



WOODBURY COUNTY BOARD OF ADJUSTMENT

Monday, February 3, 2025 at 6:00 PM

The Woodbury County Board of Adjustment will hold a public meeting on **Monday, February 3, 2025 at 6:00 PM** in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA. Please use the 7th St. entrance. 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 may attend in person or call: **(712) 454-1133** and enter the **Conference ID: 742 346 123#** 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	ELECTION OF CHAIR OF THE BOARD OF ADJUSTMENT FOR 2025 (ACTION ITEM)
4	ELECTION OF VICE-CHAIR OF THE BOARD OF ADJUSTMENT FOR 2025 (ACTION ITEM)
5	PUBLIC COMMENT ON MATTERS NOT ON THE AGENDA (INFORMATION ITEM)
6	APPROVAL OF PREVIOUS MEETING MINUTES (ACTION ITEM)
7	ITEM(S) OF ACTION / BUSINESS
»	PUBLIC HEARING: VARIANCE REQUEST FOR ACCESSORY BUILDING CONSTRUCTION WITHOUT PRINCIPAL STRUCTURE AND REDUCED REAR YARD SETBACK ON PARCEL #894631300010; 5602 STONE AVENUE, SIOUX CITY, IA (AGRICULTURAL ESTATES ZONING DISTRICT). (ACTION ITEM). SUMMARY: Pursuant to Section 335 of the Code of Iowa, the Woodbury County Board of Adjustment will hold a public hearing to consider a variance request from David W. Peterson and Patricia J. Peterson. The applicants seek approval to construct an accessory building on a 0.72-acre lot that currently lacks a principal structure or single-family dwelling, as required under Section 4.12.2 of the Woodbury County Zoning Ordinance. Additionally, they request a reduction of the required 10-foot rear yard setback for accessory structures in the Agricultural Estates (AE) Zoning District, per Section 3.04, from 10 feet to 3 feet or less. The proposed accessory structure is planned, while subject to changes, to be approximately 18 feet by 52.5 feet with a height of around 10 feet. The property is located at 5602 Stone Avenue, Sioux City, IA 51106, on Parcel #894631300010 in T89N R46W (Concord Township), Section 31, Auditor's Subdivision of the W ½ of SW Fractional ¼ of Section 31. The parcel, situated in the AE Zoning District and outside the floodplain, directly abuts Sioux City's jurisdiction. Owner/Applicants: David W. Peterson and Patricia J. Peterson, Trustees of the Joint Revocable Trust of David W. Peterson and Patricia J. Peterson, dated November 15, 2023, 5600 Stone Avenue, Sioux City, IA 51106. Parcel Address: 5602 Stone Avenue, Sioux City, IA 51106.
»	REVIEW OF THE BOARD OF ADJUSTMENT RULES OF PROCEDURES FOR ANY POTENTIAL CHANGES NOT LIMITED TO MEETING LOCATION AND MEETING TIME (ACTION ITEM). SUMMARY: The Woodbury County Board of Adjustment follows rules of procedure approved by both the Board of Adjustment and the Board of Supervisors. This agenda item provides an opportunity for the Board to review the current rules of procedure and propose any changes for consideration by the Board of Supervisors. Additionally, this item includes a proposal to change the meeting location to the Board of Supervisors' meeting room in the basement of the Woodbury County Courthouse for better clarity and accessibility. The Zoning Commission and Board of Adjustment currently hold meetings in this location with the Chairman of the Board of Supervisors' permission. Also, this item includes a proposal to change the meeting time from 6:00 PM on the first Monday to 5:00 PM.
»	UPDATE ON NUCLEAR ENERGY FACILITIES PROPOSALS TO AMEND THE WOODBURY COUNTY ZONING ORDINANCE. (INFORMATION ITEM). SUMMARY: This item is to offer the Board of Adjustment and the public an informational update on the current progress of the Zoning Commission's work on nuclear energy.
8	PUBLIC COMMENT ON MATTERS NOT ON THE AGENDA (INFORMATION ITEM)
9	STAFF UPDATE (INFORMATION ITEM)
10	BOARD MEMBER COMMENT OR INQUIRY (INFORMATION ITEM)
11	ADJOURN (ACTION ITEM)

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Minutes - Woodbury County Board of Adjustment – November 4, 2024

The Board of Adjustment meeting convened on the 4th of November 2024 at 6:00 PM in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse. The meeting was also made available for public access via teleconference.

