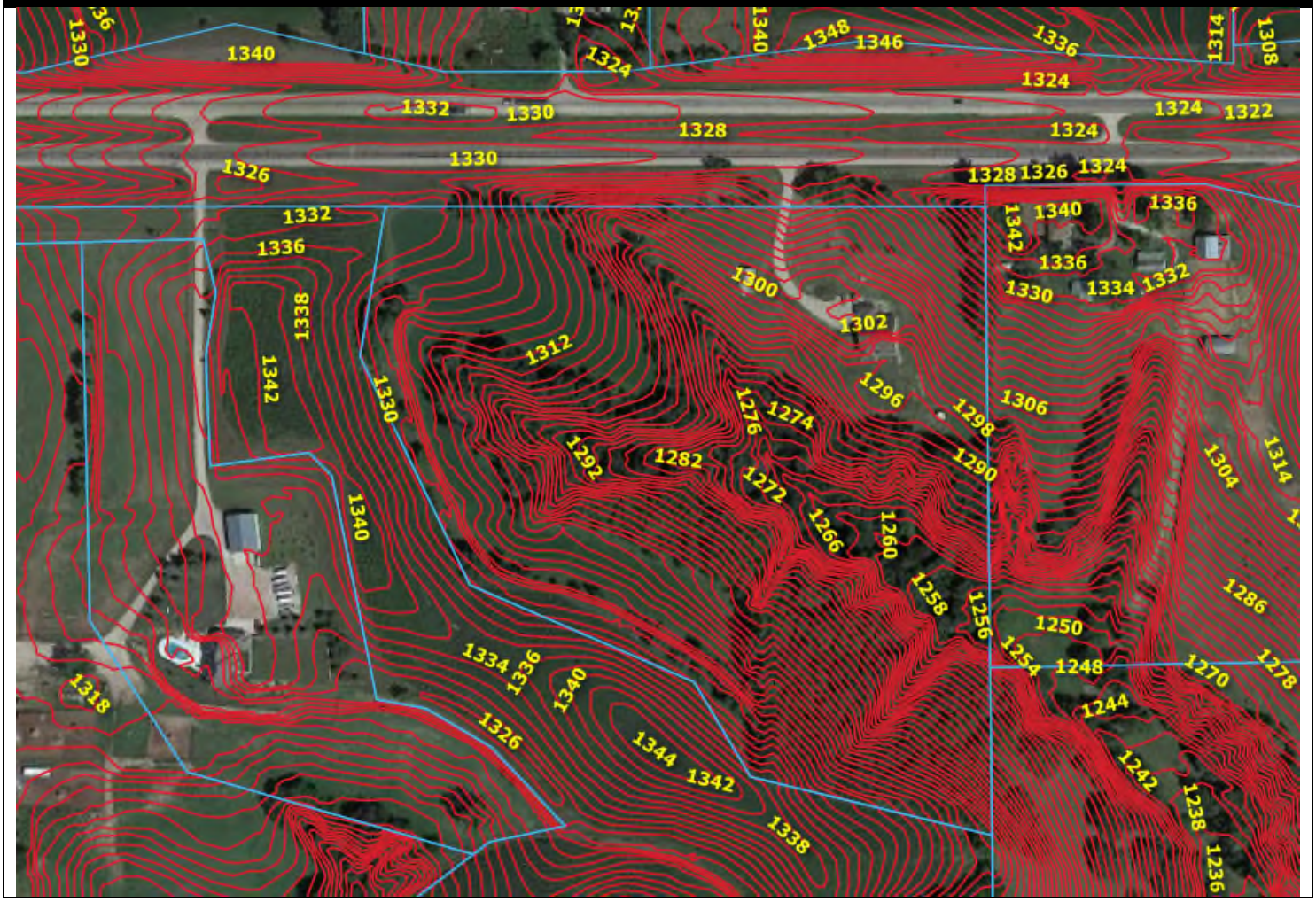
District	0028				
Brief Tax Description	BOYLE'S ADDITION LOT 2 (Note: Not to be used on legal documents)				

v

DRAFT FLOODPLAIN MAP

ELEVATION MAP




Iowa Corn Suitability Rating CSR2 (IA)—Woodbury County, Iowa
96° 7' 16" W
96° 6' 59" W
42° 28' 31" N
42° 28' 15" N
736670
736730
736790
736850
736910
736970
737030
4706680
4706560
4706440
4706320
4706200
4706140
4706080
20
1C3
1E3
1D3
100C2
12C
1D3
1F3
1D3
Soil Map may not be valid at this scale.
Map Scale: 1:2,430 if printed on A portrait (8.5" x 11") sheet.
Meters
0 35 70 140 210
Feet
0 100 200 400 600
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- <= 8
- > 8 and <= 18
- > 18 and <= 32
- > 32 and <= 58
- > 58 and <= 89
- Not rated or not available

Soil Rating Lines
- <= 8
- > 8 and <= 18
- > 18 and <= 32
- > 32 and <= 58
- > 58 and <= 89
- Not rated or not available

Soil Rating Points
- <= 8
- > 8 and <= 18
- > 18 and <= 32
- > 32 and <= 58
- > 58 and <= 89
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Woodbury County, Iowa
Survey Area Data: Version 32, Sep 2, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 19, 2022—Sep 20, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Iowa Corn Suitability Rating CSR2 (IA)

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
1C3	Ida silt loam, 5 to 9 percent slopes, severely eroded	58	0.2	1.2%
1D3	Ida silt loam, 9 to 14 percent slopes, severely eroded	32	1.2	6.3%
1E3	Ida silt loam, 14 to 20 percent slopes, severely eroded	18	9.8	51.1%
1F3	Ida silt loam, 20 to 30 percent slopes, severely eroded	8	3.9	20.1%
12C	Napier silt loam, 5 to 9 percent slopes	89	3.8	19.6%
100C2	Monona silty clay loam, 5 to 9 percent slopes, eroded	85	0.4	1.9%
Totals for Area of Interest			**19.2**	**100.0%**

Description

This attribute is only applicable to soils in the state of Iowa. Corn suitability ratings (CSR2) provide a relative ranking of all soils mapped in the State of Iowa according to their potential for the intensive production of row crops. The CSR2 is an index that can be used to rate the potential yield of one soil against that of another over a period of time. Considered in the ratings are average weather conditions and frequency of use of the soil for row crops. Ratings range from 100 for soils that have no physical limitations, occur on minimal slopes, and can be continuously row cropped to as low as 5 for soils that are severely limited for the production of row crops.

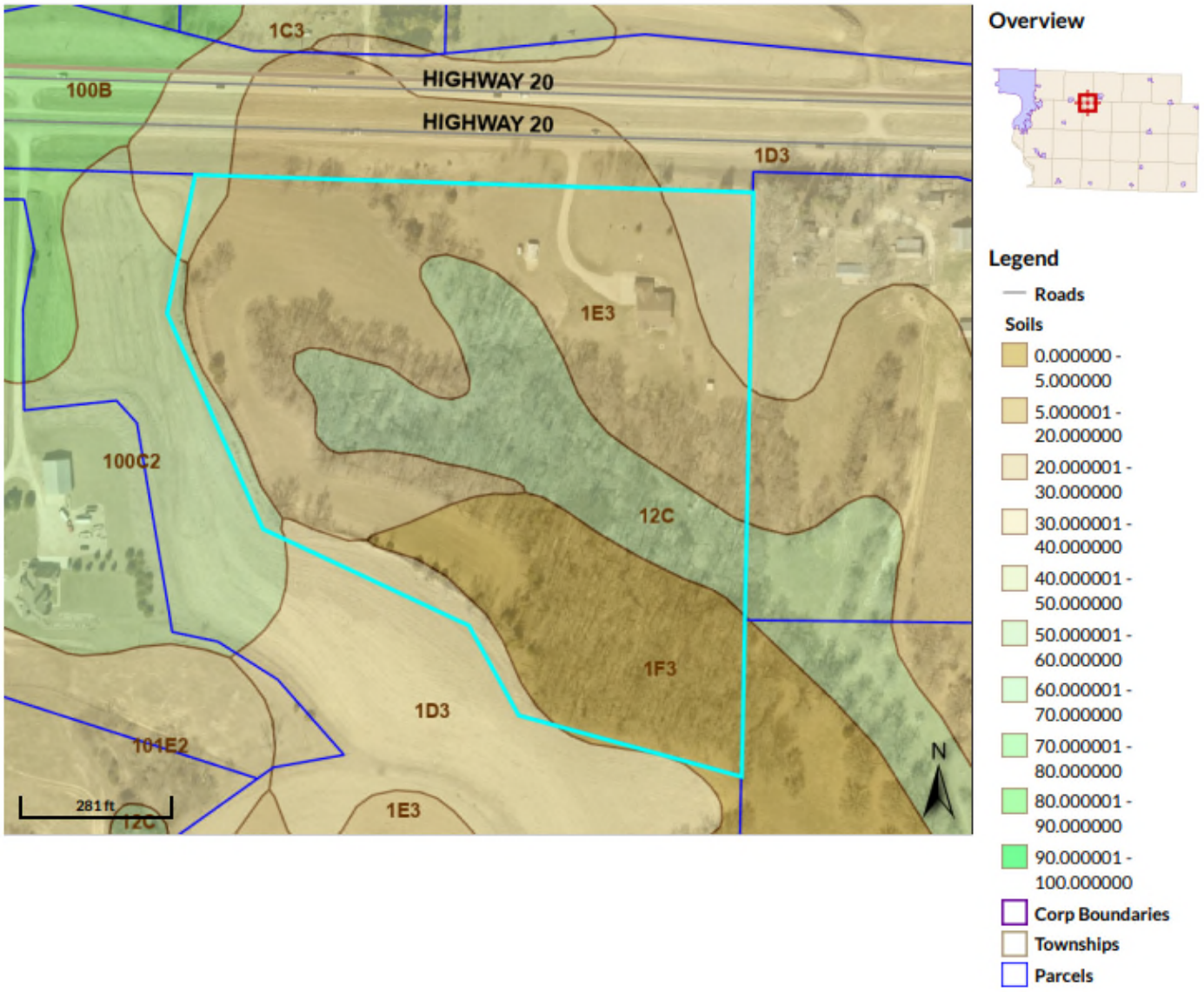
When the soils are rated, the following assumptions are made: a) adequate management, b) natural weather conditions (no irrigation), c) artificial drainage where required, d) no frequent flooding on the lower lying soils, and e) no land leveling or terracing. The weighted CSR2 for a given field can be modified by the occurrence of sandy spots, local deposits, rock and gravel outcrops, field boundaries, and noncrossable drainageways. Even though predicted average yields will change with time, the CSR2 values are expected to remain relatively constant in relation to one another over time.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Higher

SOIL MAP


1C3
100B
HIGHWAY 20
HIGHWAY 20
1D3
1E3
100C2
12C
1F3
1D3
101E2
281 ft
1E3
N
Overview
Legend
Roads
Soils
0.000000 - 5.000000
5.000001 - 20.000000
20.000001 - 30.000000
30.000001 - 40.000000
40.000001 - 50.000000
50.000001 - 60.000000
60.000001 - 70.000000
70.000001 - 80.000000
80.000001 - 90.000000
90.000001 - 100.000000
Corp Boundaries
Townships
Parcels

UTILITY-SCALE SOLAR INFORMATION FOR PUBLIC HEARING

Contents

WOODBURY COUNTY BOARD OF SUPERVISORS AGENDA ITEM(S) REQUEST FORM

Date: 8/2/2023 Weekly Agenda Date: 8/8/2023

ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN: Supervisor J.Taylor/M. Nelson

WORDING FOR AGENDA ITEM:

Upon Striking Agricultural Preservation as relates to Amendment 2 (Utility-Scale Solar), a Motion to Give Direction for a New Proposed Ordinance in Regards to Utility-Scale Solar

ACTION REQUIRED:

Approve Ordinance ☐	Approve Resolution ☐	Approve Motion ☑
Public Hearing ☐	Other: Informational ☐	Attachments ☐

EXECUTIVE SUMMARY:

The Board of Supervisors unanimously has voiced support for adding solar energy systems (private use) as accessory use in each zoning district and affirming support of solar energy systems (utility scale) in the GI Zoning District. However, given that AP constitutes roughly 75% of Woodbury County's 875 sq. mi and inherent to Agricultural Preservation is the preservation of agriculture, we have an interest in doing what is inherent in the name: preserving agriculture. Toward that end, we are not against solar but think that the following strikes a very reasonable and thoughtful balance, something that can feel rushed in the readings and end up making solar development projects so loose as to not know the desired saturation, legal implications (at least 2 other counties are in lawsuits based on the conditions set after the fact), and how we want to grow the next 25, 50, and 100 years.

Iowa Farm Bureau states regarding energy policy: "Iowa should maintain a balanced electrical energy generation portfolio to ensure energy reliability and resilience at an affordable cost" (2023) and "Iowa's electrical energy policy should not promote new wind and solar energy generation on viable and productive agricultural ground. Existing structures and nonproductive ground should be utilized to expand our energy production" (2023).

BACKGROUND:

Iowa Cattlemen land use policy states: "Whereas the issue of land use in Iowa becomes increasingly important as Iowa population grows and the use of land becomes more intensified, and whereas the cattlemen of Iowa have distinctive problems and interests in the use of land for production of beef cattle; and whereas the complexities of the many issues and interests involved are substantial, not the least of which are the preservation of private property rights and the location of control over land-use decisions. Therefore, be it resolved, land suitable for the grazing of livestock should be deemed agricultural land worthy of preservation and that grazing and be given over recreational and/or urban uses. Be it further resolved, public lands should be subject to the same rules and regulations as privately owned lands."

As the two supervisors representing the most rural areas, we deeply desire the preservation of agriculture while at the same time understanding the need for balance: private property rights, economic development, clean energy, and freedom. Therefore, if the county was to engage in utility-scale solar, at minimum, the county should consider this only if the following is met:

+ A conditional use permit for AP "C" with Planning and Zoning and the Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/soil, and other factors when approving permit.

+ A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.

+ A maximum height of no more than 20' for panel structures.

+ Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP."

+ Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.

FINANCIAL IMPACT:

(cont...)

+ Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.

+ A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

IF THERE IS A CONTRACT INVOLVED IN THE AGENDA ITEM, HAS THE CONTRACT BEEN SUBMITTED AT LEAST ONE WEEK PRIOR AND ANSWERED WITH A REVIEW BY THE COUNTY ATTORNEY'S OFFICE?

Yes ☐ **No** ☐

RECOMMENDATION:

Upon Striking Agricultural Preservation as relates to Amendment 2 (Utility-Scale Solar), a Motion to Give Direction for a New Proposed Ordinance in Regards to Utility-Scale Solar

ACTION REQUIRED / PROPOSED MOTION:

Upon Striking Agricultural Preservation as relates to Amendment 2 (Utility-Scale Solar), a Motion to Give Direction for a New Proposed Ordinance in Regards to Utility-Scale Solar

Approved by Board of Supervisors April 5, 2016.

UTILITY-SCALE SOLAR SYSTEMS PERMITTING

Summary:

- The Woodbury County Zoning Commission has been directed by the Board of Supervisors on August 8, 2023 to establish/examine a new ordinance as it relates to utility-scale solar systems. The purpose of this public hearing is to receive comments from the public about solar energy systems not limited to utility-scale solar systems, agrisolar or agrivoltaics, and community solar systems as the Commission works toward preparing a recommendation for a proposed ordinance or amendments to the Woodbury County Zoning Ordinance to address the permitting process for such systems in industrial and/or agricultural areas.

Requested Proposal:

- The Board of Supervisors have indicated that "if the county was to engage in utility-scale solar, at minimum, the county should consider this only if the following is met":
    - A conditional use permit for AP "C" with Planning and Zoning and Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/sol, and other factors when approving permit.
    - A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.
    - A maximum height of no more than 20' for panel structures.
    - Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP."
    - Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.
    - Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.
    - A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

Concepts for Consideration:

• Certified Abstractor's Listing – Public Notification Area • Site Plan • Setbacks • Height • Protected Areas • Slope • Landscaping/Buffer/Screening • Fencing/Security • Signage • Lighting • Noise • Outdoor Storage • Utility Plan / Utility Connections / Agreements • Floodplain?	• Habitat and Natural Resource Considerations • Solar Glare Minimization • Weed Control • Grading Plan • Compliance with applicable laws (local, state, federal) • Access • Road use • Aviation Protection • Maintenance, Repair, or Replacement / Repowering • Waste • Soil Erosion / Sediment Control • Stormwater Management • Administration / Enforcement / Violations	• Emergency Management • Timeline • Safety • Abandonment / Cessation of Operations • Decommissioning and Reclamation • Fees • Agrivoltaics / Agrisolar • Community Solar Systems • Concentrating Solar Power • Solar definitions • Etc.

Comments:

Daniel Priestley

From: Graham McGaffin <gmcgaffin@TNC.ORG>
Sent: Tuesday, August 22, 2023 1:32 PM
To: Daniel Priestley
Subject: RE: Comments Requested Utility-Scale Solar Ordinance Amendment
Attachments: Iowa_Model_Solar_Ordinance_August_2021.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Mr. Priestley,
Thanks for including myself and The Nature Conservancy in Iowa as a stakeholder. As a longtime Loess Hills Project Director and now State Director for The Nature Conservancy in Iowa, still residing in Woodbury County, I appreciate the opportunity to share a model solar ordinance that our organization and partners developed a few years ago that touches on a lot of the concepts listed below. Please let me know if you have any thoughts or follow up questions, or if our team can be of any further assistance.

Thanks again,
-Graham

Graham McGaffin
State Director
gmcgaffin@tnc.org
+1 712 898 7165 (mobile)
+1 515 244 5044 (office)

nature.org/iowa

The Nature Conservancy in Iowa
505 5th Avenue, Suite 630
Des Moines, IA 50309

SEE ATTACHED BELOW – "Renewable Solar Energy Systems Model Ordinance," Stevey Guyer (Iowa Environmental Council) and Patrick Snell (The Nature Conservancy).

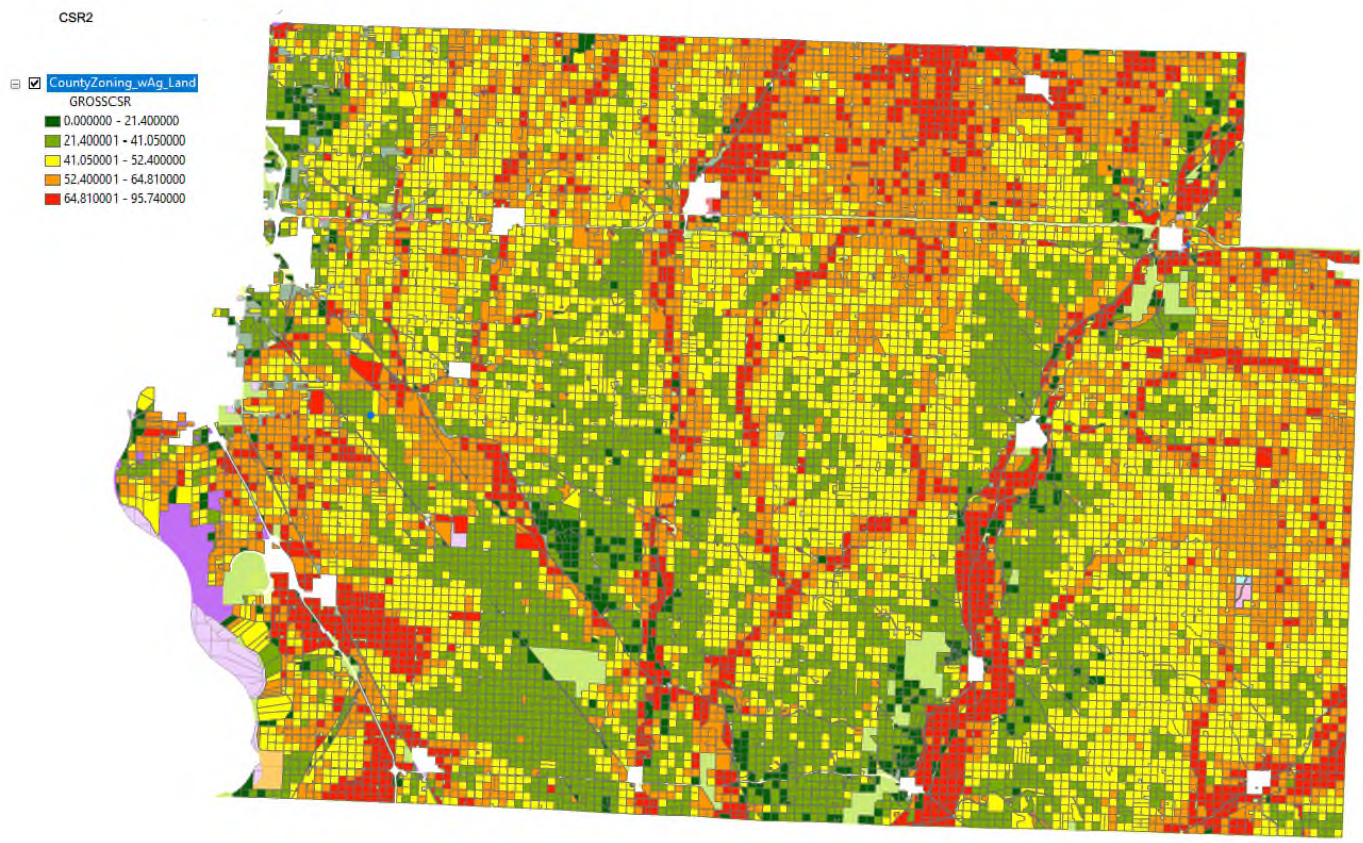
UTILITY-SCALE SOLAR SYSTEMS CONSIDERATIONS FOR AN ORDINANCE AMENDMENT

Consideration 1: A conditional use permit for AP "C" with Planning and Zoning and Board of Adjustment to be able to site-specifically take into consideration the concerns of neighbors, land/sol, and other factors when approving permit.

- **Public Notification:** Newspaper Legals and Letter to Property Owners within 1 mile regarding public hearing before Board of Adjustment and Zoning Commission consideration.

- **Land/Soil: Corn Suitability Rating 2 (CSR2) and Soil Types with Slope Content**

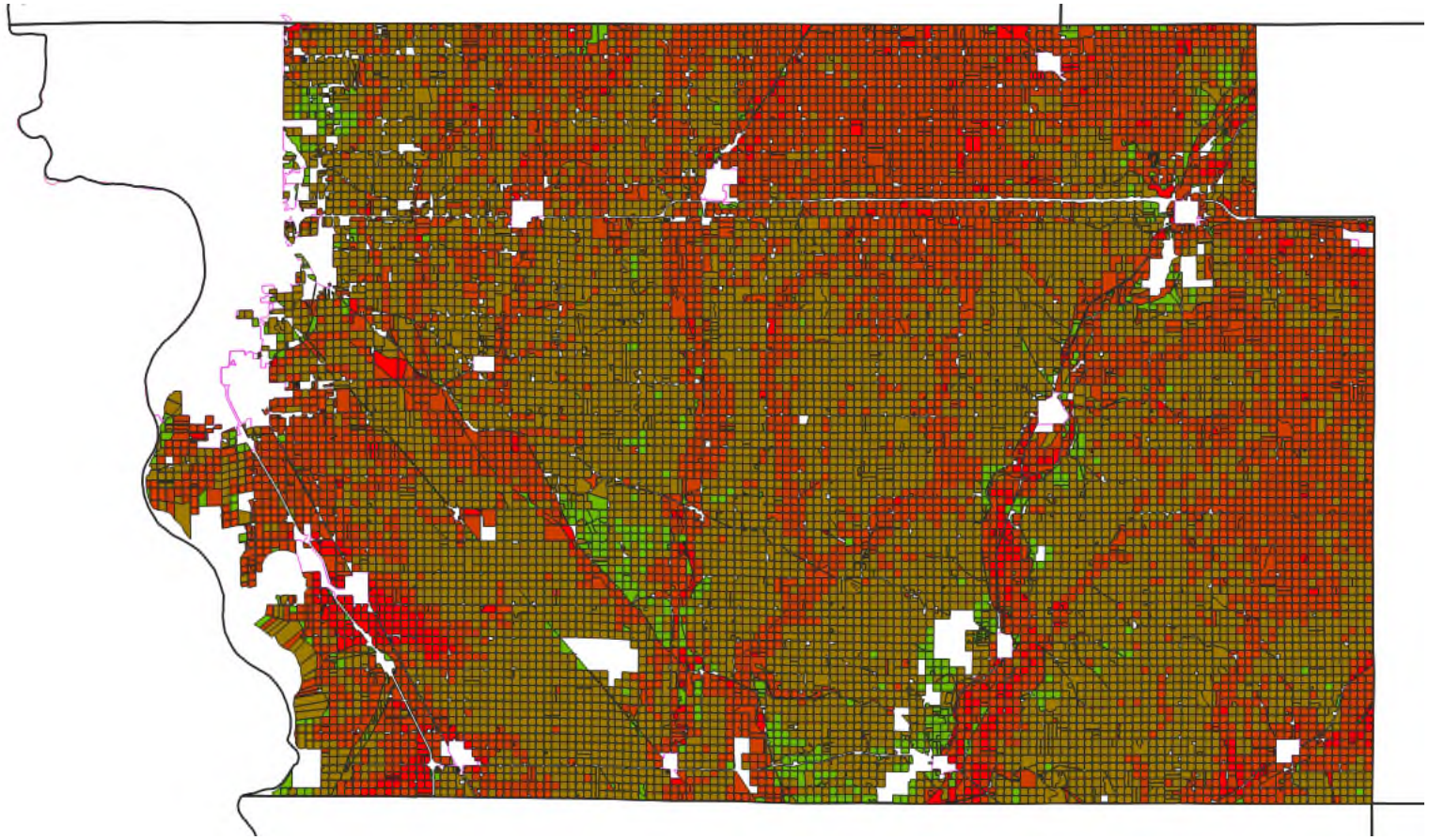
    - **CSR2 Average by Parcel in Agricultural Preservation (AP) Zoning District** *Data acquired via Schneider/Beacon
        - **Using 65+ CSR2**



- **Agricultural Preservation: Estimated Total acres based on Schneider/Beacon gross acres with gross CSR2 greater than 65**
    - 204,405.91 Acres

- **Agricultural Preservation: Estimated Total acres based on Schneider/Beacon gross acres with gross CSR2 greater than 75**
    - 115,504.96 Acres

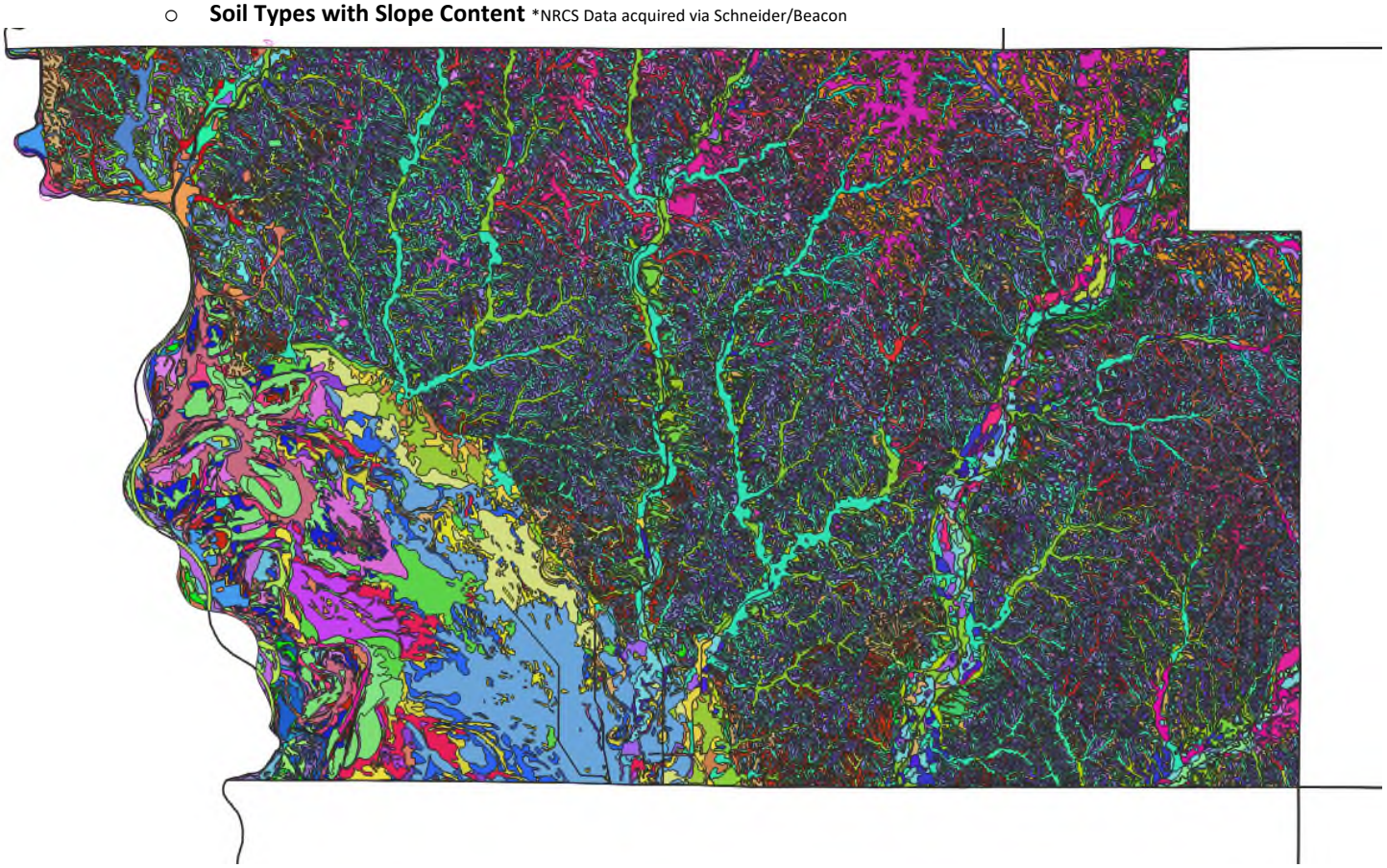
- **CSR2 Average by Parcel in Agricultural Preservation (AP) Zoning District** *Data acquired via Schneider/Beacon



- **Agricultural Preservation: Estimated Total acres based on Schneider/Beacon gross acres with gross CSR2 greater than 65**
  - 204,405.91 Acres
- **Agricultural Preservation: Estimated Total acres based on Schneider/Beacon gross acres with gross CSR2 greater than 75**
  - 115,504.96 Acres

Consideration 2: A slope of no more than 5% in order to preserve the land and to account for soil erosion, compaction, and future land stewardship.

- **Soil Types with Slope Content** *NRCS Data acquired via Schneider/Beacon

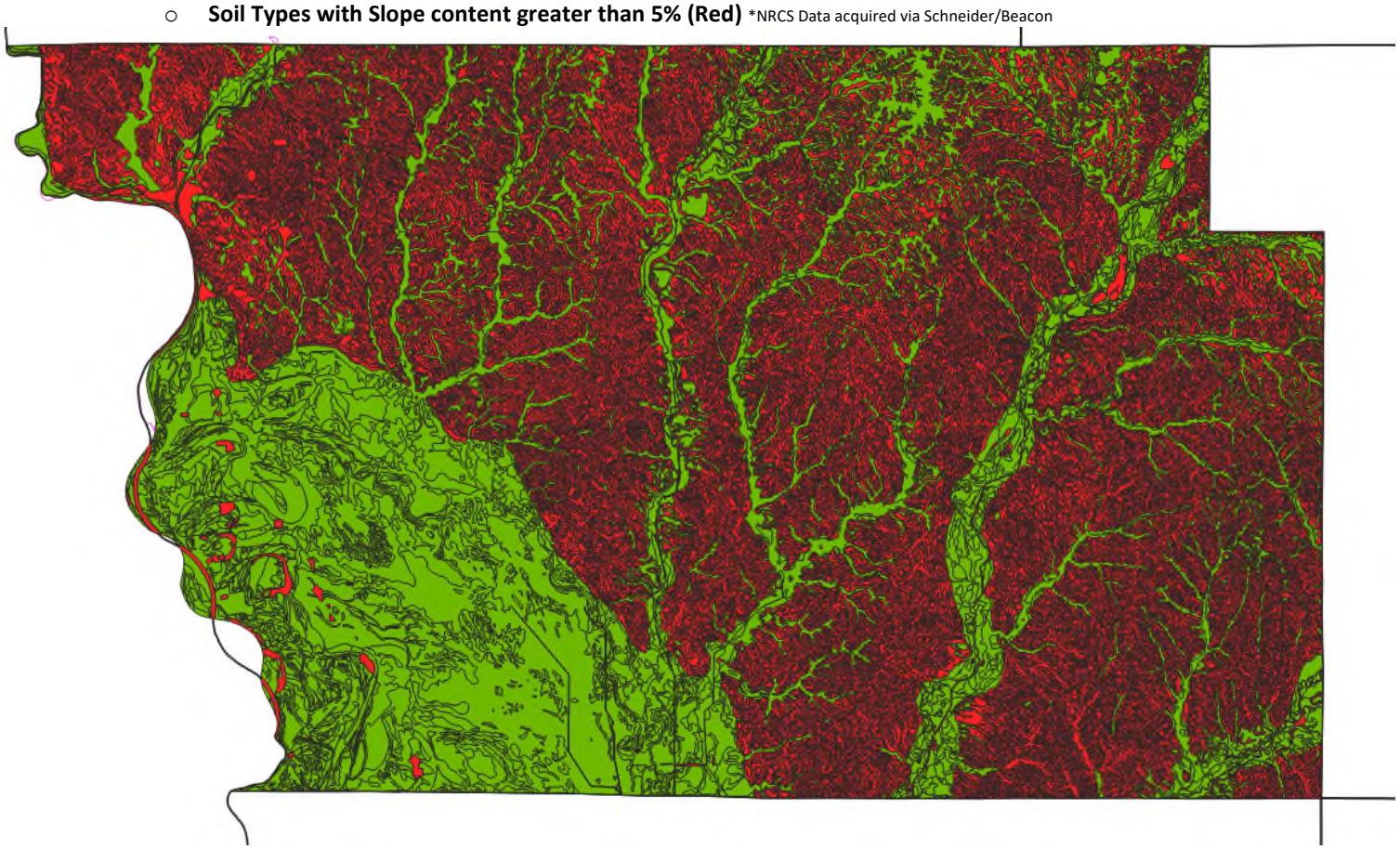


Albaton silty clay, 0 to 2 percent slopes, rarely flooded	Albaton silty clay, 0 to 2 percent slopes, rarely flooded
Albaton silty clay, depressional, drained, 0 to 1 percent slopes, frequently flooded	Albaton silty clay, depressional, drained, 0 to 1 percent slopes, frequently flooded
Anthon silty clay loam, 0 to 2 percent slopes	Anthon silty clay loam, 0 to 2 percent slopes
Anthon silty clay loam, 2 to 5 percent slopes	Anthon silty clay loam, 2 to 5 percent slopes
Blake silty clay loam, 0 to 2 percent slopes, occasionally flooded	Blake silty clay loam, 0 to 2 percent slopes, occasionally flooded
Blake silty clay loam, 0 to 2 percent slopes, rarely flooded	Blake silty clay loam, 0 to 2 percent slopes, rarely flooded
Blencoe-Woodbury silty clays, 0 to 2 percent slopes, rarely flooded	Blencoe-Woodbury silty clays, 0 to 2 percent slopes, rarely flooded
Blend silty clay, 0 to 2 percent slopes, rarely flooded	Blend silty clay, 0 to 2 percent slopes, rarely flooded
Burcham silt loam, 0 to 2 percent slopes, rarely flooded	Burcham silt loam, 0 to 2 percent slopes, rarely flooded
Burchard clay loam, 9 to 18 percent slopes	Burchard clay loam, 9 to 18 percent slopes
Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded	Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded
Castana silt loam, 14 to 20 percent slopes	Castana silt loam, 14 to 20 percent slopes
Castana silt loam, 9 to 14 percent slopes	Castana silt loam, 9 to 14 percent slopes
Cooper silty clay loam, 0 to 2 percent slopes, rarely flooded	Cooper silty clay loam, 0 to 2 percent slopes, rarely flooded
Danbury silt loam, 0 to 2 percent slopes, occasionally flooded	Danbury silt loam, 0 to 2 percent slopes, occasionally flooded
Deloit loam, 2 to 5 percent slopes	Deloit loam, 2 to 5 percent slopes
Deloit loam, 5 to 9 percent slopes	Deloit loam, 5 to 9 percent slopes
Deloit loam, 9 to 18 percent slopes	Deloit loam, 9 to 18 percent slopes
Dockery-Quiver silt loams, deep loess, 0 to 2 percent slopes, occasionally flooded	Dockery-Quiver silt loams, deep loess, 0 to 2 percent slopes, occasionally flooded
Fairhaven silt loam, 32 to 40 inches to sand and gravel, 0 to 2 percent slopes	Fairhaven silt loam, 32 to 40 inches to sand and gravel, 0 to 2 percent slopes
Fairhaven silt loam, 32 to 40 inches to sand and gravel, 2 to 5 percent slopes	Fairhaven silt loam, 32 to 40 inches to sand and gravel, 2 to 5 percent slopes
Fluvaquents, 0 to 2 percent slopes, frequently flooded	Fluvaquents, 0 to 2 percent slopes, frequently flooded
Galva silty clay loam, 2 to 5 percent slopes	Galva silty clay loam, 2 to 5 percent slopes
Galva silty clay loam, 5 to 9 percent slopes, eroded	Galva silty clay loam, 5 to 9 percent slopes, eroded
Galva silty clay loam, terrace, 2 to 5 percent slopes	Galva silty clay loam, terrace, 2 to 5 percent slopes
Galva silty clay loam, terrace, 5 to 9 percent slopes, eroded	Galva silty clay loam, terrace, 5 to 9 percent slopes, eroded
Grable-Morconick complex, 0 to 2 percent slopes, occasionally flooded	Grable-Morconick complex, 0 to 2 percent slopes, occasionally flooded
Grable-Morconick complex, 0 to 2 percent slopes, rarely flooded	Grable-Morconick complex, 0 to 2 percent slopes, rarely flooded
Grantcenter silty clay loam, 0 to 2 percent slopes, rarely flooded	Grantcenter silty clay loam, 0 to 2 percent slopes, rarely flooded
Hamburg silt loam, 40 to 75 percent slopes	Hamburg silt loam, 40 to 75 percent slopes
Hawick sandy loam, 14 to 18 percent slopes	Hawick sandy loam, 14 to 18 percent slopes
Hawick sandy loam, 18 to 25 percent slopes	Hawick sandy loam, 18 to 25 percent slopes
Hawick sandy loam, 5 to 9 percent slopes	Hawick sandy loam, 5 to 9 percent slopes
Hawick sandy loam, 9 to 14 percent slopes	Hawick sandy loam, 9 to 14 percent slopes
Haynie silt loam, 0 to 2 percent slopes, occasionally flooded	Haynie silt loam, 0 to 2 percent slopes, occasionally flooded
Haynie silt loam, deep loess, 0 to 2 percent slopes, rarely flooded	Haynie silt loam, deep loess, 0 to 2 percent slopes, rarely flooded
Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded	Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded
Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded, overwash	Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded, overwash
Ida silt loam, 14 to 20 percent slopes, severely eroded	Ida silt loam, 14 to 20 percent slopes, severely eroded
Ida silt loam, 2 to 5 percent slopes, severely eroded	Ida silt loam, 2 to 5 percent slopes, severely eroded
Ida silt loam, 20 to 30 percent slopes	Ida silt loam, 20 to 30 percent slopes
Ida silt loam, 20 to 30 percent slopes, severely eroded	Ida silt loam, 20 to 30 percent slopes, severely eroded
Ida silt loam, 30 to 40 percent slopes	Ida silt loam, 30 to 40 percent slopes
Ida silt loam, 5 to 9 percent slopes	Ida silt loam, 5 to 9 percent slopes
Ida silt loam, 5 to 9 percent slopes, severely eroded	Ida silt loam, 5 to 9 percent slopes, severely eroded
Ida silt loam, 9 to 14 percent slopes, severely eroded	Ida silt loam, 9 to 14 percent slopes, severely eroded
Ida-Urban land complex, 14 to 20 percent slopes	Ida-Urban land complex, 14 to 20 percent slopes
Ida-Urban land complex, 2 to 9 percent slopes	Ida-Urban land complex, 2 to 9 percent slopes
Ida-Urban land complex, 20 to 30 percent slopes	Ida-Urban land complex, 20 to 30 percent slopes
Ida-Urban land complex, 9 to 14 percent slopes	Ida-Urban land complex, 9 to 14 percent slopes
Judson silty clay loam, deep loess, 2 to 5 percent slopes	Judson silty clay loam, deep loess, 2 to 5 percent slopes
Judson silty clay loam, deep loess, 5 to 9 percent slopes	Judson silty clay loam, deep loess, 5 to 9 percent slopes
Judson-Rawles complex, 0 to 5 percent slopes	Judson-Rawles complex, 0 to 5 percent slopes
Keg loam, 0 to 2 percent slopes, rarely flooded	Keg loam, 0 to 2 percent slopes, rarely flooded
Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded
Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded, overwash	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded, overwash
Kennebec silty clay loam, 0 to 2 percent slopes, occasionally flooded	Kennebec silty clay loam, 0 to 2 percent slopes, occasionally flooded
Lakeport silty clay loam, 0 to 2 percent slopes, rarely flooded	Lakeport silty clay loam, 0 to 2 percent slopes, rarely flooded
Larpenteur loam, 0 to 2 percent slopes, rarely flooded	Larpenteur loam, 0 to 2 percent slopes, rarely flooded
Liston-Burchard complex, 18 to 25 percent slopes	Liston-Burchard complex, 18 to 25 percent slopes
Liston-Burchard complex, 25 to 40 percent slopes	Liston-Burchard complex, 25 to 40 percent slopes
Luton silty clay loam, 0 to 2 percent slopes, rarely flooded	Luton silty clay loam, 0 to 2 percent slopes, rarely flooded
Luton silty clay, 0 to 2 percent slopes, rarely flooded	Luton silty clay, 0 to 2 percent slopes, rarely flooded
Modale complex, 0 to 2 percent slopes, occasionally flooded	Modale complex, 0 to 2 percent slopes, occasionally flooded
Modale complex, 0 to 2 percent slopes, rarely flooded	Modale complex, 0 to 2 percent slopes, rarely flooded
Monona silt loam, 14 to 20 percent slopes	Monona silt loam, 14 to 20 percent slopes
Monona silt loam, 14 to 20 percent slopes, severely eroded	Monona silt loam, 14 to 20 percent slopes, severely eroded
Monona silt loam, 2 to 5 percent slopes	Monona silt loam, 2 to 5 percent slopes
Monona silt loam, 2 to 5 percent slopes, eroded	Monona silt loam, 2 to 5 percent slopes, eroded
Monona silt loam, 20 to 30 percent slopes	Monona silt loam, 20 to 30 percent slopes
Monona silt loam, 5 to 9 percent slopes, eroded	Monona silt loam, 5 to 9 percent slopes, eroded
Monona silt loam, 9 to 14 percent slopes, eroded	Monona silt loam, 9 to 14 percent slopes, eroded
Monona silt loam, 9 to 14 percent slopes, severely eroded	Monona silt loam, 9 to 14 percent slopes, severely eroded
Monona silt loam, terrace, 0 to 2 percent slopes	Monona silt loam, terrace, 0 to 2 percent slopes
Monona silt loam, terrace, 2 to 5 percent slopes	Monona silt loam, terrace, 2 to 5 percent slopes
Monona silt loam, terrace, 2 to 5 percent slopes, eroded	Monona silt loam, terrace, 2 to 5 percent slopes, eroded
Monona silt loam, terrace, 5 to 9 percent slopes, eroded	Monona silt loam, terrace, 5 to 9 percent slopes, eroded
Monona silty clay loam, 14 to 20 percent slopes, eroded	Monona silty clay loam, 14 to 20 percent slopes, eroded
Monona silty clay loam, 2 to 5 percent slopes	Monona silty clay loam, 2 to 5 percent slopes
Monona silty clay loam, 5 to 9 percent slopes, eroded	Monona silty clay loam, 5 to 9 percent slopes, eroded
Monona silty clay loam, 9 to 14 percent slopes, eroded	Monona silty clay loam, 9 to 14 percent slopes, eroded
Monona silty clay loam, terrace, 0 to 2 percent slopes	Monona silty clay loam, terrace, 0 to 2 percent slopes
Monona silty clay loam, terrace, 2 to 5 percent slopes	Monona silty clay loam, terrace, 2 to 5 percent slopes
Monona silty clay loam, terrace, 5 to 9 percent slopes, eroded	Monona silty clay loam, terrace, 5 to 9 percent slopes, eroded
Monona silty clay loam, terrace, 9 to 14 percent slopes, eroded	Monona silty clay loam, terrace, 9 to 14 percent slopes, eroded
Monona-Ida silt loams, 14 to 20 percent slopes, eroded	Monona-Ida silt loams, 14 to 20 percent slopes, eroded
Monona-Urban land complex, 14 to 20 percent slopes	Monona-Urban land complex, 14 to 20 percent slopes
Monona-Urban land complex, 2 to 5 percent slopes	Monona-Urban land complex, 2 to 5 percent slopes
Monona-Urban land complex, 5 to 9 percent slopes	Monona-Urban land complex, 5 to 9 percent slopes
Monona-Urban land complex, 9 to 14 percent slopes	Monona-Urban land complex, 9 to 14 percent slopes