Meeting Audio:

For specific content of this meeting, refer to the recorded video on the Woodbury County Board of Adjustment "Committee Page" on the Woodbury County website:

- County Website Link:
 - o https://www.woodburycountyiowa.gov/committees/board_of_adjustment/
- YouTube Direct Link:
 - o <https://www.youtube.com/watch?v=CdrYyTOaq1s>

BA Members Present:	Daniel Hair, Doyle Turner, Pam Clark, Tom Thiesen
County Staff Present:	Dan Priestley, Dawn Norton
Public Present:	Kathy Tabke, Kerry Kisslinger, Dan Bittinger

Call to Order

Chair Daniel Hair formally called the meeting to order at 6:00 PM. Ashley Christensen was absent.

Public Comment on Matters Not on the Agenda

None

Approval of Minutes

The minutes of the October 7, 2024, meeting were approved. Motion by Clark, second by Turner. Motion carried unanimously (4-0).

Public Hearing – Conditional Use Permit Application (Action Item): For the Installation and Use of Three 100' Wind Turbines (Parcel #884420300005).

Chair Hair opened the public hearing, and Priestley read the staff report into the record. The hearing concerned the Conditional Use Permit (CUP) application submitted by L & K Tabke Holdings, LLC (Kathy Tabke) for the installation and use of three 100-foot wind turbines to reduce electrical costs on their farm. The property is identified as Parcel #884420300005, located in T88N R44W (Wolf Creek Township), Section 20, in the N ½ of the SW ¼. The proposed location is approximately 5.2 miles southeast of Merville, IA, on the south side of 195th Street, east of Jasper Avenue. The property is zoned Agricultural Preservation (AP), and "Electric wind generator (Private Use)" is classified as a conditional use under Section 3.03.4 of the Woodbury County Zoning Ordinance. The applicant and owner is L & K Tabke Holdings, LLC, located at 3112 195th St., Merville, IA 51039. A motion was made by Turner and seconded by Thiesen to accept additional information into the record. The motion carried 4-0 (see appendix). Priestley presented information from other Iowa counties regarding small wind policies, including setback distances and the use of the Conditional Use process. Priestley explained that a CUP is necessary because the net metering aspect introduces a financial gain, differentiating the project from a straightforward agricultural use, which would otherwise be considered exempt. A CUP requires more scrutiny to meet criteria related to safety, operating procedures, and potential concerns from neighboring landowners. Turner inquired whether a safety data sheet had been provided as previously requested. Staff received a letter from the owner of Bergey Windpower stating that safety sheets for the turbines were not available, as they pertain to larger commercial turbines. These are not required for the smaller turbines being proposed. Tabke clarified that the turbines were intended to reduce energy demand for farm operations, and she was reconsidering the use of net metering after learning it could complicate the agricultural exemption. She stated that there are two separate meters on the farm—one for the house and one for farm activities. Tabke and Kissinger addressed questions regarding safety data sheets and setbacks. They emphasized that these turbines are significantly smaller than industrial turbines and pose minimal risk, supported by historical data showing no injuries or insurance claims in over 40 years of use. Kissinger presented additional materials for Board review. A motion was made by Clark and seconded by Turner to receive the handouts; the motion carried 4-0 (see appendix). Board members raised concerns about the need for specific setback distances for safety, referencing potential risks with larger turbines. Tabke and Kissinger clarified that smaller turbines pose far less risk, noting the lack of injuries or insurance claims associated with this model over its 40-year history. A motion to close the public hearing was made by Thiesen and seconded by Clark. The motion carried 4-0. The

Board then discussed whether the turbine installation qualifies as an agricultural use, given that the generated power would be used exclusively on-site. Iowa Code regarding agricultural exemptions was reviewed, with activities like net metering potentially disqualifying the project from the exemption. Tabke indicated she would finalize the decision with the REC regarding the non-use of net metering. The Board acknowledged the uniqueness of this case, noting that it was the first CUP for small wind turbines on agricultural property in the county. Concerns were raised about future owners not being eligible for the agricultural exemption. Tabke stated that she preferred to proceed with the CUP application to establish a precedent for future similar requests. Priestley explained that each CUP application is unique. The Board discussed potential conditions for the CUP. A motion was made by Hair to approve the installation and use of three 100-foot wind turbines with net metering capabilities, with the condition that L & K Tabke Holdings, LLC shall defend, indemnify, and hold harmless Woodbury County and its officials from any claims, demands, losses, lawsuits, causes of action, damages, injuries, costs, expenses, and liabilities arising from the construction or operation of the wind energy facility. This includes any legal fees incurred, regardless of whether liability is based on contract or tort. Submitting the CUP and building permit applications would constitute agreement to these terms. The motion was seconded by Clark and carried 3-1, with Turner opposing.