Morconick fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Morconick fine sandy loam, 0 to 2 percent slopes, occasionally flooded
Morconick fine sandy loam, 0 to 2 percent slopes, rarely flooded	Morconick fine sandy loam, 0 to 2 percent slopes, rarely flooded
Moville-Holly Springs, overwash complex, 0 to 2 percent slopes, rarely flooded	Moville-Holly Springs, overwash complex, 0 to 2 percent slopes, rarely flooded
Napa-Luton-Tieville silty clays, 0 to 2 percent slopes, rarely flooded	Napa-Luton-Tieville silty clays, 0 to 2 percent slopes, rarely flooded
Napier silt loam, 2 to 5 percent slopes	Napier silt loam, 2 to 5 percent slopes
Napier silt loam, 5 to 9 percent slopes	Napier silt loam, 5 to 9 percent slopes
Napier-Castana silt loams, 9 to 20 percent slopes	Napier-Castana silt loams, 9 to 20 percent slopes
Napier-Castana-Urban land complex, 9 to 14 percent slopes	Napier-Castana-Urban land complex, 9 to 14 percent slopes
Napier-Gullied land complex, 5 to 14 percent slopes	Napier-Gullied land complex, 5 to 14 percent slopes
Napier-Kennebec-Colo complex, 0 to 5 percent slopes	Napier-Kennebec-Colo complex, 0 to 5 percent slopes
Napier-Rawles complex, 2 to 5 percent slopes	Napier-Rawles complex, 2 to 5 percent slopes
Napier-Urban land complex, 2 to 5 percent slopes	Napier-Urban land complex, 2 to 5 percent slopes
Napier-Urban land complex, 5 to 9 percent slopes	Napier-Urban land complex, 5 to 9 percent slopes
Onawa silty clay, 0 to 2 percent slopes, occasionally flooded	Onawa silty clay, 0 to 2 percent slopes, occasionally flooded
Onawa-Albaton complex, 0 to 2 percent slopes, rarely flooded	Onawa-Albaton complex, 0 to 2 percent slopes, rarely flooded
Owego silty clay, 0 to 2 percent slopes, rarely flooded	Owego silty clay, 0 to 2 percent slopes, rarely flooded
Percival silty clay, 0 to 2 percent slopes, rarely flooded	Percival silty clay, 0 to 2 percent slopes, rarely flooded
Percival-Albaton complex, 0 to 2 percent slopes, occasionally flooded	Percival-Albaton complex, 0 to 2 percent slopes, occasionally flooded
Percival-Haynie-Urban land complex, 0 to 2 percent slopes, rarely flooded	Percival-Haynie-Urban land complex, 0 to 2 percent slopes, rarely flooded
Pits, clay	Pits, clay
Pits, sand and gravel	Pits, sand and gravel
Rawles silt loam, 0 to 2 percent slopes, occasionally flooded	Rawles silt loam, 0 to 2 percent slopes, occasionally flooded
Rawles-Urban land complex, 0 to 2 percent slopes	Rawles-Urban land complex, 0 to 2 percent slopes
Salix silt loam, 0 to 2 percent slopes, rarely flooded	Salix silt loam, 0 to 2 percent slopes, rarely flooded
Sarpy loamy fine sand, 0 to 2 percent slopes, rarely flooded	Sarpy loamy fine sand, 0 to 2 percent slopes, rarely flooded
Sarpy loamy fine sand, 2 to 5 percent slopes, occasionally flooded	Sarpy loamy fine sand, 2 to 5 percent slopes, occasionally flooded
Sarpy loamy fine sand, 2 to 5 percent slopes, rarely flooded	Sarpy loamy fine sand, 2 to 5 percent slopes, rarely flooded
Sarpy loamy fine sand, 5 to 9 percent slopes, occasionally flooded	Sarpy loamy fine sand, 5 to 9 percent slopes, occasionally flooded
Sarpy-Morconick complex, 0 to 2 percent slopes, occasionally flooded	Sarpy-Morconick complex, 0 to 2 percent slopes, occasionally flooded
Scroll silty clay, 0 to 2 percent slopes, occasionally flooded	Scroll silty clay, 0 to 2 percent slopes, occasionally flooded
Sewage lagoon	Sewage lagoon
Smithland silt loam, 0 to 2 percent slopes, occasionally flooded, overwash	Smithland silt loam, 0 to 2 percent slopes, occasionally flooded, overwash
Smithland silty clay loam, 0 to 2 percent slopes, occasionally flooded	Smithland silty clay loam, 0 to 2 percent slopes, occasionally flooded
Smithland-Danbury-Judson complex, 0 to 5 percent slopes	Smithland-Danbury-Judson complex, 0 to 5 percent slopes
Spillville loam, 0 to 2 percent slopes, occasionally flooded	Spillville loam, 0 to 2 percent slopes, occasionally flooded
Ticonic very fine sandy loam, 0 to 2 percent slopes, rarely flooded	Ticonic very fine sandy loam, 0 to 2 percent slopes, rarely flooded
Tieville silty clay, 0 to 2 percent slopes, rarely flooded	Tieville silty clay, 0 to 2 percent slopes, rarely flooded
Udorthents, loamy	Udorthents, loamy
Udorthents, sanitary landfill	Udorthents, sanitary landfill
Urban land	Urban land
Water	Water
Wilsey silt loam, 0 to 2 percent slopes, occasionally flooded	Wilsey silt loam, 0 to 2 percent slopes, occasionally flooded
Woodbury silty clay, 0 to 2 percent slopes, rarely flooded	Woodbury silty clay, 0 to 2 percent slopes, rarely flooded
Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded	Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded

*NRCS Data acquired via Schneider/Beacon

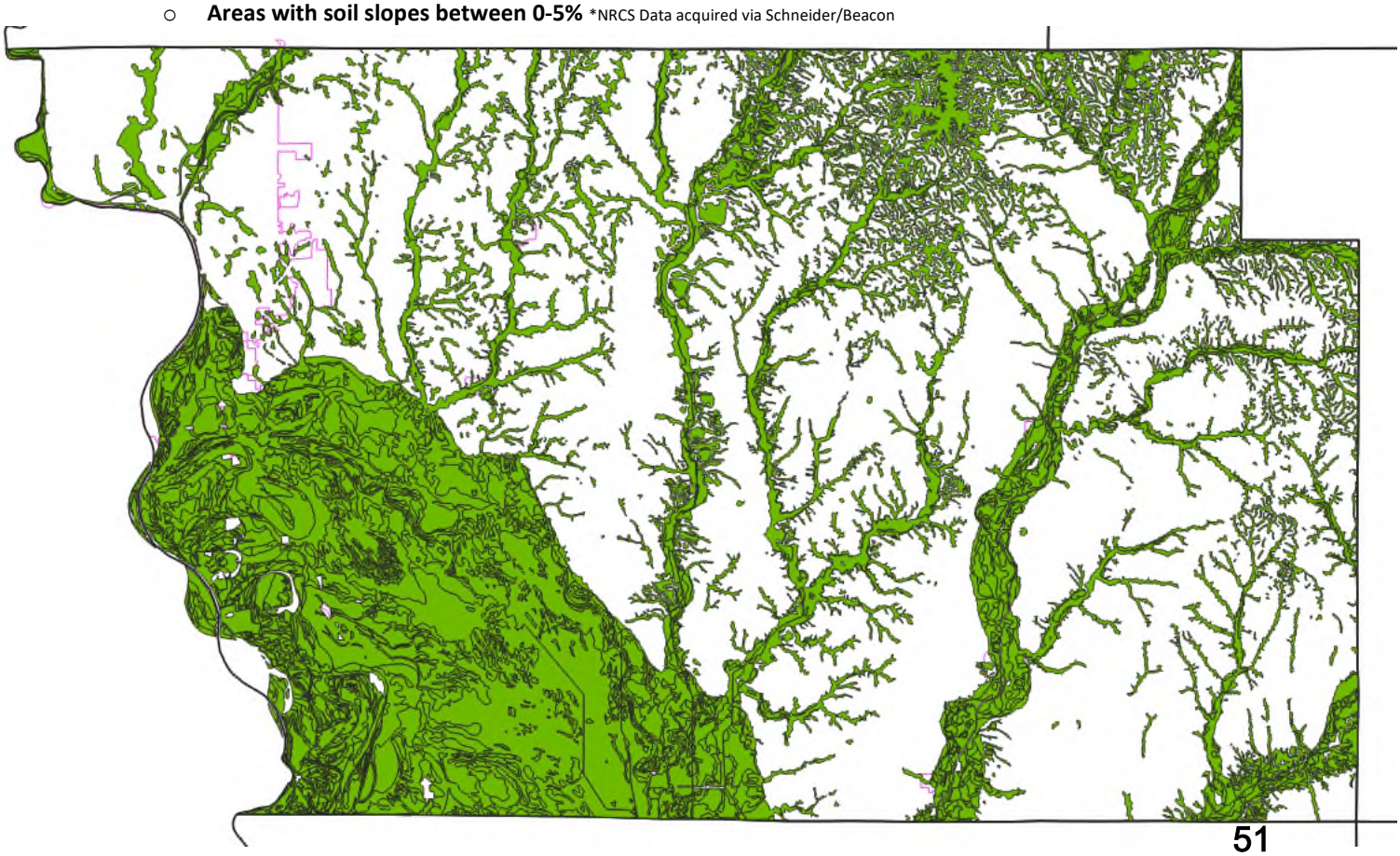
- **Soil Types with Slope content greater than 5% (Red)** *NRCS Data acquired via Schneider/Beacon



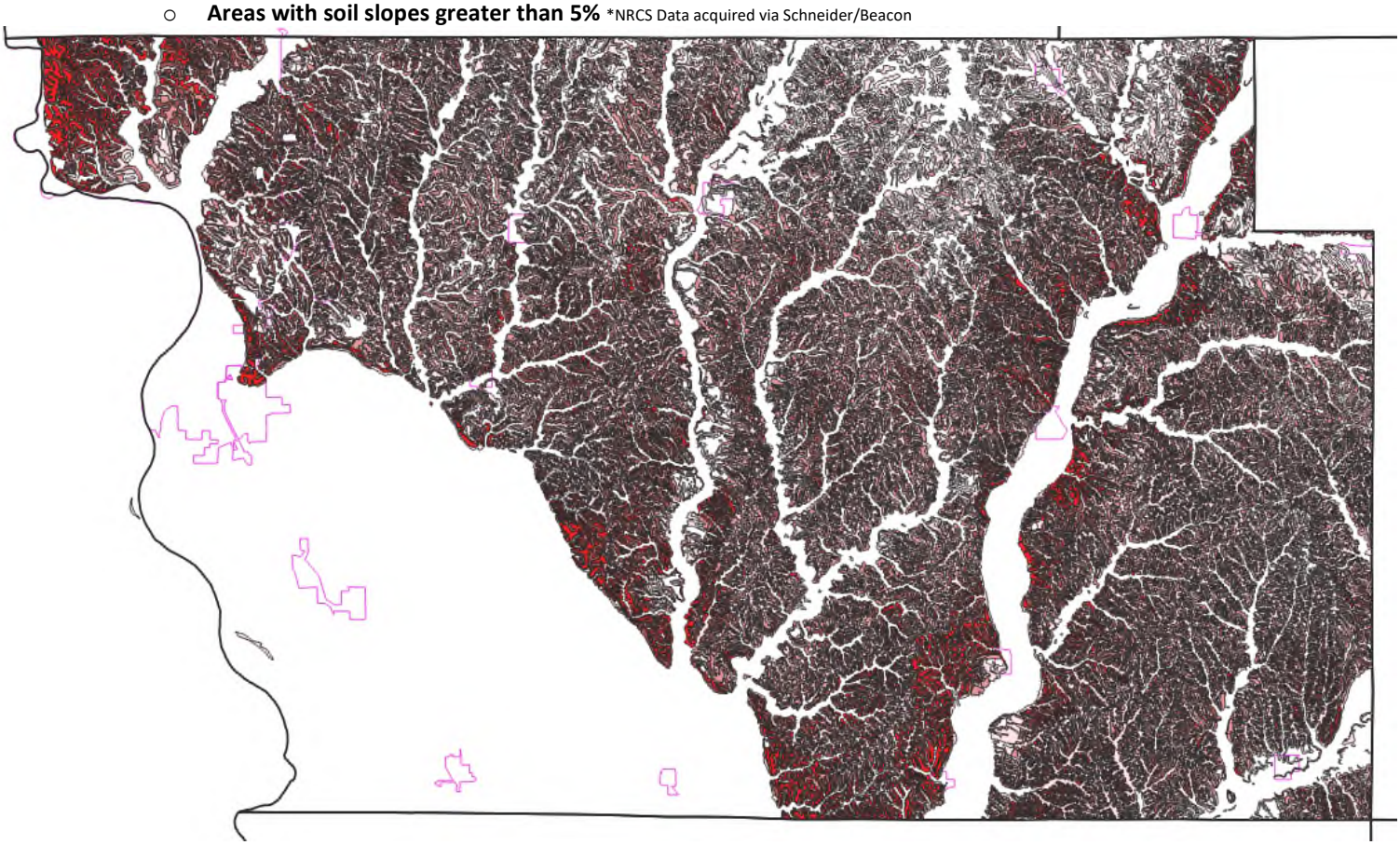
Albaton silty clay, 0 to 2 percent slopes, rarely flooded	Albaton silty clay, 0 to 2 percent slopes, rarely flooded
Albaton silty clay, depressional, drained, 0 to 1 percent slopes, frequently flooded	Albaton silty clay, depressional, drained, 0 to 1 percent slopes, frequently flooded
Anthon silty clay loam, 0 to 2 percent slopes	Anthon silty clay loam, 0 to 2 percent slopes
Anthon silty clay loam, 2 to 5 percent slopes	Anthon silty clay loam, 2 to 5 percent slopes
Blake silty clay loam, 0 to 2 percent slopes, occasionally flooded	Blake silty clay loam, 0 to 2 percent slopes, occasionally flooded
Blake silty clay loam, 0 to 2 percent slopes, rarely flooded	Blake silty clay loam, 0 to 2 percent slopes, rarely flooded
Blencoe-Woodbury silty clays, 0 to 2 percent slopes, rarely flooded	Blencoe-Woodbury silty clays, 0 to 2 percent slopes, rarely flooded
Blend silty clay, 0 to 2 percent slopes, rarely flooded	Blend silty clay, 0 to 2 percent slopes, rarely flooded
Burcham silt loam, 0 to 2 percent slopes, rarely flooded	Burcham silt loam, 0 to 2 percent slopes, rarely flooded
Burchard clay loam, 9 to 18 percent slopes	Burchard clay loam, 9 to 18 percent slopes
Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded	Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded
Castana silt loam, 14 to 20 percent slopes	Castana silt loam, 14 to 20 percent slopes
Castana silt loam, 9 to 14 percent slopes	Castana silt loam, 9 to 14 percent slopes
Cooper silty clay loam, 0 to 2 percent slopes, rarely flooded	Cooper silty clay loam, 0 to 2 percent slopes, rarely flooded
Danbury silt loam, 0 to 2 percent slopes, occasionally flooded	Danbury silt loam, 0 to 2 percent slopes, occasionally flooded
Deloit loam, 2 to 5 percent slopes	Deloit loam, 2 to 5 percent slopes
Deloit loam, 5 to 9 percent slopes	Deloit loam, 5 to 9 percent slopes
Deloit loam, 9 to 18 percent slopes	Deloit loam, 9 to 18 percent slopes
Dockery-Quiver silt loams, deep loess, 0 to 2 percent slopes, occasionally flooded	Dockery-Quiver silt loams, deep loess, 0 to 2 percent slopes, occasionally flooded
Fairhaven silt loam, 32 to 40 inches to sand and gravel, 0 to 2 percent slopes	Fairhaven silt loam, 32 to 40 inches to sand and gravel, 0 to 2 percent slopes
Fairhaven silt loam, 32 to 40 inches to sand and gravel, 2 to 5 percent slopes	Fairhaven silt loam, 32 to 40 inches to sand and gravel, 2 to 5 percent slopes
Fluvaquents, 0 to 2 percent slopes, frequently flooded	Fluvaquents, 0 to 2 percent slopes, frequently flooded
Galva silty clay loam, 2 to 5 percent slopes	Galva silty clay loam, 2 to 5 percent slopes
Galva silty clay loam, 5 to 9 percent slopes, eroded	Galva silty clay loam, 5 to 9 percent slopes, eroded
Galva silty clay loam, terrace, 2 to 5 percent slopes	Galva silty clay loam, terrace, 2 to 5 percent slopes
Galva silty clay loam, terrace, 5 to 9 percent slopes, eroded	Galva silty clay loam, terrace, 5 to 9 percent slopes, eroded
Grable-Morconick complex, 0 to 2 percent slopes, occasionally flooded	Grable-Morconick complex, 0 to 2 percent slopes, occasionally flooded
Grable-Morconick complex, 0 to 2 percent slopes, rarely flooded	Grable-Morconick complex, 0 to 2 percent slopes, rarely flooded
Grantcenter silty clay loam, 0 to 2 percent slopes, rarely flooded	Grantcenter silty clay loam, 0 to 2 percent slopes, rarely flooded
Hamburg silt loam, 40 to 75 percent slopes	Hamburg silt loam, 40 to 75 percent slopes
Hawick sandy loam, 14 to 18 percent slopes	Hawick sandy loam, 14 to 18 percent slopes
Hawick sandy loam, 18 to 25 percent slopes	Hawick sandy loam, 18 to 25 percent slopes
Hawick sandy loam, 5 to 9 percent slopes	Hawick sandy loam, 5 to 9 percent slopes
Hawick sandy loam, 9 to 14 percent slopes	Hawick sandy loam, 9 to 14 percent slopes
Haynie silt loam, 0 to 2 percent slopes, occasionally flooded	Haynie silt loam, 0 to 2 percent slopes, occasionally flooded
Haynie silt loam, deep loess, 0 to 2 percent slopes, rarely flooded	Haynie silt loam, deep loess, 0 to 2 percent slopes, rarely flooded
Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded	Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded
Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded, overwash	Holly Springs silty clay loam, 0 to 2 percent slopes, rarely flooded, overwash
Ida silt loam, 14 to 20 percent slopes, severely eroded	Ida silt loam, 14 to 20 percent slopes, severely eroded
Ida silt loam, 2 to 5 percent slopes, severely eroded	Ida silt loam, 2 to 5 percent slopes, severely eroded
Ida silt loam, 20 to 30 percent slopes	Ida silt loam, 20 to 30 percent slopes
Ida silt loam, 20 to 30 percent slopes, severely eroded	Ida silt loam, 20 to 30 percent slopes, severely eroded
Ida silt loam, 30 to 40 percent slopes	Ida silt loam, 30 to 40 percent slopes
Ida silt loam, 5 to 9 percent slopes	Ida silt loam, 5 to 9 percent slopes
Ida silt loam, 5 to 9 percent slopes, severely eroded	Ida silt loam, 5 to 9 percent slopes, severely eroded
Ida silt loam, 9 to 14 percent slopes, severely eroded	Ida silt loam, 9 to 14 percent slopes, severely eroded
Ida-Urban land complex, 14 to 20 percent slopes	Ida-Urban land complex, 14 to 20 percent slopes
Ida-Urban land complex, 2 to 9 percent slopes	Ida-Urban land complex, 2 to 9 percent slopes
Ida-Urban land complex, 20 to 30 percent slopes	Ida-Urban land complex, 20 to 30 percent slopes
Ida-Urban land complex, 9 to 14 percent slopes	Ida-Urban land complex, 9 to 14 percent slopes
Judson silty clay loam, deep loess, 2 to 5 percent slopes	Judson silty clay loam, deep loess, 2 to 5 percent slopes
Judson silty clay loam, deep loess, 5 to 9 percent slopes	Judson silty clay loam, deep loess, 5 to 9 percent slopes
Judson-Rawles complex, 0 to 5 percent slopes	Judson-Rawles complex, 0 to 5 percent slopes
Keg loam, 0 to 2 percent slopes, rarely flooded	Keg loam, 0 to 2 percent slopes, rarely flooded
Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded
Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded, overwash	Kennebec silt loam, 0 to 2 percent slopes, occasionally flooded, overwash
Kennebec silty clay loam, 0 to 2 percent slopes, occasionally flooded	Kennebec silty clay loam, 0 to 2 percent slopes, occasionally flooded
Lakeport silty clay loam, 0 to 2 percent slopes, rarely flooded	Lakeport silty clay loam, 0 to 2 percent slopes, rarely flooded
Larpenteur loam, 0 to 2 percent slopes, rarely flooded	Larpenteur loam, 0 to 2 percent slopes, rarely flooded
Liston-Burchard complex, 18 to 25 percent slopes	Liston-Burchard complex, 18 to 25 percent slopes
Liston-Burchard complex, 25 to 40 percent slopes	Liston-Burchard complex, 25 to 40 percent slopes
Luton silty clay loam, 0 to 2 percent slopes, rarely flooded	Luton silty clay loam, 0 to 2 percent slopes, rarely flooded
Luton silty clay, 0 to 2 percent slopes, rarely flooded	Luton silty clay, 0 to 2 percent slopes, rarely flooded
Modale complex, 0 to 2 percent slopes, occasionally flooded	Modale complex, 0 to 2 percent slopes, occasionally flooded
Modale complex, 0 to 2 percent slopes, rarely flooded	Modale complex, 0 to 2 percent slopes, rarely flooded
Monona silt loam, 14 to 20 percent slopes	Monona silt loam, 14 to 20 percent slopes
Monona silt loam, 14 to 20 percent slopes, severely eroded	Monona silt loam, 14 to 20 percent slopes, severely eroded
Monona silt loam, 2 to 5 percent slopes	Monona silt loam, 2 to 5 percent slopes
Monona silt loam, 2 to 5 percent slopes, eroded	Monona silt loam, 2 to 5 percent slopes, eroded
Monona silt loam, 20 to 30 percent slopes	Monona silt loam, 20 to 30 percent slopes
Monona silt loam, 5 to 9 percent slopes, eroded	Monona silt loam, 5 to 9 percent slopes, eroded
Monona silt loam, 9 to 14 percent slopes, eroded	Monona silt loam, 9 to 14 percent slopes, eroded
Monona silt loam, 9 to 14 percent slopes, severely eroded	Monona silt loam, 9 to 14 percent slopes, severely eroded
Monona silt loam, terrace, 0 to 2 percent slopes	Monona silt loam, terrace, 0 to 2 percent slopes
Monona silt loam, terrace, 2 to 5 percent slopes	Monona silt loam, terrace, 2 to 5 percent slopes
Monona silt loam, terrace, 2 to 5 percent slopes, eroded	Monona silt loam, terrace, 2 to 5 percent slopes, eroded
Monona silt loam, terrace, 5 to 9 percent slopes, eroded	Monona silt loam, terrace, 5 to 9 percent slopes, eroded
Monona silty clay loam, 14 to 20 percent slopes, eroded	Monona silty clay loam, 14 to 20 percent slopes, eroded
Monona silty clay loam, 2 to 5 percent slopes	Monona silty clay loam, 2 to 5 percent slopes
Monona silty clay loam, 5 to 9 percent slopes, eroded	Monona silty clay loam, 5 to 9 percent slopes, eroded
Monona silty clay loam, 9 to 14 percent slopes, eroded	Monona silty clay loam, 9 to 14 percent slopes, eroded
Monona silty clay loam, terrace, 0 to 2 percent slopes	Monona silty clay loam, terrace, 0 to 2 percent slopes
Monona silty clay loam, terrace, 2 to 5 percent slopes	Monona silty clay loam, terrace, 2 to 5 percent slopes
Monona silty clay loam, terrace, 5 to 9 percent slopes, eroded	Monona silty clay loam, terrace, 5 to 9 percent slopes, eroded
Monona silty clay loam, terrace, 9 to 14 percent slopes, eroded	Monona silty clay loam, terrace, 9 to 14 percent slopes, eroded
Monona-Ida silt loams, 14 to 20 percent slopes, eroded	Monona-Ida silt loams, 14 to 20 percent slopes, eroded
Monona-Urban land complex, 14 to 20 percent slopes	Monona-Urban land complex, 14 to 20 percent slopes
Monona-Urban land complex, 2 to 5 percent slopes	Monona-Urban land complex, 2 to 5 percent slopes
Monona-Urban land complex, 5 to 9 percent slopes	Monona-Urban land complex, 5 to 9 percent slopes
Monona-Urban land complex, 9 to 14 percent slopes	Monona-Urban land complex, 9 to 14 percent slopes
Morconick fine sandy loam, 0 to 2 percent slopes, occasionally flooded	Morconick fine sandy loam, 0 to 2 percent slopes, occasionally flooded
Morconick fine sandy loam, 0 to 2 percent slopes, rarely flooded	Morconick fine sandy loam, 0 to 2 percent slopes, rarely flooded
Moville-Holly Springs, overwash complex, 0 to 2 percent slopes, rarely flooded	Moville-Holly Springs, overwash complex, 0 to 2 percent slopes, rarely flooded
Napa-Luton-Tieville silty clays, 0 to 2 percent slopes, rarely flooded	Napa-Luton-Tieville silty clays, 0 to 2 percent slopes, rarely flooded
Napier silt loam, 2 to 5 percent slopes	Napier silt loam, 2 to 5 percent slopes
Napier silt loam, 5 to 9 percent slopes	Napier silt loam, 5 to 9 percent slopes
Napier-Castana silt loams, 9 to 20 percent slopes	Napier-Castana silt loams, 9 to 20 percent slopes
Napier-Castana-Urban land complex, 9 to 14 percent slopes	Napier-Castana-Urban land complex, 9 to 14 percent slopes
Napier-Gullied land complex, 5 to 14 percent slopes	Napier-Gullied land complex, 5 to 14 percent slopes
Napier-Kennebec-Colo complex, 0 to 5 percent slopes	Napier-Kennebec-Colo complex, 0 to 5 percent slopes
Napier-Rawles complex, 2 to 5 percent slopes	Napier-Rawles complex, 2 to 5 percent slopes
Napier-Urban land complex, 2 to 5 percent slopes	Napier-Urban land complex, 2 to 5 percent slopes
Napier-Urban land complex, 5 to 9 percent slopes	Napier-Urban land complex, 5 to 9 percent slopes
Onawa silty clay, 0 to 2 percent slopes, occasionally flooded	Onawa silty clay, 0 to 2 percent slopes, occasionally flooded
Onawa-Albaton complex, 0 to 2 percent slopes, rarely flooded	Onawa-Albaton complex, 0 to 2 percent slopes, rarely flooded
Owego silty clay, 0 to 2 percent slopes, rarely flooded	Owego silty clay, 0 to 2 percent slopes, rarely flooded
Percival silty clay, 0 to 2 percent slopes, rarely flooded	Percival silty clay, 0 to 2 percent slopes, rarely flooded
Percival-Albaton complex, 0 to 2 percent slopes, occasionally flooded	Percival-Albaton complex, 0 to 2 percent slopes, occasionally flooded
Percival-Haynie-Urban land complex, 0 to 2 percent slopes, rarely flooded	Percival-Haynie-Urban land complex, 0 to 2 percent slopes, rarely flooded
Pits, clay	Pits, clay
Pits, sand and gravel	Pits, sand and gravel
Rawles silt loam, 0 to 2 percent slopes, occasionally flooded	Rawles silt loam, 0 to 2 percent slopes, occasionally flooded
Rawles-Urban land complex, 0 to 2 percent slopes	Rawles-Urban land complex, 0 to 2 percent slopes
Salix silt loam, 0 to 2 percent slopes, rarely flooded	Salix silt loam, 0 to 2 percent slopes, rarely flooded
Sarpy loamy fine sand, 0 to 2 percent slopes, rarely flooded	Sarpy loamy fine sand, 0 to 2 percent slopes, rarely flooded
Sarpy loamy fine sand, 2 to 5 percent slopes, occasionally flooded	Sarpy loamy fine sand, 2 to 5 percent slopes, occasionally flooded
Sarpy loamy fine sand, 2 to 5 percent slopes, rarely flooded	Sarpy loamy fine sand, 2 to 5 percent slopes, rarely flooded
Sarpy loamy fine sand, 5 to 9 percent slopes, occasionally flooded	Sarpy loamy fine sand, 5 to 9 percent slopes, occasionally flooded
Sarpy-Morconick complex, 0 to 2 percent slopes, occasionally flooded	Sarpy-Morconick complex, 0 to 2 percent slopes, occasionally flooded
Scroll silty clay, 0 to 2 percent slopes, occasionally flooded	Scroll silty clay, 0 to 2 percent slopes, occasionally flooded
Sewage lagoon	Sewage lagoon
Smithland silt loam, 0 to 2 percent slopes, occasionally flooded, overwash	Smithland silt loam, 0 to 2 percent slopes, occasionally flooded, overwash
Smithland silty clay loam, 0 to 2 percent slopes, occasionally flooded	Smithland silty clay loam, 0 to 2 percent slopes, occasionally flooded
Smithland-Danbury-Judson complex, 0 to 5 percent slopes	Smithland-Danbury-Judson complex, 0 to 5 percent slopes
Spillville loam, 0 to 2 percent slopes, occasionally flooded	Spillville loam, 0 to 2 percent slopes, occasionally flooded
Ticonic very fine sandy loam, 0 to 2 percent slopes, rarely flooded	Ticonic very fine sandy loam, 0 to 2 percent slopes, rarely flooded
Tieville silty clay, 0 to 2 percent slopes, rarely flooded	Tieville silty clay, 0 to 2 percent slopes, rarely flooded
Udorthents, loamy	Udorthents, loamy
Udorthents, sanitary landfill	Udorthents, sanitary landfill
Urban land	Urban land
Water	Water
Wilsey silt loam, 0 to 2 percent slopes, occasionally flooded	Wilsey silt loam, 0 to 2 percent slopes, occasionally flooded
Woodbury silty clay, 0 to 2 percent slopes, rarely flooded	Woodbury silty clay, 0 to 2 percent slopes, rarely flooded
Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded	Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded

*NRCS Data acquired via Schneider/Beacon

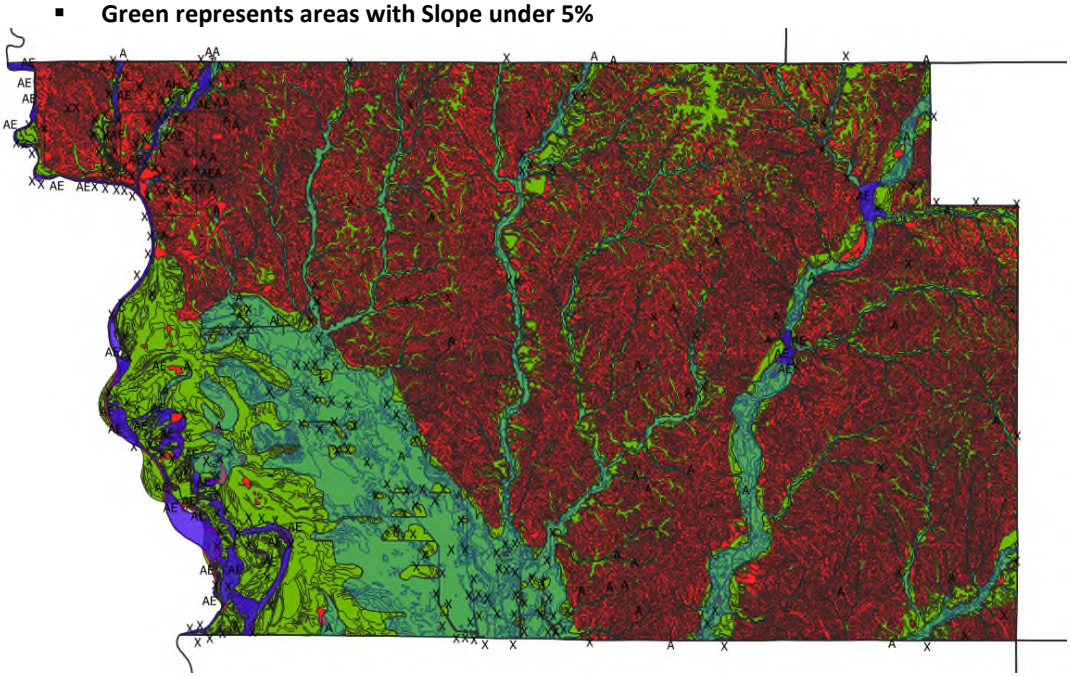
- **Areas with soil slopes between 0-5%** *NRCS Data acquired via Schneider/Beacon



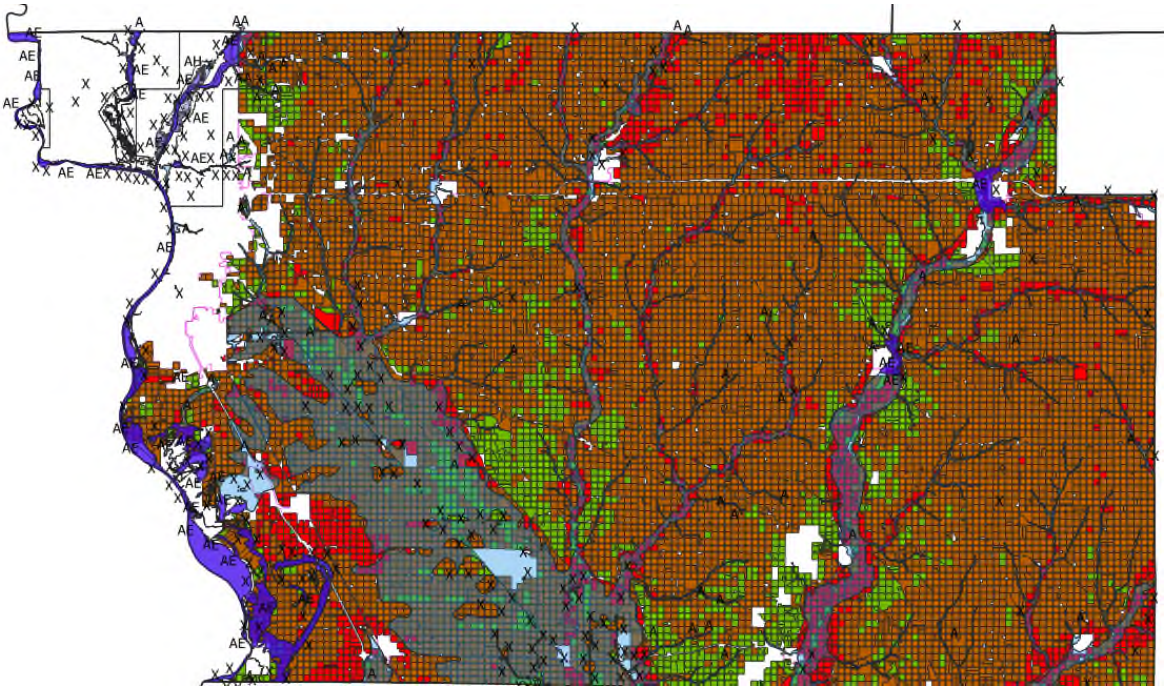
- **Areas with soil slopes greater than 5%** *NRCS Data acquired via Schneider/Beacon



- **Floodplain and Soils with Slope over 5%** *NRCS data and floodplain Data acquired via Schneider/Beacon
  - **Blue Represents Floodplain Areas**
  - **Red represents areas with Slope over 5%**
  - **Green represents areas with Slope under 5%**



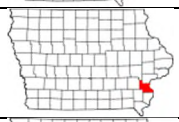
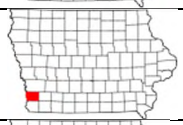
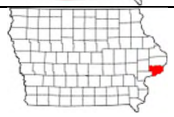
- **Floodplain and CSR2** *NRCS data and floodplain Data acquired via Schneider/Beacon
  - **Floodplain – "Blue"**
  - **CSR2 –**
    - **0-35 – "Green"**
    - **35-64– "Brown"**
    - **65-100 = "Red"**



Consideration 3: A maximum height of no more than 20' for panel structures.

- Language could be considered that places a 20' height limitation on the solar panels.
  - According to the *Renewable Solar Energy Systems Model Ordinance* by Guyer and Snell, 20 FT is offered as a possible height limitation for consideration. However, if agrisolar systems are to be considered in the future, the bulk regulations of the zoning district could be considered which are 45 FT. According to the AgriSolar Clearinghouse, "maximum heights range from 12 to 45 feet. Most fall between 15 and 25 feet" (Website: https://www.agrisolarclearinghouse.org/)

County	Location	Population (2023)	Height Requirement
Adair		7,439	Unspecified.
Clayton		16,716	Reverts to Zoning Ordinance. Varies: 25 to 35 FT.
Clinton		45,662	Bulk regulations of the ordinance for structures by Zoning District.
Dubuque		100,949	Bulk regulations of the ordinance for structures by

			Zoning District.
Johnson		159,445	35 FT
Linn		236,020	Not referenced.
Louisa		10,672	Not referenced.
Mills		14,310	15 FT at a maximum tilt.
Monona		8,604	No restriction.
Muscatine		43,382	Bulk regulations.
Polk		510,929	Bulk regulations.
Ringgold		4,522	No reference.
Scott		177,501	Bulk regulations of the ordinance for structures by Zoning District.
Tama		16,946	TBD

Consideration 4: Of all AP, no more than 49% can be in such a project. In short, 51% must be for agricultural production or no longer considered "AP."

- This is to consider the co-existence of agricultural and utility solar. If a solar project is to co-exist on farm ground, it may be considered to require that 51% of the project be used to support agricultural purposes.

Consideration 5: Utility solar can be no more than 2% of all AP "agricultural preservation," preserving 98% of AP. This equates to approximately 8,540 acres of the 427,000 acres of ag land, ag land constituting 75% of the 570,000 total acres in Woodbury County.

- Based on GIS data calculated by WCICC, it appears the Agricultural Preservation (AP) Zoning District is comprised of 508,624.55 total assessed acres. If a 2% cap is instituted, this would make approximately 10,172.49 acres available for consideration for utility-solar in the AP Zoning District.

Zoning District	Total Assessed Net Acres	2% Cap
Agricultural Preservation (AP)	508,624.55	10,172.49
General Industrial (GI)	9,051.89	-

Agricultural Preservation (AP)

	ParcelNumber	County_Zoning_GIS	area	netacres
1	874231300002	AP	1749948.0119600	40.00
2	894328300001	AP	1687765.7362400	39.00
3	864610400002	AP	1694640.7414700	39.00
4	884422300005	AP	1585196.7091100	36.11
5	864423100001	AP	1704218.3953600	38.43
6	874301400003	AP	1676879.5581500	39.00
7	864306200006	AP	1846312.5195300	40.42
8	864214400001	AP	1780673.1848300	40.00
9	864735200003	AP	1711274.6214900	40.00

	Total_AP_Parcels
1	16277

	Total_AP_Parcels_with_calculated_area_data
1	16000

	Total_AP_Parcels_with_net_acres_data
1	16017

	Total_AP_Area_in_SqFt
1	22235446657.2539488

	Total_AP_assessed_netarces
1	508624.55

General Industrial (GI)

	ParcelNumber	County_Zoning_GIS	area	netacres
1	874719200006	GI	501954.5607650	11.47
2	874717300006	GI	1568660.3322300	34.55
3	874717300004	GI	1783263.2969900	40.00
4	874731200001	GI	1650863.1450400	37.73
5	874811300002	GI	33478.7569978	0.00
6	874811400004	GI	1703073.5293600	39.00
7	874720400002	GI	1705136.0371400	39.00
8	874721300007	GI	158891.1942290	3.41

	Total_AP_Parcels
1	340

	Total_AP_Parcels_with_calculated_area_data
1	338

	Total_AP_Parcels_with_net_acres_data
1	338

	Total_AP_Area_in_SqFt
1	458024577.7374108

	Total_AP_assessed_netarces
1	9051.89

Consideration 6: Current notification for utility-scale solar shall be 1 mile for public comment instead of 500 feet.

- As a conditional use, the notification area of 500 FT from the project site could be expanded to one (1) mile. It will be important to note, that this could increase administrative costs. However, the Board of Supervisors did revise the fee schedule on August 2, 2022 to require the owners(s)/applicant(s) for conditional use permits to pay additional costs associated with the processing, printing, and the mailing of notifications of the public hearings when the number of mailings exceeds 30. They shall also pay the additional costs of the legal publication notice(s) in newspaper(s) when the fees exceed $100.00.

- The Zoning Commission may also make recommendations to the fee structure for utility-scale solar conditional use permits.

Consideration 7: A requirement (or at least strong consideration) that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

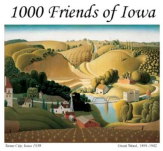
- The Zoning Commission might consider either a requirement or consideration that the utility-scale solar project either be on a landowner's property or that the owner of the land be a resident of Woodbury County.

RENEWABLE SOLAR ENERGY SYSTEMS
Model Ordinance

Steve Guyer, Iowa Environmental Council
Patrick Snell, The Nature Conservancy

Iowa Environmental Council

1000 Friends of Iowa



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RENEWABLE SOLAR ENERGY SYSTEMS (SES)

1. PURPOSE

The purpose of this section is to facilitate the construction, installation and operation of Solar Energy Systems (SES) in a manner that promotes local renewable energy production and economic development while protecting property values and ensuring the protection of the public health, safety and welfare. Renewable Solar Energy Systems enhance grid reliability and reduce peak power demands.