Information Item: Consideration of a Recommendation Contemplating Decommissioning Requirements as Part of a New Ordinance Regarding Carbon Pipelines.

Priestley provided background on the agenda item. On August 27, 2024, the Woodbury County Board of Supervisors voted to direct the Planning and Zoning Director to collaborate with the Zoning Commission, Board of Adjustment, and legal counsel to develop a recommendation on decommissioning requirements for a new ordinance concerning carbon pipelines. Staff is continuing research and requests that board members explore potential options.

No Public Comments on matters not on the agenda.

Staff Update: Staff will continue gathering information on nuclear energy and decommissioning of carbon pipelines. There will be upcoming meetings discussing these issues. Public input is encouraged.

No Board Member Comment or Inquiry

Motion To Adjourn

Thiesen motioned. Second by Tuner. Carried 4-0. Meeting adjourned at 8:10 PM

Appendix

Received documents from Dan Priestley and Kerry Kisslinger on subsequent pages.

The following documents were received from Dan Priestley.

County	Turbine Tower Setback	Other
Pottawattamie	Shall not be located closer than a distance equal to one and one-tenth (1.1) times the total height to a dwelling, a property line, or a utility easement. Such distance shall be defined relative to the nearest surface of the WFS as measured at grade.	
Scott	The base of the structure shall be set back from all property lines and road easements a minimum equal to the height of the tower including rotor and/or blades.	
Linn	Free standing tower, or towers attached to a building shall be located on the lot so that the distance from the base of the tower to any adjoining property line, public right-of-way, or above ground public utility lines is a minimum of 100% of the tower height. Guy supported tower shall be located so that the distance from the base of the tower to any adjoining property line, public right-of-way, or above ground public utility lines is a minimum of 70% of the tower height. Guy wire anchors may be located anywhere within the boundaries of the parcel on which the tower is located.	
Black Hawk	Each wind turbine associated with a large wind energy facility shall be set back from the nearest non-participating land-owner's property line and from any other wind turbine a distance of no less than 1.5 times its total height. b. Each wind turbine associated with a small wind energy facility shall be set back from the nearest property line a distance of no less than 1.5 times its total height, except that a wind turbine associated with a small wind energy facility may be located closer than 1.5 times its total height if written consent from the property owners to which the proposed tower would be located closer than 1.5 times its total height is obtained, or if approved by Special Permit. In such cases, the minimum set back from the nearest property line shall be a distance of no less than 0.5 times its total height. As part of the Special Permit approval, the Board of Adjustment may grant a waiver to the setback requirements where strict enforcement would not serve the public interest and where it is demonstrated that such a setback will not have an adverse impact on the adjoining properties, however the setback shall generally not be less than 0.5 times the total height.	
Polk	AWECs shall be setback a minimum distance from the base of the structure to all property lines equal to 1.5 times the height of the tower and rotor as measured from the base to the highest reach of its blade. AWECs including anchors shall not be located within a required principal structure setback in any zoning district. An AWECs shall not be located in front of any residential building located on the same parcel.	

Black Hawk Disclaimer:

The owner of a wind energy facility shall defend, indemnify, and hold harmless Black Hawk County and their officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever, including attorney fees, arising out of the acts or omissions of the operator or the operator's contractors concerning the construction or operation of the wind energy facility without limitation, whether said liability is premised on contract or tort. Owner's submittal for a building permit for a wind energy facility shall constitute agreement to defend, indemnify, and hold harmless Black Hawk County and their officials.