2. DEFINITIONS

i. **Active Solar System**: A system of devices for the collection and use of sunlight to generate electricity or to store and circulate heat.
ii. **Community Solar Energy System (CSES)**: A solar energy system developed by a utility or other third party that typically allows community members to subscribe to the project, to produce electricity for retail sales delivering it over its own distributive network.
iii. **Concentrating Solar Thermal (CST) Devices**: Devices, such as mirrors and lenses, that collect and concentrate radiation from the sun to transform it into high-temperature thermal energy which can be for heating and cooling, heat for processing, material treatments, electricity production, or chemical processes. Concentrating Solar Thermal devices are not an allowed use in any zoning district.
iv. **Ground-Mounted System**: A system where a rack(s) of panels is mounted on concrete posts or poles anchored in the ground and are wired or plumbed to an adjacent home or structure.
v. **Personal Solar Energy System (PSES)**: A SES that generates power primarily for use on the property on which it is constructed. Often referred to as distributive generation and the owner as a distributive generator.
vi. **Photovoltaic (PV) Cells:** Semiconductors which generate electricity whenever light strikes them; generally grouped on panels.
vii. **Solar Access Space**: That airspace above all parcels necessary for a solar collector to access solar energy. Any future improvement, vegetation or tree located on a neighboring parcel shall not cast a shadow upon any solar collector located within said parcel greater than the shadow cast by a hypothetical vertical wall ten (10) feet high located along the property line between said parcels between the hours of 9:30 a.m. and 3:30 p.m., Central Standard Time on December 21. Existing improvement(s), tree(s), or other vegetation that cast a shadow upon a solar collector at the time of installation of said solar collector shall be allowed to remain.
viii. **Solar Collector**: A device, structure or a part of a device or structure for which the primary purpose is to transform solar radiant energy into thermal, mechanical, chemical or electrical energy.

ix. **Solar Easement**: An easement created to protect a solar project from encroachment by adjacent properties which would shade panels. See Iowa Code §564A.
x. **Solar Energy**: Radiant energy received from the sun that can be collected in the form of heat or light by a solar collector.
xi. **Solar Energy System (SES)**: Solar collectors, controls, energy storage devices, heat pumps, heat exchangers, and other materials, hardware or equipment necessary to the process by which solar radiation is collected, converted into another form of energy, stored, protected from unnecessary dissipation, and distributed. Solar energy systems include solar thermal, photovoltaic and concentrated solar.
xii. **Solar Farm Energy System (SFES)**: A commercial facility that converts sunlight into electricity, whether by photovoltaic (PV), concentrating solar thermal devices (CST), or other conversion technology for the primary purpose of wholesale sales of generated electricity.
xiii. **Solar Panel**:
1. A grouping of photovoltaic cells used to generate electricity directly from sunlight. A grouping of these panels is called an array.
2. A panel circulating water or other liquid through tubes to collect, transfer and store the sun's heat for domestic hot water and building heat.
xiv. **Solar Storage Battery**: A device that stores energy from the sun and makes it available in an electrical form.
xv. **Solar Storage Unit**: A component of a solar energy device that is used to store solar- generated electricity or heat for later use.
xvi. **Solar Thermal Energy System (STES)**: A system that directly heats water or other liquids using sunlight. The heated liquid is used for such purposes as space heating and cooling, domestic hot water, and heating pool water.
xvii. **Structure-Mounted Solar Energy System:** A system where photovoltaic panels or solar thermal panels are mounted on racks attached to the roof or side-walls of a building. Panels can be flush-mounted or angled for optimal sun exposure.

3. PERSONAL SOLAR ENERGY SYSTEM (PSES)

Personal Solar Energy Systems provide electrical power for on-site use by the owner and shall be considered an accessory use to a principal permitted use in any zoning district. A structure mounted PSES requires an electrical permit but does not require a building permit. Construction of a ground mounted PSES requires a building permit. If the ground mounted PSES does not meet all requirements, the applicant may apply for a variance.

A. Ground Mount PSES Building Permit Application

The applicant(s) requesting the building permit will provide the following information:

i. Name, address and contact information of applicant(s).

ii. Plot plan sketch indicating: (a) property lines and physical dimensions of the subject property, (b) location and types of existing major structures on the property, (c) location of the proposed solar panels, (d) the right-of-way of any public road that is contiguous with the property.

iii. Solar system specifications including (a) manufacturer and model of solar panels and inverters, (b) kW (AC) rating, (c) mounting system, (d) solar storage units, if applicable.

B. General Requirements

(1) Ground-mounted PSES height shall not be greater than twenty (20) feet at maximum tilt of the solar panel(s) in any zoning district.

(2) Structure-mounted PSES height shall not be greater than the allowable height of any structure within the zoning district in which the PSES is to be installed.

(3) Setbacks: PSES shall meet the setback requirements for accessory structures in the zoning district where the PSES is located.

4. SOLAR THERMAL ENERGY SYSTEM (STES)

Solar Thermal Energy Systems provide heated fluids for on-site use by the owner and shall be considered an accessory use to a principal permitted use in any zoning district. A structure mounted STES requires a plumbing permit but does not require a building permit. Construction of a ground mounted STES requires a building permit. If the ground mounted STES does not meet all requirements, the applicant may apply for a variance.

A. Ground Mount STES Building Permit Application

The applicant(s) requesting the building permit will provide the following information:

i. Name, address and contact information of applicant(s).

ii. Plot plan sketch indicating: (a) property lines and physical dimensions of the subject property, (b) location and types of existing major structures on the property, (c) location of the proposed solar thermal energy system and proposed pipelines to the structure utilizing the STES, (d) the right-of-way of any public road that is contiguous with the property.

iii. Solar thermal energy system specifications including (a) manufacturer and model of solar panels, (b) mounting system.

B. General Requirements

(1) Ground-mounted STES height shall not be greater than twenty (20) feet at maximum tilt of the solar panel(s) in any zoning district.

(2) Structure-mounted STES height shall not be greater than the allowable height of any structure within the zoning district in which the STES is to be installed.

(3) Setbacks: STES shall meet the setback requirements for accessory structures in the zoning district where the STES is located.

5. COMMUNITY SOLAR ENERGY SYSTEM (CSES) AND SOLAR FARM ENERGY SYSTEM (SFES)

Community Solar Energy Systems and Solar Farm Energy Systems are not allowed in residential zoning districts, but are allowed by Conditional Use Permit in all other zoning districts. The applicants must be the landowner(s) of the property, lessee(s), and the project owner(s), as applicable, of the proposed CSES or SFES. For projects 25 MW or larger, the Application for a Certificate, required by the Iowa Utilities Board will be considered acceptable to meet the information requirements listed below for the Conditional Use Permit.

A. CSES and SFES Conditional Use Permit Requirements

i. Names, addresses and contact information of the landowner(s), lessee(s), developer(s) and project owner(s), as applicable, and a listing of all CSES and SFES owned or operated by said developer. The application shall designate the entity who will be the construction permit holder.

ii. Landowner applicants must provide a deed or other proof of ownership of the property. The developer applicants must provide a lease or other agreement with the landowner applicants.

iii. Surveyed legal description, boundaries and total acreage of proposed CSES or SFES project.

iv. Map to scale of existing conditions of the property including (a) contour lines at ten (10) foot intervals, (b) existing vegetation, (c) existing drainage and permanent water areas, (d) existing structures and wells on the property.

v. Map to scale of proposed CSES or SFES including (a) placement of all modules including GPS coordinates of the center of the project area, (b) layout and size of all structures on the property, (c) setback lines, (d) feeder lines and other utility lines, both buried and above ground, interconnection points with existing electrical grid, (f) existing easements, (g) roadways.

vi. Description of the project: (a) number of modules, (b) manufacturer, (c) mounting type, (d) system height, (e) system capacity, (f) total land area covered by the system, (f) information about associated facilities such as but not limited to substations, feeder lines, solar storage batteries, or other solar storage units.

vii. CSES or SFES shall conform to applicable industry standards, including those from the

Underwriters laboratory (UL) and Federal Aviation Administration (FAA). All applicable county, state, and national construction and electrical codes shall be followed.

viii. Documentation of easement locations acquired for solar energy systems and associated facilities including easements to assure solar access space from adjacent property owners, as specified in Iowa Code 564A, for the life of the project.

ix. Compliance with all siting and location regulations specified as a General Requirement.

x. Any additional information required by the Zoning Administrator and/or Board of Adjustment.

Construction of a CSES or SFES shall not commence until the Conditional Use Permit has been issued and a Decommissioning Performance Bond has been delivered to the Auditor.

B. General Requirements

(1) Height of solar panel(s) shall not exceed twenty (20) feet at maximum tilt of the solar panel(s).

(2) Setbacks

(a) The setbacks shall be a minimum of twenty five (25) feet from the property lines which form the outside perimeter of a CSES or SFES project area and one hundred (100) feet from a residence that is a part of the CSES or SFES project area. However, to the extent that a written waiver is permitted, the standard setbacks and separation requirements may be reduced if the participating or adjoining property owner affected by the reduced setback or separation completes a written waiver recorded with the County Recorder.

(b) CSES or SFES to be built on more than one parcel, and parcels are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcel(s).

(c) Solar panels shall be at least two hundred (200) feet from a residence that is not part of the CSES or SFES project area.

(d) Solar panels shall be eighty (80) feet from State rights-of-way and twenty five (25) feet from County rights-of-way.

(3) Screening: A landscape buffer may be required to be installed and maintained during the life of the operation. Determination of screening requirements will be made as part of the Conditional Use Permit review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

(4) Fencing: An NEC compliant security fence must be installed along all exterior sides of the CSES or SFES. Fencing that is compatible with wildlife such as deer fencing is preferential at all CSES and SFES. Security fences, gates and warning signs must be

maintained in good condition until the utility scale solar installation is dismantled and removed from the site.

(5) Lighting: If lighting is provided for the CSES or SFES, lighting shall be shielded and downcast such that the light does not project directly onto the adjacent parcels nor into the night sky.

(6) Signage: All CSES or SFES shall provide the following at all locked entrances: (a) a visible "High Voltage" warning sign, (b) name(s) and phone number(s) for the electric utility provider, (c) name(s) and phone number(s) for the site operator, (d) the facility's 911 address, (e) a lock box with keys as needed.

(7) Utility connections: Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.

(8) Outdoor storage: Only the outdoor storage of materials, vehicles, and equipment that support the operation and maintenance of the CSES or SFES shall be allowed.

(9) Endangered species and wetlands: Applicant shall seek natural resource consultation with the County Conservation Board and the Iowa Department of Natural Resources.

(10) Ground cover, buffer areas and weed control: Ground around and under solar arrays and in project site buffer areas shall be planted and maintained in perennial vegetated 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 to prevent erosion, manage runoff, and build soil. Seeds should include a mix of grasses and wildflowers, ideally 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 the buffer areas as appropriate for visual screening.

(c) Seed mixes and maintenance practices should be consistent with the recommendations made by qualified natural resource professionals such as those from the Iowa Department of Natural Resources, County Soil and Water Conservation District, or USDA Natural Resources Conservation Service.

C. Operation and maintenance plan.

In addition to the information submitted as a part of the CSES or the SFES conditional use permit, the applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, stormwater and erosion controls, as well as general procedures for operation and maintenance of the installation.

D. Discontinuation and Decommissioning

A CSES or SFES shall be considered a discontinued use after the project is terminated, or after one (1) year without production or storage of energy or use as a capacity resource. Once a developer/owner has determined that the facility will no longer be used, the developer/owner must notify the issuing authority of the Conditional Use Permit of the intent to stop using the facility and to decommission the facility in accordance with the agreed-upon Decommissioning Plan.

All CSES or SFES panels, arrays, fencing, underground cables, and accessory facilities shall be removed to a depth of six (6) feet within twelve (12) months of discontinued use.

Discontinued use does not apply to the pre-construction or construction period and shall be measured from the initial commercial energy production and operation of the CSES or SFES. If, however, the CSES or SFES construction permit is revoked, the project will be designated a discontinued use, and construction shall be removed to a depth of six (6) feet below ground level and the surface restored within six (6) months of the permit revocation.

E. Decommissioning Plan:

In addition to the information submitted as a part of the CSES or the SFES conditional use permit, the applicant shall submit a Decommissioning Plan outlining the anticipated means and cost of removal at the end of its serviceable life or upon becoming a discontinued use. The plan shall include:

1. The anticipated life of the CSES or SFES solar installation; the anticipated manner in which the project will be decommissioned; 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:
4. Restoration of the pre-construction surface grade and soil profile after removal of structures, equipment, graveled areas and access roads.
5. Re-vegetation of restored soil areas with crops, native seed mixes, plant species suitable to the area.
6. The plan may incorporate agreements with the landowner regarding leaving access roads, fences, gates or repurposed buildings in place or regarding future property use. Any use of remaining structures must be in conformance with the regulations in effect at that time.

Iowa Environmental Council

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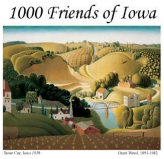

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CENTER for RURAL AFFAIRS

Iowa Environmental Council

IOWA SOLAR SITING RESOURCE GUIDE: A ROADMAP FOR COUNTIES

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Iowa Environmental Council

INTRODUCTION

Solar at all scales is a growing opportunity in the state of Iowa. From immense growth in the customer-owned solar market to the emergence of utility-scale and community solar projects, Iowa appears to be at the beginning of a solar boom. For counties presented with the opportunity of large-scale solar projects, an important tool to consider is a well-drafted ordinance. A good ordinance will preserve the interests of the county and its residents while enabling developers to build workable, cost-effective projects. Under Iowa's home rule policy, counties have latitude to adopt ordinance provisions related to solar development.

A well-crafted ordinance will take into consideration the jurisdiction of the Iowa Utilities Board (IUB) to approve projects that are 25 megawatts or larger in size.

Solar in Iowa has grown from around two megawatts (MW) in 2012 to about 115 MW today.[1] The first utility-scale projects came before the Iowa Utilities Board for approval in the summer of 2019 with a 100 MW project proposed in Louisa County and a series of projects totaling 749 MW proposed for Worth, Mitchell, and Howard Counties. Multiple projects are in the works and counties around Iowa are preparing for this exciting future.

This guide focuses on siting practices for two types of large solar energy developments: Utility-Scale Solar and Community Solar. We will not focus on personal solar energy systems, such as those used at homes, farms, and businesses to produce electricity for usage on-site.

While large-scale solar development may be in its early days in Iowa, a handful of Iowa counties have already adopted solar ordinances and many of our neighbors in the Midwest have already seen utility-scale development. In addition to existing Iowa ordinances, **we have reviewed the ordinances and best practices from neighboring states and identified specific provisions that local officials can use as a road map for their own ordinances.**

We encourage counties that are considering an ordinance, or updating an ordinance, to use this document as a reference to support the development and adoption of a well-designed ordinance rooted in existing successful practices.

As solar energy gains momentum across Iowa, community solar projects are becoming more common. Cities including Ames, Bloomfield, and Cedar Falls have adopted or are in the process of constructing community solar projects. For many Iowans, community solar projects offer an opportunity to invest in renewable energy without having to construct a system on their own. This type of project allows renters, homeowners and businesses with shaded roofs, and other community members to enjoy the benefits of solar energy while offering an opportunity for utilities to provide a clean source of energy to residents and businesses. This guide includes an addendum of resources for those considering community solar projects.

We encourage counties that are considering an ordinance, or updating an ordinance, to use this document as a reference to support the development and adoption of a well-designed ordinance rooted in existing successful practices.

This document is not legal advice and users of this guide should consult an attorney with specific legal questions.

STATE AND LOCAL BENEFITS FROM SOLAR DEVELOPMENT AND FUTURE POTENTIAL

Iowa has what it takes to be a national leader in solar energy. The state ranks 16th among U.S. states in technical potential for solar energy production, putting Iowa ahead of states such as Florida, Georgia, and South Carolina. A solar photovoltaic (PV) array located in Iowa produces a comparable amount of electricity as one located in Miami or Atlanta, and more than arrays located in Chicago.[2]

Iowa is poised for significant solar development. The rapidly improving economics of solar energy are now driving large-scale projects. A recent report found that the levelized cost of energy for utility-scale solar declined 89 percent between 2009 and 2019.[3] Using ground-mount solar systems to meet five (5) or 10 percent of Iowa's annual electricity needs would require a very small geographic footprint. Using just 21 of Iowa's 55,857 square miles of land for solar PV would provide 10 percent of Iowa's electricity needs.[4] There were 3,294 MW of potential solar projects in Iowa being studied for connection to the grid by the regional grid operator Midcontinent Independent System Operator (MISO) at the end of 2019.[5]

Counties may play a role in solar development by reviewing and approving specific solar projects. County policies that guide review and approval need to strike a balance between concerns expressed by county residents and successful, cost-effective solar development. An ordinance can be a critical part of achieving a balance and seeing maximum local benefits from solar generation.

Solar development offers a number of benefits to county residents and the county itself. These benefits include:

- **Lease or easement payments to landowners.** Payments to landowners provide long-term, stable streams of revenue.
- **Property tax revenue to counties.** Solar arrays generate property tax revenue paid to counties that can support a range of public benefits, including roads and bridges, health services, schools, debt service, and reduced need for revenue from other sources.
- **Replacement tax revenue to counties.** State law provides a defined replacement tax for electric generating facilities to ensure similar tax treatment for potential competitors within the state. The replacement tax revenue to counties may be almost as large as the property tax revenue.
- **Clean energy resources.** Unlike fossil-fuel power plants, solar arrays do not produce air pollutants such as sulfur dioxide, nitrogen oxide, greenhouse gases, particulates, or mercury, thus reducing acid rain, smog, and public health impacts such as pulmonary and heart disease and asthma. Solar arrays also do not use water or produce water pollution in the process of generating electricity or produce hazardous waste that threatens public health, unlike fossil and nuclear power plants.
- **Local economic development.** In 2018, Iowa had nearly 850 jobs supported by the solar

industry.[6] The U.S. Bureau of Labor Statistics found in 2019 that solar installers are projected to be the fastest growing job in the United States through 2026, with the position expected to grow by nearly 105 percent during that time span.[7] There are nearly 100 Iowa businesses involved in the solar energy supply chain.[8] These jobs are located across the state in a range of sectors including manufacturing, installation, and operations and maintenance.

DEFINITION OF TERMS

Like many areas of technology and regulation, solar siting terminology uses jargon that is critical for local government officials to understand and define in order to create a clear ordinance. The list of terms provided here is not exhaustive, but defines many of the terms counties should consider adding to the definitions section of a solar siting ordinance.

- **Utility-Scale Solar Energy System:** A solar energy system above a certain capacity that is intended to produce electricity to sell into the market, not to directly supply end-use customers. These systems are larger than small-scale residential or business solar installations and many community systems, often covering more land area.

  Note: *If a system is 25 MW or larger, it will need to obtain a siting certificate from the Iowa Utilities Board (IUB). The hearing for the siting certificate will be held in the county where construction is to occur and the county will be a party to the proceeding. Solar energy systems smaller than 25 MW do not require a siting certificate.*
- **Community Solar:** A solar energy system developed by a municipality, utility, or other third party that typically allows community members to subscribe to the project. In Iowa, development of community solar projects is limited to utilities at this time.
- **Easement:** A legal agreement for the use of property for a specified purpose.
- **Feeder circuits/lines:** A power line or network of lines used as a collection system that carries energy produced by a solar energy system to an interconnection point like a substation. Feeder circuits are most often placed underground.
- **Glare/glint:** Light reflected off of a surface.
- **Interconnection:** Link between a generator of electricity and the electric grid. Interconnection typically requires connection via infrastructure such as power lines and a substation, as well as a legal agreement for the project to be connected to the grid.
- **Module:** An individual unit comprised of multiple photovoltaic (PV) cells, with multiple modules used in a solar energy system.
- **Mounting:** The method of anchoring solar energy system modules to the ground or a building.
- **Non-participating landowner:** Any landowner that has not signed a lease agreement for an easement with the project owner or developer, often adjacent to or near the project.

- **Operator:** The entity or individual that operates a solar energy system.
- **Owner:** The entity or individual that has ownership over a solar energy system.
- **Participating landowner:** A landowner who has signed a lease agreement for an easement with a project owner.
- **Residential/small-scale solar energy system:** A solar energy system that is installed at a residence or business to meet the electric demand at the location. These systems are typically intended to offset electricity use for the owner and are not intended to be net generators of electricity.
- **Solar energy system:** A system that converts energy from sunlight into electricity or an additional energy source such as heat.
- **Substation:** A facility that converts electricity produced by a generator like a solar energy system to a higher voltage, allowing for interconnection to high-voltage transmission lines.
- **System height:** The height of a solar energy system, usually referring to ground mounted systems. Total system height is the measurement from the ground to the top of the mounting or modules associated with a system. Counties may also wish to include an additional height definition for ground clearance, or the measurement between the ground and the bottom of modules or mounting.
- **Transmission lines:** Power lines used to carry electricity from collection systems or substations over long distances.

BEST PRACTICES OF SOLAR SITING

SUMMARY OF BEST PRACTICE RECOMMENDATIONS

Our recommendations for solar ordinance provisions to enable responsible solar development and the benefits that come with it include:

Application and approval process. We recommend that counties establish a clear and well-defined application process with a set of known application requirements. Solar projects should be treated either as a permitted use or as a conditional use in established zoning districts. If the application and associated solar development meet the clearly identified conditions, the application and project should be approved.

Siting

- **Zoning districts.** Counties should allow for the siting of utility-scale and community solar in a variety of districts.
- **Site plan and requirements.** Part of the application and approval process may include a plan describing the project in detail as well as a number of site and structure requirements. For projects 25 MW or larger, we recommend that the county accept the Application for a Certificate, required by the Iowa Utilities Board, in lieu of a separate county application.

Setbacks. Counties should ensure that setbacks balance multiple interests and support cost-effective solar development. Counties should also provide for waivers for voluntary reduction in setbacks.

Operations & maintenance plans and land use. To address both short-term and long-term maintenance of a project area, counties may require an operations and maintenance plan and adopt land use requirements.

Infrastructure. Counties may require a pre-construction plan for handling potential impacts to roads and other infrastructure from solar project construction as well as a post-construction review to identify impacts and provide for repairs.

Decommissioning. Counties may require a decommissioning plan as part of the application and approval process to ensure restoration of land once a project is no longer operating.

MAJOR PROVISIONS FOR COUNTY SOLAR ORDINANCES

Successful solar siting ordinances will balance the interests of the county, project participants, and non-participants while allowing for cost-effective development. Ordinances can preserve these interests without imposing onerous restrictions. In order to allow for successful solar development, ordinances should rely on established best practices.

APPLICATION AND APPROVAL PROCESS

Iowa Code constrains to some extent the procedural options available to counties for consideration and approval of large-scale solar. The best practices recommended in this section apply primarily to counties that have adopted zoning and may not apply to counties without zoning.

RECOMMENDATIONS:

- **We recommend that counties adopting a solar ordinance first adopt an amendment to their comprehensive plan with a statement about their intentions for solar development in the county, the benefits of investments in solar, and the key considerations around regulating solar siting.**
- **We recommend that county officials prioritize creating a clear application and review process with well-defined steps and conditions for approval. This allows a solar developer to clearly identify the application requirements for a solar project which, if met, will result in county approval of the application. The setback provisions described below would be one of the clear application requirements, while the additional provisions discussed in this document can comprise the balance of those requirements (e.g. decommissioning, site plan, road use plan, etc.)**
- **Any application fees must not exceed the cost of processing the application, including any required inspection.[9]**

PROCESS

COMPREHENSIVE PLAN UPDATE

Iowa code specifies that zoning ordinances and decisions "shall be made in accordance with a comprehensive plan..." [10] (Iowa Code § 335.5). For this reason, we recommend a county looking to attract solar and other renewable energy development first adopt an amendment to align a county comprehensive plan with a county's intentions to attract such development.

EXAMPLE: CEDAR COUNTY

"Goal III. Encourage the creation and use of alternative and renewable energy sources. Objective 1: increase alternative and renewable energy sources in the county.

Strategies: Review and modify the zoning ordinance and other relevant county regulations as necessary to remove barriers to the use of renewable energy systems such as solar, wind, and geothermal."

The County should promote the use of renewable and inexhaustible energy sources over non-renewable energy sources. . ." [11]

OPTIONS FOR SITING

Counties can use various processes to govern solar siting. The two most straightforward options are to make solar systems a permitted use (also sometimes called an "allowed" or "principal" use) in specific zones or designating solar systems as a conditional use (also called a "special use" or "special exception"). In the case of a conditional use, supervisors should define the conditions that the project must meet to be approved.

Solar as a Permitted Use

If a county ordinance designates solar as a permitted use, county staff reviews projects to determine compliance with objective ordinance requirements. County staff would be able to determine objective requirements, such as whether a project meets required setbacks, but would not be able to decide on subjective requirements such as whether a particular project "fits the area." If the project complies with the ordinance, it can move forward. County staff typically issue a building or zoning permit under this approach.

Solar as a Conditional Use

The term "conditional use" in a zoning code usually means that a use may be allowed or permitted in a specified district (or districts) on the condition that certain requirements are met. Conditional use permitting decisions depend on the applicant's compliance with the standards specified in the zoning code as conditions for permit approval. These conditions may be more subjective but the decision criteria must be included in the ordinance. Conditional uses can only be permitted subject to review and approval of a county zoning board of adjustment (ZBA) after a public hearing. The ZBA should base its decision on evidence presented in the public hearing and evaluate the project based on the project's compliance with the conditions in the ordinance. If the conditions are met, the permit should be issued.

Uses permitted on this basis are generally those that a county considers not generally adverse to the public interest, but requiring some special review and precautions as well as an opportunity for public input.

Counties may wish to require the filing of items such as site plans, road use agreements, and decommissioning plans as conditions for approval. These are described in more detail below.

If a county opts for conditional use permitting through the ZBA, we recommend providing applicants with the opportunity for a preliminary review and pre-application process. Iowa law provides that appeals of a final decision of the ZBA go to court for review.[12] Allowing for preliminary review and a pre-application process helps provide applicants with a more predictable process and can minimize the potential for time-consuming or expensive judicial review.

For projects that are 25 MW or larger, the county has the opportunity to state whether the solar energy system meets the county zoning requirements, as a designated party to the Iowa Utilities Board's public hearing held in the county as a part of the single hearing siting process required under section 476A.11 of the Iowa Code.[13]

DESIGNATING ZONING DISTRICTS FOR SOLAR

Counties may allow siting of utility-scale solar in a variety of districts. An easy place to start for solar development in zoning districts would generally be designating business, commercial, industrial, and agricultural districts as eligible for utility-scale projects. After seeing development in one or more of these districts, additional districts could be considered.

Smaller-scale or community solar may be appropriate in more types of zoning districts, including those within or close to residential neighborhoods. This is especially appropriate if participants in the community solar project live in those districts.

EXAMPLES OF DISTRICTS WHERE IOWA COUNTIES WITH ZONING ALLOW SOLAR DEVELOPMENT:

Linn County: Agricultural District, Highway Commercial District, General Commercial District, Industrial District, Critical Natural Resources District

Clinton County: Prime Agricultural District, Agricultural - Recreation District, Highway Commercial District, Rural Support Commercial District, Limited Industrial District, General Industrial District

Louisa County: Agricultural District, Business District, Industrial District

APPLICATION REQUIREMENTS

RECOMMENDATIONS:

- **Project applications should provide essential information to county boards and zoning officials. While some information may be required at the time of application, officials may wish to allow applicants to submit additional information at a later date.**

- **For projects 25 MW or larger, we recommend that the county accept the Application for a Certificate, required by the Iowa Utilities Board, in lieu of a separate county application.**

GENERAL REQUIREMENTS

County ordinances may include a number of site and structure requirements, many of which are discussed in further detail within this document. Some counties may ask for this information as part of a "site plan." Items required in an application for a utility-scale solar energy system may include:

1) Name of applicant.

2) Name of the project owner.

3) Description of the project — number of modules, manufacturer, mounting type, system height, system capacity, total land area covered by the system, and information about associated facilities like substations, feeder lines, battery storage, etc.

4) Legal description of the property where the solar energy system will be located.

5) Map of the project location and the surrounding area.

6) A decommissioning plan outlining the process for system removal—including individual modules and mounting—and property restoration before an easement is returned to a landowner.

7) Evidence of a power purchase agreement or interconnection application for the project.

8) Consultation with or notifications from relevant state and federal agencies showing the project will not be a hazard to wildlife, communications, air traffic, etc.

9) Documentation of easement locations acquired for solar energy systems and associated facilities.

Because the IUB requires similar types of information as part of the Generating Certificate application process, we recommend that for projects above 25 MW, counties accept the information submitted in such an application to the IUB in lieu of a separate application to avoid duplication.

SETBACKS

RECOMMENDATIONS:

- **Property line setbacks should not exceed 50 feet; setbacks from occupied residences should stay within a range of 100 to 200 feet.**
- **Counties should include waiver provisions allowing for the county to waive the mandated setback distance with the consent of the participating landowner and adjacent property owner.**
- **No setbacks should be required if a property line is shared by two participating landowners.**

Counties may choose to put into place setbacks, which specify the required distance of the project from homes, roads or existing rights-of-way, property lines, and other locations. Unlike setbacks for wind turbines, which are intended to address rare but dangerous scenarios such as turbine collapse, there are no safety concerns that point to the necessity of a specific setback requirement for solar facilities. Before putting setbacks into place, counties should consider the issues that a setback is meant to address and whether there is a separate project requirement that may better address it. While some level of setback may be appropriate, officials should carefully consider setback distances and the limits they may place on future development.

Many counties require solar installations to follow the same setback requirements (from property lines and rights of way) as other structures in the zoning district where they are located. Some counties opt for prescribed setback distances from property lines and occupied structures.

SETBACKS FROM RESIDENCES AND PROPERTY LINES

Some counties require specific setback distances between the solar system and property lines of occupied residences.

According to our research, a 50 foot property line setback is included in a number of ordinances from Iowa's neighboring states. A 100 to 200 foot setback for residential dwellings is also common, with some ordinances at 100 feet, some at 150 feet and some at 200 feet. These distances seem workable for developers, participants, and nonparticipants.

Utility-scale solar energy systems are likely to be sited in zones where residential dwellings are uncommon but may occur (agriculture, industrial, commercial). Counties can adopt an occupied structure setback that both reflects the needs and local characteristics of these zones and stays within the 100 to 200 foot range. There is no justification for larger setbacks from a safety perspective and larger setback distances would unnecessarily limit solar development in a county.

We recommend that property line setbacks do not exceed 50 feet from a property line and stay within a range of 100 to 200 feet from an occupied residence.

SETBACKS BASED ON ZONING DISTRICT

Although we recommend counties adopt specific setback distances for solar systems, counties could also choose to follow the minimum setback requirements of the zoning district where they are located, similar to Linn and Clinton Counties.

Since structures or vegetation on neighboring properties may cast shadows onto a solar system, causing a decline in solar panel efficiency, Linn County recommends greater setbacks in lieu of a "solar access agreement." These agreements are discussed in further detail later in this document.

Community solar projects may be appropriate in more types of zoning districts, including those in or closer to residential neighborhoods, especially if participants in community solar live in those districts. For this reason, counties should consider using the setback requirements of the zoning area

where the project is located to govern the solar facility. Further considerations for community solar projects are discussed later in this guide.

SHARED PROPERTY LINES

When a solar array is built across the property line of two participating landowners, no property line setback is required in Louisa County: [14]

> [Solar Farm Energy Systems] to be built on more than one parcel and parcels are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcel(s).

In the case that a property line is shared by two participating landowners, a setback serves no purpose so we recommend this as a best practice.

RIGHTS OF WAY

A county may require a specific setback distance from a roadway. In counties with zoning, we recommend using the right of way setback standards for principal or accessory use structures specific to the zoning district where the project is located. In counties without zoning, we recommend consultation with right-of-way operators to ensure that projects do not disrupt current or planned use.

WAIVERS OR NEGOTIATED SETBACKS

Waivers are an important tool to improve flexibility and allow for the potential for additional land area to become available for solar development. However, providing a waiver is not a substitute for a setback policy that can enable cost-effective solar development.

Louisa County allows for written waiver agreements to be executed pursuant to the specific requirements set forth in the ordinance along with approval by the Zoning Board of Adjustment.

We recommend that counties allow for a waiver of the mandated setback distance with the consent of the participating landowner and adjacent property owner.

ADDITIONAL SITING STANDARDS

RECOMMENDATIONS:

- **Counties should carefully consider whether site and structure provisions are unnecessarily restrictive.**
- **Counties should allow for and encourage the project operator or owner to invest in fencing that facilitates movement of wildlife and pollinators.**
- **Solar access agreements should be facilitated by counties using Iowa Code § 564A.1 to guide their process.**

- **Counties should require appropriate safety warnings and signage at solar facilities.**

County officials should carefully consider whether site and structure provisions are unnecessarily restrictive. Well-established solar zoning guides describe the importance of avoiding inadvertent obstacles in an ordinance's major provisions:

> From the American Planning Association (APA): "Even in cases where zoning codes explicitly address solar energy systems, subtle barriers such as height restrictions, lot coverage limitations, and setback, screening, landscaping, and utility requirements may still impede solar development." [15]
>
> From the Great Plains Institute (GPI): "Limit regulatory barriers to developing solar resources. Ensure that access to solar resources is not unduly limited by height, setback, or coverage standards, recognizing the distinct design and function of solar technologies and land uses." [16]

FENCING

To protect the solar array and to provide for safety by preventing entry into a project area, counties may require fencing around the solar array. Both Clinton and Linn Counties use the same language to address fencing requirements:

> 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 dismantled and removed from the site.[17]

Project developers are required to follow the specific fencing requirements of the National Electrical Code (NEC), which is updated every three years. Currently, the NEC requires a seven foot tall fence;

therefore we do not recommend that counties set their own fence height requirements.

Specific types of fencing may be desirable for reducing impacts to wildlife or limiting aesthetic concerns related to a project. For example, deer fencing may be less visually obtrusive while also allowing for wildlife and pollinators to move through a project area. This practice could soon be deployed in Iowa, as the developers of a large solar project in Howard County have proposed to surround the project area with deer fencing.[18]

County requirements for fencing should be limited because the NEC covers this requirement. However, we do recommend that counties allow for or encourage the project operator or owner to invest in fencing that facilitates movement of wildlife and pollinators.

HEIGHT RESTRICTIONS

The height of solar arrays is typically measured by the maximum tilt of the panels.

In some counties where large-scale solar is a permitted use, the height restrictions of solar arrays match the zoning district where they are located. Counties may also choose to set specific height limitations for solar systems. Counties could consider allowing for less stringent height restrictions if coupled with longer setbacks from neighboring properties. An example is adding two feet to the setback distance for each additional foot of height.[19]

It is important that counties do not set overly restrictive height limitations given ongoing research into potential agricultural co-uses of solar project areas such as livestock grazing and planting underneath panels. There are also no compelling safety reasons for height restrictions.

SOLAR ACCESS SPACE AND AGREEMENTS

Since solar panel performance relies on the amount of sunlight collected, counties may consider how improvements or new vegetative plantings on neighboring properties could cast shadows onto solar arrays. Developers may want an assurance of continued future access to sunlight to ensure project success over the 25 to 40 year life expectancy.

There are several Iowa statutory provisions that address access to solar energy and are intended to "facilitate the orderly development and use of solar energy." [20] Iowa Code encourages voluntary solar access easements and sets out requirements for easements to protect solar access. The Code also authorizes city councils and county boards of supervisors to establish solar access regulatory boards (or authorize certain existing boards for this purpose).

These regulatory boards have the power to grant solar access easements to properties hosting solar projects in order to protect access to solar energy. The code allows public bodies to include provisions that would compensate the owner of the solar project if shade interferes with the project and/or that would compensate the owner of the easement for maintaining the easement space.[21]

Linn County's ordinance provides for a "solar access agreement" process which is defined as a

"recorded easement which provides continued access to incident sunlight necessary to operate a solar collector." [22]

We recommend counties allow for solar access agreements using Iowa Code § 564A.1 to guide their process.

SAFETY AND SIGNAGE

Projects may be required to post signs that clearly feature the name, address, emergency contact information for the operator, and warnings. Safety requirements typically include clear safety notices to the public, such as high voltage warnings. Louisa County requires the following guidance on signage in its ordinance:

> [Solar Farm Energy Systems] shall provide the following at all locked entrances:
> 1) A visible "High Voltage" warning sign;
> 2) Name(s) and phone number(s) for the electric utility provider;
> 3) Name(s) and phone number(s) for the site operator;
> 4) The facility's 911 address, GPS coordinates; and,
> 5) A lock box with keys as needed.[23]

These requirements are an appropriate best practice.

OPERATIONS AND MAINTENANCE PLANNING

RECOMMENDATIONS:

- **Counties should adopt an operations and maintenance plan designed to avoid negative impacts on the surrounding land, water, and neighbors.**
- **We encourage counties to consider requiring native vegetation to bolster wildlife, soil, and water quality benefits.**

Solar projects are expected to be in operation for at least several decades. To address both short-term and long-term maintenance of a project area, counties may require an operations and maintenance plan as part of the application process. Both Clinton County and Linn County address the same elements in the required operations and maintenance plan:

- Soil erosion and sediment control
- Stormwater management
- Ground cover and buffer areas
- Cleaning chemicals and solvents
- Maintenance, repair, or replacement of facility

In order to monitor compliance with maintenance requirements, Louisa County requires access to a project site:

> The Zoning/Building Administrator and any necessary personnel may enter any property for which a special use or building permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by statute, ordinance and code. Failure to provide access shall be deemed a violation of this ordinance.[24]

NATIVE VEGETATION MANAGEMENT AND GROUND COVER

Utility-scale solar project sites often occupy multiple acres of land and are projected to cover three million acres across the nation by 2030. To produce 10 percent of Iowa's electricity from solar energy, 13,440 acres would need to be occupied by solar arrays, or 0.04 percent of all of Iowa's farmland. This offers an opportunity for project owners to demonstrate a commitment to environmental stewardship by establishing native vegetation on their solar project site(s). Investing in this practice will create habitat for a variety of at-risk pollinators, including honey bees, bumblebees, and monarch butterflies. For local officials considering the creation of a solar ordinance, this section explores a variety of considerations that can inform sound policy.

Historically, there were 28 million acres of native prairie across the state of Iowa; there is less than one-tenth of one percent of that native prairie remaining. Investments in native vegetation on solar project sites can also help restore habitat for wildlife like ring-necked pheasants, quails, and other grassland birds such as the dickcissel or the sedge wren.

Native prairie plants at the Chisago Solar Site, Chisago County, Minnesota, August 2018. Photo credit to Dennis Schroeder, National Renewable Energy Laboratory. Link: https://www.flickr.com/photos/nrel/30733119928/in/album-72157699605466031/

Meanwhile, other important environmental outcomes are also achieved through planting native perennial vegetation such as improved soil health and water quality and carbon sequestration. Importantly, the deep root systems of native vegetation can penetrate the soil surface as deep as 15 feet, allowing for increased soil structure and denitrification of water. Improving soil health and water quality also provides developers with the practical benefits of meeting stormwater drainage permit requirements and reducing erosion on project sites.

After considering the potential positive environmental outcomes, Linn County included a requirement within their solar ordinance to establish perennial vegetated ground cover:

> 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:
>
> 1) Top soils shall not be removed during development, unless part of a remediation effort.
>
> 2) Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage run off and build soil. Seeds should include a mix of grasses and wildflowers, ideally 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.
>
> 3) Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the department of natural resources, county soil and water conservation service, or natural resource conservation service.
>
> 4) Plant material must not have been treated with systemic insecticides, particularly neonicontinoids.[25]

The benefits of establishing even small areas of native vegetation have been proven to significantly improve pollinator and wildlife populations while helping developers maintain storm water permitting requirements, reduce erosion, and mitigate land use concerns. However, there are many important considerations for developers who wish to install native vegetation on their solar project site. While these recommendations will not typically be included in an ordinance, county officials should educate themselves on the options available to developers and the factors that influence developer implementation. We have included a short primer on those issues as an Appendix to this document.

INFRASTRUCTURE AND ROAD USE AGREEMENTS

RECOMMENDATION:

- **Counties should put a process in place for assessing and repairing infrastructure before construction begins.**

Solar construction crews will utilize roads in and out of a project site. Counties should have a lesser expectation of road impacts from solar development compared to wind development. To address potential impacts to public infrastructure, counties may adopt a road use plan.

Louisa County has adopted the following requirements for a road use agreement:

> Road Use Agreements. All routes on county roads that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. The solar farm developer must complete and provide a preconstruction baseline survey to determine existing road conditions for assessing potential future damage due to development related traffic. The developer shall provide a road repair plan to ameliorate any and all damage, installation, or replacement of roads that might be required by the developer. The developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate highway authority(s) officials when warranted. The provision of this subsection shall be subject to the approval of the Louisa County Engineer.[26]

We recommend putting a process in place before construction begins that helps clarify for all parties what specific impacts a developer will be held responsible for and what steps must be taken to mitigate potential damage to roads and other infrastructure.

DECOMMISSIONING AND SITE RESTORATION

RECOMMENDATIONS:

- **Planning for the responsibility of decommissioning is a prudent step for a county ordinance. We recommend that counties require a decommissioning plan which defines the obligations of the project developer to remove the solar array and restore the land when the project will no longer be used.**
- **Counties should require the project developer/owner to notify the county of their intent to stop using the facility and that should be the trigger for decommissioning to begin.**

Solar ordinances often include a provision requiring the project owner to take responsibility for and bear the costs of decommissioning at the end of a solar project's life. These provisions ensure the county and landowners do not bear the cost of removing solar arrays.

Solar panels typically come with a 20 to 25 year warranty and could be useful for up to 40 years. Depending on the length of a landholder lease, or with a lease extension, projects could be refitted

with new panels once panels have reached their useful life. A county ordinance should include a notice requirement stating that once a developer/owner has determined that the facility will no longer be used, the developer/owner must notify the county of the intent to stop using the facility and to decommission the facility in accordance with the agreed-upon decommissioning plan.

We do not recommend that counties set a time limit for automatic decommissioning, such as no production for one (1) year, because as renewable penetration increases some renewable facilities may be used only as "peaker" facilities on days of extremely high electricity demand. Just because a facility is not producing electricity does not mean it is not being used as a back-up resource by the utility.

The following decommissioning example is from Linn County:

> Decommissioning and site reclamation plan.
>
> a. 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; 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.
>
> b. 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.
>
> c. Restoration or reclamation activities shall include, but not be limited to, the following:
>
> 1. Restoration of the pre-construction surface grade and soil profile after removal of structures, equipment, graveled areas and access roads.
>
> 2. Re-vegetation of restored soil areas with crops, native seed mixes, plant species suitable to the area, consistent with the county's weed control plan.
>
> 3. 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.

OTHER CONSIDERATIONS

NOISE

Inverters, the equipment that convert direct current (DC) electricity into alternating current (AC) electricity, can produce a soft sound during the daytime when the solar array is producing energy. Noticeable noise is not a common or expected impact and any noise should be imperceptible to

neighboring properties even without specific noise provisions.

We do not recommend adding standards for noise. Minimum setback requirements should sufficiently address these issues without adding specific, separate provisions for noise.

SCREENING

Some counties have chosen to adopt screening requirements in conjunction with setbacks. Counties should consider if screening requirements would be arbitrary and what, if any, other uses currently require screening. According to the National Renewable Energy Laboratory (NREL):

> While aesthetic requirements are appropriate for historic districts, requiring solar energy systems to be screened from public view adds costs, can cause shading, and may prevent many installations.[27]

We do not recommend that counties adopt screening provisions or requirements.

GLARE

The American Planning Association advises that "[s]ome residents may express concerns that glare from solar collectors will be either a public or private nuisance. However, because they are constructed of dark-colored materials and covered with anti-reflective coatings, new solar PV and thermal systems typically reflect as little as 2 percent of incoming sunlight." [28]

Similarly, a summary of research from the National Energy Research Laboratory states, "Local objections to proposed solar photovoltaic (PV) installations sometimes include concerns that the modules will cause glare that could impact neighbors or aviation. Research on this subject demonstrates that PV modules exhibit less glare than windows and water. Solar PV modules are specifically designed to reduce reflection, as any reflected light cannot be converted into electricity. PV modules have been installed without incident at many airports." [29]

Given how solar panels are constructed, glare or reflected light is not typically a major issue. Counties wishing to address this low-risk potential impact can include a provision in their ordinance, such as Clinton County and Linn County have:

> All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.[30] [31]

We do not recommend glare provisions in a solar ordinance. However, local or federal authorities may require a glare study that shows the potential impact to the surrounding area, particularly on infrastructure like airports and roadways. For example, the Federal Aviation Administration (FAA) required the City of Ames to conduct a glare study for its community solar project as a result of its proximity to an airport. If the study indicates that there is potential for glare, a project developer

should submit a mitigation plan for glare produced by a system. Such a study with recommended mitigation is preferable to a blanket screening requirement for solar, which adds unnecessary upfront and ongoing expense.