Plymouth	Private WECS turbines shall be set back from any human occupied dwelling on adjacent property by two times the total height of the WECS turbine. b. Private WECS turbines shall be set back from any property line, public right-of way or overhead utility easement 115% of the height of the WECS turbine. c. Setback distances shall be measured from the center of the support structure for the WECS turbine to the closest point of the structure, property line, right-of-way or utility easement. d. The height of the WFCS turbine shall be measured from the base of the support structure to the tip of turbine rotor at its highest position.	
Monona	The minimum distance between any SWECs and any property line shall be a distance that is equivalent to one hundred ten percent (110%) of the total system height. .Fall-Zone Clearance. No existing or proposed dwelling unit or principal structure shall be located closer than a distance equal to the total system height from the base of the tower of any SWECs. Other accessory structures may be located no closer to the base of the tower than seventy-five percent (75%) of the total system height.	
Des Moines Co.	1. Definitions The regulations contained within this ordinance shall apply only to commercial wind energy conversion systems as herein defined, along with any structure and equipment directly associated with a WECS, such as battery energy storage and related electrical equipment. Section 7.0. No wind energy systems, in either official action by the County and be required for Federal Wind Energy Conversion Systems, as herein defined, or any device associated	
Bremer	Setbacks: Subsets for the Small Wind Energy Systems tower shall be no closer from the property line than the height of the tower, with a minimum setback of 50 feet from all property lines. Guy wire anchor points may extend to within 10 feet of the property line. Building-mounted systems shall also be required to be no closer than 50 feet from all property lines, and shall not exceed the overall building height as allowed per Article 5 Chapter 6 Section 3.23 of the Bremer County Zoning Code (50) Building-mounted systems shall comply with structural requirements of the building code. In no case shall a Small Wind Energy System tower be located less than the height of the tower from any road right-of-way.	
Cedar	Setbacks: No part of the wind system structure, including guy wire anchors, may extend closer than ten (10) feet to the property boundaries of the installation site. The distance of the base of the tower from any property line shall be a minimum of 115% of the total height of the tower. Insurance: The Owner seeking a Zoning Permit to erect a Non C-WECS shall provide evidence in the form of a certificate of insurance satisfactory to Cedar County, showing general liability coverage for the installation and operation of the system under a standard homeowner's or standard business owner's insurance policy, separate and distinct from any insurance requirements of a public utility.	
Floyd	Tower height and setbacks: The base of the wind energy system tower shall be set back from all property lines, public right-of way, and above ground public utility lines at a distance of not less than 115% of the total extended height of the tower. Towers to be situated on a property line shall be setback height from the adjoining property owner's yards as written permits, provided that the tower installation complies with the other applicable setbacks herein provided. No part of the wind system height shall exceed the setback requirements, there shall be no specific height limitation, except as imposed by the Federal Aviation Administration regulations as stated in Section 911.003.	

Cedar Co. Small Wind

SECTION 9. NON-COMMERCIAL WECS (Non C-WECS)

A. **Non-Commercial WECS** are subject to the following standards. In addition to satisfactorily addressing the requirements of Chapter 17.6, of the Zoning Ordinance, the applicant must provide documentation that the following requirements have been met.

- 1. Tower Height:** Subject to Section 3 of this Ordinance, Non C-WECS shall not exceed one hundred (100) feet in height without approval of a Special Exception by the Cedar County Board of Adjustment. Non C-WECS shall be subject to all height limitations as necessary to comply with other sections of this Ordinance and those imposed by F.A.A. regulations.
- 2. Setback:** No part of the wind system structure, including guy wire anchors, may extend closer than ten (10) feet to the property boundaries of the installation site. The distance of the base of the tower from any property line shall be a minimum of 115% of the total height of the tower.
- 3. Noise:** Non C-WECS shall not exceed 50 dBA, as measured at the outside wall of the closest neighboring inhabited dwelling. The level, however, may be exceeded during short-term events such as utility outages and or severe wind storms.
- 4. Shadow Flicker:** A Non C-WECS shall not create shadow flicker onto a non-participating residence or occupied community building. Should the possibility exist that the Non C-WECS could create, or be found to create, shadow flicker on a non-participating residence or occupied community building, the Board of Adjustment may only in accordance with Section 6(17) consider a waiver as a condition of approval.
- 5. Engineer Certification:** Applications for Non C-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 Iowa licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer.
- 6. Compliance with F.A.A. Regulations:** Non C-WECS must comply with applicable F.A.A. regulations, including any necessary approvals for installations close to airports.
- 7. Compliance with National Electric Code:** Applications for Non C-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.
- 8. Utility Notification:** No Non C-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.
- 9. Insurance:** The Owner seeking a Zoning Permit to erect a Non C-WECS shall provide evidence, in the form of a certificate of insurance satisfactory to Cedar County, showing general liability coverage for the installation and operation of the system under a standard homeowner's or standard business owner's insurance policy, separate and distinct from any insurance requirements of a public utility.

Floyd Co. Small Wind

W. Small Wind Energy Systems

The purpose of this regulation is to promote the safe, effective, and efficient use of small wind energy systems installed to reduce the on-site consumption of utility-supplied electricity. This ordinance is in compliance with HF110, enacted in 2009, creating the Small Wind Innovation Zone program. Floyd County finds that wind energy is abundant, renewable, and nonpolluting energy resource and that its conversion to electricity will reduce our dependence on nonrenewable energy resources and decrease the air and water pollution that results from the use of nonrenewable energy sources.

Distributed small wind energy systems will help diversify the state's energy portfolio. Small wind energy systems also make the electricity supply market more competitive by promoting customer choice. The State of Iowa has enacted a number of laws and programs to encourage the use of small-scale renewable energy systems, including net metering, sales tax exemptions, property tax exemptions, production tax credits, and the Small Wind Innovation Zone program.