PRIME FARMLAND

As the development of large-scale solar generation becomes more common, land taken out of production can increase concerns over the impact to prime farmland. To produce 10 percent of Iowa's electricity from solar energy, 13,440 acres would need to be occupied by solar arrays, or just 0.04 percent of all of Iowa's farmland.

While the placement of solar panels may limit agricultural uses for prime farmland, the construction and operation of a solar energy system typically has less impact than other forms of development such as residential or commercial development. Once a system has been decommissioned and removed, farmland can be returned to an agricultural use with minimal reclamation. County officials should consider the potential for combining solar energy systems with other uses that may benefit agricultural operations, such as creating shade for livestock or habitat for pollinators and other wildlife.

We do not recommend any provisions that prohibit solar as a use on prime farmland. If a county already has a provision that prohibits certain uses on designated prime farmland, they may consider adding solar as an acceptable use, especially in conjunction with an additional use like the creation of native prairie or habitat.

CONCLUSION

For counties considering an ordinance for utility-scale solar, a well-drafted and balanced solar siting ordinance is important. Our review of county ordinances across Iowa and neighboring states shows that counties can adopt workable ordinances that enable successful solar development. We have not identified a single model ordinance in any particular county that we recommend in total. Instead, we have identified the strongest parts of different ordinances to include in this paper. Most county ordinances have additional provisions in the adopted ordinances. We have focused on the major provisions critical to the success of an ordinance.

While counties can attract solar development without adopting a specific ordinance, we believe the clarity and predictability that comes from a solar ordinance can be beneficial for the county, its residents, and solar developers.

ABOUT

The primary authors of this paper are Kerri Johannsen, Jordan Oster, and Steve Guyer of the Iowa Environmental Council and Lu Nelsen and Cody Smith of the Center for Rural Affairs. We appreciate the input and guidance provided by county officials, solar developers, colleagues and others as we researched and drafted this paper.

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A CLOSER LOOK: BEST PRACTICES FOR COMMUNITY SOLAR

Community solar is a unique model that often involves the construction of a solar array that is much larger than small-scale or residential solar. Although some states allow for independent development of community solar projects by private industry, cities, and nonprofits, such projects cannot currently be developed in Iowa. Community solar in Iowa can only be developed by or for utilities, including municipal utilities.

Typically, community solar projects incorporate methods for community members to participate in the project in some way through a mechanism such as an investment or subscription with the benefits of the project passed along to subscribers. Some considerations for community solar projects are listed below.

City of Cedar Falls community solar project. Photo courtesy of Cody Smith, Center for Rural Affairs.

Land selection is key for ground-mounted solar

- Land already owned by the project developer, owner, or off-take customer is preferable, as it eliminates the need for new easements and may mitigate several siting issues.
- Several factors contribute to cost efficiency when considering a community solar project:
  - Proximity to high intensity energy users.
  - Strong local demand for electricity, especially produced from renewable resources.
  - Access to the electric grid, allowing for interconnection without building substantial new infrastructure.

- The type of site also contributes to cost efficiency over the long-term—a square or rectangular parcel of land and in-line set-up helps streamline ongoing management like mowing and system maintenance.
- Sites should also have easy access, with limited surrounding development or vegetation that may shade a solar energy system.
- Sites should also ideally allow for expansion of a project if demand from consumers increases over time.
- Example:
  - The City of Ames will site their project on a parcel of land already owned by the City that was being leased for farmland.
  - The City of Cedar Falls community solar project currently occupies eight acres of previously undeveloped city property.

Alternatives to ground-mounted solar

- Large rooftops such as those on manufacturing facilities or big box retailers may be potential sites for community solar projects. These sites reduce land acquisition concerns associated with selecting a site for a ground-mounted solar system while providing the host with some publicity for participating.
- Siting projects in parking lots in the form of a system mounted on canopies that also offers shade is possible, but there are liability concerns around falling ice damaging vehicles during the winter months.

Community involvement in site selection is crucial

- A robust cost-benefit analysis is recommended prior to proposing a community solar project.
- Officials should be sure to engage with a wide range of stakeholders to determine if there are other plans for a selected site or the surrounding area that may impact a future solar energy system.
- Once a project has been proposed, there should be opportunities provided for community members to attend meetings or open houses that allow them to learn more about the project and ask questions.

Development and project ownership

- Leasing city land to a private developer and entering into a Power Purchase Agreement can reduce project costs by allowing the developer to take advantage of federal and state tax credits.
- If a municipal utility is seeking a private developer for a community solar project, there should

be a transparent bidding process. Information that may be required in a bid includes:

- Price and term for a power purchase agreement between the developer and the municipal utility.
- Estimate of annual electricity production.
- Performance history for the equipment that will be used in a similar environment.
- Project timeline that lays out anticipated start and completion dates for construction as well as an in-service date for the system.
- Previous experience developing similar projects.

  Example: Both Cedar Falls and Ames leased their land to a private developer at little to no cost and allowed them to construct the solar farm so the developer could take advantage of the 30% federal investment tax credit, as municipalities are ineligible. Both cities intend to buy back the project at some point.

- A competitive and transparent bidding process is important for project success.

  Example: The City of Ames included all submitted bids in their report to the city council. Their developer selection was based on the following criteria:
  - Price of a 25-year Power Purchase Agreement and estimated project buyout costs.
  - Annual production estimates.
  - Annual performance estimates.
  - Performance history and reliability of the equipment specified for this project in similar environments.

- Strength and experience of the developer's project team and proven expertise of the project team.
- System and component product warranties.
- Developer's proposed project financing capability and structure.
- Project schedule.
- Experience with building at or near an airport location.
- Notably, the federal investment tax credit began a gradual phase-out in 2020, dropping to 26 percent.

Adding consumer value

Projects may be designed to allow consumers to invest in a community project in various ways:

- Many community projects offer "shares" that residents can purchase. These typically act as a subscription in the project, paid through an additional charge on a monthly electric bill. In some cases, subscribers are credited an amount determined by the utility for energy produced by the project during the given period.
  i. The rate associated with a share should be devised in a transparent manner, clearly demonstrating the method used to determine the total cost to consumers.
  ii. **Example:** The city of Ames charges a $300 cost for a consumer subscription, or "power pack," which is a subscription to one-half of one panel for 20 years. The power packs are expected to return average monthly credits of $1 to $2 for the duration of the 20-year contract. Payback is predicted to take anywhere between 16 and 18 years.
- In other models, consumers are allowed to purchase and own panels that are part of the community solar systems.
  i. This option may allow for consumers to access available tax credits while investing in a community project, often paying a monthly maintenance fee for upkeep of the panel(s).
  ii. In some cases, consumers that choose this option may be credited for the full production of their panel(s) as though they were located behind their electric metering, as is the case with net metered residential solar.
- Community projects often feature a means of unsubscribing or selling back shares/panel(s). This often reduces anxiety associated with subscribing to a project, as residents are not tied to a subscription if they choose to move to a different area.

APPENDIX: NATIVE VEGETATION MANAGEMENT FOR SOLAR - ADDITIONAL CONSIDERATIONS

Across the U.S., the solar industry is booming. Solar project sites often occupy several acres of land and are projected to cover three million acres by 2030.[I] To produce 10 percent of Iowa's electricity from solar energy, 13,440 acres would need to be occupied by solar arrays—offering an opportunity for project owners to demonstrate their commitment to environmental stewardship.[II]

While the full detail included below may not be appropriate for inclusion in a solar ordinance, we hope it can serve to inform policymakers about the developer considerations which accompany the adoption of native vegetation on solar project sites.

INCREASING PROJECT VALUE:

In addition to providing habitat for wildlife and pollinators, investments in native vegetation on solar project sites provide ancillary benefits such as improved soil health and water quality, while also sequestering carbon.

PLANNING, COST, AND SEEDING:

Planning

Planning at least one year before the seed goes into the ground is recommended. This provides adequate time to reach out for technical assistance, review and select a site, determine the existing dominant vegetation (if any), conduct two or more herbicide applications to suppress existing vegetation if needed, and gather quotes for a native seed mix.[III]

Cost

When considering total project cost, the key variable is the number of acres that will be established. Depending on project size, different management approaches may be necessary.[IV] **Per acre in Iowa, $500-$1,000 is a reasonable range for most projects.**[V]

Best practice: Include native vegetation in the initial planning process of a project. Incorporating this desired outcome into the process will allow for a holistic consideration of all factors including soil characteristics, construction, management, establishment, and more.

Seeding

Timing is key to success—frost-seeding between November 1 and June 1 is ideal for maximum germination and ensuring stand establishment through a full growing season.[VI] [VII] August and late summer plantings should be avoided as a stand won't have enough time to establish before cold temperatures. To establish the needed firm seedbed, conventional methods include discing at least twice and cultipacking, although this is dependent upon the conditions of each site.[VIII] Seeding methods include broadcast, drill, and hand-broadcast techniques. Native grass seeds need good seed-to-soil contact and should be planted no deeper than ¼" in the soil. Ideally, native prairie seeds should rest on top of the soil.

Best practice: A site may take time to establish aesthetic native vegetation. Signage that says "Pollinator habitat in progress" can mitigate public concern. Keep in mind that each seedbed is different and may not need discing or plowing—these decisions should be made in consultation with a conservation professional to review site-specific information such as existing vegetation, moisture levels, and soil type.

MANAGEMENT AND CONSTRUCTION:

Construction

Being flexible when it comes to the height of a solar energy system is important for project success. A seed mix should include plants that don't reach a peak height that could shade the low, tilted edge of ground-mounted solar energy systems unless developers plan to use strategic mowing or livestock grazing (i.e. sheep) to avoid interfering with project efficiency.

Best practice: Although project managers may have to strip-mow to maintain project efficiency, it is important to remember that taller native vegetation provides better habitat for wildlife and pollinators. Striking a balance between quality and height can equalize cost.

Management

Year one: Regular mowing (three to four times) during the first growing season prevents weeds from shading out seedlings and going to seed. The first mowing should be at a height of four to six inches soon after seeding; the next two mowings should be at a height no less than eight inches.

Year two: With a successful planting, years subsequent to establishment provide the opportunity for less maintenance, needing only an occasional disturbance and limited mowing to encourage desirable species.[IX]

Years three and four: Mowing and baling the plant residue approximately every three years is the preferred management option for solar project sites.[X]

Timing impacts wildlife and pollinators

After year two, avoid or minimize mowing between April 1 and August 1 to minimize impacts during the nesting season of upland birds such as pheasants and quail. Delaying mowing to late September facilitates a more welcoming habitat for migrating pollinators such as monarch butterflies, as the highest population of Monarch eggs is often found on milkweed plants in late July and early August. [XI] Spot mowing and/or herbicide application could be used during this period if necessary to control invasive plants.

Best practice: Every site is unique and all timelines should be adjusted to the needs of a project. Experts suggest evaluating the ratio of native species to weeds and invasive vegetation before making mowing and other management decisions. If native vegetation is struggling to establish a strong stand, mowing is likely necessary; if the opposite is occurring, mowing may not be in a site's best interest.

SELECTING A SEED MIX:

The height of the solar panels is a primary consideration when selecting a seed mix. Other factors include project location, soil type and moisture, the species of vegetation that are native to the area, planned management of the site, and more. Consider which desired outcomes the native vegetation is intended to achieve such as providing wildlife habitat, increasing pollinator populations, or reducing erosion. Developers should aim for a ratio of grasses to forbs when selecting a seed mix.

Best practice: Wildlife generally responds more to structure of vegetation (the ratio of grasses to forbs) than specific plant species; a seed mix closer to 30 percent grasses and 70 percent forbs is recommended for upland nesting birds.[XII] Some species of native vegetation are crucial for pollinators; monarch butterflies only lay eggs on milkweed plants. Bees, adult monarchs, and other pollinators rely on a diversity of flowering plants that provide blooms during all periods of the growing season (March to October).

Figure A shows a recommended native seed mix for a solar project site in central Iowa: [XIII]

FIGURE A

Short species prairie seed mix for medium-dry soils in central Iowa

Botanical Name	Common Name	Botanical Name	Common Name
Wildflowers		**Trees, Shrubs, Vines**	
Asclepias tuberosa	Butterfly Weed	Ceanthus americanus	New Jersey Tea
Baptisia alba	White Wild Indigo	Rosa arkansana	Wild Rose
Chamaecrista fasciculata	Partridge Pea	Amorpha canescens	Lead plant
Coreopsis lanceolata	Lance-leaf Coeopsis	**Grasses, Sedges, & Rushes**	
Coreopsis palmata	Prairie Coreopsis	Bouteloua curtipendula	Side-oats Grama
Dalea candida	White Prairie Clover	Carex brevior	Plains Oval Sedge
Dalea purpurea	Purple Prairie Clover	Koeleria marcantha	June Grass
Drymocallis arguta	Prairie Cinquefoil	Schyzachynium scoparium	Little bluestem
Eryngium yuccifolium	Rattlesnake Master	**Sun exposure: full**	
Euphorbia corollata	Flowering Spurge	**Soil moisture: medium-dry**	
Liatris aspera	Button Blazing Star		
Pedicularis canadensis	Wood Betony		
Penstemon digitalis	Foxglove Beardtongue		
Psuedognaphalium obtusifolium	Sweet Everlasting		
Rudbeckia hirta	Black-eyed Susan		
Ruellia humilis	Wild Petunia		
Solidago speciosa	Showy Goldenrod		
Symphyotrichum oolentangiense	Sky Blue Aster		
Tradescantia ohiensis	Ohio Spiderwort		
Verbena stricta	Hoary Vervain		
Zizia aurea	Golden Alexanders		
Asclepias syriaca	Common Milkweed		
Symphyotrichum ericoides	Heath Aster		
Symphyotrichum pilosum	Frost Aster		
Gentiana alba	Cream Gentian		
Heliopsis helanthoides	Early Sunflower		
Desmodium canadense	Showy tick trefoil		

Courtesy of Story County Conservation

When crafting local solar ordinances, we recommend that officials consider the intended outcomes and goals for requiring native vegetation. For example, Linn County's ordinance lists their intended goals like soil health, erosion reduction, and water quality. They also favor bee and other pollinator populations by restricting the use of potentially harmful pesticides.

Additionally, it is recommended that local officials weigh the factors developers are considering when contemplating the establishment of native vegetation, such as management, construction, planning, and other concerns—only some of which were listed above.

Local officials may also seek assistance with questions on these topics from organizations such as the Center for Rural Affairs, Audubon Society, Pheasants Forever Native Plants Program, The Iowa Monarch Consortium at Iowa State University, and the STRIPS project at Iowa State University.

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CENTER *for* RURAL AFFAIRS

1400 Fawcett Pkwy, Suite D2, Nevada, IA 50201

CODY SMITH
Policy Associate
402.687.2100 x1016
codys@cfra.org
cfra.org

Iowa Environmental Council

505 Fifth Ave, Suite 850, Des Moines, IA 50309

KERRI JOHANNSEN
Energy Program Director
515-244-1194 x208
johannsen@iaenvironment.org

JORDAN OSTER
Energy Outreach and Advocacy Coordinator
515-244-1194 x209
oster@iaenvironment.org
iaenvironment.org

DECOMMISSIONING SOLAR ENERGY SYSTEMS RESOURCE GUIDE

A RESOURCE GUIDE BY HEIDI KOLBECK-URLACHER,
CENTER FOR RURAL AFFAIRS

CENTER *for* RURAL AFFAIRS

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HEIDI KOLBECK-URLACHER
Senior Policy Associate,
Center for Rural Affairs

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Decommissioning Solar Energy Systems
Resource Guide

By:
Heidi Kolbeck-Urlacher, senior policy associate.

Center for Rural Affairs
145 Main Street
PO Box 136
Lyons, NE 68038
402.687.2100
info@cfra.org
cfra.org

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Report editing by:
Teresa Hoffman, senior communications associate;
Rhea Landholm, communications manager;
Catharine Huddle, communications consultant;
and Liz Stewart, communications consultant.

Design by:
Kylie Kai, senior communications associate.

When solar projects reach the end of their expected performance period, there are several management options. They include extending the performance period through reuse, refurbishment, or repowering of the facility or fully discontinuing operations and decommissioning the project. | Photo by Rhea Landholm

I. INTRODUCTION

Falling equipment costs coupled with increased demand for clean energy have led to a rapid rise in solar development over the past decade, a trend expected to continue. Although solar accounted for 3% of U.S. electricity in 2020, the U.S. Energy Information Administration projects that number will reach 20% by 2050.[1] In 2022 alone, solar will account for nearly half of all new electric generating capacity.[2]

Solar projects are often located in rural areas and can provide numerous benefits to nearby communities, including lease payments to landowners, tax revenue to fund infrastructure and services, and the creation of both permanent and temporary jobs.

County officials are typically responsible for enacting siting or zoning standards to help ensure solar development is supported by local residents. This can include planning for the eventual decommissioning of energy projects that have reached the end of their life cycles.

II. UNDERSTANDING SOLAR PROJECT END-OF-LIFE OPTIONS

Solar panel lifespan is 25 to 35 years.[3] Since approximately 75% of all U.S. solar capacity has been installed in the past five years, most panels are still operational and have not been decommissioned yet.[4]

When solar projects reach the end of their expected performance period, there are several management options. They include extending the performance period through reuse, refurbishment, or repowering of the facility or fully discontinuing operations and decommissioning the project.

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A. EXTENDING THE PERFORMANCE PERIOD: REUSE, REFURBISHMENT, AND REPOWERING

In some cases, photovoltaic modules can be reused or refurbished to extend the system's performance period.[5] If equipment is still in working order, one possibility is to extend leases, permits, and interconnection agreements to continue operation. This requires no capital investment, but there are costs associated with maintaining aged equipment.[6]

- **Reuse** of the system's photovoltaic modules is the most economically and environmentally beneficial option and can provide opportunities for revenue or tax savings.[7] Research has shown that solar panels degrade at a rate of 0.5% per year, which means that by year 20 a panel can be expected to produce 90% of the electricity it did in year 1.[8]
- **Refurbishment** involves making necessary repairs to extend the lifespan of the system's older equipment. Refurbishing older equipment can be challenging due to the difficulty of finding parts and lack of expertise in working with older technologies.[9]
- **Repowering** involves redesigning the system and installing new arrays and inverters to rebuild or replace the power source, and can cost about 80% of the total plant value. A repowered solar system is new in most respects but can leverage existing land-use, permitting, and utility interconnections.[10]

B. FULL DECOMMISSIONING: RECYCLING AND DISPOSAL OF SOLAR PANELS

Full decommissioning indicates the solar facility will be closed, all photovoltaic equipment will be removed, and land will be restored to its original condition.[11] Disassembly of the solar system mirrors assembly, only in reverse. It will include removing modules and sorting components by material type. Major pieces of equipment might be sourced for spare parts or sent for recycling. Labor cost of decommissioning can be half that of installation.[12]

- **Recycling** solar panels decreases waste and allows for the recovery of high-value and energy-intensive materials. Solar panels typically consist of glass, aluminum, copper, silver, and semiconductor materials that can be successfully recovered. By weight, more than 80% of a typical solar panel is glass and aluminum, both of which are common and easily recycled materials.[13]

  Solar recycling technology is still a developing field. At present most recycling happens at existing glass recycling facilities, which can recover about 78% of materials.[14] It is anticipated that

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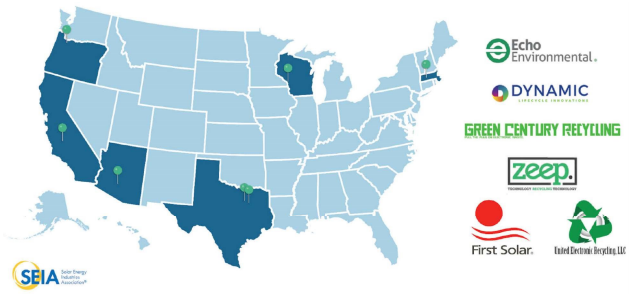
FIGURE 1: SOLAR ENERGY INDUSTRIES ASSOCIATION PV RECYCLING PARTNER NETWORK



Source: Solar Energy Industries Association

with emerging technologies the amount recovered will increase. Currently, recycling may be more costly than other options.[15]

The Solar Energy Industries Association's (SEIA) PV Recycling Working Group has been preparing for solar recycling needed in coming years by developing the SEIA PV Recycling Partner Network. See Figure 1 for a map of current locations.

- **Disposal** of solar system equipment by landfill is the least expensive and most accessible option, although it presents obvious environmental drawbacks.[16] Disposal of solar panels should be done with careful consideration of federal, state, and local solid waste requirements.[17] Some states, such as North Carolina, Washington, and California, have enacted specific policies around the management of solar panel waste.[18]

Testing on solar panels indicates different varieties of panels contain different metals in the semiconductor and solder. Some of these metals, such as lead and cadmium, may be considered hazardous waste if present in high enough quantities.[19] If a solar panel contains hazardous materials, those components are subject to hazardous waste regulation under the Resource Conservation and Recovery Act of 1976 (RCRA). Because recycling is encouraged over disposal, the RCRA does provide certain conditional exclusions for the recycling of solar panels containing hazardous waste.[20]

15 Ibid.

16 Ibid.

17 Curtis, Taylor, et al. "Best Practices at the End of the Photovoltaic System Performance Period." National Renewable Energy Laboratory, February 2021, nrel.gov/docs/fy21osti/78678.pdf. Accessed April 2022.

18 "End of Life Solar Panels: Regulations and Management." U.S. Environmental Protection Agency, Sept. 16, 2021, epa.gov/hw/end-life-solar-panels-regulations-and-management. Accessed April 2022.

19 Ibid.

20 Ibid.

III. PLANNING FOR DECOMMISSIONING

Decommissioning requirements can be set by states and counties. Landowners and developer agreements may set additional requirements. It is prudent for local governments to plan ahead for solar decommissioning and create ordinances that spell out expectations and obligations. This ensures that financial responsibility for decommissioning falls to the project owner and not the county and landowners.

Because the majority of solar installations are decades away from being retired, project decommissioning plans may need to be revised over time. Periodic plan reviews allow local governments to accommodate necessary changes in decommissioning cost estimates, technology changes, and the availability of recycling services.

A. COMPONENTS OF A DECOMMISSIONING PLAN

Decommissioning plans often include: [21, 22, 23, 24]

- Estimated lifespan of the project.
- Defined conditions upon which decommissioning will be initiated, such as the end of lease, inoperation of the facility for a certain period of time, or a pre-identified end date.
- Identification of the party responsible for decommissioning.
- Statement defining how notification will be made of intent to start the decommissioning process.
- Description of any agreement made with the landowner regarding decommissioning.
- Plans and schedule for updating the decommissioning plan over time.
- Decommissioning tasks and timing, including:
  - Removal of all equipment, structures, fencing, roads, and foundations.
  - Restoration of property to condition prior to solar development.
  - The timeframe for completion of decommissioning activities.
- Detailed decommissioning cost estimates prepared by a knowledgeable independent party. This may or may not include the salvage value of solar equipment and infrastructure.
- A description of expected impacts on natural resources.
- Financial surety, which may be established through different financial instruments, such as trusts or escrow accounts, bonds, letters of credit, or other types of agreements.

Nebraska is one of the few states with a state-level decommissioning requirement. Nebraska Revised Statute 70-1014.02 requires that private electric suppliers comply with any decommissioning requirements adopted by local governmental entities, submit a decommissioning plan, bear all costs of decommissioning, and post a security bond or other instrument within 10 years of commercial operation securing the costs of decommissioning the facility.[25]

B. ESTIMATING DECOMMISSIONING COSTS

Because few solar projects have yet to be decommissioned, cost estimates vary widely. Differences depend on numerous factors specific to the project,

21 "Decommissioning Solar Panel Systems: Information for local governments and landowners on the decommissioning of large-scale solar panel systems." New York State Energy Research and Development Authority, nyserda.ny.gov/-/media/Migrated/NYSun/files/Decommissioning-Solar-Systems.ashx. Accessed April 2022.

22 "EERA Recommendations on Review of Solar and Wind Decommissioning Plans (Commission Docket Number E999/M-17-123)." Minnesota Department of Commerce, March 16, 2020, efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7b1024E570-0000-CD11-98E8-4EC4D05E58E7%7d&documentTitle=20203-161292-01. Accessed May 2022.

23 Curtis, Taylor, et al. "A Survey of Federal and State-Level Solar System Decommissioning Policies in the United States." National Renewable Energy Laboratory, December 2021, nrel.gov/docs/fy22osti/79650.pdf. Accessed April 2022.

24 Curtis, Taylor, et al. "Best Practices at the End of the Photovoltaic System Performance Period." National Renewable Energy Laboratory, February 2021. nrel.gov/docs/fy21osti/78678.pdf. Accessed April 2022.

25 "Nebraska Revised Statute 70-1014.02." Nebraska Legislature, nebraskalegislature.gov/laws/statutes.php?statute=70-1014.02. Accessed May 2022.

site, calculation methods, local government requirements, and whether salvage value is included as part of the total. Using local, independent professionals, such as third-party engineers, to develop a project-specific decommissioning cost estimate is recommended.

1. DECOMMISSIONING COST EXAMPLES

- The New York State Energy Research and Development Authority (NYSERDA) estimates $30,000 per megawatt in present day costs.[26] See Table 1 for NYSERDA's sample list of decommissioning costs for a 2 MW solar installation.[27]
- A 2018 Minnesota Department of Commerce solar and wind decommissioning working group estimated the net costs (total less salvage value) of solar facilities at $21,700 to $56,300 per megawatt.[28]
- Decommissioning costs for South Dakota's first two proposed utility-scale solar projects are estimated between $9,090 and $18,148 per megawatt.[29, 30]

TABLE 1: SAMPLE LIST OF DECOMMISSIONING TASKS AND ESTIMATED COSTS FOR A 2 MW SOLAR INSTALLATION

Tasks	Estimated cost
Remove rack wiring	$2,459
Remove panels	$2,450
Dismantle racks	$12,350
Remove electrical equipment	$1,850
Breakup and remove concrete pads or ballasts	$1,500
Remove racks	$7,800
Remove cable	$6,500
Remove ground screws and power poles	$13,850
Remove fence	$4,950
Grading	$4,000
Seed disturbed areas	$250
Truck to recycling center	$2,250
Current total	**$60,200**
Total after 20 years (2.5% inflation rate)	**$98,900**

Source: New York State Energy Research and Development Authority

26 "Decommissioning Solar Panel Systems: Information for local governments and landowners on the decommissioning of large-scale solar panel systems." New York State Energy Research and Development Authority, nyserda.ny.gov/-/media/Migrated/NYSun/files/Decommissioning-Solar-Systems.ashx. Accessed April 2022.

27 Ibid.

28 "Solar and Wind Decommissioning Working Group, Report and Recommendations." Minnesota Department of Commerce, August 2018, efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7BF0DC9065-0000-C734-8DCC-76C867A06CD8%7D&documentTitle=20188-146145-02. Accessed May 2022.

29 "Lookout Solar Project: Application to the South Dakota Public Utilities Commission for an Energy Facility Permit." South Dakota Public Utilities Commission, December 2018, puc.sd.gov/commission/dockets/electric/2018/el18-059/application.pdf. Accessed May 2022.

30 "Appendix D: Decommissioning Plan. Wild Springs Solar LLC." South Dakota Public Utilities Commission, May 15, 2020, puc.sd.gov/commission/dockets/electric/2020/el20-018/AppendixD.pdf. Accessed May 2022.

B. FINANCIAL ASSURANCE MECHANISMS

Some local governments may decide to require financial mechanisms, such as trusts, escrow accounts, bonds, or letters of credit, to ensure appropriate decommissioning and reclamation. Requiring financial assurance is a tradeoff, as it provides additional protection for local governments, but may increase overall project costs, which could deter development.[31] If requiring financial assurance, a more favorable approach for developers is if assurances can be paid over time rather than prior to project operation, as the assurance may be absorbed as operating costs rather than upfront capital cost.[32]

For example, Nebraska statute requires suppliers to post a security bond or other instrument within 10 years of a commercial operation securing the costs of decommissioning the facility.[33] Guidance from the Minnesota Department of Commerce Energy Environmental Review and Analysis (EERA) unit recommends that financial assurances be implemented in a stepwise manner with initial payments by year 10 and increased over time to ensure full funding no later than the end of the power purchase agreement.[34]

31 "Decommissioning Solar Panel Systems: Information for local governments and landowners on the decommissioning of large-scale solar panel systems." New York State Energy Research and Development Authority, nyserda.ny.gov/-/media/Migrated/NYSun/files/Decommissioning-Solar-Systems.ashx. Accessed April 2022.

32 Curtis, Taylor, et al. "A Survey of Federal and State-Level Solar System Decommissioning Policies in the United States." National Renewable Energy Laboratory, December 2021, nrel.gov/docs/fy22osti/79650.pdf. Accessed April 2022.

33 "Nebraska Revised Statute 70-1014.02." Nebraska Legislature, nebraskalegislature.gov/laws/statutes.php?statute=70-1014.02. Accessed May 2022.

34 "EERA Recommendations on Review of Solar and Wind Decommissioning Plans (Commission Docket Number E999/M-17-123)." Minnesota Department of Commerce, March 16, 2020, efiling.web.commerce.state.mn.us/edockets/searchDocuments.do?method=showPoup&documentId=%7b1024E570-0000-CD11-98E8-4EC4D05E58E7%7d&documentTitle=20203-161292-01. Accessed May 2022.

IV. RECOMMENDATIONS

We recommend that counties:

- Require project developers to submit a decommissioning plan that defines the obligations of the project developer to remove the solar array and restore the land when the project is retired.
- Require the project developer to notify the county of its intent to stop using the facility once it has been determined the system will be fully retired. This notification should serve as the trigger for decommissioning to begin. Both the manner of notification and the deadline for decommissioning to occur once notification is given should be defined within the original decommissioning plan.
- Ensure that decommissioning plans include expected timelines for completion of tasks. For example, specifying deadlines for removal of equipment and completion of site reclamation.
- Include a provision that the project owner is responsible for the costs of decommissioning, ensuring the county and landowners do not bear these costs.
- Work with developers to ensure decommissioning cost estimates are made by a third-party professional who can provide a location and project-specific cost estimate, and plan for these cost estimates to be reviewed every 5 to 10 years to accommodate changes.
- Encourage recycling or repurposing of solar components rather than disposal in landfills.

Policy Approaches for Dual-Use and Agrisolar Practices

By Heidi Kolbeck-Urlacher, Center for Rural Affairs
April 2023

CENTER for RURAL AFFAIRS

CONTENTS

INTRODUCTION

As demand for clean energy increases, solar deployment is expected to rise. Because utility-scale solar requires considerable land use, many state and local governments are prudently discussing the impact future solar development will have on agricultural lands. The practice of dual-use solar, which refers to allowing two uses to be accomplished in the same space, can address concerns about solar on agricultural land.[1]

Agrisolar, also called agrivoltaics, is the co-location of agriculture and solar within the landscape. It includes solar co-located with crops, grazing, beekeeping, pollinator habitat, aquaculture, and farm or dairy processing. In addition to photovoltaics, it also includes concentrated solar installations.[2] The practice of combining agriculture and solar energy systems can provide numerous economic and environmental benefits. This includes improving economic viability for landowners and agricultural entities, providing beneficial ecological services, and expanding siting opportunities for solar deployment.[3]

The purpose of this report is to provide decision makers and others an overview of policy approaches to combining solar with agriculture and offer considerations on how regulations can facilitate dual-use.

First, we will look at land use and solar, examining the impact expected by the rapid increase of solar development in the near future, and the varying level of responses occurring around clean energy siting regulations and guidance. Next, we will explore the types of dual-use applications and the benefits associated with them, and then move into an overview of policy mechanisms at the federal, state, and local levels that facilitate dual-use. Lastly, we will take a closer look at how local governments have the most impact on solar development, and offer considerations for decision-makers who are interested in creating ordinances or incentives around dual-use.

1 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019, Accessed March 2023.
2 Personal communication, Stacie Peterson, Energy Program Director, National Center for Appropriate Technology, March 2023.
3 Macknick, Jordan, et al. "The 5 Cs of Agrivoltaic Success Factors in the United States: Lessons From the InSPIRE Research Study." National Renewable Energy Laboratory, 2022. Accessed March 2023.

LAND USE AND SOLAR

How Much Land Will Be Needed?

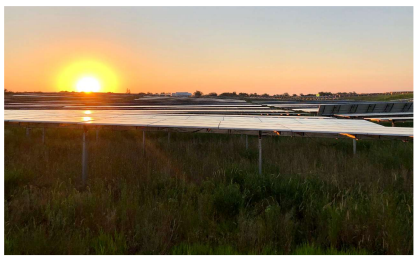
As the U.S. moves toward setting ambitious decarbonization goals, solar energy is forecasted to grow considerably. Based on solar deployment scenarios by the U.S. Department of Energy (DOE), ground-based solar technologies may require a land area equivalent to 0.5% of the contiguous U.S. However, it is estimated that this requirement could be met using less than 10% of already disturbed or contaminated lands.[4]

By county, it does not appear that current or planned solar projects would require significant land allocation as a proportion of local area. In an analysis of all counties in the contiguous U.S., the Great Plains Institute found that existing solar development comprises on average 0.04% of land per county and that if all proposed solar projects were built, development would average 0.22% of land per county. As of 2021, no county in the U.S. had more than 4% of total county area in solar development. In contrast, cultivated lands comprise up to 75% of the total county area in much of the central Midwest.[5]

Some state and local governments have created restrictions around using farmland for solar development. However, clean energy development does not appear to pose an immediate threat to the availability of farmland. As of 2022, Iowa had 30.6 million acres of farmland, about 17.5 million of which meets the U.S. Department of Agriculture's (USDA) definition of "prime."[6,7] If all of the 2,290 MW of proposed solar projects in Iowa were sited on prime farmland, it would use only 0.11% of prime farmland in the state.[8]
According to Minnesota Solar Pathways, powering 70% of Minnesota's electrical load by 2050 would require adding 22 gigawatts of solar,

4 "Solar Futures Study Fact Sheet." U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, September 2021. Accessed March 2023
5 Wyatt, Jessi, and Maggie Kristian. "The True Land Footprint of Solar Energy." Great Plains Institute for Sustainable Development, Sept. 14, 2021. Accessed March 2023.
6 "Prime Farmland Definition." Natural Resources Conservation Service, March 2015. Accessed March 2023
7 "Iowa Solar and Agriculture Fact Sheet." Clean Grid Alliance. Accessed March 2023.
8 Ibid.

which would use 220,000 acres of land. Even if all of this solar were to be sited exclusively on prime farmland, it would still only use 1.32% of prime farmland in the state.[9]



Alternatives to Land-use Restrictions

Even though the land needed for solar development is proportionally low, many state and local governments have enacted or are considering enacting restrictions on clean energy development on farmland. In Iowa, some counties have considered using Corn Suitability Ratings (CSR) to restrict development,[10,11] and state legislators have introduced bills prohibiting solar development on farmland.[12,13,14]

In Minnesota, the Public Utilities Commission's administrative rules restrict large electric generation plants from being located on prime farmland.[15] In Midwest states where a large percentage of the land qualifies as farmland, blanket restrictions such as these can severely impact opportunities for clean energy development.

However, some organizations concerned about the land use impacts of clean energy development have developed siting guidance that mitigates impacts to sensitive areas. For example, the American Farmland Trust, an organization dedicated to the preservation of farmland, has created a series of Smart Solar principles, which they believe meet three goals: accelerate solar energy development, strengthen farm viability, and safeguard land well-suited for farming and ranching.[16]

These principles include:[17]

Prioritize solar siting on buildings and land not well suited for farming
Including buildings, irrigation ditches, brownfields or other marginal lands.

Safeguard the ability for land to be used for agriculture
If developed on farm or ranch land, policies and practices should protect soil health, especially during construction and decommissioning.

Grow agrivoltaics for agricultural production and solar energy
Agrivoltaics sustain agricultural production under/between the solar panels.

Promote equity and farm viability
Farmers and underserved communities should benefit from solar development and should be included in stakeholder engagement processes.

This type of siting guidance offers a more nuanced approach to clean energy development. By taking a wider array of factors into consideration, including economic impacts and dual usage, this approach demonstrates that clean energy siting does not require an either/or mindset.

Through thoughtful planning, local decision makers can craft policies that respect the property rights of local landowners and allow them to take advantage of opportunities to diversify their income, while at the same time encouraging dual-use practices that preserve the agricultural values of the local community.

9 "Minnesota Solar and Agriculture." Clean Grid Alliance. Accessed March 2023.
10 Whiskeyman, Danny. "Scott County Board of Supervisors approves new solar ordinance." KWQC, Sept. 20, 2022. Accessed March 2023.
11 Klotzbach, John. "County Considering Wind Turbine Ordinance Changes." Independence Bulletin Journal, Sept. 6, 2022. Accessed March 2023.
12 "Senate Study Bill 1077." Iowa Legislature, Jan. 24, 2023. Accessed March 2023.
13 "Senate File 2127." Iowa Legislature, Jan. 26, 2022. Accessed March 2023.
14 "Senate File 2321." Iowa Legislature, Feb. 17, 2022. Accessed March 2023.
15 "Minnesota Administrative Rules." Minnesota Legislature, Sept. 18, 2009. Accessed March 2023.
16 Sallet, Lori. "Growing Renewable Energy While Strengthening Farm Viability and Safeguarding Healthy Soil." American Farmland Trust, Sept. 22. 2022. Accessed March 2023.
17 Ibid.

TYPES OF DUAL-USE

There are several types of dual-use practices that can be combined with solar energy sites including cultivating different types of crops such as vegetables and berries, utilizing livestock grazing for managing vegetation, beekeeping, and planting native vegetation and pollinator habitat. These practices can create environmental and economic benefits such as new revenue streams for local farmers, increased pollinators, wildlife habitat, enhanced soil health, reduced erosion, and carbon storage. These projects are not mutually exclusive, however, and multiple activities can occur simultaneously, or at different times of the year.[18]

Crops

A variety of agricultural crops can be grown in co-location with solar installations, including fruit, vegetables, and berries. Any crops that are successful in a region are likely to be suitable for co-location with solar projects. Crops can be grown under the panels, between rows, or outside the perimeter of the installation. Panel height, spacing, water access, equipment needs, and whether the system is fixed or tracking, all will play a role in the success of integrating specific types of crop production into a solar installation. Research is ongoing to better understand the performance and feasibility of co-locating crops with solar energy systems.[19,20]

Iowa State University recently announced it will kick off a $1.8 million, four-year research project on dual-use and food crop production.[21] Similar food crop-focused research is ongoing through the Sustainably Colocating Agricultural and Photovoltaic Electricity Systems (SCAPES) projects at University of Illinois Urbana-Champaign, University of Arizona, Colorado State University, Auburn University, and

18 Macknick, Jordan, et al. "The 5 Cs of Agrivoltaic Success Factors in the United States: Lessons From the InSPIRE Research Study." National Renewable Energy Laboratory, 2022. Accessed March 2023.
19 "Suitable Agricultural Activities for Low-Impact Solar Development." InSPIRE, Aug. 11, 2022. Accessed March 2023.
20 Macknick, Jordan, et al. "The 5 Cs of Agrivoltaic Success Factors in the United States: Lessons From the InSPIRE Research Study." National Renewable Energy Laboratory, 2022. Accessed March 2023.
21 "ISU researchers to study growing crops in solar farm's footprint." Iowa State University, Feb. 15, 2023. Accessed March 2023.

University of Chicago. [22]

Outside of food crops, researchers are also looking into whether more traditional row crops can be co-located with solar installations. For example, Purdue University is conducting field trials combining traditional crops like corn and soy with raised solar panels.[23]

Grazing

Solar grazing is the utilization of livestock, usually sheep, to manage vegetation at solar sites. It takes the place of traditional mowing and offers both environmental and financial benefits. For project developers, contracting with local farmers to use solar grazing as a management tool can reduce operations and maintenance costs. Solar grazing can offer local livestock owners additional pasture opportunities and the opportunity to be paid for a valuable service, increasing income to their business and adding to the economy of the rural communities where these projects are usually located.[24]

22 Harwood, Lori. "UArizona Partners on $10M USDA Grant to Expand Research on Growing Crops Under Solar Panels." University of Arizona, Oct. 6, 2021. Accessed March 2023.
23 Bowman, Sarah, et al. "Can solar panels and row crops coexist on farmland across the skeptical Corn Belt?" Indy Star, Sept. 13, 2022. Accessed March 2023.
24 "Fact Sheet: Making the Case for Solar Grazing." Center for Rural Affairs, Dec. 20, 2021. Accessed March 2023.

Beekeeping

Solar beekeeping is the practice of placing beehives on or near solar sites that have been planted in native vegetation or other pollinator habitats. Solar beekeeping can offer new revenue streams for local beekeepers, as well as the opportunity to gain resiliency from a diverse source of pollen for honey production.

Additionally, the landowner sees a positive impact from improved soil health, and nearby farmers profit from pollination services.[25] Pollinators are critical to crop production, with the USDA estimating that wild and managed bees together add $15 billion in crop value each year.[26] An Argonne National Laboratory case study found that the value of pollinator habitat on U.S. lands designated as proposed or potential solar sites is between $1.5 billion and $3.2 billion.[27]

Native Vegetation and Pollinator-Friendly Solar

Sites with native or naturalized, non-invasive, flowering vegetation are commonly referred to as "pollinator-friendly solar sites." Pollinator-

25 "Fact Sheet: Making the Case for Solar Beekeeping." Center for Rural Affairs, Dec. 22, 2022. Accessed March 2023.
26 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019. Accessed March 2023.
27 "Case Study: Economics of Pollinator Habitats at Solar Facilities." Argonne National Laboratory. Accessed March 2023.

Policy Approaches for Dual-use and AgriSolar Practices

friendly solar project sites offer habitat for honey bees, native bees, and other species of pollinators, all of which can positively benefit local agricultural production. Using native or pollinator-friendly vegetation provides numerous benefits, including reduced erosion, improved water quality and soil health, and increased habitat for wildlife. It can also reduce long-term operation and maintenance costs for project developers and site managers.[28]

Determining the appropriate types of dual-use projects most likely to be successful at a specific site can be daunting. However, research is ongoing to understand the components needed for successful deployment and operation of agrisolar projects. From 2015 to 2021, the Innovative Solar Practices Integrated with Rural Economies and Ecosystems (InSPIRE) project studied field research sites and identified five key elements that enable success. These elements were explored in the report *"The 5 C's of Agrivoltaic Success Factors in the United States: Lessons from the InSPIRE Research Study."* They include:[29]

Climate, soil, and environmental conditions
The ambient conditions and factors of the specific location that are beyond the control of the solar owners, solar operators, agrivoltaic practitioners, and researchers.

Configurations, solar technologies, and designs
The choice of solar technology, the site layout, and other infrastructure that can affect light availability and solar generation.

Crop selection and cultivation methods, seed and vegetation designs, and management approaches
The methods, vegetation, and agricultural approaches used for agrivoltaic activities and research.

Compatibility and flexibility
The compatibility of the solar technology design and configuration with the competing needs of the solar owners, solar operators, agricultural practitioners, and researchers.

Collaboration and partnerships
Understandings and agreements made across stakeholders and sectors to support agrivoltaic installations and research, including community engagement, permitting, and legal agreements.

POLICY APPROACHES TO DUAL-USE

Policies at the federal, state, and local levels of government can influence the implementation of dual-use solar. These policies interact, but overall, local land-use policies have been shown to be the most significant catalyst or inhibitor of agrisolar development.[30]

We will be looking at a variety of policy approaches at each level of government, including tax incentives, land use laws, renewable portfolio standards, and others.

28 Smith, Cody. "Amplifying Clean Energy with Conservation, Part One: Pollinator-Friendly Solar." Center for Rural Affairs, October 2020. Accessed March 2023.
29 Macknick, Jordan, et al. "The 5 Cs of Agrivoltaic Success Factors in the United States: Lessons From the InSPIRE Research Study." National Renewable Energy Laboratory, 2022. Accessed March 2023.
30 Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." Energy Policy, December 2021. Accessed March 2023.

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Federal

Because land use decisions are typically made at the local level, the role of federal policy in encouraging or discouraging dual-use applications is limited. However, two primary incentives exist for solar development—the Business Energy Investment Tax Credit (ITC) and USDA's Rural Energy for America Program (REAP). Additionally, federal investments in dual-use can help bolster the practice.

Tax incentives

The ITC is the sole corporate tax credit available for solar. The tax credit does not include any restrictions that would disallow solar on specific locations, making it acceptable for combination with dual-use.[31]

Land-use laws

Authority over land use in the U.S. is held by state and local governments.[32]

Portfolio standards

Renewable portfolio standards are policies that require electricity suppliers to provide customers with a stated amount of electricity from renewable sources. Although the idea of a federal renewable portfolio standard has been proposed, no such policy currently exists.[33]

Other

REAP grants and loan guarantees offer financial assistance to agricultural producers and small businesses for energy improvements or investments. This can include construction of solar energy systems and does not present conflicts with dual-use integration.[34]

In 2022, DOE announced an $8 million investment in agrivoltaic research projects. The

Foundational Agrivoltaic Research for Megawatt Scale-funding program is aimed at developing best practices, seeking replicable models, providing new economic opportunities, and reducing land-use conflicts.[35] In 2022, USDA's Partnerships for Climate Smart Commodities awarded the University of Arizona $4.7 million[36] and the University of Texas Rio Grande Valley $2.2 million[37] for agrivoltaic research projects.

State

State policy approaches to dual-use include tax and other financial incentives, state-level land-use laws, renewable portfolio standards, and pollinator scorecards. State-level policies interact with local decision making in ways that can either enable or restrict local governments from enacting certain practices or policies.

Tax incentives

States can incentivize solar dual-use practices through land use taxes. If landowners are able to integrate solar development into their farming operation without a land-use tax change, they may be more receptive to the development. For example, Rhode Island has amended its Farm,

31 Ibid.
32 Ibid.
33 "Renewable energy explained: Portfolio standards." U.S. Energy Information Administration, November 30, 2022. Accessed March 2023.
34 Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." Energy Policy, December 2021. Accessed March 2023.
35 "DOE Announces $8 Million to Integrate Solar Energy Production with Farming." U.S. Department of Energy, Dec. 8, 2022. Accessed March 2023.
36 "Media Advisory: USDA awards over $4.7M to support and promote 'climate-smart' food production." University of Arizona, Dec. 19, 2022. Accessed March 2023.
37 Gonzalez, Maria. "UTRGV receives $2.2M grant for 'Climate-Smart' Commodities project." University of Texas Rio Grande Valley, Dec. 12, 2022. Accessed March 2023.

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Forest, and Open Space Land law to exempt landowners from a land-use change tax if they are integrating a dual-use renewable energy generation system, which is defined as a wind or solar system that allows agricultural practices to continue around it under normal practices.[38] [39]

Similarly, in 2021, New Jersey enacted a Dual-Use Solar Law, which provides an incentive for keeping land at solar sites in agricultural production. The law established a pilot program allowing unpreserved farmland used for dual-use solar projects to be eligible for farmland assessment under certain conditions.[40]

The AgriSolar Clearinghouse maintains an interactive map detailing dual-use financial incentives throughout the United States, including potential funding sources, assistance programs, utility incentives, and tax breaks. It can be found at: agrisolarclearinghouse.org/financial-information-map.

Land-use laws

State-level land use laws can significantly impact where solar development can happen. For example, Illinois' Agricultural Areas Conservation & Protection Act creates land areas where only agricultural production is allowed.[41]

As dual-use has evolved, debates about whether implementation of these practices at solar sites should qualify as agricultural land use are ongoing. One practice states can employ to help facilitate dual-use at solar sites is to review land use planning goals and definitions of solar generation, farmland, and farm uses to ensure they do not preclude dual-use solar.[42]

Some states have created statewide siting standards to regulate clean energy development. For example, in early 2023, lawmakers in Illinois passed House Bill 4412, which dictates statewide setbacks for wind and solar development.[43] Alternative approaches, such as the creation of state-specific best practices, model ordinances, or voluntary siting matrices offer ways to preserve local control while also providing helpful guidelines for local decision makers.[44] [45]

38 "Rules and Regulations for Enforcement of the Farm, Forest, and Open Space Act." Rhode Island Department of State. Accessed March 2023.
39 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019. Accessed March 2023.
40 "Chapter 170." New Jersey Legislature, 2021. Accessed March 2023.
41 Guarino, Jessica, and Tyler Swanson. "The Illinois Agrivoltaics Regulatory and Policy Guide Analyzes State and Local Laws." AgriSolar Clearinghouse, Feb. 1, 2023. Accessed March 2023.
42 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019. Accessed March 2023.
43 Moore, Brenden. "New Illinois state energy project standards welcomed by some, resisted by others." The Pantagraph, February 11, 2023. Accessed March 2023
44 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019. Accessed March 2023.
45 Mouw, Lindsay. "Exploring Siting Guidance: Agriculture Siting Matrices Inform Renewable Energy Siting." Center for Rural Affairs, July 2022. Accessed March 2023.

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Portfolio standards

As of 2021, 31 states and the District of Columbia had adopted renewable portfolio standards or clean energy goals.[46] Within these standards, "carve out" provisions can be used to encourage the adoption of certain technologies, such as solar and dual-use. As of 2021, 21 states had solar carve-out provisions in their renewable portfolio standards. Massachusetts' SMART program is one example of such a renewable portfolio standard that also incorporates incentives for dual-use.[47]

Other

Under the Massachusetts Department of Energy's Solar Massachusetts Renewable Target (SMART) program, specific kinds of dual-use solar systems, known as Agricultural Solar Tariff Generation Units (ASTGU), can qualify for financial incentives. To qualify, the land under the solar system must be in continuous agricultural production. The SMART program offers a base cents-per-kilowatt-hour compensation rate for new solar arrays. Systems using these practices that qualify as an ASTGU receive an additional 6 cents per kilowatt-hour to the base rate.[48] [49] [50]

Many states across the U.S. have created policies or programs to encourage or require implementation of pollinator habitat at solar

sites. These initiatives can vary widely in their structure and implementation. One tool is a pollinator scorecard, which provides a model to score pollinator-friendly practices. This score can be used to gauge if a site meets state or local requirements, to designate a site as pollinator-friendly, or to determine if a site qualifies for other types of incentives.[51]

For example, Minnesota state code (§216B.1642)[52] authorizes the Board of Soil and Water Resources to establish statewide guidance for solar project developers aiming for recognition under the Habitat Friendly Solar Program. The statute reads, "...an owner of a solar site implementing solar site management practices may claim that the site provides benefits to gamebirds, songbirds, and pollinators only if the site adheres to guidance set forth by the pollinator plan provided by the Board of Water and Soil Resources."[53] [54]

Local

Local land-use policy is the key leverage point

46 Bowers, Richard. "Five states updated or adopted new clean energy standards in 2021." U.S. Energy Information Administration, February 1, 2022. Accessed March 2023.
47 Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." Energy Policy, December 2021. Accessed March 2023.
48 "Dual-Use: Agriculture and Solar Photovoltaics." University of Massachusetts Amherst. Accessed March 2023.
49 "Guideline Regarding the Definition of Agricultural Solar Tariff Generation Units." Commonwealth of Massachusetts Executive Office of Energy and Environmental Affairs, Department of Energy Resources, Department of Agricultural Resources, April 26, 2018. Accessed March 2023.
50 "SMART Program Incentives for Solar Arrays." University of Massachusetts Amherst. Accessed March 2023.
51 "Pollinator-Friendly Solar Scorecards." Fresh Energy. Accessed March 2023.
52 "2019 Minnesota Statutes." Office of the Revisor of Statutes, Minnesota Legislature. Accessed March 2023.
53 "Minnesota Habitat Friendly Solar Program." Minnesota Board of Water and Soil Resources, 2019. Accessed March 2023.
54 Smith, Cody. "Amplifying Clean Energy with Conservation, Part One: Pollinator-Friendly Solar." October 2020. Accessed March 2023.

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for enabling development on land suitable for combining agriculture and solar energy production.[55] This is because local governments usually have the most influence over land use, including the ability to regulate zoning and develop siting ordinances that dictate how and where development can occur. Tax incentives and renewable portfolio standards are seen more in state-level policy.

Tax incentives

Local governments have the ability to create tax incentives, though these are more common in state-level policy.

Land-use laws

Land-use laws are the primary lever for local governments to facilitate dual-use. However, despite rapid expansion of solar energy development, many local governments have not addressed siting in their ordinances. In a review of local-level policies in Illinois, researchers found that many counties had no solar siting ordinance on the books, and the counties that did represented drastically different approaches to zoning and land-use policy.[56] As of 2020, only 19% of zoning ordinances in Michigan addressed utility-scale solar siting.[57] When counties lack an ordinance, it can create uncertainty for decision makers and developers, who won't know if the land use is permitted or prohibited.[58]

Solar siting often depends on the county's comprehensive land-use plans and resulting zoning and siting ordinances. When developing ordinances, local decision makers often use the county's land-use planning goals to help guide the process. For example, in Buchanan County, Iowa, county supervisors cited language in their comprehensive land-use plan about preserving agricultural lands with highly productive soils to propose a restriction on clean energy development on lands with high CSR.[59] Expressing similar concern, Scott County, Iowa passed an ordinance restricting solar development on lands with high CSR.[60] [61]

Conversely, some counties have identified renewable energy development as a priority within their comprehensive land-use plan. Linn County, Iowa's comprehensive plan contains a section on renewable energy, which identifies an objective to "encourage development of local alternative and renewable energy resources through identification and removal of regulatory

55 Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." Energy Policy, December 2021. Accessed March 2023.
56 Guarino, Jessica, and Tyler Swanson. "The Illinois Agrivoltaics Regulatory and Policy Guide Analyzes State and Local Laws." AgriSolar Clearinghouse, Feb. 1, 2023. Accessed March 2023.
57 Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." Energy Policy, December 2021. Accessed March 2023.
58 Ibid.
59 Klotzbach, John. "County Considering Wind Turbine Ordinance Changes." Independence Bulletin Journal, Sept. 6, 2022. Accessed March 2023.
60 "Scott County Ordinance NO. 22 -04." Scott County, Iowa, Sept. 15, 2022. Accessed March 2023.
61 Whiskeyman, Danny. "Scott County Board of Supervisors approves new solar ordinance." KWQC, Sept. 20, 2022. Accessed March 2023.

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barriers."[62]

Additionally, local governments can adopt siting ordinances that dictate specific dual-use management practices at solar sites. For example, ordinances can require sites to be planted in native vegetation or pollinator habitat, or to be maintained by livestock grazing.

Portfolio standards

Both municipalities and utilities have the ability to set their own renewable electricity goals.

Other

Community agrisolar projects can improve local buy-in by providing an opportunity for community members to become shareholders.[63]

CONSIDERATIONS FOR LOCAL DECISION MAKERS: HOW ORDINANCES CAN FACILITATE DUAL-USE

Decision makers who want to facilitate the combination of clean energy development and agriculture should consider the following topics when engaging in the ordinance development or amendment process:

Land-use Planning

Comprehensive land-use plans are commonly used by counties to help guide development. These plans reflect the values and vision of the community and, in rural areas, they often contain language relating to the preservation of agricultural heritage and farmland. The way this language is interpreted varies widely between counties, and some decision makers may have difficulty interpreting how language around agricultural resource protection relates to dual-use.[64]

Implementation of dual-use practices can provide an alternative to an either/or mindset relating to agriculture and clean energy development, as they allow land to stay in agricultural use. Combining livestock grazing, crop production, and other endeavors with solar sites preserves the agricultural roots of rural communities while also allowing landowners and counties to take advantage of the environmental and economic benefits of clean energy development.

Including renewable-energy development within the county's comprehensive plan can ensure the economic benefits of this development are taken into consideration when ordinances are created or amended in the future. Clean energy can benefit counties in the form of increased tax revenues, lease payments to local landowners, and job creation. Combining this development with dual-use can offer increased environmental benefits and provide new revenue streams for local farmers.

Zoning and Siting Regulations

Local decision makers can ensure that development is done in a way that meets the needs of the community by engaging in a proactive ordinance development process. By taking the time to create an ordinance before development has been proposed, decision makers can ensure there is time to receive

62 "Linn County Comprehensive Plan: Volume 1." Linn County, Iowa, July 19, 2013. Accessed March 2023.
63 Brunswick, Sarah, and Danika Marzillier. "The New Solar Farms: Growing a Fertile Policy Environment for Agrivoltaics." Minnesota Journal of Law, Science & Technology, March 4, 2023. Accessed March 2023.
64 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019. Accessed March 2023.

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community input and feedback on proposed language. Additionally, considerations can be made about setting additional land use expectations, such as dual use.

Counties wanting to enable dual-use integration should consider zoning schemes that allow for mixed land usage. This could include overlay districts, which would allow a special permit for solar in certain zones, or allowing development when certain land use standards are met, such placing a certain percentage of land into pollinator habitat.[65]

Siting regulations should be carefully crafted to ensure they don't restrict dual-use. For example, setting restrictions on panel height or developing overly prescriptive vegetation management requirements can limit dual-use opportunities.

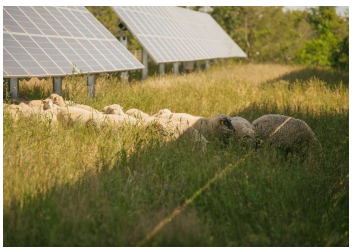
Definitions

When creating definitions within zoning and siting regulations, local governments can ensure they do not preclude dual-use solar. This could include refining definitions for solar generation, farmland, and farm uses to ensure compatibility with desired dual-use practices.[66]

It is also important to determine wich applications and practices will be considered dual-use. For example, in Oregon, a rule was adopted allowing for dual-use practices on high-value soils. However, the rule only specifies agrivoltaics and grazing, meaning pollinator habitats or other conservation dual-use do not qualify.[67]

Interaction of Dual-use Goals

When creating policies, it is especially important to carefully consider how the dual-usage goals interact. Certain requirements may unintentionally restrict beneficial practices. For example, native vegetation or pollinator-friendly habitat requirements may unintentionally limit grazing opportunities if plants on the site are not suitable. In the same vein, to meet pollinator requirements vegetation must be allowed to bloom to ensure it is actually benefiting pollinators, requiring grazing schedules be modified to accommodate bloom times.[68]



It is wise to consider that 100% of land may not be able to be integrated into dual-use. Setting overly strict guidance could deter development if prescriptions are not feasible. Instead, requiring a percentage of land to be used for dual-use purposes introduces a level of flexibility while ensuring that the original intent of the usage policy is preserved.

Site Construction, Decommissioning, and Restoration

Although not directly related to dual-use, local governments can use ordinances to minimize land impacts during the construction and decommissioning of solar systems.

Solar projects generally have minimal impact on land quality, and land can be returned to farming at the end of the project's life cycle, if desired. However, being clear about how land will be

55 Pascaris, Alexis S. "Examining existing policy to inform a comprehensive legal framework for agrivoltaics in the U.S." Energy Policy, December 2021. Accessed March 2023.
66 Marieb, Dugan. "Dual-use Solar in the Pacific Northwest: A Way Forward." Renewable Northwest, 2019. Accessed March 2023.
67 Ibid.
68 "Fact Sheet: Making the Case for Solar Grazing." Center for Rural Affairs, Dec. 2021. Accessed March 2023.

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managed during construction as well as once a project is decommissioned can help protect land quality. Local governments can set requirements for construction, vegetation management, and decommissioning that spell out the expectations and obligations. This can also include requiring financial guarantees to ensure funds are available for decommissioning purposes and that local governments are not responsible for costs.[69]

KEY TAKE-AWAYS

Solar development is expected to rise significantly in the coming years. Although deployment models reflect that will require a large amount of land, it is expected it will require 0.5% of land in the contiguous U.S. and, in many cases, can be placed on already disturbed or marginal lands. Even if all proposed projects in Minnesota and Iowa were sited on prime farmland, it would only represent 1.32% and 0.11% of all prime land in those states, respectively.

Clean energy and agriculture do not require an either/or approach. Through thoughtful planning, local decision makers can craft policies that respect the property rights of local landowners and allow them to take advantage of opportunities to diversify their income, while at the same time encouraging dual-use and agrisolar practices that preserve the agricultural values of the local community.

Dual-use and agrisolar practices can include cultivating crops, utilizing livestock grazing, beekeeping, and planting native vegetation and pollinator habitat. These practices can create a variety of environmental and economic benefits, such as new revenue streams for local farmers, increased

pollinators, wildlife habitat, and soil health, reduced erosion, and carbon storage.

Policies exist at the federal, state, and local levels of government that can influence the implementation of dual-use solar and agrivoltiacs. These policies interact but overall, local land-use policies have the most significant role in impacting solar and agrivoltaic development.

By engaging in a proactive ordinance development process, local decision makers can ensure that development is done in a way that meets the needs of their community. Creating an ordinance in advance of development ensures there is time to receive community input and feedback on the proposed language.

69 Kolbeck-Urlacher, Heidi. "Decommissioning Solar Energy Systems Resource Guide." Center for Rural Affairs, June 2022. Accessed March 2023.

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CHAPTER 564A

ACCESS TO SOLAR ENERGY

564A.1 Purpose.

It is the purpose of this chapter to facilitate the orderly development and use of solar energy by establishing and providing certain procedures for obtaining access to solar energy.

[81 Acts, ch 184, §3]

564A.2 Definitions.

As used in this chapter, unless the context otherwise requires:

1. *"Development of property"* means construction, landscaping, growth of vegetation, or other alteration of property that interferes with the operation of a solar collector.
2. *"Dominant estate"* means that parcel of land to which the benefits of a solar access easement attach.
3. *"Servient estate"* means land burdened by a solar access easement, other than the dominant estate.
4. *"Solar access easement"* means an easement recorded under section 564A.7, the purpose of which is to provide continued access to incident sunlight necessary to operate a solar collector.
5. *"Solar access regulatory board"* means the board designated by a city council or county board of supervisors under section 564A.3 to receive and act on applications for a solar access easement or in the absence of a specific designation, the district court having jurisdiction in the area where the dominant estate is located. Notwithstanding chapter 602 the jurisdiction of the district court established in this subsection may be exercised by district associate judges.
6. *"Solar collector"* means a device or structural feature of a building that collects solar energy and that is part of a system for the collection, storage, and distribution of solar energy. For purposes of this chapter, a greenhouse is a solar collector.
7. *"Solar energy"* means energy emitted from the sun and collected in the form of heat or light by a solar collector.

[81 Acts, ch 184, §4]

564A.3 Designation.

The city council or the county board of supervisors may designate a solar access regulatory board to receive and act on applications for a solar access easement. The board designated by the city council may be a board of adjustment having jurisdiction in the city, the city council itself, or any board with at least three members. The board designated by the county board of supervisors may be a board of adjustment having jurisdiction in the county, the board of supervisors itself, or any other board with at least three members. The jurisdiction of a board designated by the city council extends to applications when the dominant estate is located in the city. The jurisdiction of a board designated by the county board of supervisors extends to applications when the dominant estate is located in the county but outside the city limits of a city. In the absence of the designation of a specific board under this section, the district court having jurisdiction in the area where the dominant estate is located shall receive and act on applications submitted under section 564A.4 and to that extent shall serve as the solar access regulatory board for purposes of this chapter. Notwithstanding chapter 602 the jurisdiction of the district court established in this section may be exercised by district associate judges.

[81 Acts, ch 184, §5]

Referred to in §564A.2, 564A.4

564A.4 Application for solar access easement.

1. An owner of property may apply to the solar access regulatory board designated under section 564A.3 for an order granting a solar access easement. The application must be filed before installation or construction of the solar collector. The application shall state the following:

a. A statement of the need for the solar access easement by the owner of the dominant estate.

b. A legal description of the dominant and servient estates.

c. The name and address of the dominant and servient estate owners of record.

d. A description of the solar collector to be used.

e. The size and location of the collector, including heights, its orientation with respect to south, and its slope from the horizontal shown either by drawings or in words.

f. An explanation of how the applicant has done everything reasonable, taking cost and efficiency into account, to design and locate the collector in a manner to minimize the impact on development of servient estates.

g. A legal description of the solar access easement which is sought and a drawing that is a spatial representation of the area of the servient estate burdened by the easement illustrating the degrees of the vertical and horizontal angles through which the easement extends over the burdened property and the points from which those angles are measured.

h. A statement that the applicant has attempted to voluntarily negotiate a solar access easement with the owner of the servient estate and has been unsuccessful in obtaining the easement voluntarily.

i. A statement that the space to be burdened by the solar access easement is not obstructed at the time of filing of the application by anything other than vegetation that would shade the solar collector.

2. Upon receipt of the application the solar access regulatory board shall determine whether the application is complete and contains the information required under subsection 1. The board may return an application for correction of any deficiencies. Upon acceptance of an application the board shall schedule a hearing. The board shall cause a copy of the application and a notice of the hearing to be served upon the owners of the servient estates in the manner provided for service of original notice and at least twenty days prior to the date of the hearing. The notice shall state that the solar access regulatory board will determine whether and to what extent a solar access easement will be granted, that the board will determine the compensation that may be awarded to the servient estate owner if the solar access easement is granted and that the servient estate owner has the right to contest the application before the board.

3. The applicant shall pay all costs incurred by the solar access regulatory board in copying and mailing the application and notice.

4. An application for a solar access easement submitted to the district court acting as the solar access regulatory board under this chapter is not subject to the small claims procedures under chapter 631.

[81 Acts, ch 184, §6]

Referred to in §564A.3

564A.5 Decision.

1. After the hearing on the application, the solar access regulatory board shall determine whether to issue an order granting a solar access easement. The board shall grant a solar access easement if the board finds that there is a need for the solar collector, that the space burdened by the easement was not obstructed by anything except vegetation that would shade the solar collector at the time of filing of the application, that the proposed location of the collector minimizes the impact of the easement on the development of the servient estate and that the applicant tried and failed to negotiate a voluntary easement. However, the board may refuse to grant a solar access easement upon a finding that the easement would require the removal of trees that provide shade or a windbreak to a residence on the servient estate. The board shall not grant a solar access easement upon a servient estate if the board finds that the owner, at least six months prior to the filing of the application, has made a substantial

financial commitment to build a structure that will shade the solar collector. In issuing its order granting the solar access easement, the board may modify the solar access easement applied for and impose conditions on the location of the solar collector that will minimize the impact upon the servient estate.

2. The solar access regulatory board shall grant a solar access easement only within the area that is within three hundred feet of the center of the northernmost boundary of the collector and is south of a line drawn east and west tangent to the northernmost boundary of the collector.

3. The solar access regulatory board shall determine the amount of compensation that is to be paid to the owners of the servient estate for the impairment of the right to develop the property. Compensation shall be based on the difference between the fair market value of the property prior to and after granting the solar access easement. The parties shall be notified of the board's decision within thirty days of the date of the hearing. The owner of the dominant estate shall have thirty days from the date of notification of the board's decision to deposit the compensation with the board. Upon receipt of the compensation, the board shall issue an order granting the solar access easement to the owner of the dominant estate and remit the compensation awarded to the owners of the servient estate. The owner of the dominant estate may decline to deposit the compensation with the board, and no order granting the solar access easement shall then be issued.

4. When the order granting the solar access easement is issued, the owner of the dominant estate shall have it recorded in the office of the county recorder who shall record the solar access easement and list the owner of the dominant estate as grantee and the owner of the servient estate as grantor in the deed index. The solar access easement after being recorded shall be considered an easement appurtenant in or on the servient estate.

[81 Acts, ch 184, §7]
Referred to in §564A.6

564A.6 Removal of easement.

1. The owner of a servient estate may apply to the solar access regulatory board or may petition the district court for an order removing a solar access easement granted by a solar access regulatory board under this chapter under any of the following conditions:

a. If the solar collector is not installed and made operational within two years of recording the easement under section 564A.5.

b. If the dominant estate owner ceases to use the solar collector for more than one year.

c. If the solar collector is destroyed or removed and not replaced within one year.

2. The procedure for filing an application with the solar access regulatory board under this section and for notice and hearings on the application shall be the same as that prescribed for an application for granting a solar access easement. An order issued by the district court or a solar access regulatory board removing a solar access easement may provide for the return by the servient estate owner of compensation paid by the dominant estate owner for the solar access easement after the deduction of reasonable expenses incurred by the servient estate owner in proceedings for the granting and removal of the easement.

[81 Acts, ch 184, §8]
2013 Acts, ch 30, §261

564A.7 Solar access easements.

1. Persons, including public bodies, may voluntarily agree to create a solar access easement. A solar access easement whether obtained voluntarily or pursuant to the order of a solar access regulatory board is subject to the same recording and conveyance requirements as other easements.

2. A solar access easement shall be created in writing and shall include the following:

a. The legal description of the dominant and servient estates.

b. A legal description of the space which must remain unobstructed expressed in terms of the degrees of the vertical and horizontal angles through which the solar access easement extends over the burdened property and the points from which these angles are measured.

3. In addition to the items required in subsection 2 the solar access easement may include, but the contents are not limited to, the following:

a. Any limitations on the growth of existing and future vegetation or the height of buildings or other potential obstructions of the solar collector.

b. Terms or conditions under which the solar access easement may be abandoned or terminated.

c. Provisions for compensating the owner of the property benefiting from the solar access easement in the event of interference with the enjoyment of the solar access easement, or for compensating the owner of the property subject to the solar access easement for maintaining that easement.

[81 Acts, ch 184, §9]
Referred to in §564A.2

564A.8 Restrictive covenants.

City councils and county boards of supervisors may include in ordinances relating to subdivisions a provision prohibiting deeds for property located in new subdivisions from containing restrictive covenants that include unreasonable restrictions on the use of solar collectors.

[81 Acts, ch 184, §10]

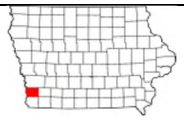
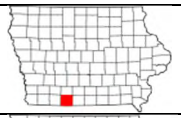
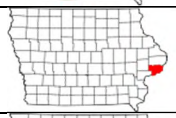
564A.9 Assistance to local government bodies and the public.

The department of natural resources shall make available information and guidelines to assist local government bodies and the public to understand and use the provisions of this chapter. The information and guidelines shall include an application form for a solar access easement, instructions and aids for preparing and recording solar access easements and model ordinances that promote reasonable access to solar energy.

[81 Acts, ch 184, §11]

Sample of Utility-Scale Solar Ordinances in Other Iowa Counties

The subsequent pages include ordinances that have passed or drafts under consideration in other Iowa Counties. This list does not reflect every county that may have policies for utility-scale solar systems.

County	Location	Population (2023)	Status	Permitting Body	Permit Type	Zoning District
Adair		7,439	In effect	Board of Supervisors	Board of Supervisors Permitting	No designation
Clayton		16,716	In effect	Board of Adjustment	Special Exception Use Permit	Consumer Scale referenced in R-1, C-1, & A-1 Districts
Clinton		45,662	In effect	Board of Adjustment	Special Exception Permit	A-1, AR-1, C-1, C-2, M-1, M-2
Dubuque		100,949	In effect	Board of Adjustment	Special Use Permit	A-1 (Agricultural District); Permitted in M-1 (Light Industrial) and M-2 (Heavy Industrial)
Johnson		159,445	In effect	Board of Adjustment	Conditional Use Permit	Agricultural District
Linn		236,020	In effect	Board of Supervisors	Handout only	Renewable Energy Overlay Zoning District
Louisa		10,672	Draft Proposal	Board of Adjustment	(Ordinance Status unknown) Special Exception Permit	Special Use Exception in the A-1 (Agricultural District); B-1 (Business District); I-1 (Industrial District)
Mills		14,310	In effect	Board of Adjustment	Conditional Use Permit	AG (Agricultural Zoning District); AR (Agricultural/Residential Zoning District)
Monona		8,604	In effect	Board of Adjustment	Special Use Permit	A-1; A-2 – Agricultural Districts
Muscatine		43,382	In effect	Board of Adjustment	Special Use Permit	A-1 (Agricultural District); Permitted use in I-1 & I-2 (Light and Heavy Industrial)
Polk		510,929	In effect	Board of Adjustment	Conditional Use Permit	AG (Agricultural Zoning District); LI (Limited Industrial Zoning District); HI (Heavy Industrial Zoning District)
Ringgold		4,522	In effect	Board of Supervisors	Construction Permit	No designation
Scott		177,501	In effect	Board of Supervisors	Rezone Procedure	US-F Floating District
Tama		16,946	Under Consideration	Solar Access Regulatory Board / Board of Supervisors	Solar Access Easement	No designation; capped by 25 Megawatts (MW).

ORDINANCE NO. 38

AN ORDINANCE REGULATING THE PLACEMENT OFUTILITY SCALE SOLAR ENERGY SYSTEMS ON PROPERTY LOCATED IN THE UNINCORPORATED AREAS OF ADAIR COUNTY, IOWA

Be it enacted by the Board of Supervisors of Adair County Iowa:

Purpose and Intent. The purpose of this Ordinance is to establish minimum requirements and regulation of any Applicant/Developer/Owner engaged in the construction, erection, placement, location, maintenance, modification, operation, and decommissioning of Utility Scale Solar Energy Systems (US-SES) in Adair County, Iowa.

The intent of this Ordinance is to facilitate the construction, installation, and operation of Utility Scale Solar Energy Systems (US-SES) in Adair County in a manner that preserves and protects the rights, privileges, and property of the County and its residents, that ensures the protection of the health, safety, and welfare of the county's residents, and that provides an opportunity for economic growth and development.

All Utility Scale Solar Energy System projects not currently contracted by agreement, permitted, planned, and erected shall follow this Solar Energy Systems Ordinance. This Ordinance shall not apply to any US-SES project with an agreement signed before the effective date of this Ordinance.

Section 1. Definitions. For use in this Ordinance, certain words used herein shall be defined as follows:

Agreement. A legally binding document signed by both a participating landowner and an owner or operator for a specific purpose, including but not limited to a contract, easement, or lease.

Applicant. The person or entity submitting the application under this Ordinance, which is normally expected to be the owner or operator of a US-SES, or the owner of the US-SES development.

Board of Supervisors. A board elected by Adair County residents.

Developed Project Acres. The total project area that is subject to an agreement between the Owner/Operator and the Participating Landowner and is actually developed and utilized for placement of a US-SES.

Easement. A legal agreement for the use of property for a specified purpose.

Non-Participating Landowner. A landowner who has not signed a binding agreement with the Applicant/Developer/Owner of the LUS-SES project.

Occupied Residence. A house, apartment, or other structure designed for residential use that is the abode of a person, family, or household, and is regularly occupied.

Owner. The entity or entities with an equity interest in the US-SES, including their respective successors and assigns. Owner does not mean the landowner from whom a lease, easement, or other property right is acquired for locating the US-SES unless the landowner has an equity interest in the US-SES, or any person holding a security interest in the US-SES solely to secure an extension of credit, or a person foreclosing on such security interest provided that after foreclosure, such person seeks to sell the US-SES at the earliest practical date.

Participating Landowner. A landowner who has signed a binding agreement with the Applicant/

Developer/Owner of the US-SES project.

Project Area. The geographic area encompassing all components of a US-SES project, including border fencing.

Property Line. The legal boundary between separately owned real estate parcels, and between privately owned parcels and publicly owned land or public right of way.

Setback. The minimum required distance from a certain object, structure or point to the edge of any part or component of the US-SES.

Utility Scale Solar Energy System (US-SES). Also known as solar power plants and solar farms, an alternative energy facility that consists of ground-mounted or freestanding sunlight or solar collection devices, solar energy related equipment, and other associated infrastructure with the primary intention of generating electricity from photovoltaics or concentrated solar power, or otherwise converting energy to a different form of energy, to be distributed to the electrical grid or other off-site use. This does not include small-scale solar panels or technologies installed at individual residential or commercial locations (e.g. roof or ground mounted panels) that are used exclusively for private purposes and not utilized for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electrical grid.

US-SES Construction Permit. A permit issued by Adair County, which is required before construction of a US-SES is allowed in Adair County.

Section 2. Cap on Total Acres Utilized for US-SES. There shall be a cap of 400 total Developed Project Acres in Adair County devoted to placement of Utility Scale Solar Energy Systems.

A participating landowner who wishes to appeal the denial of a US-SES Construction permit on the basis that the total acreage cap has been met or exceeded must contact the Adair County Auditor's Office to receive the current Appeal for Variance form. The participating landowner must complete the form in its entirety, and file it with the Adair County Auditor's Office for review by the Board of Supervisors.

Section 3. Permit Application Requirements. The applicant for the siting and construction of a Utility Scale Solar Energy System shall file an application with the County Engineer or their designee, along with the permit fee of $100.00, prior to commencing construction.

The application for a Utility Scale Solar Energy System Construction Permit shall include:

1. A written US-SES project summary, including (1) a general description of the project, including the approximate generating capacity; (2) the model and equipment manufacturer for the solar panel array; (3) the name, address, email address, and telephone number of the applicant, project owner, and/or project operator; and (4) the legal description of the property or properties on which the Utility Scale Solar Energy System will be located.
2. A site plan of the US-SES site to be an aerial photograph of the project location and surrounding area or a scale drawing showing all of the following:
   a. Boundaries of the site;
   b. All proposed SES structures and other support structures, including the number, location, spacing, and height of solar panels/arrays and the planned location of underground or overhead electrical lines;
   c. All proposed fencing to surround the SES structures and other support structures;
   d. Location of property lines, including identification of adjacent properties and whether they are participating or non-participating;
   e. Setback measurements between the fencing, solar panel(s) and/or equipment closest to the required protected areas, and all applicable property lines, occupied residences, road right of ways, intersections, and airports. This provision does not include underground facilities, such as cable;
   f. An unredacted Health & Safety Instructions Manual specifically for the make, model, and type of solar panel array from the manufacturer of said solar panels. This manual must be presented to the County to have on file with the Auditor's office and must be made available to the public at time of application. No other generalized statement, document, or manual is acceptable.
3. A description of the anticipated life of the US-SES, the anticipated manner in which the project will be decommissioned, the anticipated site restoration actions, the estimated decommissioning costs in current U.S. dollars, the method for ensuring that funds will be available for decommissioning and restoration; and evidence of an agreement with the property owner for the location of the US-SES that ensures proper removal of all equipment and restoration of the site within six (6) months of decommissioning or abandonment of the project.
4. Consultation with or notifications from relevant state and federal agencies showing the project will not be a hazard to wildlife, communications, air traffic, and other related matters.

Upon receipt of the complete application and permit fee, the Adair County Engineer shall review the application. Upon the determination by the Adair County Engineer that the requirements of this Ordinance have been satisfied, the completed US-SES Construction Permit Application and any/all necessary supporting documentation shall be presented to the Adair County Board of Supervisors for approval. The Adair County Board of Supervisors, upon approval of the application, shall provide any necessary building permits for each US-SES. If there are changes to the information as provided as a part of the application that occur from the time of the application until the time of the construction of the US-SES, the applicant shall submit a new application together with the updated information and any such change shall be in compliance with this Ordinance. The Adair County Engineer shall present the amended and completed US-SES Construction Permit Application to the Adair County Board of Supervisors using the process described above.

Section 4. General Requirements for Utility Scale Solar Energy Systems (US-SES). US-SES shall be subject to the following requirements:

1. Setbacks. All US-SES and any upgrades to existing solar energy systems shall observe the following setbacks, to be measured from the edge of the solar panels and equipment (not underground facilities such as cable or fencing):

Protected Area	Setback Requirement
Occupied Residence	1,000 feet from occupied residence
Any non-participating parcel	250 feet from property line
Public road right of way	50 feet from road right of way
Public road intersections	Radius of 150 feet from the center of the intersection
Public Airports	5 miles from property line

   Participating and non-participating landowners may sign a waiver consenting to the placement of US-SES and/or upgrades closer than the setback requirements outlined above.
2. Safety. Security fencing shall be installed and maintained in good condition around all electrical equipment related to the US-SES project, including but not limited to transformers and transfer stations. The fencing shall be equipped with a minimum of one gate and locking mechanism on the primary access side. Appropriate warning signage shall be placed at safe intervals at the entrance and perimeter of the US-SES project.
3. Insurance. Applicants shall provide evidence, in the form of a certificate of insurance satisfactory to the county, showing general liability insurance coverage for the installation and operation of the project under a standard homeowner's or standard business owner's insurance policy, separate and distinct from any requirements of a public utility.
4. Ground Cover. All solar panels shall have native perennial vegetation planted and maintained beneath them, including a mix of grasses and wildflowers. The site shall be maintained to prevent fire hazards. No concrete or gravel type cover of property is permissible.
5. Certification & Compliance. All US-SES shall conform to applicable industry standards, including those from the Underwriters Laboratory (UL) and Federal Aviation Administration (FAA), and shall be in compliance with all applicable local, state, and federal regulatory standards and applicable electrical codes, including the National Electric Code (NEC).

Section 5. Public Infrastructure Damage Avoidance/Mitigation & Decommissioning.

1. Roads. The applicant or owner of the US-SES shall enter into a road use agreement, substantially in the form attached to this Ordinance, with Adair County prior to the start of construction of the US-SES project. Adair County's approval and execution of the agreement shall not be unreasonably withheld.
2. Decommissioning. The US-SES's owner shall enter into a decommissioning agreement, substantially in the form attached to this Ordinance, with Adair County prior to the start of construction of the US-SES project. Adair County's approval and execution of the agreement shall not be unreasonably withheld.

Section 6. Miscellaneous.

1. Condemnation Waiver. Issuance of a US-SES Construction Permit shall be conditioned on the permit holder's enforceable promise, supported by the consideration of the issuance of the US-SES Construction Permit, that the permit holder shall never use, or seek to use, eminent domain to acquire any real property interests to construct or operate the project.
2. Legal Fees. In any action brought by the County against the permit holder or a US-SES Construction Permit to enforce the provisions of this Ordinance, the County shall be entitled to recover its reasonable attorney's fees and court costs as may be awarded by the decision-making tribunal.

Section 7. Transfer. Building permits and associated decommissioning and road use agreements granted under this Ordinance may be transferred to another party subject to Adair County Board of Supervisors approval, which approval shall not be unreasonably withheld. Any assignee of the building permits and associated decommissioning and road use agreements shall be subject to all the requirements in this Ordinance and the agreements.

Section 8. Severability. Should any section or provisions 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.
Section 9. Penalty. Any person, persons, firms, partnerships or corporations, whether acting alone or in concert with any other, who violates this Ordinance, shall be guilty of a simple misdemeanor as authorized by Iowa Code section 331.302.
Section 10. Effective Date. This Ordinance shall be in effect after its final passage, approval, and publication as required by law.
Passed and approved this 5th day of May, 2021.
Steve Shelley, Chairperson, Board of Supervisors
Attest: Mandy Berg, County Auditor

CLAYTON COUNTY ORDINANCE #2-2020
UTILITY SCALE SOLAR INSTALLATIONS

TITLE

An Ordinance Establishing Regulations for Utility Scale Solar Installations in Clayton County, Iowa.

BE IT ENACTED by the Board of Supervisors, Clayton County, Iowa.

SECTION 1. PURPOSE

The purpose of this ordinance is to allow utility scale photovoltaic solar installations. Concentrating solar power (CSP) systems shall be prohibited.

SECTION 2. DEFINITIONS

For use in this ordinance, certain terms or words used herein shall be interpreted or defined as follows:

a) **Appurtenant Structure.** A structure which is on the same parcel of the property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.
b) **Concentrating Solar Power Systems.** A system that generates solar power by using mirrors or lenses to concentrate a large area of sunlight onto a small area. Electricity is generated when the concentrated light is converted to heat.
c) **Photovoltaic System.** An active solar energy system that converts energy directly into electricity.
d) **Solar Access.** Unobstructed access to direct sunlight on a lot or building through the entire year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy system.
e) **Solar Farm/Solar Array.** A commercial facility that converts sunlight into electricity and is the principal use for the parcel of which it is located.
f) **Solar Panel.** A device or structure for which the primary purpose is to transform solar radiant energy into electrical energy.
g) **Solar Panel Surface.** Any part of a solar panel that absorbs solar energy for use in the collector's energy transformation process. Panel surface does not include frames, supports and mounting hardware.

SECTION 3. PROCEDURES

A Special Exception Use Permit in accordance to Section 9 of the Clayton County, Iowa Zoning Ordinance, and site plan are required. The application shall include the following information on the site plan, or in narrative form, supplied by the utility scale solar installation owner, operator, or contractor installing the structures:

a) Plat of Survey showing the parcel(s) on which the solar array will be located.
b) Corn Suitability Rating on parcels of ten (10) acres or more in accordance with Clayton County Comprehensive Plan.
c) Number, location, and spacing of solar panels/arrays.
d) Planned location of underground or overhead electric lines.
e) Project development timeline, which indicates how the applicant will inform adjacent property owners and interested stakeholders in the community.
f) Property Owners within five hundred (500) feet of proposed location.
g) Interconnection agreement.
h) Operation and Maintenance plan.
i) Decommissioning plan.

SECTION 4. SITE AND STRUCTURE REQUIREMENTS

a) **Setback.** Setbacks for all structures (including solar arrays) must adhere to the minimum principal use setback standards for the zoning district where the project is located; greater setbacks may be recommended absent a solar access agreement.
b) **Screening.** A landscape buffer may be required to be installed and maintained during the life of the operation. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.
c) **Utility Connections.** Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.
d) **Grading Plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g. clearing, grading, topographic changes, tree removal, etc).
e) **Glare Minimization.** All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic including air traffic, or create a safety hazard.
f) **Compliance with Local, State, and Federal Regulations.** Utility scale solar installations shall comply with applicable local, state and federal regulations.
g) **Appurtenant Structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the underlying zoning district.
h) **Floodplain Considerations.** Utility scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain regulations.
i) **Signage.** No signs other than appropriate warning signs, or standard manufacturer's, operator's, or installer's signage shall be displayed.
j) **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 dismantled and removed from the site.

SECTION 5. OPERATION AND MAINTENANCE

The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, storm water and erosion controls, as well as general procedures for operation and maintenance of the installation.

a) **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 Iowa Department of Natural Resources.
b) **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:
    1. Top soils shall not be removed during development, unless part of a remediation effort.
    2. Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage run off and build soil.
    3. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Iowa Department of Natural Resources, County Soil and Water Conservation Service, or Natural Resource Conservation Service.
    4. Plant material must not have been treated with systemic insecticides, particularly neonicotinoids.
c) **Maintenance, Repair or Replacement of Facility.** Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a

level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

d) **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; 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 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. 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.
4. Following a continuous one (1) 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 shall be completed in accordance with the approved decommissioning plan. The landowner or tenant must notify the county when the project is discontinued.

SECTION 6. SEVERABILITY CLAUSE

If any section, provision, or part of this Ordinance shall be judged invalid or unconstitutional, such adjudication shall not affect the validity of this Ordinance as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

SECTION 7. EFFECTIVE DATE

This Ordinance shall be in full force and effect after its final passage, approval, and publication as provided for by the Code of Iowa.

PASSED AND APPROVED this 6th day of February, 2020.

/s/ Ray Peterson, Chairperson, Board of Supervisors
Attest: /s/ Jennifer Garms, Clayton County Auditor

First Reading: February 4, 2020
Second Reading: February 6, 2020
Third Reading: Waived
Approved: February 6, 2020
Published: February 19, 2020

Clinton County, IA
Summary Only
For full ordinance text, please find pdf below or visit county website.

Date Passed/Amended: October 3, 2016
Summary Written: June 9, 2022

Agricultural Use Table:

Eligible Zoning:

a) Commercial Solar Energy System (CSES)
    a. Prime Agricultural District (A-1)
    b. Agricultural Recreation District (AR-1)
    c. Highway Commercial District (C-1)
    d. Rural Support Commercial District (C-2)
    e. Limited Industrial District (M-1)
    f. General Industrial District (M-2)

Prohibition Language:

Required Information/Permits Required:

a) Commercial Solar Energy System (CSES)
    a. Major Site Plan and Special Exception Use Permit is required.
    b. Other items to be submitted are:
        i. Number, location and spacing of solar arrays.
        ii. Planned location of underground or overhead electric lines.
        iii. Project development timeline.
        iv. Interconnection agreement.
        v. Operation and maintenance plan.
        vi. Decommissioning Plan.

Request for Variance:

Site and Structure Requirements:

a) Compliance with all local, state, and federal regulations:
    a. Commercial Solar Energy System (CSES)
        i. All CSES installations shall comply with all applicable local, state and federal regulations.

b) Concentrating Solar Power Facilities:
    a. Commercial Solar Energy System (CSES)
        i. Concentrated Solar Power (CSP) systems shall be prohibited.

c) Fencing/Security:
    a. Commercial Solar Energy System (CSES)
        i. A security fence must be installed along all exterior sides of the CSES installation and be equipped with a minimum of one (1) gate and locking mechanism on the primary access side.
        ii. Security gates and warning signs must be maintained in good condition until the CSES installation is dismantled and removed from the site.

d) Glare minimization:
    a. Commercial Solar Energy System (CSES)
        i. All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic or create a safety hazard.

e) Height:
    a. Commercial Solar Energy System (CSES)
        i. All structures shall be subject to the height requirements of the underlying zoning district.

f) Lighting:

g) Minimum Lot Size:

h) Noise:

i) Outside storage:

j) Setbacks and Lot Coverage:
    a. Commercial Solar Energy System (CSES)
        i. Setbacks for all structures must adhere to the minimum principal setback standards for the zoning district where the project is located.
        ii. Greater setbacks may be required by the Board of Adjustment.

k) Screening:
    a. Commercial Solar Energy System (CSES)
        i. A landscape buffer may be required to be installed and maintained during the life of the project's operation.
        ii. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.
        iii. Blooming shrubs may be used in buffer areas as appropriate for visual screening.

l) Signage:
   a. Commercial Solar Energy Systems (CSES)
      i. No signs other than appropriate warning signs, or standard manufacturer's, operator's or installer's identification signage shall be displayed.

m) Site Access/Emergency Response:
   a. Commercial Solar Energy System (CSES)
      i. Site access shall be maintained to a level acceptable to emergency response officials.

n) Utility Connections:
   a. Commercial Solar Energy System (CSES)
      i. Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection or other conditions or requirements.

o) Waste:
   a. Commercial Solar Energy System (CSES)
      i. During operation, 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.
      ii. Any onsite storage of chemicals or solvents shall be referenced.

Operation and Maintenance Plan

a) Monitoring and Maintenance
   a. Commercial Solar Energy System (CSES)
      i. The applicant shall submit a plan for the operation and maintenance of the installation, which shall include measures for maintaining safe access to the installation, stormwater and erosion controls, as well as general procedures for operation and maintenance of the installation.
      ii. Maintenance shall include, but not be limited to, painting, structural repairs and integrity of security measures.
      iii. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

b) Soil and Erosion and Sediment Control
   a. Commercial Solar Energy System (CSES)
      i. A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g. clearing, grading, topographical changes, tree removal, etc.).
      ii. All CSES installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.
      iii. 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 Iowa Department of Natural Resources and comply with requirements as detailed by local jurisdictional authorities during the plan submittal.
      iv. If subject to NPDES requirements, the applicant must submit the permit for review and comment and an erosion and sediment control plan before the beginning of construction.
      v. 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 runoff into waterways.
      vi. For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities.
      vii. Ground cover around and under solar arrays and in project site buffer areas shall be planted and maintained in perennial vegetated ground cover.
         1. Top soils shall not be removed during development, unless part of a remediation effort.
         2. Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage runoff and build soil.
         3. Seeds should include a mix of grasses and wildflowers, ideally 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.
         4. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from Department of Natural Resources, County Soil and Water Conservation Service or Natural Resource Conservation Service.

Decommissioning and Site Reclamation

a) Commercial Solar Energy System (CSES)
   a. An application must include a Decommissioning Plan that includes anticipated life of the CSES, anticipated manner in which the project will be decommissioned, 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.

b. Applicant shall provide the basis for estimates of net costs for decommissioning the site, costs less salvage value. The basis must include a mechanism for calculating adjusted costs over the life of the project.
c. Restoration or reclamation activities shall include, but not be limited to:
    i. Restoration of the pre-construction surface grade and soil profile after removal of CSES and access roads.
    ii. Re-vegetation of restored soil areas with crops, native seed mixes, plant species suitable to the area, consistent with the County's weed control plan.
    iii. For any leased area, 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.
    iv. Any use of remaining structures must be in conformance with the regulations in effect at that time.
d. Following a period of one (1) year with no electricity, or if substantial action on the project is discontinued for one (1) year the permit holder will have one (1) year to complete decommissioning of the CSES.
e. Decommissioning shall be done in accordance with the approved Decommissioning Plan and the land owner or tenant must notify the County when the project is discontinued.

Clinton County 46,734 Pop

4. **Engineer Certification**: Applications for NonC-WECS shall be accompanied by standard drawings of the wind turbine structure, including the tower, base, and footings. An engineering analysis of the tower showing compliance with the applicable regulations and certified by a licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer.

5. **Compliance with FAA Regulations**: NonC-WECS must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.

6. **Compliance with National Electric Code**: Applications for NonC-WECS shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electrical Code. This information is frequently supplied by the manufacturer.

7. **Utility Notification**: No NonC-WECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

4.2.18 Utility Scale Solar Installations. (Amended 10/3/16-Ord 2016-03)

The Purpose of this section is to encourage utility scale photovoltaic solar installations. Concentrating solar power (CSP) systems shall be prohibited.

A. **Major site plan and Special Exception Use Permit required:** A site plan shall be submitted and reviewed as part of the approval of a utility scale solar installation. A utility scale solar installation shall require a Special Exception Use Permit.

B. **Additional information:** In addition to all submittal requirements of a Special Exception Use Permit application, the application for a utility scale solar installation shall include the following information on the site plan or in narrative form, supplied by the utility scale solar installation owner, operator or contractor installing the structure(s):

1. Number, location and spacing of solar panels/arrays.
2. Planned location of underground or overhead electric lines.
3. Project development timeline.
4. Interconnection agreement.
5. Operation and maintenance plan.
6. Decommissioning plan.

C. **Site and Structure Requirements**

1. **Setback.** Setbacks for all structures (including solar arrays) must adhere to

the minimum principal setback standards for the zoning district where the project is located; greater setbacks may be required by the Board of Adjustment.

2. **Screening.** A landscape buffer may be required to be installed and maintained during the life of the operation. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

3. **Utility Connections.** Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.

4. **Grading plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.).

5. **Glare minimization.** All solar panels must be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.

6. **Compliance with local, state and federal regulations.** Utility scale solar installations shall comply with applicable local, state and federal regulations.

7. **Appurtenant structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the underlying zoning district.

8. **Floodplain considerations.** Utility scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations.

9. **Signage.** No signs other than appropriate warning signs, or standard manufacturer's, operator's or installer's identification signage, shall be displayed.

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 dismantled and removed from the site.

D. **Operation and maintenance plan.** The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, stormwater and erosion controls, as well as general procedures for operation and maintenance of the installation.

1. **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 Iowa 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 runoff into waterways.

2. **Stormwater management considerations.** For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities.

3. **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 to prevent erosion, manage run off and build soil. Seeds should include a mix of grasses and wildflowers, ideally 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.

   c. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Department of Natural Resources, County Soil and Water Conservation Service, or Natural Resource Conservation Service.

4. **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 onsite storage of chemicals or solvents shall be referenced.

5. **Maintenance, repair or replacement of facility.** Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment

shall adhere to all applicable local, state and federal requirements.

E. Decommissioning and site reclamation 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; 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, 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.

4. Following a continuous 1 year period in which no electricity is generated, or if substantial action on the project is discontinued for a period of 1 year, the permit holder will have 1 year to complete decommissioning of the utility scale solar installation. Decommissioning shall be completed in accordance with the approved decommissioning plan. The land owner or tenant must notify the County when the project is discontinued.

4.2.19 Non-Utility Scale Solar Installations (Amended 10/3/16-Ord 2016-03)

A. **Permitted Accessory Use.** Active solar energy systems shall be allowed as an accessory use in all zoning classifications where structures of any sort are allowed, subject to certain requirements as set forth below.

   1. Height. Active solar energy systems must meet the following height requirements:

      a. Building- or roof-mounted solar energy systems shall not exceed the maximum allowed height in any zoning district. For

purposes for height measurement, solar energy systems other than building-integrated systems shall be given an equivalent exception to height standards as building mounted mechanical devices or equipment.

b. Ground- or pole-mounted solar energy systems shall not exceed 20 feet in height when oriented at maximum tilt.

2. **Set Back.** Active solar energy systems must meet the accessory structure setback for the zoning district and primary land use associated with the lot on which the system is located.

   a. Roof-mounted solar energy systems. In addition to the building setback, the collector surface and mounting devices for roof-mounted solar energy systems shall not extend beyond the exterior perimeter of the building on which the system is mounted or built, unless the collector and mounting system has been explicitly engineered to safely extend beyond the edge, and setback standards are not violated. Exterior piping for solar hot water systems shall be allowed to extend beyond the perimeter of the building on a side yard exposure.

   b. Ground-mounted solar energy systems. Ground-mounted solar energy systems may not extend into the side-yard or rear setback when oriented at minimum design tilt.

3. **Approved Solar Components.** Electric solar energy system components must have a UL listing and solar hot water systems must have an SRCC rating.
4. **Approval Required.** All solar energy systems shall require a Zoning Permit from the Clinton County Planning and Zoning office. Zoning approval does not indicate compliance with Building Code or Electric Code.
5. **Compliance with Building Code.** All active solar energy systems shall be consistent with the State of Iowa Building Code and solar thermal systems shall comply with HVAC-related requirements of the Electric Code.
6. **Compliance with State Electric Code.** All photovoltaic systems shall comply with the Iowa State Electric Code.
7. **Compliance with State Plumbing Code.** Solar thermal systems shall comply with applicable Iowa State Plumbing Code requirements.
8. **Utility Notification.** All grid connected solar energy systems shall comply with the interconnection requirements of the electric utility. Off-grid systems are exempt from this requirement.

CHAPTER 5 – UTILITY SCALE SOLAR ENERGY SYSTEMS ORDINANCE

Adopted March 6, 2023

Table of Contents

PART 1
INTRODUCTION

5-1 **AUTHORITY** The requirements of this Ordinance shall apply to all Commercial Solar Energy Systems proposed after the effective date of this Ordinance. Commercial Solar Energy Systems for which a required Dubuque County permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing Commercial Solar Energy System, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing Commercial Solar Energy System shall be allowed without full compliance with this Ordinance.

5-2 **DEFINITIONS** For use in this Ordinance, the following terms or words shall be interpreted or defined as follows:

5-2.1 **"Concentrating Solar Power"** A system that generates solar power by using mirrors or lenses to concentrate a large area of sunlight onto a receiver.

5-2.2 **"Easement or Lease"** A legal agreement for the use of property for a specified purpose.

5-2.3 **"Feeder Circuits/Lines"** A power line or network of lines used as a collection system that carries energy produced by a solar energy system to an interconnection point like a substation. Feeder circuits are most often placed underground.

5-2.4 **"Interconnection"** Link between a generator of electricity and the electrical grid.

5-2.5 **"Module"** An individual unit composed of multiple photovoltaic (PV) cells, with multiple modules used in a solar energy system.

5-2.6 **"Mounting"** The method of anchoring solar energy system modules to the ground or a building.

5-2.7 **"Non-Participating Landowner"** Any landowner that has not signed a lease agreement for an easement or lease with the project owner or developer, often adjacent to or near the project.

5-2.8 **"Operator"** The entity or individual that operates a solar energy system.

5-2.9 **"Owner"** The entity or individual that has ownership over a solar energy system.

5-2.10 **"Substation"** A subsidiary station of electricity generation, transmission, and distribution system where voltage is transformed from high to low or the reverse using transformers.

5-2.11 **"System Height"** The height of a solar energy system, usually referring to ground mounted systems. Total system height is the measurement from the ground to the top of the mounting or modules associated with a system.

5-2.12 **"Transmission Lines"** Power lines used to carry electricity from collection systems or substations over long distances.

5-2.13 **"Solar Energy System"** A system that converts energy from sunlight into electricity or an additional energy source such as heat.

5-2.14 **"Solar Energy System – Commercial"** A solar energy system of interconnected solar panels/arrays that convert sunlight into electricity for the primary purpose of wholesale or retail sale, or retail sale, or purchase power arrangements of generated electricity.

5-2.15 **"Solar Energy System – Consumer"** A solar energy system of interconnected solar panels/arrays that convert sunlight into electricity for the primary purpose of meting the electrical demands at the location. These systems are typically intended to offset electricity usage for the owner and are not intended to be net annual generators of electricity. Consumer solar energy systems may be installed at residential, business, agricultural, or public properties.

5-3 through 5-9 Reserved

PART 2
COMMERCIAL SOLAR ENERGY SYSTEMS

5-10 **GENERAL REQUIREMENTS**

5-10.1 **Concentrating Solar Power (CSP) Systems.** Concentrating Solar Power Systems are not a permitted use under this ordinance.

5-10.2 **Site Plan.** A site plan shall be submitted and reviewed prior to approval of a Commercial Solar Energy System.

5-10.3 **Special Use Permit Required.** A Commercial Solar Energy System is a

Special Permitted Use in the A-1, Agricultural District and a permitted use in the M-1, Light Industrial and M-2, Heavy Industrial Districts.

5-10.4 Additional Information. In addition to all submittal requirements of a site plan and Special Use Permit application (where required), the application for a commercial solar installation shall include the following information on the site plan or in narrative form, supplied by commercial solar energy system owner, operator or contractor installing the structures:

A. Number, location and spacing of solar panels/arrays
B. Planned location of underground or overhead electric lines
C. Project development timeline which indicated how the applicant will inform adjacent property owners, persons in possession (tenants) and interested stakeholders in the community.
D. Interconnection plan.
E. Decommissioning plan.
F. Site and structure requirements.

For projects 25MW or larger, the Application of Certificate, required by the Iowa Utilities Board, will be considered acceptable to meet the above additional requirements. In cases where a Special Use Permit is required, the current application to the Board of Adjustment shall still be required.

5-10.5 Setbacks. Setbacks for all structures (including solar arrays) shall be the same as what is required for residences in the A-1 Agricultural District unless the Board of Adjustment finds that less is warranted. All structures shall observe listed setbacks in the M-1 and M-2 Districts. No setbacks are required where a property line is shared by two participating landowners. Mandated setback distances may be waived with the consent of participating landowners and adjacent property owners.

5-10.6 Screening. A landscape buffer may be required to be installed and maintained during the life of the operation if a Special Use Permit is required. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

5-10.7 Utility Connections. Reasonable efforts shall be made to place all connections within the solar installation underground or above ground no higher than the surrounding solar panel array. All components used for the collection, conversion, and storage of energy shall be contained within the leased and fenced project area, excluding overhead and underground transmission lines.

5-10.8 Grading Plan. A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.)

5-10.9 Glare Minimization. All solar panels shall be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.

5-10.10 Compliance. Commercial solar installations shall comply with applicable local, state, and federal regulations.

5-10.11 Appurtenant Structures. All appurtenant structures shall be subject to bulk and height regulations of structures in the applicable zoning district except where otherwise approved.

5-10.12 Floodplain Considerations. Commercial solar installations are considered to be maximum damage potential structures and facilities for purposes of floodplain district regulations. Commercial solar installations are discouraged within 1% Special Flood Hazard Area (100-year floodplain) but may be allowed subject to provisions of the Dubuque County Floodplain Management Ordinance.

5-10.13 Fencing / Security. A NESC (National Electrical Safety Code) compliant security fence must be installed along all exterior sides of the commercial solar energy system 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 commercial solar installation is dismantled and removed from the site.

5-10.14 Signage. Signage with the following information shall be maintained at all locked entrance locations:

A. A visible "High Voltage" warning sign;
B. Name(s) and phone number(s) for the electric utility provider;
C. Name(s) and phone number(s) for the site operator;
D. The facilities 911 address, GPS coordinates; and
E. A lockbox with keys as needed.

5-10.15 Operation and Maintenance Plan. The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, stormwater, and erosion controls, as well as general procedures for operation and maintenance of the installation.

5-10.16 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.

5-10.17 Stormwater Management Considerations. For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant must meet and be in compliance with the Dubuque County Erosion and Sediment Control and Stormwater Ordinance. This requirement may be met by providing a copy of the applicant's Stormwater Pollution Prevention Plan prior to the start of construction.

5-10.18 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 soil shall not be permanently removed during development, unless part of the remediation effort.
B. Soils shall be planted and maintained in short stature perennial vegetation capable of enhancing soil health and supporting pollinators. Blooming shrubs may be used in buffer areas as appropriate for visual screening.
C. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Department of Natural Resources, County Soil and Water Conservation Service or Natural Resource Conservation Service.
D. Landowner, farmer, tenant and adjoining landowner notification must be conducted per the terms of an easement or land use agreement, or as otherwise required by the specific Candidate Conservation Agreement or Habitat Conservation Plan under the Endangered Species Act.

5-10.19 Maintenance, Repair, or Replacement of Facility. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

5-10.20 Access Required. The Zoning/Building Official and any other necessary personnel may enter the property with guided access from the project owner or their representative for which a Special Use Permit or Building Permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by

statute, ordinance, or code. Failure to provide access shall be deemed a violation of this ordinance.

5-11 INFRASTRUCTURE PROTECTION AND ROAD USE AGREEMENTS. A pre-construction plan will be developed between the system owner, operator or contractor and Dubuque County that addresses potential impacts to roads and other infrastructure from solar project construction as well as post construction review to identify impacts and provide for repairs, prior to issuance of the building permit. All routes on County roads that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. Prior to issuance of a building permit, the developer must complete and provide a pre-construction baseline survey/assessment to determine existing road conditions for assessing potential future damage due to developmental-related traffic. Prior to the issuance of the building permit, the developer shall provide a road repair plan to ameliorate any and all damage, installation, or replacement of roads that might be required by the developer. Prior to the issuance of the building permit, the developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate road authority (s) when warranted. The provisions of this section shall be subject to approval by the Dubuque County Engineer.

5-12 DECOMMISSIONING AND SITE RECLAMATION PLAN. The application must include a decommissioning plan that describes the anticipated life of the commercial solar installation; the anticipated manner in which the project will be decommissioned; 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.

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. The cost of the decommissioning and site reclamation plan will be the responsibility of the company who owns the equipment and/or applies for or receives the permit.

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 the time.

After the commercial solar installation is in service, 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 commercial solar installation.

Decommissioning shall be completed in accordance with the approved decommissioning plan. The owner or operator of the system must notify the County when the project is discontinued.

5-13 through 5-20 Reserved

PART 3
AMENDMENTS

5-21 **AMENDMENTS.** The Dubuque County Code of Ordinances, Title III Property/Land Use and Development, Chapter II Zoning Ordinance is amended by adoption of the following new subsections:

Article III, Section 3: 3.31 Commercial Solar Energy Systems

Article X, Section 2 : 2.8 Commercial Solar Energy Systems

PART 4
SEVERABILITY

5-22 **SEVERABILITY.** If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the regulations as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

PART 5
EFFECTIVE DATE

5-22 **EFFECTIVE DATE.** This ordinance shall take effect upon its publication as required by law.

PART 6
CONFLICT WITH PROVISIONS

5-22 **CONFLICT WITH PROVISIONS.** All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

2. The single-family dwelling, seasonal home, cabin, or dwelling unit shall be rented out in its entirety and shall not be rented out on a room-to-room basis.
3. Off-street parking shall be provided in accordance with subsection 8:1.24.
4. All structures where the visiting public congregate shall comply with Building Code in Chapter 8:6.
5. The application shall comply with all Johnson County Public Health requirements and all other applicable federal, state, and local regulations.
6. The rental unit shall be managed as to protect the health, safety, and welfare of the renters and the public and preserve property values. It shall be managed in such a way that insures that the use does not become a nuisance. Improper management could result in permit denial or revocation.

BB. Solar Energy Systems, Utility Scale. Utility scale solar energy systems are conditionally permitted in the A district and are subject to the following conditions:

1. Setback Standards. All structures, including solar arrays, shall adhere to the primary structure setbacks for the district where the system is located.
2. Security Fencing. The solar energy system shall be fenced with a minimum eight (8) foot tall security fence. Warning/no trespassing signs shall be posted every twenty (20) feet.
3. Ground Cover Standards. Ground under and around the solar array shall be planted with a perennial vegetated ground cover.
4. Landscaping Buffer. In an effort to mitigate the negative effects and reduce the visual impact of the solar energy system, the perimeter of the site shall be landscaped to create a visual screen from neighboring properties. Landscaping shall be installed within a planting area around the site, in accordance with the following standards:
   a. Landscaping shall utilize native species.
   b. The landscaping buffer shall use a combination of trees and plants to provide a vegetative screen. Trees shall be at least six (6) feet tall within three (3) years of installation, and shall have a minimum mature height of twelve (12) feet or the height of any fencing, whichever is taller. Plants can include shrubs, grasses, or other native plants.
   c. Landscaping screening shall be evaluated under leaf-on conditions.
   d. The planting area shall extend no further than fifty (50) feet beyond the outside of the security fence.
   e. At the discretion of the Board of Adjustment, the minimum mature height of vegetative screening may be modified where the applicant can show good cause or practical difficulty.
5. Glare Minimization. All solar panels shall be constructed in a manner that minimizes the reflection or glare onto neighboring properties, does not interfere with traffic, and does not create a safety hazard.
6. A site plan shall be submitted showing array details and location, fencing details and location, landscaping plan, grading plan, signage, location of underground and above ground transmission facilities, and any other pertinent information as required by the Zoning Administrator.
7. The applicant shall submit a plan for the safe operation and maintenance of the solar energy system.

8. Decommission Plan. The applicant shall include a decommission and restoration/reclamation plan, including financial assurance. If the system generates no electricity for a continuous one (1) year period, the permit holder will have one year to implement the approved decommission and restoration/reclamation plan. The permit holder shall notify the Zoning Administrator when the system is fully decommissioned.
9. The application shall comply with all Environmental Standards in Chapter 8.3.
10. The application shall comply with all applicable federal, state, and local regulations.

CC. Special Events. Special events are conditionally permitted in all districts and are subject to the following conditions:

1. Individual special events are classified into different intensity tiers based on the number of guests who attend the event. The following table shall be used to determine event tiers:

Event Tier	Number of Guests	Points per Event
Tier 1	Less than 50	1
Tier 2	50-100	2
Tier 3	More than 100	3

2. For each parcel or parcel group, the maximum number event points per calendar is based on the parcel or parcel group size.

Parcel/Parcel Group Size	Annual Event Points
Less than 5 acres	36
Greater than 5 acres	42

   a. For properties located in the AG-T district, Tier 1 events held as Accessory Uses shall not count toward the maximum number of annual event points on the parcel or parcel group.
3. Permit time frame:
   a. The first permit issued by the Board of Adjustment for a specific special event or multiple special events shall expire after the final permitted event of the calendar year.
   b. Following expiration of the first permit, a permit may be issued for substantially the same use for a time period of up to three (3) years at the Board of Adjustment's discretion.
      i. The Board of Adjustment shall determine if a request is substantially the same use as permitted in the past during the public hearing on the application.
   c. Following expiration of the second permit and other subsequent permits, a permit may be issued for substantially the same use for a time period of up to five (5) years at the Board of Adjustment's discretion.
      i. The Board of Adjustment shall determine if a request is substantially the same use as permitted in the past during the public hearing on the application.
4. Once an event permit has been approved, the applicant shall submit event information, including dates, time, projected attendance, and the nature of the event, to the Zoning Administrator in writing no later to thirty (30) days prior to the scheduled event.

c. The exception relates entirely to a permitted use (principal, conditional, or accessory) classified by applicable district regulations, or to a permitted sign or off-street parking or loading areas accessory to such a permitted use;

d. A grant of the special exception applied for, or a lesser relaxation of the restrictions than applied for, is reasonably necessary due to practical difficulties related to the land in question and would do substantial justice to an applicant as well as to other property owners in the locality;

e. The problem cannot be alleviated by zoning the property to another classification; and

f. The reduced standard to be authorized by the special exception will not alter the essential character of the locality. Granting the special exception cannot:

i. Impede the normal and orderly development and improvement, or enjoyment, of the surrounding property.

ii. Impair the provision of adequate utilities, access roads, drainage, and/or other necessary facilities, either to the property in question or to nearby properties.

iii. Increase the danger of the hazard from fire, flood, or similar dangers nor produce nuisance conditions to occupants, or nearby premises, by reason of dust, noise, fumes, odor, vibrations, smoke, or lights

3. The Zoning Administrator shall have the power to issue special exceptions to the height, yard, or lot area regulations where there is an exceptional or unusual physical condition of a lot, which condition is not generally prevalent in the vicinity and which condition when related to the height, yard, or lot area regulations of this section would prevent a reasonable arrangement of buildings on the lot;

a. Applications for Special Exception approval by the Zoning Administrator shall not be subject to the public hearing or notice requirements of this section.

b. The issuance of the special exception shall be based upon the practical difficulty standards contained herein, and shall be reviewed by the Zoning Administrator in accordance with this subsection.

c. Where a request for special exception is in accordance with this section, the Zoning Administrator may approve or conditionally approve such special exception providing such a reduction not be more than ten (10) percent of the usual requirement, or reduce a required setback to less than five (5) feet.

d. Where the Zoning Administrator finds that a request for special exception is not in accordance with this section, the request shall be placed on the agenda for the next available Board of Adjustment meeting for which Direct Notice has not been sent.

i. The Zoning Administrator shall not place the application on the agenda until the difference in filing fees has been paid and all additional information required by section 8:1.27.H has been submitted

F. Conditional Uses. These are uses which generally have a distinct impact on areas in which they are located, or are capable of creating special problems for bordering properties unless given special attention.

1. Review Criteria. To provide for the appropriate review of the location, site development, and conduct of certain designated uses, in any determination upon a particular conditional use at the location requested, the Board of Adjustment shall consider the following guidelines:

a. That the proposed location, design, construction, and operation of the particular use adequately safeguards the health, safety and general welfare of persons residing or working in adjoining or surrounding property.

b. That the proposed use will not adversely affect the quality and supply of water, air, and light to surrounding property.

c. That the proposed use will not adversely affect established property values of adjoining or surrounding buildings.

d. That the proposed use is in accordance with the character of the area and the peculiar suitability of this area for the proposed use.

e. That the proposed use is an appropriate use of the land and will not discourage appropriate uses of other land.

2. Approval and Conditions. The Board of Adjustment may approve a Conditional Use Permit subject to compliance with certain required conditions. The Board shall state the specific requirements of said conditions and the time limit for compliance. In no event shall the permit be issued unless and until satisfactory proof of compliance is presented to the Planning and Zoning Administrator.

3. Denial. If an application for Conditional Use Permit has been denied wholly or in part by the Board of Adjustment, no new application for substantially the same use at the same location shall be re-submitted for a period of one (1) year from the effective date of the final denial of such application unless approval to file prior to the expiration of the one (1) year period is granted by the Board of Adjustment.

4. Time Limits on Conditional Use Permits.

a. Conditional Use Permits, once utilized, are of indefinite duration unless the expiration date has been specifically stated as a condition of the permit or the use permitted is subject to sunset as established in subsection 8:1.23.

b. Temporary Permits. Where application is made for a use which is temporary in nature, the Board of Adjustment shall condition the permit to expire in a stated period of time after the issuance of the permit.

c. Expiration for Failure to Establish Use.

i. A use for which a Conditional Use Permit is granted must be established within one (1) year after such permit is issued. If such use is not so established, the Conditional Use Permit shall be deemed to have expired and shall be null and void.

ii. A Conditional Use Permit which requires a building permit shall be deemed established when such a building permit is obtained and the construction thereunder commenced. If no building permit is required, the use shall be deemed established when the activity permitted has been commenced.

iii. If the Planning and Zoning Administrator determines that the use has not been commenced as required, he or she shall notify the owner of the property for which the Conditional Use Permit was granted, that the permit has expired. The owner may appeal the determination to the Board of Adjustment.

d. Extension of Time Limits. Upon a showing of good cause by the applicant, the Board of Adjustment may grant an extension of time not to exceed one (1) year. A public hearing shall not be required, but may, in the discretion of the Board of Adjustment, be held prior to action on a request for time extension.

e. Abandonment. Any Conditional Use Permit, the exercise of which is voluntarily interrupted for a period in excess of one (1) year, shall be deemed automatically revoked unless otherwise stated as a condition of the permit.

5. Modification, Suspension, or Revocation of Permits. A Conditional Use Permit may be modified, suspended or revoked in accordance with the following.

a. Notice of Hearing. For any hearing set for consideration of modification, suspension, or revocation of a Conditional Use Permit, notice shall be given as provided for in subsection 8:1.28.B.7.

b. Modification at the Request of Property Owner or Permit Holder. The owner of property which is subject to a conditional use permit, or the holder of an approved conditional use permit, may apply for a modification to said permit in the same manner as prescribed for an original application.

When reviewing an application for modification at the request of the permit holder or property owner, the Board of Adjustment shall only consider the proposed modification as outlined on the application and shall not modify any other conditions of the permit unless included in the application for modification. Any new conditions attached to approval of the modification shall apply only to the modification and not the original permit.

Requests for modification shall be reviewed using the conditional use permit standards in this subsection.

c. Zoning Administrator May Set Hearing. When it appears to the Zoning Administrator that a use permitted by a Conditional Use Permit is being conducted contrary to the public health, safety, and welfare, or in violation of any condition imposed by the Board of Adjustment, the Administrator may set a hearing before the Board of Adjustment to consider revocation, suspension, or modification of the Conditional Use Permit.

When reviewing a potential modification, suspension, or revocation at the request of the Zoning Administrator, the Board of Adjustment may alter or remove any existing conditions on the permit, and may impose new conditions as deemed necessary to protect the public's health, safety, and welfare. Any new conditions shall become part of the original permit.

d. Modification. Modification of a permit may be authorized by the Board of Adjustment where the Board finds modification is warranted to protect the health, safety, and welfare of the property owners, adjacent land owners, and general public.

e. Suspension by the Zoning Administrator. In instances where a permit is being operated in such a way that an immediate threat to persons or property exists in the reasonable judgment of the Zoning Administrator, the permit may be administratively suspended until the next regularly scheduled meeting of the Board of Adjustment.

i. The Zoning Administrator shall issue a cease and desist order in writing to the permit holder stating the reasons for the suspension.

ii. Where the Zoning Administrator suspends an active permit, the permit shall immediately be placed on the next available Board of Adjustment agenda for which direct notice has not been sent.

iii. The Board of Adjustment shall consider modification, further suspension, or revocation in accordance with this section.

f. Suspension by the Board of Adjustment. Suspension of a permit may be authorized by the Board of Adjustment under any of the following conditions:

i. When it is found that the permitted use has caused detrimental effects to any property within five hundred (500) feet of the boundary of the property described in the permit.

ii. When it is found that the permitted use has been conducted in violation of any condition to the approved Conditional Use Permit.

iii. When the holder of an approved Conditional Use Permit refuses to accept a modification to said permit duly ordered by the Board of Adjustment.

iv. When the permit has been administratively suspended by the Zoning Administrator within the past twelve (12) months.

Following the hearing, The Board of Adjustment may authorize suspension of the permit for a specified, continuous amount of time not exceed thirty (30) days. It shall be the applicant's responsibility to correct or make substantial progress towards correcting the violations cited as cause for the suspension.

The Board of Adjustment may authorize subsequent suspensions in accordance with this section provided the Zoning Administrator sets hearings for each subsequent suspensions in accordance with this subsection.

g. Revocation. Revocation of a permit may be authorized by the Board of Adjustment under any of the following conditions:

i. When it is found that the permitted use has caused detrimental effects to any property within five hundred (500) feet of the boundary of the property described in the permit.

ii. Where a permitted use has been subject to suspension within the past twelve (12) months.

iii. When it is found that the permitted use has been conducted in violation of any condition to the approved Conditional Use Permit.

iv. When the holder of an approved Conditional Use Permit refuses to accept a modification to said permit duly ordered by the Board of Adjustment.

Where a conditional use permit has been revoked by the Board of Adjustment, no new application for substantially the same use on the same property can be filed with, or considered by, the Board of Adjustment for a period of one (1) year from the date of revocation.

G. Modification of Subdivision Requirements. The Board shall have the power to modify the strict application of the principles and standards set forth in Chapter 8:2 when a specified provision is found to create an unnecessary hardship due to physical characteristics peculiar to a parcel of land. The Board may

SOLAR FARM PUBLIC PARTICIPATION PLAN

Informational Meetings on Permitting Process

5/25/21 Palo Community Center | 6/2/21 Linn County Fairgrounds

Public Comment and Questions Taken on Permitting Process Only

↓

Solar Developer Submits Application

Date TBD

↓

Technical Review Committee

First Thursday of the month following the application submission

Staff Review of Submittal Documents and Application for Proposed Project

↓

Planning & Zoning Commission

Third Monday of the month following the application submission

Palo City Council to Review and Comment on Rezoning

↓

Board of Supervisors Public Hearing and First Reading

Second Monday following the Planning & Zoning Commission Meeting

↓

Board of Supervisors Second Reading

Second Wednesday following the Planning & Zoning Commission Meeting

Public Comment Taken on Proposed Project

↓

Board of Supervisors Third Reading

FINAL VOTE TAKEN

Third Wednesday following the Planning & Zoning Commission Meeting

Linn County Planning & Development Department will notify all surrounding property owners of the dates and times for the Technical Review Committee meeting, Planning & Zoning Commission meeting, and public hearing.

ABOUT THE SOLAR PERMITTING PROCESS

A utility-scale solar project requires an application to rezone the area to be used for the solar installation to (RE) Renewable Energy Overlay Zoning District. As of May 25, 2021, Linn County has not yet received an application for a utility-scale solar project; and, therefore, no utility-scale projects have been through the permitting and approval process.

Once an applicant submits a utility-scale solar application to Linn County Planning & Development, the permitting review process begins. This process includes additional public meetings and public input opportunities specific to the application(s).

The review process is the same for all utility-scale applicants:

- Applicants must undergo a review by the Technical Review Committee, the Planning & Zoning Commission, a public hearing, and three readings by the Board of Supervisors.
- The Planning & Zoning Commission must consider the Technical Review Committee's findings and staff recommendation of the application, and must consider the proposed rezoning during at least one public meeting before submitting its findings and recommendation on the application to the Board of Supervisors.
- Linn County will notify the applicant and surrounding property owners of the date and time of the Planning & Zoning Commission meeting and public hearing and invite them to attend.

Learn more about the utility-scale solar permitting process in Linn County by visiting LinnCounty.org/SolarFarm.

Find the agendas for all upcoming public meetings at LinnCounty.org/AgendaCenter.

Louisa County 11,125 pop

EXAMPLE SOLAR ORDINANCE

Proposed Zoning Ordinance Amendment

Creation of Division 115: Solar Energy Systems

LOUISA COUNTY IOWA

Sections:

1.01 Statement of Intent. The purpose of this Division is to facilitate the construction, installation, and operation of Solar Energy Systems (SES) in Louisa County in a manner that promotes economic development, protects property values, and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to important areas such as agricultural lands, conservation lands, and other sensitive lands.

This Division does not repeal, abrogate, annul, impair or interfere with any existing ordinance.

1.02 Personal Solar Energy System (PSES).

A. Purpose and Intent.

The purpose of these regulations is to provide a uniform and comprehensive set of standards for the installation and use of PSESs designed for on-site home, farm and small commercial use that are used primarily to reduce on-site consumption of utility power. The intent of these regulations is to protect the public health, safety, and community welfare without unduly restricting the development of PSESs.

B. Permitted Use.

Personal Solar Energy Systems shall be considered an accessory use to a principal permitted use in any zoning district.

C. Special Requirements

Personal Solar Energy Systems shall be subject to the requirements included in Zoning Ordinance Section 60.6 Bulk Regulations unless otherwise stated herein:

1) *Ground Mounted PSES height.* Shall not be greater than fifteen (15) feet at maximum tilt of the solar panel(s) in any zoning district.

2) *Structure Mounted PSES height.* Shall not be greater than the allowable height of any structure within the zoning district in which the PSES is to be installed.

3) *Setbacks.* The ground mounted PSES shall maintain perimeter setbacks including; side and rear yard setbacks of ten (10) feet measured at full horizontal tilt and shall be ten (10) feet from any other building or structure on the same lot. No PSES shall be permitted to be located in the required front yard setback unless at least sixty (60) feet back from the edge of the county road right of way or at least eighty (80) feet back from the edge of state or federal road right of way.

4) *Building Codes.* All county, state, and national construction codes shall be followed.

5) *Use.* The PSES shall provide electricity for on-site use by the owner. This does not prohibit an owner from making excess power available for net metering.

6) *Approved Solar Components.* Electric solar energy system components must have an Underwriters Laboratory (UL) listing or approved equivalent.

D. Building Permit

Before a building permit is issued, the following shall be submitted to the Louisa County Zoning Administrator for review:

1) Site plan showing:

a) Name, address, email address, and phone number of the property owner;

b) Parcel lines;

c) All existing structures, with heights clearly marked;

d) Sanitary infrastructure (i.e. Septic field);

e) Setback measurements;

f) easements present on the property, including those for utilities

g) field tile location

h) floodplain location, if applicable

i) topography lines (2-foot contours)

f) Location of all solar panels and associated equipment; and,

g) Location of the electrical disconnect for the PSES.

2) Evidence that the local electric utility has been informed of the customer's intent to install a customer-owned solar energy system.

3) Evidence that the site plan has been submitted to the local fire protection district.

After a review and acceptance of site plan and required information, a letter authorizing construction shall be issued.

1.03 Solar Garden Energy System (SGES) and Solar Farm Energy System (SFES)

A. Purpose and Intent.

The purpose of these regulations is to provide a uniform and comprehensive set of standards for the installation and use of SGES and SFES designed for commercial energy production. The intent of these regulations is to protect the public health, safety, and community welfare while allowing development of solar energy resources for commercial purposes. Concentrating solar power (CSP) systems shall be prohibited.

B. Special Use Permit (SUP).

Solar Garden Energy Systems and Solar Farm Energy Systems shall require a Special Use Exception within the "A-1" Agricultural District, the "B-1" Business District, and the "I-1" Industrial Districts and shall be subject to the procedures and standards included in Section 150.2.2 Special Use Exceptions, in the Louisa County Zoning Ordinance unless otherwise stated in this Solar Energy Ordinance.

C. Special Requirements.

SGES and SFES are subject to the following requirements:

1) *Height.* Shall not exceed fifteen (15) feet at maximum tilt of the solar panel(s).

2) *Setbacks.*
   a. The front yard setbacks shall be a minimum of fifty (50) feet from the edge of the right of way which form the outside perimeter of a SGES or SFES project area and one hundred (100) feet from a residence that is a part of the SGES or SFES project area. The Board of Adjustment may grant an exception to the setback requirement if the proposed or existing buffer is sufficient to screen the project from view of adjoining property or public rights-of-way, if the owners of the adjoining properties agree in writing to waive these setback requirements
   b. In the case of a SGES or SFES to be built on more than one parcel and parcels are abutting, a zero (0) side or rear setback shall be permitted to the property line in common with the abutting parcel(s).

   c. Solar panels shall be least three hundred (300) feet from a residence that is not part of the SGES or SFES project area. The Board of Adjustment may grant an exception to the setback requirement if the proposed or existing buffer is sufficient to screen the project from view of adjoining property or public rights-of-way, if the owners of the adjoining properties agree in writing to waive these setback requirements
   d. Solar panels shall be eighty (80) feet from the State Right of Way and sixty (60) feet from County Right of Way.

3) *Screening.* A landscape buffer may be required to be installed and maintained during the life of the operation. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

4) *Fencing.* A security fence ~~of at least six (6) feet in height but no greater than eight (8) feet shall enclose the SGES or SFES.~~ To restrict access to public.

5) *Lighting.* If lighting is provided for the SGES or SFES, lighting shall be shielded and downcast such that the light does not project directly onto the adjacent parcels.

6) *Noise.* Noise levels caused by the SGES or SFES measured at the property line shall not exceed fifty (50) decibels when located adjacent to an existing residence or residential district.

7) *Installation and Design.* The SGES or SFES shall be designed and located in such a fashion so as to prevent glare toward any inhabited buildings on adjacent properties, as well as adjacent roadways.

8) *Utility Connections.* Reasonable efforts shall be made to place all utility connections from the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements.

9) *Outdoor storage.* Only the outdoor storage of materials, vehicles, and equipment that directly support the operation and maintenance of the solar farm or solar garden shall be allowed.

10) *Endangered Species and Wetlands.* Applicant shall seek natural resource consultation with the Iowa Department of Natural Resources.

11) *Weed control.* Applicant must present an acceptable weed/grass control plan for property inside and outside fenced area for the entire property. The operating company during the operation of the Solar Farm must maintain the fence and adhere to the weed control plan.

12) *Waste.* All solid wastes, whether generated from supplies, equipment parts, packaging, operation or maintenance of the SGES or SFES shall be removed from the site and disposed

of in an appropriate manner. All hazardous waste generated by the operation shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal requirements.

13) *Maintenance, repair or replacement of a facility*. Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

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

15) *Road Use Agreements.* All routes on county roads that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. The solar farm developer must complete and provide a preconstruction baseline survey to determine existing road conditions for assessing potential future damage due to development related traffic. The developer shall provide a road repair plan to ameliorate any and all damage, installation, or replacement of roads that might be required by the developer. The developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate highway authority(s) officials when warranted. The provision of this subsection shall be subject to the approval of the Louisa county Engineer.

16) *Soil erosion and sediment control.* 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 both damage to local roads/adjacent areas and sediment laden run-off into waterways.

17) *Storm Water Management.* For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed storm water management plan with analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities.

18) *Administration and Enforcement.* The Zoning/Building Administrator and any necessary personnel may enter any property for which a special use or building permit has been issued

under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by statue, ordinance and code. Failure to provide access shall be deemed a violation of this ordinance.

D. Certification.

SGES or SFES shall conform to applicable industry standards, including those from the Underwriters Laboratory (UL) and Federal Aviation Administration (FAA).

All applicable county, state, and national construction and electric codes shall be followed.

E. Safety.

All SGES or SFESs shall provide the following at all locked entrances:

1) A visible "High Voltage" warning sign;

2) Name(s) and phone number(s) for the electric utility provider;

3) Name(s) and phone number(s) for the site operator;

4) The facility's 911 address, GPS coordinates; and,

5) A lock box with keys as needed.

F. Application.

The application for a Special Use permit for a Solar Garden Energy System or Solar Farm Energy System shall include:

1) A written summary of the project including a general description of the project and its approximate generating capacity.

2) The name(s), address(s), and phone number(s) of the owner and SGES or SFES operator.

3) The Interconnection Agreement.

4) A site plan of the SGES or SFES site showing:

a) Boundaries of the site:

b) All proposed SGES or SFES structures;

c) Property lines;

d) Setback measurements;

e) Location of all existing structures within the project area with their uses identified and any existing structure within three hundred (300) feet of the project area with their uses identified.

(f) topography lines (2-foot contours); and

(g) floodplain location, if applicable.

5) All other information contained in Section 19.7 of the Zoning Ordinance as may be required to file a petition.

To protect agricultural soils, all solar gardens and solar farms will be subject to a land evaluation site assessment (LESA). The LESA information will be utilized for a special use permit application and not for map amendment or rezoning purposes.

G. Decommissioning Plan.

Prior to applying for a building permit, the SGES or SFES project owner/operator shall submit a decommissioning plan to the Louisa County Zoning Administrator. The Zoning Administrator shall review the plan for completeness and refer it to the Louisa County Board of Adjustment. The plan shall include:

1) A description of the plan to remove the SGES or SFES equipment and restore the land to its previous use upon the end of the project's life, as stated in the Solar Energy Ordinance granting the Special Use Permit, or as stated in the Louisa County Zoning Ordinance.

2) Provisions for the removal of structures, debris, and associated equipment on the surface and to a level of not less than ten (10) feet below the surface, and the timeline/sequence in which removal is expected to occur;

3) Provisions for the restoration of the soil, vegetation and disturbed earth, which shall be graded and reseeded;

4) An estimate of the decommissioning costs certified by a licensed professional engineer in current dollars. The engineer providing this estimate shall submit it to the Louisa County Zoning Administrator for review and all costs associated with this engagement shall be borne by the applicant;

5) A written financial plan approved to ensure that funds will be available for decommissioning and land restoration;

6) A provision that the terms of the decommissioning plan shall be binding upon the owner or operator and any of their successors, assigns, or heirs.

7) Upon review of the decommissioning plan, the Louisa County Board of Adjustment shall set an amount to be held in a bond, escrow, or other acceptable form of funds approved by the Board. The value of the surety shall not be reduced based on the salvage value of any materials or equipment. The plan shall state that Louisa County shall have access to the project and to the funds to effect or complete decommissioning one (1) year after cessation of operations; and,

8) The applicant shall provide the county with a new estimate of the cost to decommission the SGES or SFES project every five (5) years under the same conditions as set forth in this Sections above. Salvage value of structures, electrical wire and other appurtenances

shall not be considered with in the cost estimate calculations. Upon receipt of this new estimate, the county may require, and the applicant, owner, and/or operator of the SGES or SFES project shall provide, a new financial plan for decommissioning acceptable to the county. Failure to provide an acceptable financial plan shall be considered a cessation of operations.

9) Release of Financial Security. Financial security shall only be released when the Zoning Administrator determines, after inspection, that the conditions of the decommissioning plan have been met.

H. Building Permit

Before a building permit is issued, the following shall be submitted to the Louisa County Zoning Administrator for review:

1) Site plan with all items previously required in the petition. Additional items to be included are:

a) All SGES or SFES structures including, but not limited to, the project solar panels, substation, interconnect substation, and location and voltage of any overhead transmission lines;

b) Ancillary equipment;

c) Transmission lines;

d) Wells;

e) Sanitary infrastructure (i.e. Septic fields);

f) Field tile location;

g) Existing easements; and,

h) Wetland location, if any.

2) Emergency Plan. The site and emergency plan shall be submitted to the local fire protection district(s) and/or department(s) whose jurisdiction is included in whole or in part within the SGES or SFES project area. Any specialized training necessary will be provided at the operator's expense.

3) All required studies, reports, certifications, and approvals demonstrating compliance with the provisions of this ordinance.

After a review and acceptance of site plan and required information, a letter authorizing construction shall be issued.

1.04 Indemnification and Liability.

The applicant, owner, and/or operator of the SGES or SFES project shall defend, indemnify, and hold harmless the County of Louisa and its officials from and against any and all claims, demands, losses,

suites, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever, including attorney's fees, without limitation, arising out of acts or omissions of the applicant, owner, and/or operator associated with the construction and/or operations of the SGES or SFES project.

1.05 Cessation of Operations.

Any SGES or SFES provided for in this ordinance that has not been in operation and producing electricity for at least one hundred and eighty (180) consecutive days, excluding natural catastrophic event, shall be removed. The Louisa County Zoning Administrator shall notify the owner to remove the system. Within ninety (90) days, the owner shall either submit evidence showing that the system has been operating and producing electricity or remove it. If the owner fails to or refuses to remove the solar energy system, the violation shall be referred to the Louisa County Attorney. In the case of a natural catastrophic event, a detailed restoration plan to return to operational status must be provided to the Zoning Administrator.

1.06 Violations & Penalties.

Violations and Penalties of this division are set forth in Division 140.

1.07 Solar Farm Energy System owner/County/Property Owner Restoration Agreement.

A. Reasonable evidence of financial ability to construct the solar energy system as determined by the Board of Adjustment is a condition precedent to the issuance of any special use or building permit under this ordinance.

B. Louisa County and/or the property owner leasing land for a solar energy system shall require a performance bond, surety bond, escrow account, letter of credit or other financial assurance to Louisa County and/or property owner for each solar energy system that guarantees the performance of the restoration agreement, as referenced in the Decommissioning Plan.

1.08 Related Rules and Regulations.

Each Solar Energy System shall comply with all applicable local, state and federal requirements.

1.09 Severability.

The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

1.10 Special Use Permit Fee Structure for Solar Garden Energy Systems and Solar Farm energy Systems.

For Systems Sized	Permit Fee
0-50 kilowatts (kW-dc)	$300
51-100 kilowatts (kW-dc)	$500
101-500 kilowatts (kW-dc)	$1,000
501 - 1000 kilowatts (kW-dc)	$3,000
1000 - 2000 kilowatts (kW-dc)	$6,000
> 2000 kilowatts (kW-dc)	$200 for each additional 0-100 kilowatts, with a maximum of $10,000.

Section 27.12: Solar Energy Systems

27.12.1 Statement of Intent

The purpose of this Section is to facilitate the construction, installation, and operation of Solar Energy Systems (SES) in Mills County, in a manner that promotes economic development, protects property values, and ensures the protection of health, safety, and welfare while also avoiding adverse impacts to important areas such as agricultural lands, conservation lands, and other sensitive lands.

If this Section 27.12 conflicts with any other provision of the Mills County Zoning Ordinance, this Section 27.12 shall control.

27.12.2 Definitions

A. **Personal Solar Energy System:** A Solar Energy System that generates electricity from solar energy primarily for use on the same site or the same land use with which the system is physically associated.

B. **Solar Energy Systems, Utility Scale:** A Solar Energy System that generates electricity from solar energy primarily for sale to an electric utility or other third-party commercial or industrial user.

27.12.3 Personal Solar Energy System (PSES)

A. **Purpose and Intent**
These regulations provide uniform and comprehensive standards for the installation and the use of PSES for on-site home, farm and small commercial use that are used primarily to reduce on-site consumption of utility power. The intent of these regulations is to protect the public health, safety and community welfare without unduly restricting the development of PSES.

B. **Accessory Use**
PSES shall be considered an accessory use to a principal permitted use or an approved conditional use in any zoning district.

C. **Special Requirements**
PSES shall be subject to the requirements included in this Section:

(1) Ground Mounted PSES height. Shall not be greater that fifteen (15) feet at maximum tilt of the solar panel(s) in any zoning district.

(2) Structure Mounted PSES height. Shall not be greater than the allowable height of any structure within the zoning district in which the PSES is to be installed.

(3) Setbacks. The ground mounted PSES shall follow all setback requirements for the Zoning District in which the PSES is located.

(4) Building Codes. All county, state and national construction codes shall be followed.

(5) Use. The PSES shall provide electricity for on-site use by the owner. This does not prohibit an owner from making excess power available for net metering.

(6) Approved Solar Components. PSES components must have an Underwriters Laboratory (UL) listing or approved equivalent.

D. **Building Permit**
Before a building permit is issued, the following shall be submitted to the Mills County Zoning Administrator for review.

(1) Site Plan Showing:
   a. Address, email address, and phone number of the property owner;
   b. Parcel lines;
   c. All existing structures with heights clearly marked;
   d. Sanitary infrastructure (i.e. septic field);
   e. Setback measurements;
   f. Easements present on the property, including those for utilities;
   g. Septic field tile location;
   h. Floodplain location, if applicable;
   i. Proposed Location of all solar panels and associated equipment; and
   j. Proposed Location of the electrical disconnect for the PSES.

(2) Evidence that the local electric utility has been informed of the customer's intent to install a customer-owned solar energy system.

(3) Evidence that the site plan has been submitted to the local fire protection district.

(4) Evidence that all contact information for site has been provided to Mills County Emergency Management and 911 service departments.

(5) After a review and acceptance of site plan and required information, a letter authorizing construction shall be issued.

27.12.4 Solar Energy Systems, Utility Scale

A. Purpose and Intent

These regulations provide uniform and comprehensive standards for the installation and use of Solar Energy Systems, Utility Scale (SESUS). SESUS may include solar panels, solar support structure, inverter/transformers, energy storage technologies, wiring, and other equipment necessary for the generation, storage and delivery of electricity. The intent of these regulations is to protect the public health, safety, and community welfare while allowing development of utility-scale solar energy resources for utility, commercial and industrial purposes.

B. Conditional Use Permit (CUP)

SESUS shall require a Conditional Use Permit within the "AG" Agricultural Zoning District, the "AR" Agricultural/Residential Zoning District, "I" Industrial Zoning District. This use is prohibited in all other Zoning Districts in Mills County. This use shall be subject to the procedures and standards included in the Mills County Zoning Ordinance unless otherwise stated in Section 12. Concentrating solar power systems are prohibited.

C. Special Requirements

SESUS are subject to the following requirements:

(1) Height. A solar panel shall be no less than two (2) feet (Twenty-Four inches) off the ground. A solar panel shall not exceed twenty (20) feet in height above grade at maximum tilt of the solar panel(s).

(2) Setbacks. The front yard setbacks shall be a minimum of fifty (50) feet from the edge of the right-of-way to the closest solar panel of a SESUS project and three hundred (300) feet from a residence that is not a part of the SESUS area. If a SESUS is to be built on more than one parcel and the parcels are abutting, a zero (0) foot side or rear setback shall be permitted to the property line in common with the abutting participating parcel(s).

(3) Submittal Requirements. The applicant shall submit all materials contained in this subsection at the time of the application for a Conditional Use Permit.

(4) Permitting Process. The applicant shall go through the following process for Conditional Use Permit Approval.

a. Applicant shall meet with the Zoning Administrator and submit all required documents.

b. Zoning Administrator will submit all documents to the Mills County Department Approval Committee. Committee shall consist of Mills County Board of Supervisors and the Zoning Administrator along with the department head or the designated employee from the following departments: Mills County Conservation, Mills County Engineer/Secondary Roads, Mills County Emergency Management, Mills County 911. All identified departments must approve with signature that all requirements pertaining to that department are met prior to moving on in the process.

c. Conditional Use Permit Application will be presented to the Mills County Zoning Board of Adjustment for a public hearing and decision on the Conditional Use Permit.

d. Mills County Board of Supervisors shall consider a decommissioning plan, decommissioning agreement (including financial security), Public Roads Damage Avoidance and Mitigation Plan and related agreement. The SESUS may not proceed to construction until the Board of Supervisors has approved these plans and the Chairperson and the applicant have executed these agreements.

e. The use(s) outlined in the application shall be established in accordance with the draft plans considered by the Zoning Administrator within five (5) years of approval. "Commencing Construction" is determined by disturbance of soil at project site, that is not part of a primary farming operation. Any portion of the development plan not completed within five (5) years of approval by the Zoning Administrator shall not be installed until the development has been reauthorized by the Zoning Administrator. Reauthorization shall be subject to the regulations in effect at the time reauthorization is requested.

(5) Security Fencing. The SESUS shall be fenced with a minimum eight-foot (8') tall security fence. "*Warning/No Trespassing*" signs, as well as contact information for emergency purposes shall be posted within sight of all points of fence line or no greater than one hundred fifty feet (150')

apart. At the discretion of the Zoning Administrator, critical electrical and communications equipment may be fenced with the chain-link fence topped with barbed wire when such measures are deemed necessary to ensure public safety.

(6) Agricultural Impact Mitigation Plan. The applicant shall submit a plan with the permit application detailing the mitigation strategy to support agricultural use of the land. The plan will be reviewed by the Zoning Administrator and shall include, but is not limited to:

a. Results of a soil analysis conducted and assessed by a qualified professional to determine topsoil depths as well as identify any limitations for construction and mitigation that may require special consideration.

b. General list of project components and construction timeline.

c. Describe best practices and methods to be used during each stage of construction for protecting and preserving topsoil. Practices and methods should address, at minimum, avoidance of removal of topsoil. However, if removal of topsoil is necessary, applicant should plan for segregation, stockpiling, replacement during backfill and respreading, grading minimization, compaction prevention and decompaction of otherwise undisturbed topsoil impact by heavy equipment or storage of materials and wet weather conditions.

d. Describe environmental monitoring that will be used during construction to ensure adherence to the best practices contained in the plan. The monitoring should be done by an environmental professional at the expense of the developer. The monitoring results should be submitted to the County every thirty (30) days during construction.

e. Describe the general procedures to be used for identification, avoidance and repair of any underground drainage tile lines located within the project site before, during and after construction.

(7) Soil Erosion and Sediment Control. The applicant shall conduct all roadwork and other site development work in compliance with a national pollutant discharge elimination system (NPDES) permit as required by Iowa 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 to the Zoning Administrator for review and comment along with an erosion and sediment control plan before the "Commencement of Construction" which is determined by disturbance of soil at project site, not considered for a primary farming operation. 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 both damage to local roads/adjacent areas and sediment laden run-off into waterways.

(8) Vegetation Mitigation Plan.

a. A Vegetation Mitigation Plan must be provided to the Building and Zoning Department with the permit application. The Vegetation Mitigation Plan will be reviewed by the Mills County Zoning Administrator to ensure it meets the Mills County Pollination Score Card requirements meeting an adequate score.

b. Ground under and around the solar array shall be planted with a perennial vegetated ground cover as identified in the Vegetation Mitigation Plan. The ground cover plan shall be developed in accordance with the following standards:

i. Avoid removal of topsoil to maximum extent possible during development and decommissioning unless part of a remediation effort.

ii. The area shall be planted and maintained, per the Vegetation Mitigation Plan, in perennial vegetation for the full operational life of the project to prevent erosion, manage runoff and build soil. The Ground Cover Plan must include management methods and schedules for how the vegetation will be managed on an annual basis, with the particular attention given to the establishment period of approximately three (3) years. The plan must include provisions for replacement of any required vegetation cover that fails to establish or dies during the life of the project.

iii. Plant materials for the ground cover area must not have been treated with systemic insecticides, particularly neonicotinoids.

iv. The application and Vegetation Mitigation Plan shall include the proposed seed mix specifications and growth guidelines to follow.

v. Seeding zones and their selected seed mixes should be clearly mapped on a site plan.

vi. Seed and/or planting mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals, such as those from a state department of natural resources, county soil and water conservation services, or natural resource conservation service.

vii. Reporting to the County on ground cover management and maintenance activities shall be on an annual basis for a minimum of five (5) years from commercial operations after which point reduced frequency can be requested and approved at the discretion of the Zoning Administrator.

viii. At the discretion of the Zoning Administrator, other practices such as small-scale farming, bee keeping operations or grazing may be allowed in the ground cover area.

(9) Landscaping Buffer. To mitigate potential negative effects and reduce the visual impact of the SESUS, a landscaping buffer shall be installed and maintained during the life of the array operation. Determination of screening requirements will be made by the Zoning Administrator as part of the review of the Conditional Use Permit and will be based on adjacent or nearby surrounding land uses and topography. Where the Zoning Administrator finds that a landscaping buffer is appropriate, landscaping shall be installed within a planting area around the portions of the site specific by the Zoning Administrator in accordance with the standards as of this subsection. All applications for which this subsection applies shall submit a plan for review and approval. The landscaping buffer shall use trees, shrubs, grasses and forbs that are native to Iowa or where appropriate may include naturalized and non-invasive species or a combination thereof to provide a vegetation screen in all required areas.

(10) Lighting. If lighting is provided for the SESUS, lighting shall be shielded and downcast such that the light does not project directly onto the adjacent parcels.

(11) Noise. Noise levels caused by the SESUS measured at the residence(s) shall not exceed fifty (50) decibels (A-weighted) when located adjacent to an existing residence or residential district.

(12) Installation and Design. The SESUS shall be designed and located to minimize glare towards any inhabited buildings on adjacent properties.

(13) Utility Connections. Reasonable efforts shall be made to place all project collection lines within the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions or requirements. High-voltage lines between the SESUS and substations may be above ground.

(14) Outdoor Storage. Only the outdoor storage of materials vehicles, and equipment that directly support the operation and maintenance of the SESUS shall be allowed.

(15) Endangered Species and Wetlands. Applicant shall consult with the Iowa Department of Natural Resources and provide verification to the Zoning Administrator.

(16) Weed Control. Applicant must present an acceptable weed/grass control plan for property outside of the fenced area for the entire project. The operating company during the operation of the Solar Farm must maintain the fence and adhere to a weed control plan. The plan must be approved by Mills County Zoning Administrator, Mills County Engineer and Mills County Conservation Department.

(17) Waste. All solid wastes, whether generated from supplies, equipment parts, packaging, operation, grazed animals, farming operation or maintenance of the SESUS shall be removed from the site and disposed of in an appropriate manner. All hazardous waste generated by the operation shall be removed from the site immediately and disposed of in a manner consistent with all local, state and federal requirements.

(18) Maintenance, Repair, or Replacement of a Facility. Maintenance shall include, but not limited to painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements. Any discarded materials or construction debris will be promptly removed in a

timely manner. Said debris shall remain on the property no longer sixty (60) days.

(19) Cleaning Chemicals and Solvents. During operation of the SESUS, all chemicals or solvents used to clean photovoltaic panels shall be low in volatile organic compounds and the operator shall use recyclable or biodegradable products to the extent possible. Any on-site storage of chemicals or solvents shall be referenced on the site plan.

(20) Storm Water Management. Prior to receiving a building permit, for the purposes of pollutant removal, stormwater and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed storm water management plan with analysis of pre and post development stormwater runoff rates for review by local jurisdictional authorities.

(21) Aviation Protection. Applicant must complete and provide with the application the results of a Solar Glare Hazard Analysis Tool or most recent version adopted by the FAA. Applicant must provide evidence of notice and no response and/or non-objection from FAA and Offutt Air Force Base that the project will not affect commercial or military flights.

(22) Administration and Enforcement. The Zoning/Building Administrator and any necessary personnel may enter any property for which a Conditional Use or Building Permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by statute, ordinance, and code. Failure to provide access by appointment within 48 hours of request shall be deemed a violation of this ordinance.

D. **Certification.** SESUS shall conform to applicable industry standards, including those from the Underwriters Laboratory (UL) and Federal Aviation Administration (FAA). All applicable county, state and national construction and electrical codes shall be followed.

E. **Safety:** All SESUS shall provide the following at all locked entrances:

(1) A visible "High Voltage" warning sign

(2) Name(s) and phone number(s) for the electric utility provider(s)

(3) Name(s) and phone number(s) for the site operator(s)

(4) The facility's 911 address and GPS coordinates

(5) The site operator will coordinate with the local fire department, Emergency Management Agency and 911 Director to provide training on an annual basis for the first five (5) years the project is complete and in operation. Said training will commence within six (6) months prior to the completion of the project. After that, offered on an annual basis for the life of the project. All emergency responding agencies will sign off that said training was completed or offered.

F. **Repowering:** Proposals to replace more than twenty-five percent (25%) of the panels in a facility within a twelve (12) month period shall be required to submit a plan for review and approval with all associated costs assigned to the Applicant and/or the property owner(s).

G. **Roads:** The applicants, owners and their contractors shall avoid damaging public roads to the greatest practicable extent and shall be responsible for repair of damage to public roads. A Public Roads Damage Avoidance and Mitigation Plan shall be in accordance with the following standards and approved by the Board of Supervisors before the applicant commences construction:

(1) Identification of Potential Roads Usage. The applicant shall identify, in consultation with the Mills County Engineer, all state and local public roads to be used within Mills County to transport equipment, parts and material for construction, operation or maintenance of the solar energy system and related components.

(2) Documentation of Road Conditions. Prior to construction, decommissioning or implementation of a repowering plan, the Mills County Engineer or a third-party consultant selected by the Mills County Engineer shall document the current conditions of the roads identified for use, with all associated costs paid for by the applicant or the owners of the facility. The County Engineer shall document road conditions again thirty (30) days after the construction is complete or as weather permits with physical documents as well as video documentation.

(3) Road Preparation and Damage. Any road preparation or maintenance necessitated by the SESUS as identified by the County Engineer or the third-party consultant shall be promptly completed at the applicant's expense. Any damage caused by the applicant, owner of the facility or its contractors during construction, decommissioning, or the implementation of a repowering plan shall promptly be repaired at the applicant or the property owner's expense and to the reasonable satisfaction of the County Engineer based on applicable standards and code.

(4) Applicant shall demonstrate appropriate financial assurance to ensure the repair of the damaged roads. At the direction of the Board of Supervisors, the applicant or the owners of the facility may also be required to provide a financial surety instrument or bond to cover all costs of potential damage to roads at the time of permitting consideration.

H. **Decommissioning and Reclamation Plan:** The applicant shall submit a Decommissioning and Reclamation Plan to the Mills County Zoning Administrator with the conditional use permit application. The Zoning Administrator shall review the plan for completeness and refer it to the Mills County Board of Adjustment for review in conjunction with the conditional use permit and the Mills County Board of Supervisors for final consideration and approval prior to the applicant commencing construction. The plan shall include:

(1) A description of the life of the SESUS; the anticipated manner which the project will be decommissioned, including any 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) Estimates for the total cost for decommissioning at the current value at site as determined by a Licensed Engineer. Decommissioning costs shall take salvage value into account.

(3) A description of the plan to remove the SESUS and restore the land to its previous use upon the end of the project's life, as stated in the Conditional Use Permit or as stated in the Mills County Zoning Ordinance.

(4) Provisions for the removal of structures, debris and associated equipment on the surface and to a level of not less than four (4) feet below the surface, and the timeline/sequence in which removal is expected to occur.

(5) Referencing the Agricultural Mitigation Section of Chapter 27, Section 12, provisions for the restoration of the soil, vegetation, and disturbed earth, which shall be graded and reseeded and /or the property may be returned to agricultural use. Avoidance of removal of topsoil is preferred. The mitigation plan shall include environmental monitoring at the cost of the developer to be used in returning the project area back to agricultural use. Environmental monitoring will include best practices to address at minimum invasive species prevention, erosion, sediment control and debris removal.

(6) A provision that the terms of the Decommissioning and Reclamation Plan shall be binding upon the owner or operator and any of their successors, assigns or heirs and that the landowner has granted permission for access and easements of the property for decommissioning. Verification of the same must be stated in the lease and provided to the Mills County Zoning Administrator.

(7) Financial Surety. After the tenth (10th) year of operation, the applicant, facility owner or site operator shall provide a financial surety instrument to cover the cost of decommissioning in accordance with the following:

i. Decommissioning funds or financial surety shall be in an amount equal to the net cost for decommissioning the site, plus a ten percent (10%) contingency.

ii. The financial security fund shall be maintained in the form of cash, certificate of deposit, performance bond, escrow account, surety bond, letter of credit, corporate guarantee or other form of financial assurance acceptable to the Mills County Board of Supervisors. Any document evidencing the maintenance of the financial surety shall include provisions for releasing the funds to the County in the event decommissioning is not completed in a timely manner.

iii. Financial security shall be maintained for the life of the project.

iv. Every five (5) years, the facility owner or operator shall retain an independent Licensed Engineer to re-estimate the total cost of decommissioning and attest that the value of the financial surety instrument is appropriate. This report shall be filed with the County Zoning Department and the Mills County Auditor. The decommissioning funds shall match the re-estimated cost of decommissioning. Within ninety (90) days of filing the re-estimation report with the County, the facility owner or operator shall cause the fund balance of the financial surety instrument to be adjusted to ensure that it matches the re-estimated decomposition costs. The applicant shall file the approved decommissioning agreement and roads agreement with Mills County Register of Deeds prior to commencing construction.

v. Release of Financial Security. Financial security shall only be released by the Zoning Administrator after inspection that all conditions of the decommissioning plan have been met.

I. **Indemnification and Liability:** The applicant, owner and/or operator of the SESUS project shall defend, indemnify, and hold harmless the County of Mills and its officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever, including attorney's fees, without limitation, arising out of acts or omissions of the applicant, owner, and/or operator associated with the construction and/or operations of the Solar Energy System project.

J. **Cessation of Operations:** Any SESUS provided for in this ordinance that has not been in operation and producing electricity for at least one hundred and eighty (180) consecutive days, excluding a natural catastrophic event, shall be removed. The Mills County Zoning Administrator shall notify the owner to remove the system. Within ninety (90) days, the owner shall either submit evidence showing that the system has been operating and producing electricity or remove it. If the owner fails to or refuses to remove the solar energy system, the violation shall be referred to the Mills County Attorney. In the case of a natural catastrophic event, a detailed restoration plan to return to operational status must be provided to the Zoning Administrator.

K. **Violations & Penalties:** Violations and penalties of this Section are set forth in Chapter 5 of the Mills County Zoning Ordinances.

L. **Related Rules and Regulations:** Each SESUS shall comply with all applicable local, state and federal requirements.

M. **Severability:** The provisions of this ordinance are severable, and the invalidity of any section, subdivision, paragraph, or other part of this ordinance shall not affect the validity or effectiveness of the remainder of the ordinance.

N. **Conditional Use Permit Fee(s) for Solar Energy Systems, Utility Scale:** The Conditional Use Permit fee(s) will be approved and adopted by Resolution through the County Board of Supervisors under Zoning Permit Fees.

vote upon the adoption of the proposed amendment. The proposed amendment shall become effective by a favorable vote of a majority of all of the members of the Board of Supervisors.

5. Any person or persons desiring a change in the zoning classification of property shall file with the application for such change a statement giving the names and addresses of the owners of all properties lying within 500 feet or 200 feet, as applicable, of any part of the property proposed to be changed.

6. Failure to notify as provided in subsections 2 and 3 above shall not invalidate any recommendation of the Zoning Commission provided such failure was not intentional, and the omission of the name of any owner of property who may, in the opinion of the Zoning Commission be affected by such amendment or change, shall not invalidate any recommendation adopted hereunder; it being the intention of this subsection to provide, so far as may be, due notice to the persons substantially interested in the proposed change that an application is pending before the Zoning Commission proposing to make a change in the Zoning Map or the regulations set forth in the Zoning Ordinance.

7. Each application for an amendment, except those initiated by the Zoning Commission, shall be accompanied by a payment of a fee in an amount established from time to time by the Board of Supervisors to cover the approximate costs of this procedure and under no conditions shall said sum or any part thereof be refunded for failure of said amendment to be enacted into law.

8. Whenever any petition for a change of the zoning district classification shall have been approved by the Board of Supervisors after the effective date of this Ordinance, the Ordinance approving such zoning change shall be interpreted to include a sunset clause whereby the zoning of the subject property shall revert back to the original zoning if said property is not developed and/or used for the intended purpose within three years of the time the rezoning is approved by the Board of Supervisors, unless otherwise stipulated by the Board of Supervisors at the time of the rezoning and so stated in the Ordinance rezoning said property.

9. Whenever any petition for an amendment, supplement or change of the zoning districts or regulations herein contained or subsequently established shall have been denied by the Board of Supervisors, then no new petition covering the same property and/or additional property shall be filed with or considered by the Board of Supervisors until one (1) year shall have elapsed from the date of the filing of the first petition.

100.36 SOLAR ENERGY SYSTEMS. The intent of the regulations of this Section is to balance the need for clean, renewable energy resources with the need to protect the public health, safety, and welfare. The regulations of this Section are found to be necessary to ensure that solar energy systems are appropriately designed, sited, and installed. Solar energy systems include

accessory systems for private use, and solar farms for utility-scale energy production and distribution.

16. ***Use.***

A. ***Accessory Use.*** Accessory Solar Energy Systems shall be allowed only as an accessory use to a permitted principal use in residential, commercial, and industrial zoning districts and land uses. Accessory use shall also be allowed in agricultural zoning districts and land uses.

B. ***Principal Use.*** Solar Farms designed for utility-scale energy production and distribution shall be allowed as a principal use only in agricultural zoning districts and land uses.

18. ***Special Use Permit Required.*** No zoning permit shall be issued for any utility-scale solar energy system that is proposed to be constructed until after a Special Use Permit has been approved by the Zoning Board of Adjustment in accordance with Section 100.32 of this Chapter. This shall not apply to Accessory Solar Energy Systems.

A. The special use permit shall be valid so long as the structure conforms to the site plan on file with the Monona County Zoning Administrator and the Monona County Zoning Ordinance.

19. ***Zoning Permit Required.*** It shall be unlawful to construct, erect, install, alter, or locate any solar energy system within Monona County, unless a zoning permit has been obtained from the Zoning Administrator or their designee. In granting such permit, the Zoning Administrator or their designee may impose conditions on the use in addition to the regulations of this Section. The zoning permit may be revoked by the Zoning Administrator or their designee any time the approved system does not comply with the regulations of this Section and the conditions imposed at the time the permit was granted. The owner and/or operator of the solar energy system must also obtain any other permits required by other federal, state, and local agencies or departments prior to obtaining an approved zoning permit or installing the system, and shall comply with all overlay district regulations.

20. ***Permit Application Information.*** An application for a zoning permit for a solar energy system shall be made on forms provided

by the County. Along with the application, the applicant shall submit the following information:

A. *Site Plan.* One (1) complete copy of a site plan and fee shall be submitted in accordance with Section 100.25. The site plan shall be based on a certified instrument survey by a surveyor licensed in the State of Iowa. A Plat of Survey is required to establish property lines and/or setbacks. The site plan shall include the following:

(1) Location of the solar panel(s) on the site and total height of the each panel or array at maximum tilt, dimensions, and ground clearance for each panel or array;

(2) The height and depths of each mounting structure including footings, and maximum area of ground cover;

(3) Utility lines, telephone lines and any other lines, both above and below ground, within 200 feet of any and all above-ground portions of the solar energy system or solar farm;

(4) Details as to how the power will be delivered to the grid, including the route and size of poles and towers to be used, if applicable;

(5) Property lot lines, land uses and the location and dimensions of all existing structures and uses on and off site within a radius of 500 feet of any and all above-ground portions of the solar energy system or solar farm;

(6) Standard drawings and dimensional representations of the solar energy system including panels and arrays, mounting structures, and footings;

(7) Planned location and dimensions of a security fence; and

(8) Interconnection agreement with the electrical utility, if applicable.

B. *Decommissioning Plan.* All applications for solar farms shall 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, 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.

C. *Landscaping.* A landscape buffer may be required to be installed and maintained during the life of the solar farm. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

D. *Grading Plan.* A grading plan shall be submitted for all solar energy system plans and shall show all proposed changes to the landscape of the site, included but not limited to: clearing, grading, topographic changes, drainage, and tree removal.

6. ***Accessory Solar Energy Systems.*** Accessory solar energy systems shall be for the sole benefit of the parcel or lot on which it is located.

B. Building- or roof-mounted systems shall not exceed the bulk regulations of the district or land use on which the building sits.

(1) Such systems shall not extend beyond the perimeter of the building, except that exterior piping for hot water systems may exceed the exterior perimeter in a side yard.

(2) Roof-mounted systems may be visible from the public right-of-way.

(3) Roof-mounted systems shall require adequate roof access to the panels.

(4) Prior to installation, the applicant must provide documentation of the building's structural capacity to the Zoning Administrator or their designee.

C. Solar hot water systems must have an SRCC (Solar Rating & Certification Corporation) rating.

D. Accessory systems must comply with the State of Iowa Building Code, Electric Code, and Plumbing Code.

E. All accessory systems must comply the regulations of all overlay zones in which it is located.

F. All accessory systems must comply with the requirements of the electric utility. Self-contained (off-grid) systems that are not connected to the electric utility are exempt from the interconnection requirements.

G. Surplus energy sold back to a utility must comply with *Section 199, Chapter 15.11(5)* of the *Iowa Administrative Code*, and all requirements of the Iowa Utilities Board.

7. ***General Regulations.***

A. Ground- or pole-mounted panels and arrays shall not exceed 20 feet in height at maximum tilt.

B. All solar energy systems must have a UL (Underwriters Laboratories) listing.

C. *Airports.* All solar energy systems located within 500 feet of an airport or within approach zones of an airport requires the applicant to complete and provide the results of the Solar Glare Hazard Analysis Tool (SGHAT) for the Airport Traffic Control Tower cab and final approach paths, consistent with the *Interim Policy, FAA Review of Solar Energy Projects on Federally-Obligated Airports*, or most recent version adopted by the FAA. The applicant shall also obtain written approval from all appropriate airport authorities, including but not limited to James G. Whiting Memorial Field in Mapleton.

D. *Solar Access*. Solar Access rights may be purchased from neighboring property owners through the recording of a solar easement. This easement may apply to buildings, trees, or other plants and structures that would diminish solar access.

8. ***Abandonment.*** Abandonment proceedings begin one (1) year after the last day any solar energy system produces power.

A. The owner shall have one (1) year after abandonment proceedings have commenced to begin generating electricity with the unit or to decommission and safely dispose of the solar unit.

B. Upon final declaration of abandonment, Monona County shall cause the removal of the abandoned system and invoice the property owner for all costs associated with the removal of the solar energy system and reclamation of the site. If unpaid, the cost shall be assessed as a lien against the property.

ORDINANCE #05-24-21-01
AN ORDINANCE ADOPTING AN UTILITY-SCALE SOLAR ENERGY SYSTEMS ORDINANCE

Whereas, Muscatine County desires to regulate utility-scale solar energy systems within Muscatine County.

NOW, THEREFORE, BE IT HEREBY ORDAINED by the Muscatine County Board of Supervisors:

Section 1. Adoption. The Muscatine County Code of Ordinances, Title III: Property/Land Use and Development is amended by the adoption of the following chapter:

CHAPTER IX. UTILITY-SCALE SOLAR ENERGY SYSTEMS

The requirements of this Ordinance shall apply to all Utility-Scale Solar Energy Systems proposed after the effective date of this Ordinance. Utility-Scale Solar Energy Systems for which a required Muscatine County permit has been properly issued prior to the effective date of this Ordinance shall not be required to meet the requirements of this Ordinance; provided, that any such pre-existing Utility-Scale Solar Energy System, which does not provide energy for a continuous period of twelve (12) months, shall meet the requirements of this Ordinance prior to recommencing production of energy. Also, no modification or alteration to an existing Utility-Scale Solar Energy System shall be allowed without full compliance with this Ordinance.

SECTION 1. DEFINITIONS.

Solar Energy System	A system that converts energy from sunlight into electricity or an additional energy source such as heat.
Residential/Small-Scale Solar Energy System	A solar energy system that is installed at a residence or business to meet the electrical demands at that location. These systems are typically intended to offset electricity use for the owner and are not intended to be net generators of electricity.
Concentrating Solar Power (CSP)	A system that generates solar power by using mirrors or lenses to concentrate a large area of sunlight onto a receiver.
Utility-Scale Solar Energy System	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.
Easement or Lease	A legal agreement for the use of property for a specified purpose.

Feeder Circuits/Lines	A power line or network of lines used as a collection system that carries energy produced by a solar energy system to an interconnection point like a substation. Feeder circuits are most often placed underground.
Interconnection	Link between a generator of electricity and the electrical grid.
Module	An individual unit composed of multiple photovoltaic (PV) cells, with multiple modules used in a solar energy system.
Mounting	The method of anchoring solar energy system modules to the ground or a building.
Non-Participating Landowner	Any landowner that has not signed a lease agreement for an easement or lease with the project owner or developer, often adjacent to or near the project.
Operator	The entity or individual that operates a solar energy system.
Owner	The entity or individual that has ownership over a solar energy system.
Substation	A subsidiary station of electricity generation, transmission and distribution system where voltage is transformed from high to low or the reverse using transformers.
System Height	The height of a solar energy system, usually referring to ground mounted systems. Total system height is the measurement from the ground to the top of the mounting or modules associated with a system.
Transmission Lines	Power lines used to carry electricity from collection systems or substations over long distances.

SECTION 2. UTILITY-SCALE SOLAR ENERGY SYSTEMS

2.1 General Requirements.

a. **Concentrating Solar Power (CSP) Systems.** Concentrating Solar Power Systems shall be prohibited.

b. **Site Plan.** A site plan shall be submitted and reviewed prior to approval of a Utility-Scale Solar Energy System.

c. **Special Use Permit Required.** A Utility-Scale Solar Energy System is a Special Permitted Use in the A-1 Agricultural District and a permitted use in the I-1 Light Industrial and I-2 Heavy Industrial Districts.

d. **Additional Information.** In addition to all submittal requirements of a site plan and Special Use Permit application (where required), the application for a utility-scale solar installation shall include the following information on the site plan or in narrative form, supplied by utility-scale solar energy system owner, operator or contractor installing the structures

1. Number, location and spacing of solar panels/arrays.

2. Planned location of underground or overhead electric lines.

3. Project development timeline which indicates how the applicant will inform adjacent property owners, persons in possession (tenants) and interested stakeholders in the community.

4. Interconnection plan.

5. Operation and maintenance plan.

6. Decommissioning plan.

7. Site and structure requirements.

For projects 25 MW or larger, the Application of Certificate, required by the Iowa Utilities Board, will be considered acceptable to meet the above additional requirements. In cases where a Special Use Permit is required, the current application to the Board of Adjustment shall still be required.

e. **Setbacks.** Setbacks for all structures (including solar arrays) shall be the same as what is required for residences in the A-1 Agricultural District unless the Board of Adjustment finds that less is warranted. All structures shall observe listed setbacks in the I-1 and I-2 Districts. No setbacks are required where a property line is shared by two participating landowners. Mandated setback distances may be waived with the consent of participating landowners and adjacent property owners.

f. **Screening.** A landscape buffer may be required to be installed and maintained during the life of the operation if a Special Use Permit is required. Determination of screening requirements will be made by the Board of Adjustment as part of the review and approval process and will be based on adjacent or nearby surrounding land uses and topography.

g. **Utility connections.** Reasonable efforts shall be made to place all connections within the solar installation underground, depending on appropriate soil conditions, shape and topography of the site, distance to the connection, or other conditions

or requirements. All components used for the collection, conversion, and storage of energy shall be contained within the leased and fenced project area, excluding overhead and underground transmission lines.

h. **Grading plan.** A grading plan shall be submitted and shall include all proposed changes to the landscape of the site (e.g., clearing, grading, topographic changes, tree removal, etc.)

i. **Glare minimization.** All solar panels shall be constructed to minimize glare or reflection onto adjacent properties and adjacent roadways and must not interfere with traffic, including air traffic, or create a safety hazard.

j. **Compliance with local, state and federal regulations.** Utility-scale solar installations shall comply with applicable local, state and federal regulations.

k. **Appurtenant structures.** All appurtenant structures shall be subject to bulk and height regulations of structures in the applicable zoning district except where otherwise approved.

l. **Floodplain considerations.** Utility-scale solar installations are considered to be maximum damage potential structures and facilities for purposes of the floodplain district regulations. Utility-scale solar installations are discouraged within the 1% Special Flood Hazard Area (100 year floodplain), but may be allowed subject to provisions of the Muscatine County Floodplain Management Ordinance.

m. **Fencing/security.** An NEC compliant security fence must be installed along all exterior sides of the utility-scale solar energy system 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 dismantled and removed from the site.

n. **Signage.** Signage with the following information shall be maintained at all locked entrance locations:

1. A visible "High Voltage" warning sign;
2. Name(s) and phone number(s) for the electric utility provider;
3. Name(s) and phone number(s) for the site operator;
4. The facility's 911 address, GPS coordinates; and,
5. A lockbox with keys as needed.

o. **Operation and maintenance plan.** The applicant shall submit a plan for the operation and maintenance of the solar installation, which shall include measures for maintaining safe access to the installation, stormwater and

erosion controls, as well as general procedures for operation and maintenance of the installation.

p. **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.

q. **Stormwater management considerations.** For the purposes of pollutant removal, stormwater rate and runoff management, flood reduction and associated impacts, the applicant shall provide a detailed analysis of pre- and post-development stormwater runoff rates for review by local jurisdictional authorities. This requirement may be met by providing a copy of the applicant's Stormwater Pollution Prevention Plan prior to the start of construction.

r. **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:

1. Top soil shall not be removed during development, unless part of the remediation effort.

2. Soils shall be planted and maintained in perennial vegetation to prevent erosion, manage run off and build soil. Seeds should include a mix of grasses and wildflowers, ideally 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.

3. Seed mixes and maintenance practices should be consistent with recommendations made by qualified natural resource professionals such as those from the Department of Natural resources, County Soil and Water Conservation Service or Natural Resource Conservation Service.

4. Notification of the landowner, farm tenant and adjoining landowner shall be required and approval of the landowner secured prior to the company enrolling the land in a Candidate Conservation agreement or

Habitat Conservation Plan under the Endangered Species Act. The notification should include information about the size of the buffer areas to adjacent properties, a summary of the agreement or plan, and where the landowner, tenant or adjoining landowner may obtain more information.

s. **Maintenance, repair or replacement of facility.** Maintenance shall include, but not be limited to, painting, structural repairs, and integrity of security measures. Site access shall be maintained to a level acceptable to emergency response officials. Any retrofit, replacement or refurbishment of equipment shall adhere to all applicable local, state and federal requirements.

t. **Access Required.** The Zoning/Building Official and any other necessary personnel may enter the property for which a Special Use or Building Permit has been issued under this ordinance to conduct an inspection to determine whether the conditions stated in the permit have been met as specified by statute, ordinance or code. Failure to provide access shall be deemed a violation of this ordinance.

2.2 Infrastructure Protection and Road Use Agreements.

A pre-construction plan will be developed between the system owner, operator or contractor and Muscatine County that addresses potential impacts to roads and other infrastructure from solar project construction as well as post construction review to identify impacts and provide for repairs, prior to issuance of the building permit. All routes on County roads that will be used for the construction and maintenance purposes shall be identified on the site plan. All routes for either ingress or egress shall be shown. Prior to issuance of a building permit, the developer must complete and provide a pre-construction baseline survey/assessment to determine existing road conditions for assessing potential future damage due to developmental-related traffic. Prior to the issuance of the building permit, the developer shall provide a road repair plan to ameliorate any and all damage, installation, or replacement of roads that might be required by the developer. Prior to the issuance of the building permit, the developer shall provide a letter of credit or surety bond in an amount and form approved by the appropriate road authority (s) when warranted. The provisions of this section shall be subject to approval by the Muscatine County Engineer.

2.3 Decommissioning and Site Reclamation Plan.

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; 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.

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.

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

1. Restoration of the pre-construction surface grade and soil profile after removal of structures, equipment, graveled areas and access roads.
2. Re-vegetation of restored soil areas with crops, native seed mixes, plant species suitable to the area, consistent with the county's weed control plan.

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 the time.

After the utility-scale solar installation is in service, 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 shall be completed in accordance with the approved decommissioning plan. The owner or operator of the system must notify the County when the project is discontinued.

Section 2. Amendments. The Muscatine County Code of Ordinances, Title III Property/Land Use and Development, Chapter II Zoning Ordinance is amended by adoption of the following new subsections:

Article III, Section 3: 3.31 Utility-Scale Solar Energy Systems

Article X, Section 2: 2.8 Utility-Scale Solar Energy Systems

Section 3. Severability. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the regulations as a whole or any section, provision, or part thereof not adjudged invalid or unconstitutional.

Section 4. Effective Date. This ordinance shall take effect upon its publication as required by law.

Section 5. Conflict with Provisions. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

PASSED, APPROVED AND ORDAINED this 24th day of May, 2021.

ATTEST:

/s/Tibe Vander Linden	/s/Santos Saucedo, Chairperson
Muscatine County Auditor	Muscatine County Board of Supervisors

Division 8. Conditional Uses

Conditional uses are those uses which have some special impact or uniqueness such that their effect on the surrounding environment cannot be determined in advance of the use being proposed for a particular location. When such a use is proposed, a review by the Board of Adjustment of the location, design, configuration, and impact will be conducted, comparing the proposed use to fixed standards.

Section 1. Review Standards

The review determines whether the proposed use should be permitted by weighing public need for and benefits to be derived from the use against the local impact which it may cause. The review shall consider the proposal in terms of:

(A) Existing zoning and land use in the vicinity of the use; and

(B) planned and proposed public and private developments which may be adversely affected by the proposed use; and

(C) whether and to what extent the proposed use, at the particular location for which it is suggested, is necessary or desirable to provide a development which is in the interest of the public or which will contribute to the general welfare of the area or Polk County; and

(D) whether and to what extent all steps possible have been taken by the developer to minimize any adverse effects of the proposed use on the immediate vicinity and on the public health, safety and welfare in general.

Section 2. General Standards

No application for a conditional use permit shall be approved unless the Board of Adjustment specifically finds the proposed conditional use appropriate in the location for which it is proposed. This finding shall be based on the following criteria:

The proposed use shall be in harmony with the general purpose, goals, objectives, and standards of the Polk County Comprehensive Plan, this Ordinance, or any other plan, program, map, or ordinance adopted, or under consideration pursuant to official notice, by the County.

(A) The proposed location and use shall be consistent with policies or provisions of the Comprehensive Plan, this Ordinance, or other plans or programs of the County.

(B) The proposed use at the proposed location shall not result in a substantial or undue adverse effect on adjacent property, the character of the neighborhood, traffic conditions, parking, public improvements, public sites or rights-of-way, or other matters affecting the public health, safety, and general welfare, either as they now exist or as they may in the future be developed as a result of the implementation of provisions and policies of the Comprehensive Plan, this Ordinance, or any other plan, program, map, or ordinance adopted, or under consideration pursuant to official notice, by the County or other governmental agency having jurisdiction to guide growth and development.

(C) The proposed use in the proposed area will be adequately served by, and will not impose an undue burden on, any public improvements, facilities, utilities, and services. Where any such improvements, facilities, utilities, or services are not available or adequate to service the proposed use in the proposed location, the applicant shall, as part of the application and a condition to approval of the proposed conditional use permit, be responsible for establishing ability, willingness, and binding commitment to provide such improvements, facilities, utilities, and services in sufficient time, and in a manner consistent with the Comprehensive Plan, this Ordinance, and other plans, programs, maps, and ordinances adopted by Polk County to service the development. The approval of the conditional use permit shall be conditioned upon such improvements, facilities, utilities, and services being provided and guaranteed by the applicant.

Section 3. Procedures

The following regulations set forth the procedures for a Conditional Use Permit.

(A) Application.

(1) Applications shall be provided by the County.

(2) Any conditional use designated in Table of Uses of this Ordinance shall comply with the requirements for Site Plan of this Ordinance.

(3) In addition, a legally constituted body empowered by the Code of Iowa with the power of eminent domain may also apply for a Conditional Use Permit for land proposed for a public purpose.

(4) A Building Permit application may be applied for only upon approval of request.

(B) Processing by the Board of Adjustment.

Applications for a Conditional Use Permit shall be processed by the Board of Adjustment in the same manner as a site plan in addition to other entities that may be affected by the proposed use as determined by the Zoning Administrator.

(C) Public Hearing.

(1) Notice. Notice of meeting shall also be given to all property owners within five hundred (500) feet of the boundary of the property on which the conditional use is to be located by placing a notice in the United States mail at least fifteen (15) days prior to the meeting. Notice shall contain the time and location of said meeting.

(2) Recommendations. Approximately five (5) days prior to the date set for the meeting on the application, the Planning Administrator and each official or consultant to which the application has been referred shall file a written report thereon with the Board of Adjustment. The reports shall set forth the recommendations for changes in the plans, as submitted, and the conditions for approval, if any, necessary to bring the plans into compliance with any applicable ordinance or regulation. Conditions for approval may also be designed to eliminate any adverse effects of the proposed development on aspects of the general health, safety, and welfare of the community for which the official or consultant has special responsibility.

(3) Decision. Within forty-five (45) days of the public meeting on the application, unless an extension of this time is agreed to by the applicant, the Board of Adjustment shall render a decision either to grant the application for a Conditional Use Permit, grant it subject to conditions, or deny it. Failure of the Board of Adjustment to act within this time period shall constitute an approval of the application.

(4) Denial. The application shall be denied if the Board of Adjustment finds any of the following:

(a) The application and record fail to establish compliance with the standards made applicable to the proposed development by the provisions of this Ordinance.

(b) The proposed use, developed in the proposed manner, and at the proposed location, would be inconsistent with the standards pursuant to the provisions of this Ordinance.

(c) The adverse impacts on the overall public health, safety, and welfare are not balanced by the public or private benefits of the proposal. The Board of Adjustment shall include in this balance, any proposals of the applicant and any conditions that it might impose on the development, pursuant to the provisions of this Ordinance, to ameliorate problems associated with the development.

(5) Conditions and Restrictions. The Board of Adjustment may, in approving the application for any Conditional Use Permit, impose such restrictions and conditions on such approval, the proposed use, and the premises to be developed or used pursuant to such approval as it determines are required by the general purposes, goals, and objectives of the Comprehensive Plan and this Ordinance to prevent or minimize adverse effects from the proposed use and development on other properties in the neighborhood and on the general health, safety, and welfare of the County. All conditions imposed upon any Conditional Use Permit approval, with the exception of conditions made applicable to such approval by the express terms of this Ordinance, shall be expressly set forth in the granting of such Conditional Use Permits.

Section 4. Conditions on Conditional Use Permit Approvals

Every Conditional Use Permit shall be dependent upon the proposed development fully complying with all the requirements of this Ordinance and, where applicable, with the Polk County Subdivision Ordinance.

The Board of Adjustment may also attach any other conditions deemed appropriate to the granting of approval including conforming to a specific site plan.

Section 5. Violations

A violation of any condition or restriction in a Conditional Use Permit is a violation of this Ordinance and is punishable pursuant to the provision of this ordinance. Additionally the Board of Adjustment is empowered to revoke any Conditional Use Permit if it determines that the conditions or restrictions are being violated.

Article 24. Renewal Energy Regulations

Division 1. Purpose

To promote the effective and efficient use of wind energy conversion systems (WECS) and solar energy conversion systems (SECS) by regulating and requiring a permit for the siting, design, and installation of conversion systems to protect the public health, safety, and welfare of present and future residents of Polk County. In addition, this ordinance provides a permitting process for these energy systems to ensure compliance with the provisions of the requirements and standards established or referenced herein. The provisions of this ordinance shall not guarantee wind or solar rights or establish access to the wind or sunlight.

Division 2. Applicability

It shall be unlawful to construct, erect, install, alter, or locate any WECS (accessory or utility scale), any SECS (accessory or utility scale), and any BESS within unincorporated Polk County, without first obtaining approval and a permit from Polk County as outlined in this ordinance and in compliance with the provisions of this chapter and the Polk County Zoning Ordinance. No permit application for a WECS, SECS, or BESS permit shall be granted without first submitting all required information and obtaining necessary permits, certifications, and documentation.

Division 3. Zoning Required

Section 1. Wind Energy Conversion Systems (WECS)

(A) **Zoning Required for Accessory Wind Energy Conversion Systems.** An Accessory Wind Energy Conversion System (AWECS) may be allowed within any zoning district, except for the MH - Mobile Home Park Zoning District, subject to approval of a Permitted Conditional Use Permit from the Polk County Board of Adjustment.

(B) **Zoning Required for Utility Scale Wind Energy Conversion Systems.** A Utility Scale Wind Energy Conversion System (USWECS) may be allowed within the AG - Agricultural Zoning District, subject to approval of a Permitted Conditional Use Permit from the Polk County Board of Adjustment.

Section 2. Solar Energy Conversion Systems (SECS)

(A) **Zoning Required for Accessory Solar Energy Conversion Systems.** A building-integrated, roof-mounted, building-mounted, or ground-mounted Accessory Solar Energy Conversion System (ASECS) that complies with the regulations contained in this chapter, may be allowed within any zoning district, subject to approval of a permit from the Polk County Zoning Administrator.

(B) **Zoning Required for Utility Scale Solar Energy Conversion Systems.** A Utility Scale Solar Energy Conversion System (USSECS) may be allowed within the AG - Agricultural, and LI – Light Industrial and HI – Heavy Industrial Zoning Districts, subject to approval of a Permitted Conditional Use Permit from the Polk County Board of Adjustment.

Section 3. Battery Energy Storage Systems (BESS)

(A) **Zoning Required for Battery Energy Storage Systems.** A BESS may be allowed within the AG – Agricultural, LI – Light Industrial, and HI - Heavy Industrial Zoning Districts, subject to approval of a Permitted Conditional Use Permit from the Polk County Board of Adjustment.

(B) The provisions of this chapter do not apply to a battery energy storage system that is incidental and subordinate to a principal use on the same parcel and intended to primarily provide electrical power for use on the site in which the system is located.

Division 4. Application and Procedures

Section 1. Accessory Wind Energy Conversion Systems and Accessory Solar Energy Conversion Systems.

(A) **Permit Application Requirements.** Application for approval of a permit to construct an AWECS or ASECS shall be submitted to the Zoning Administrator on a permit application form provided by the Zoning Administrator and must include any additional information determined by the Zoning Administrator as necessary to demonstrate compliance with all applicable codes and requirements, along with the ASECS permit application fee, as established by resolution of the Board of Supervisors.

(B) **Permit Procedures.**

(1) ***AWECS PERMIT.*** All AWECS permit applications shall require review and approval by the Polk County Board of Adjustment following the standards and procedures for Conditional Uses as outlined in Article 4, Division 8 of the Polk County Zoning Ordinance and shall follow the same schedule for submitting applications. No AWECS permit may be issued until after receiving approval of a Conditional Use Permit from the Board of Adjustment and the securing of all other permits as may be required by this chapter and elsewhere in the Polk County Zoning Ordinance and Building Code Regulations of Polk County.

(2) ***ASECS PERMIT.*** Any ASECS permit application may be administratively reviewed and approved by the Zoning Administrator if determined the proposed construction meets the requirements of this chapter, the Polk County Zoning Ordinance, and the Building Code Regulations of Polk County. The Zoning Administrator may defer any ASECS permit application to the Board of Adjustment for their review and consideration of approval.

Section 2. Utility Scale Wind Energy Conversion Systems, Utility Scale Solar Energy Conversion Systems, and Battery Energy Storage Systems.

(A) **Permit Application Requirements.** Application for approval of a permit to construct USWECS, USSECS, or BESS shall be submitted to the Zoning Administrator on a permit

RINGGOLD COUNTY ORDINANCE # RC-23-117

AN ORDINANCE REGULATING THE PLACEMENT OF UTILITY SCALE SOLAR ENERGY SYSTEMS (US-SES) ON PROPERTY LOCATED IN THE UNINCORPORATED AREAS OF RINGGOLD COUNTY, IOWA

BE IT ENACTED BY THE RINGGOLD COUNTY BOARD OF SUPERVISORS

SECTION 1. PURPOSE AND INTENT

The purpose of this Ordinance is to establish minimum requirements and regulation of any Applicant/Developer/Owner engaged in the construction, erection, placement, location, maintenance, modification, operation, and decommissioning of Utility Scale Solar Energy Systems (herein "US-SES") in Ringgold County, Iowa.

The intent of this Ordinance is to facilitate the construction, installation, and operation of Utility Scale Solar Energy Systems (US-SES) in Ringgold County in a manner that preserves and protects the rights, privileges, and property of the County and its residents, that ensures the protection of the health, safety, and welfare of the county's residents, and that provides an opportunity for economic growth and development. Concentrating Solar Power Systems (CSP) shall be prohibited in Ringgold County.

All future Utility Scale Solar Energy System (US-SES) projects, as well as those currently contracted by agreement, permitted, or planned, shall follow this Solar Energy Systems Ordinance. This Ordinance shall not apply to US-SES projects in Ringgold County completed prior to the enactment of this ordinance.

SECTION 2. DEFINITIONS

For use in this Ordinance, certain words used herein shall be defined as follows:

Agreement: A legally binding document signed by both a participating landowner and an owner or operator for a specific purpose, including but not limited to a contract, easement, or lease.

Applicant: The person or entity submitting the application under this Ordinance, which is normally expected to be the owner or operator of a US-SES, or the owner of the US-SES development.

Board of Supervisors: The board of supervisors elected by Ringgold County residents.

Concentrating Solar Power Systems: A system that generates solar power by using mirrors, lenses, or similar reflecting surfaces to concentrate sunlight collected over large

areas onto smaller focal areas.

Developed Project Acres: The total project area that is subject to an agreement between the Owner/Operator and the Participating Landowner and is actually developed and utilized for placement of a US-SES.

Easement: A legal agreement for the use of property for a specified purpose.

Non-Participating Landowner: A landowner who has not signed a binding agreement with the Applicant/Developer/Owner of the US-SES project.

Occupied Structure: For the purpose of this ordinance, shall include any existing occupied house, apartment, barn, or machine shed regularly used by the property owner, or parties in possession of the property at the time of the permit application.

Owner: The entity or entities with an equity interest in the US-SES, including their respective successors and assigns. Owner does not mean the landowner from whom a lease, easement, or other property right is acquired for locating the US-SES unless the landowner has an equity interest in the US-SES, or any person holding a security interest in the US-SES solely to secure an extension of credit, or a person foreclosing on such security interest provided that after foreclosure, such person seeks to sell the US-SES at the earliest practical date.

Participating landowner: A landowner under lease, easement or other binding property agreement with the applicant, developer, or owner of the US-SES.

Professional Engineer: A qualified individual who is licensed in the State of Iowa as a professional engineer.

Project Area: The geographic area encompassing all components of a US-SES project, including border fencing.

Property Line: The legal boundary between separately owned real estate parcels, and between privately owned parcels and publicly owned land or public right of way.

Residence: A house, apartment or other shelter that is the abode of a person, family, or household and regularly occupied.

a.) **Recreational Areas:** Boone Woods, Don and Connie Huff Wildlife Area, Dragoon Trace Nature Center, Fife's Grove Park, Fogle Lake Park, Kellerton Grasslands Bird Conservation Area (also known as the Prairie Chicken Sanctuary), Kokesh Recreation Area, Liberty Lake, Mapleleaf Pathway, O'Neal Rest Area, Poe Hollow Park and Ringgold Trailway.

Setback: The minimum required distance from a certain object, structure or point to the edge of any part or component of the US-SES.

Structure: Anything constructed or erected on the ground or attached to the ground, including but not limited to, antenna(s), buildings, sheds, cabins, residences, signs, storage tanks, towers, Wind Turbines and other similar objects.

Utility Scale Solar Energy System (US-SES): Also known as solar power plants and solar farms, an alternative energy facility (1 Megawatt AC or greater) that consists of ground mounted or freestanding sunlight or solar collection devices, solar energy related equipment, and other associated infrastructure with the primary intention of generating electricity from photovoltaics or concentrated solar power, or otherwise converting energy to a different form of energy, to be distributed to the electrical grid or other off-site use. This does not include small-scale solar panels or technologies installed at individual residential or commercial locations (e.g. roof or ground mounted panels) that are used exclusively for private purposes and not utilized for any commercial resale of any energy, except for the sale of surplus electrical energy back to the electrical grid.

US-SES Construction Permit: A permit issued by Ringgold County, which is required before construction of a US-SES is allowed in Ringgold County.

SECTION 3: CAP ON TOTAL ACRES UTILIZED FOR US-SES.

There shall be a cap of 400 total Developed Project Acres in Ringgold County devoted to placement of a US-SES. A participating landowner who wishes to appeal the denial of a US-SES Construction Permit on the basis that the total acreage cap has been met or exceeded must contact the Ringgold County Auditor's Office to receive the current Appeal for Variance form. The participating landowner must complete the form in its entirety, and file it with the Ringgold County Auditor's Office for review by the Board of Supervisors.

SECTION 4. PERMIT APPLICATION REQUIREMENTS.

The applicant for the siting and construction of a US-SES shall file an application with the Ringgold County Engineer, or their designee, along with the permit fee of five hundred dollars ($500.00), prior to commencing construction, which shall be deposited in the Secondary Roads Fund.

The application for a US-SES Construction Permit shall include:

1. A written US-SES project summary, including (1) a general description of the project, including the approximate generating capacity; (2) the model and equipment manufacturer for the solar panel array; (3) the name, address, e-mail address, and

telephone number of the applicant, project owner, and/or project operator; and (4) the legal description of the property or properties on which the US-SES will be located.

2. A site plan of the US-SES site to be an aerial photograph of the project location and surrounding area or a scale drawing showing all of the following:

   a. Boundaries of the site;

   b. All proposed US-SES structures and other support structures, including the number, location, spacing, and height of solar panels/arrays and the planned location of underground or overhead electrical lines;

   c. All proposed fencing to surround the US-SES structures and other support structures;

   d. Location of property lines, including identification of adjacent properties and whether they are participating or non-participating;

   e. Setback measurements between the fencing, solar panel(s) and/or equipment closest to the required protected areas, and all applicable property lines, occupied residences, road right of ways, intersections, and airports. This provision does not include underground facilities, such as cable;

   f. An unredacted Health & Safety Instructions Manual specifically for the make, model, and type of solar panel array from the manufacturer of said solar panels. This manual must be presented to the County to have on file with the Auditor's Office and must be made available to the public at time of application. No other generalized statement, document, or manual is acceptable.

   g. An emergency plan and safety data sheets have been filed with the Ringgold County Auditor's Office and local fire departments, which provide coverage for the affected area, and a glint and glare study must be filed with the Ringgold County Auditor's Office.

3. A description of the anticipated life of the US-SES, the anticipated manner in which the project will be decommissioned, the anticipated site restoration actions, the estimated decommissioning costs in current U.S. dollars, the method for ensuring that funds will be available for decommissioning and restoration; and evidence of an agreement with the property owner for the location of the US-SES that ensures proper removal of all equipment and restoration of the site within six (6) months of decommissioning or abandonment of the project.

4. Consultation with or notifications from relevant state and federal agencies showing the project will not be a hazard to wildlife, communications, air traffic, and other related matters.

Upon receipt of the complete application and permit fee, the Ringgold County Engineer shall review the application. Upon the determination by the Ringgold County Engineer, or his/her designee, that the requirements of this Ordinance have been satisfied, the completed US-SES Construction Permit Application and any/all necessary supporting documentation shall be presented to the Ringgold County Board of Supervisors for approval. The Ringgold County Board of Supervisors, upon approval of the application, shall provide any necessary building permits for each US-SES. If there are changes to the information as provided as a part of the application that occur from the time of the application until the time of the construction of the US-SES, the applicant shall submit a new application together with the updated information and any such change shall be in compliance with this Ordinance. The Ringgold County Engineer, or his/her designee, shall present the amended and completed US-SES Construction Permit Application to the Ringgold County Board of Supervisors using the process described above.

SECTION 5. GENERAL REQUIREMENTS FOR UTILITY, SCALE SOLAR ENERGY SYSTEMS (US-SES).

US-SES shall be subject to the following requirements:

1. Setbacks. All US-SES and any upgrades to existing solar energy systems shall observe the following setbacks, to be measured from the edge of the solar panels and equipment (not underground facilities such as cable or fencing):

Protected Area	Setback Requirement
Occupied Residence	1,000 feet from occupied residence
Any non-participating parcel	250 feet from property line
Public road right of way	75 feet from road right of way for paved roads 50 feet from road right of way for gravel roads
Public road intersections	Radius of 150 feet from the center of the intersection
Public Airports	5 miles from property line

Protected Area	Setback Requirement
Occupied Structure	300 feet from occupied structure
Any non-participating parcel	100 feet from property line to solar panels
Public road right of way	75 feet from road right of way for paved roads 50 feet from right of way for gravel roads
Recreational Areas	A view shed analysis needs to be completed and the setback should be consistent with said study.

2. Waiver. Participating and non-participating landowners may sign a waiver consenting to the placement of US-SES closer than the setback requirements outlined above.

3. Safety. Security fencing shall be installed and maintained in good condition around all electrical equipment related to the US-SES project, including but not limited to transformers and transfer stations. The fencing shall be equipped with a minimum of one gate and locking mechanism on the primary access side. Appropriate warning signage shall be placed at safe intervals at the entrance and perimeter of the US-SES project.

4. Insurance. Applicants shall provide evidence, in the form of a certificate of insurance satisfactory to the County, showing general liability insurance coverage for the installation and operation of the project under a standard homeowner's or standard business owner's insurance policy, separate and distinct from any requirements of a public utility.

5. Ground Cover. All solar panels shall have fast growing and native perennial vegetation planted and maintained beneath them, including a mix of grasses and wildflowers and a vegetation plan will be on file in the Ringgold County Auditor's Office. The site shall be maintained to prevent fire hazards. No concrete or gravel type cover of property is permissible.

6. Certification & Compliance. All US-SES shall conform to applicable industry standards, including those from the Underwriters Laboratory (UL) and Federal Aviation Administration (FAA), and shall be in compliance with all applicable local, state, and federal regulatory standards and applicable electrical codes, including the National Electric Code (NEC) and National Electric Safety Code (NESC). Any as built plans must be submitted within twelve (12) months of completion of the project.

Section 6. PUBLIC INFRASTRUCTURE DAMAGE AVOIDANCE/MITIGATION & DECOMMISSIONING.

1. Roads. The applicant or owner of the US-SES shall enter into a road use agreement, substantially in the form attached to this Ordinance, with Ringgold County prior to the start of construction of the US-SES project. Ringgold County's approval and execution of the agreement shall not be unreasonably withheld.

2. Decommissioning. The US-SES's owner shall enter into a decommissioning agreement, substantially in the form attached to this Ordinance, with Ringgold County prior to the start of construction of the US-SES project. Ringgold County's approval and execution of the agreement shall not be unreasonably withheld. The plan shall include:

   a) A description of the plan to remove the US-SES's equipment, or at landowner's request, to restore the land to its previous use upon the end of the project's life.

   b) Provisions for the removal of structures, debris, and associated equipment on the surface and to a level of not less than four (4) feet below the surface, and the timeline/sequence in which removal is expected to occur;

   c) Provisions for the restoration of the soil, vegetation and disturbed earth, which shall be graded and reseeded;

   d) An estimate of the decommissioning costs certified by a licensed professional engineer in current dollars. The engineer providing this estimate shall submit it to the Ringgold County Engineer, or his/her designee, for review and all costs associated with this engagement shall be borne by the applicant;

   e) A written financial plan approved to ensure that funds will be available for decommissioning and land restoration;

   f) A provision that the terms of the decommissioning plan shall be binding upon the owner or operator and any of their successors, assigns, or heirs;

   g) Upon review of the decommissioning plan, the Ringgold County Board of Supervisors shall set an amount to be held in a bond, escrow, or other acceptable form of funds approved by the Board. The value of the surety shall not be reduced based on the salvage value of any materials or equipment. The plan shall state that Ringgold County shall have access to the project and to the funds to effect or complete decommissioning one (1) year after cessation of operations; and,

   h) The applicant shall provide the county with a new estimate of the cost to decommission the US-SES project every five (5) years under the same conditions as set forth in this Sections above. Salvage value of structures, electrical wire and other appurtenances shall not be considered within the cost estimate calculations. Upon receipt of this new estimate, the county may require, and the applicant, owner, and/or operator of the US-SES project shall provide, a new financial plan for decommissioning acceptable to the County. Failure to provide an acceptable financial plan shall be considered a cessation of operations.

   i) Release of Financial Security. Financial security shall only be released when the Board of Supervisors determines, after inspection, that the conditions of the decommissioning plan have been met.

Section 7. MISCELLANEOUS

1. Condemnation Waiver. Issuance of a US-SES Construction Permit shall be conditioned on the permit holder's enforceable promise, supported by the consideration of the issuance of the US-SES Construction Permit, that the permit holder shall never use, or seek to use, eminent domain to acquire any real property interests to construct or operate the project.

2. Legal Fees. In any action brought by the County against the permit holder or a US-SES Construction Permit to enforce the provisions of this Ordinance, the County shall be entitled to recover its reasonable attorney's fees and court costs as may be awarded by the decision-making tribunal.

3. E911 Signs. Signs must be placed on a post at the entrance to the right-of-way or shared driveway of each US-SES in Ringgold County and all signs must follow the Guidelines for Placing Emergency 911 Address Numbers.

Section 8. TRANSFER

Building permits and associated decommissioning and road use agreements granted under this Ordinance may be transferred to another party subject to Ringgold County Board of Supervisors approval, which approval shall not be unreasonably withheld. Any assignee of the building permits and associated decommissioning and road use agreements shall be subject to all the requirements in this Ordinance and the agreements.

Section 8. SEVERABILITY

Should any section or provisions 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.

Section 9. PENALTY.

Any person, persons, firms, partnerships or corporations, whether acting alone or in concert with any other, who violates this Ordinance, shall be guilty of a simple misdemeanor as authorized by Iowa Code section 331.302.

Section 10. EFFECTIVE DATE.

This Ordinance shall be in effect after its final passage, approval, and publication as provided by law.

Passed and approved this 24th day of July, 2023.

Colby Holmes (SEAL)
Chairperson
Ringgold County Board of Supervisors

Attest: Amanda Waske
Amanda Waske
Ringgold County Auditor

July 17, 19, 24, 2023.
Public Hearing Date

July 13, 2023.
Publication Date

July 24, 2023.
Effective Date

SCOTT COUNTY ORDINANCE NO.22 -04

AN ORDINANCE TO AMEND PORTIONS OF THE ZONING ORDINANCE FOR UNINCORPORATED SCOTT COUNTY TO CREATE REGULATIONS FOR A NEW ZONING DISTRICT, UTILITY SOLAR-FLOATING "US-F". DISTRICT.

BE IT ENACTED BY THE BOARD OF SUPERVISORS OF SCOTT COUNTY IOWA:

Section 1. Amend Section 6-5 DEFINITIONS of the Zoning Ordinance for Unincorporated Scott County by editing:

Section 6-5(20) 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.)

and adding:

Section 6-5(106) SOLAR ACCESS EASEMENT: A recorded easement which provides continued access to incident sunlight necessary to operate a solar collector.

Section 6-5(107) SOLAR ARRAY: A group of solar panels connected together.

Section 6-5(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.

Section 6-5(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.

Section 6-5(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.

Section 6-5(111) SOLAR PANEL: A device composed of groups of individual solar cells used to convert solar energy into electrical current.

Section 2. Amend the Zoning Ordinance for Unincorporated Scott County by adding a new Chapter 6-21:

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:

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
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.

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.

(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 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 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.

Section 3. The County Auditor is directed to record this ordinance in the County Recorder's Office.

Section 4. Severability Clause. If any of the provisions of this Ordinance are for any reason illegal or void, then the lawful provisions of the Ordinance, which are separate from said unlawful provisions shall be and remain in full force and effect, the same as if the Ordinance contained no illegal or void provisions.

Section 5. Repealer. All ordinances or part of ordinances in conflict with the provisions of the Ordinance are hereby repealed.

Section 6. Effective Date. This Ordinance shall be in full force and effect after its final passage and publication as by law provided.

Public Hearing / First Consideration: August 18, 2022,

Second Consideration: September 1, 2022,

Third Consideration: September 15, 2022,

_____
Ken Beck, Chair
Scott County Board of Supervisors

Attested by: _____
Kerri Tompkins, County Auditor

Published on _____

TAMA COUNTY UTILITY SCALE
SOLAR ENERGY ORDINANCE

WHEREAS, Tama County, Iowa desires to regulate all utility-scale solar energy systems within Tama County in areas zoned Agricultural, except as otherwise prohibited; and

WHEREAS, the Tama County Board of Supervisors desires to facilitate the construction, installation, and operation of utility-scale solar energy systems in a manner that promotes economic development, protects property values, and ensures the protection of the health, safety and welfare of all inhabitants of Tama County while also avoiding adverse and detrimental impacts to rural residents, their economies, unsightliness on agricultural lands, conservation lands and other sensitive lands; and

WHEREAS, the Tama County Board of Supervisors is empowered to regulate the orderly development and proper use of solar energy by establishing certain procedures for obtaining access to solar energy under certain of the provisions of Iowa Code Chapter 564A; and

WHEREAS, The Tama County Board of Supervisors has taken into consideration the thoughts, beliefs, suggestions and views of Tama County citizens and residents in the construct of this Ordinance.

NOW, THEREFORE, BE IT HEREBY ORDAINED by the Tama County Board of Supervisors:

Section 1. Utility Scale Solar Energy Systems.

a. The requirements of this Ordinance shall apply only to all Utility-Scale Solar Energy Systems proposed after the effective date of this Ordinance. This Ordinance shall apply only to Utility Scale Solar Energy Systems, intended and constructed to generate less than a total capacity of 25 megawatts. Systems with a total capacity of more than 25 megawatts are forbidden under this Ordinance as it presently requires approximately 10 acres of land to create a 1 megawatt output using current solar panel energy.

b. This Ordinance shall not be construed to apply to or displace the Tama County Solar Zoning Ordinance created in October, 2019 and now found in Chapter XIX of the Tama County Zoning Ordinances, as that Ordinance pertains only to allow "Residential and Non-Residential solar energy systems as an accessory use to permitted, conditional and special exception uses in any zoning district".

c. This Ordinance shall be construed to be consistent with the Tama County Land Use Plan adopted February 4, 1986 where in Paragraph one (1) it is stated: "We would discourage the use of prime agricultural land for anything other than agricultural production; generally this would be land with a corn suitability rating (CSR) of more than 60, reference the Iowa State University Publication PM 1168, October 1984. There is adequate land available in Tama County with a CSR of less than 60 for non-agricultural purposes."

Section 2. Definitions.

a. "'Solar Energy' means energy emitted from the sun and collected in the form of heat or light by a solar collector." Iowa Code Section 564A.2(7).

b. "'Solar collector' means a device or structural feature . . . that collects solar energy and that is part of a system for the collection, storage, and distribution of solar energy." Iowa Code Section 564A.2(6).

c. "'Solar access easement' means an easement recorded under section 564A.7, the purpose of which is to provide continued access to incident sunlight necessary to operate a solar collector." Iowa Code Section 564A.2(4). This easement shall express the limits of height and location for development of the solar farm's panels for the purpose of providing solar access to the dominant estate in keeping with Iowa Code Section 564A.1(b, e, and g) and Section 564A.7(2)(b). This easement shall be approved by Order of the Solar Access Regulatory Board, under Section 564A.5 prior to recording, and before installation and construction of any aspect of the solar farm. Iowa Code Section 564A.4(1).

d. "'Dominant estate' means that parcel of land to which the benefits of a solar access easement attach.", Iowa Code Section 564A.2(2), which is obtained from the owner of the real property under a solar access easement. The "dominant estate" includes every transferee and successor in interest of the original dominant owner, including but not limited to those who own the solar collectors and equipment constituting the solar farm.

e. "'Servient estate' means land burdened by a solar access easement, other than the dominant estate", Iowa Code Section 564A.2(3), which is left to the owner of the

real property after a dominant estate has been acquired under a solar access easement.

f. "'Solar access regulatory board' means that board designated by a . . . county board of supervisors under section 564A.3 to receive and act on applications for a solar access easement . . ." Iowa Code Section 564A.2(5).

g. 'Solar panel' means a composition of groups of individual solar cells (or solar collectors) used to convert solar energy into electrical current.

h. 'Solar array' means a group of panels connected together.

i. 'Solar glare' means the effect produced by sunlight reflecting from a solar panel with intensity sufficient to cause annoyance, discomfort or loss in visual performance in visibility in humans and farm animals.

j. "Solar Energy Utility-Scale Generation" means a group of interconnected solar panels/arrays that convert sunlight into electricity for the primary purpose of wholesale or retail sales of generated electricity in projects for 25 Megawatts and under. Projects of over 25 Megawatts, which are under the jurisdiction of the Iowa Utility Board by Iowa Code Section 476A.1(5) and 199 Iowa Administrative Code Chapter 24, shall not be granted in Tama County.

k. 'Solar Farm' means a commercial facility that converts sunlight into electricity, whether by photovoltaics, or other conversion technology, for the primary purpose of wholesale or retail sales of generated electricity. A solar farm, defined by any Decision of the Solar Access Regulatory Board, under Iowa Code Section 564A.5, is the principal land use for the parcel on which it is located.

l. 'Solar Access' means an unobstructed access to direct sunlight on a lot through the entire calendar year, including access across adjacent parcel air rights, for the purpose of capturing direct sunlight to operate a solar energy farm.

m. "Concentrating Solar Power" (CSP) systems, means systems that generate power by using mirrors or lenses to concentrate a large area of sunlight, or solar therapy energy, onto a small area. Electricity is generated when the concentrated light is converted to heat, which drives a heat engine (usually a steam turbine) connected to an electrical power generator or powers a thermochemical reaction. CSP systems are prohibited under this Ordinance.

n. "CSR" means corn suitability rating. A CSR shall be obtained by the proposed dominant owner for that parcel described in the solar access easement and distinctly stated in the Application for solar access easement, under Iowa Code Section 564A.4, showing the date of and the agronomist or other agricultural specialist making that calculation which shall be appended to the Application. A CSR of 60 or more shall disqualify the Application for consideration by the solar access regulatory board.

Section 3. Solar Access Regulatory Board.

A.(1) Pursuant to Iowa Code Section 564A.3, the Solar Access Regulatory Board is hereby designated to be the three (3) member Tama County Board of Supervisors.

(2) The Solar Access Regulatory Board shall consider Applications under Iowa Code Sections 564A.4, 564A.7(2) and the provisions of this Ordinance, only between owners of real property with a CSR of 59 or less who, under Section 564A.7(1), voluntarily wish to lease to a dominant owner the land legally described in the Application for a solar farm designed for less than 25 Megawatts. A proposed signed copy of the lease with all of its terms between the dominant and servient owners and the proposed easement agreement between the parties shall be submitted to and filed with the Solar Access Regulatory Board contemporaneously with all other required documents to support the Application under Section 564A.4 and this Ordinance.

(3). The Solar Access Regulatory Board shall not proceed to accept any Application brought to the Board by an erstwhile dominant owner who has failed to voluntarily negotiate a solar access easement and lease with an owner of property who does not desire to enter into such voluntary agreement.

To the extent that Iowa Code Sections 564A.4(1)(h), 564A.4(2) and Section 564A.5 imply or state that an owner's property may be adjudicated by the Solar Access Regulatory Board to involuntarily create a dominant easement and taking against the desires and wishes of the property owner even though compensation be ordered to the servient owner, the Solar Access Regulatory Board shall not entertain and is hereby forbidden to exercise such power of dubious constitutionality.

(4). Upon receipt and filing of the voluntary Application, the Solar Access Regulatory Board shall refer the Application and all supporting papers and documents to the Tama County Zoning Administrator, who shall undertake confirmation that the Application is complete and contains the information required under Sections 564A.4(1), 564A.7(2) and the provisions of this Ordinance.

Section 4.

Pursuant to the powers conferred by Iowa Code Section 564A.4(2), before the Solar Access Regulatory Board issues any decision and Order approving the Application and solar access easement, the following shall be submitted with the Application under Iowa Code Section 564A.4(1) and 564A.7(2).

1. Site Plan showing:

   a. Name, address, email address, and phone number of the property owner;

   b. Parcel lines;

   c. All existing structures, with heights clearly marked;

   d. Sanitary Infrastructure (e.g. septic fields);

   e. Presence of Wells, capped and otherwise functional;

   f. Setback Measurements;

   g. easements present on the designated solar farm, including those for existing utilities;

   h. field title locations with mapping;

   i. flood plain locations;

   j. topography lines (with 2-foot contours);

   k. location of all solar panels, solar collectors, solar arrays and associated equipment;

   l. evidence that the site plan has been submitted to the local fire protection district;

   m. a detailed electrical grid drawing, certified by an electrical engineer, showing all connection points in the Solar Farm and to a connecting electrical grid; and

   n. a grading plan.

2. Height: Shall not exceed _____ ( ) feet at maximum tilt of the solar panels.

3. Setbacks:

   a. The front yard setbacks shall be a minimum of _____ ( ) feet from the edge of the rights of way which form the outside perimeter of

the solar farm and _____ ( ) feet from a residence owned by owners of the servient estate.

b. All buildings, accessory buildings, and other infrastructure shall be located _____ ( ) feet from any residential dwelling or unit not within the area leased under easement to the dominant owner.

c. No setbacks are required where a property line is shared by two participating landowners subject to the identical lease and easement terms for each owner. Mandated setback distances may be waived with the consent of participating landowners and non-participating adjacent property owners.

d. No approved solar farm project shall be closer than one-half mile to another solar farm.

e. Solar panels shall be eighty (80) feet from state highway right of way and sixty (60) feet from county right of way.

4. Screening:

A landscape buffer shall be required, and installed and maintained, during the period of easement and lease. Determination of screening requirements will be made by the Solar Access Regulatory Board as part of the Application review process based upon the surroundings of the solar farm site, including adjacent or nearby surrounding land uses and topography.

5. Fencing/Security:

An NEC compliant security fence shall be installed along all exterior sides of the Solar Farm 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 during the period of easement and lease.

6. Signage:

Warning signs and signs disclosing the name, address, telephone number and email address of the site operator and electric utility provider shall be displayed at least once on all fenced sides of the Solar Farm. Such signs shall include a visible "High Voltage" warning and the Solar Farm's 911 address and GPS coordinates.

7. Utility Connections:

Reasonable efforts shall be made to place all utility connections from the solar installation underground, as dependent upon soil conditions, shape and topography of the site, distance to connection with other electrical grids. All components used for the collection, conversion, and storage of energy shall

be contained within the leased and fenced Solar Farm, excluding overhead underground transmission lines.

8. Floodplain/Floodway:

No portion of the Solar Farm site proposed for development may be located in a mapped 100-year or 500-year flood plain.

9. Habitat and Natural Resource Considerations:

The potential impact on any sensitive areas such as lakes, ponds, streams, rivers, wetlands, steep slopes, aquifers and recharge areas, natural wooded areas, prairie and other natural wildlife habitats shall be identified and considered for reasonable mitigation following a natural resource consultation with the Iowa Department of Natural Resources.

10. Solar Glare Minimization:

The Solar Farm site shall be designed and located in such a fashion so as to prevent solar glare toward any buildings inhabited by humans or farm animals on property adjacent to the Solar Farm and adjacent roadways where a safety hazard might be created.

11. Weed Control:

Applicant for the Solar Access Easement must present a weed/grass control plan for the Solar Farm site inside and outside the fenced area for the entire property. The dominant estate owner shall adhere to the weed control plan during the period of the easement and lease.

12. Grading Plan:

Applicant for the Solar Access Easement shall submit a grading plan for all aspects of the Solar Farm which shall include all proposed changes to the landscape of the site showing areas of clearing, grading, topographical changes, drainage, tree removal, etc.

13. Compliance with local state and federal laws:

Before approval of Applicant's Solar Access Easement, Applicant shall submit to the Solar Access Regulatory Board evidence of compliance with all applicable local, state and federal regulations governing Solar Energy Utility Scale Generation. Such evidence shall include but not be limited to certifications of those engineers as to all matters of electrical, ecological, architectural, topographical and surveying required by the provisions of

Iowa Code Section 564A.4(1), 564A.7(2) and the provisions of this Ordinance.

14. Access Required:

The Zoning official or any other designee of the Solar Access Regulatory Board may enter the property for which a Solar Access Easement has been granted under this Ordinance to conduct an inspection to determine that the conditions under which the Easement have been granted continue to be met as specified by statute, regulation and this Ordinance. Failure to provide such access shall be deemed a violation of this Ordinance.

15. Road Use Agreements:

All routes on county roads that will be used for the construction and maintenance purposes of this Solar Farm shall be identified on the site plan. All routes for either ingress or egress shall be shown. The Applicant must complete and provide a preconstruction baseline survey to determine existing road conditions for assessing potential future damage due to development related traffic. The Applicant shall provide a road repair plan to ameliorate any and all damage, repair or replacement of roads that might be required by the development. The Applicant shall provide a letter of credit or surety bond in an amount and form approved by the Solar Access Regulatory Board (sitting as the Board of Supervisors) when warranted.

The provisions of this subsection shall be subject to the approval of the Tama County Engineer.

Section 5. Decommission Plan:

Prior to the issuance of a Solar Energy Easement to the owner of the dominant estate by the Solar Access Regulatory Board, the Application shall contain a decommissioning plan. The Solar Access Regulatory Board (or its designee for the Board) shall review the plan for completeness and then refer it to the Board. The Plan shall include:

1. A description in the Plan to remove all Solar Farm equipment and restore the land to its previous use upon the end of the easement and lease, or by Order entered by the Solar Access Regulatory Board for the reasons stated in Iowa Code Section 564A.6 or arising under this Ordinance.

2. Provision for the removal of structures, debris and associated equipment on the surface and to a level of not less than ten (10) feet below the surface, and the timeline of sequential steps during which removal is expected to occur.

3. Provision for the regrading of the soil to its former state including restoration of the removal surface soil, vegetation and disturbed earth which shall be graded and reseeded with native seed mixes and plant species suitable to the area.

4. An estimate of the decommissioning costs certified by a licensed professional engineer in current dollars. The estimate shall be attached to the decommission plan submitted with the Application for Solar Access Easement. The costs associated with such estimate shall be borne and paid by the Applicant upon the end of the easement and lease or by further Order of the Solar Access Regulatory Board, under subsection one (1), above. The salvage value of structures, electrical wire and other equipment shall be disregarded in making these cost estimate calculations.

5. A written financial plan, approved prior to the Order granting the easement, shall ensure that funds will be available for decommissioning and land restoration and a provision acknowledged by the dominant easement owner that all the terms of the Plan shall be binding on the Applicant (as dominant owner) and of any and all future successors, assigns and heirs.

6. Before entry of the Order granting the Solar Access Easement, the Solar Access Energy Board shall set an amount to be held in a bond, escrow or another acceptable form of funding approved by the Board. The value of the bond, escrow or other accepted form of funds shall not be reduced on the basis of the salvage value of any materials or equipment. The Plan shall state that Tama County shall have access to the Solar Farm and to the funds to effect or complete decommissioning one (1) year after cessation.

7. Release of Financial Security. Financial security shall only be released when the Solar Access Regulatory Board, or its designee, determines, after inspection, that the conditions of the decommissioning plan have been met.

Section 6. Related Rules and Regulations and Effective Date:

1. Every Utility Scale Solar Energy system shall comply with all the applicable local, state and federal requirements.

2. Severability. The provisions of this Ordinance are severable, and the invalidity of any section, paragraph or provision of this Ordinance shall not affect the validity or effectiveness of the remainder of the Ordinance.

3. Fee Structure for issuance of Order. Upon issuance of an Order approving the Application by the Solar Access Regulatory Board under Iowa Code Section 564A.5, the Applicant shall pay to the Tama County Auditor the following amounts proportioned to the electrical capacity of the approved Solar Farm.

. . . .

. . . .

4. Effective Date. This Ordinance shall take effect upon its publication as required by law.

Passed and adopted by the Tama County Board of Supervisors on this ____ day of _____, 2023.

TAMA COUNTY BOARD OF SUPERVISORS

_____
William Faircloth, Chair

_____
Dan Anderson

_____
Curt Hilmer

ATTEST _____
Laura Kopsa, Auditor

_____, Approved 1st Consideration

_____, Approved 2nd Consideration

_____, Adopted