Small wind energy systems shall be a permitted use in all zoning classifications provided a conditional use is issued in conformance with and subject to certain requirements as set forth below. Floyd County shall require the installer of the small wind energy system, or the owner of the property upon which the system will be installed, to obtain a building permit for the system.

1. **Tower height and setback.**
The base of the small wind energy system tower shall be set back from all property lines, public right of ways, and above ground public utility lines at a distance of not less than 115% of the total extended height of the tower. Towers shall be allowed closer to a property line than its total extended height if the abutting property owner(s) grants written permission, provided that the tower installation complies with the other applicable setbacks herein provided. As long as the total extended height meets the setback requirements, there shall be no specific height limitation, except as imposed by the Federal Aviation Administration regulations as stated in Section VII W(3).
2. **Requirement for engineered drawings/approval and soil studies.**
A small wind energy system of greater than 20 kW, or a small wind energy system mounted on a structure other than a free-standing tower, shall not be erected in Floyd County, unless the plans and specifications for the system have received the stamped approval of an Iowa registered engineer. In lieu of obtaining the stamped approval of an Iowa registered engineer for each small wind energy system of

20 kW or less mounted on a free-standing tower, a manufacturer may submit its standard plans and specifications for a 20 kW system on a free-standing tower, including its soils study and foundations plans for such system, for a one-time review and stamped approval by an Iowa registered engineer as suitable for construction in any soil condition that exists in the State of Iowa. If such one-time stamped approval is obtained, that manufacturer may thereafter construct such small wind energy systems of 20 kW or less in Floyd County, utilizing the approved soils study and foundation plans for the 20 kW small wind energy system, without obtaining and presenting the stamped approval of an Iowa registered engineer for each such installation.

3. **Compliance with Federal Aviation Administration Regulations (FAA).**
No small wind energy system shall be constructed, altered, or maintained so as to project above any of the imaginary airspace surfaces described in FAR Part 77 of the FAA guidance on airspace protection.
4. **Safety.**
Any climbing foot pegs or rungs below 12 feet of a freestanding tower shall be removed to prevent unauthorized climbing. For lattice or guyed towers, sheets of metal or wood may be fastened to the bottom tower section such that it cannot readily be climbed.
5. **Sound.**
Sound produced by the small wind energy system under normal operating conditions, as measured at the property line, shall: a) not produce sound at a level that would constitute a nuisance; b) shall comply with any local ordinance regulating the volume of sound as a nuisance, if applicable. Sound levels, however, may be exceeded during short-term events out of anyone's control, such as utility outages and/or severe wind storms.
6. **Compliance with National Electric Code.**
Building permit applications for small wind energy systems shall be accompanied by a line drawing of the electrical components, as supplied by the manufacturer, in sufficient detail to allow for a determination that the design and manner of installation conforms to the state National Electric Code.
7. **Utility Notification.**
No small wind energy system shall be installed until evidence has been given that the utility company has authorized interconnection of the small wind energy system to its electric distribution or transmission, under an agreement offered by the utility. Properties not connected to the public utility system shall be exempt from this requirement.
8. **Insurance.**
A person seeking a building permit to erect a small wind energy system shall provide evidence, in the form of a certificate of insurance satisfactory to Floyd County, showing general liability insurance coverage for the installation and operation of the system under a standard homeowner's or standard business owner's insurance policy, separate and distinct from any insurance requirements of a public utility.
9. **Abandonment.**
If a wind turbine is inoperable for six consecutive months, the owner shall be notified that they must, within six months of receiving the notice, restore the small wind energy system to operating condition. If the owner fails to restore the system to operating condition within the six month time frame, it shall be considered abandoned and the owner shall be required, at the owner's expense, to remove the small wind energy system. A small wind energy system that has been abandoned may be abated as a public nuisance.
10. **Signage.**
No signs, other than appropriate warning signs, or standard manufacturer's or installer's identification signage, shall be displayed on a wind generator, tower, building, or other structure associated with a small wind energy system, subject to local sign regulation if any.
11. **Lighting.**
No illumination of the turbine or tower shall be allowed unless required by the FAA.

Des Moines Co. Small Wind

D. Exemptions.

1. The regulations contained within this ordinance shall apply only to Commercial Wind Energy Conversion Systems, as herein defined, along with any structures and equipment directly associated with a CWEDCS, such as Battery Energy Storage Systems (BESS) and Meteorological Evaluation Towers. No permits, public hearings, or other official action by the County shall be required for Personal Wind Energy Conversion Systems, as herein defined, or any directly associated

Bremer Co. Wind

5-4-5 DEFINITIONS

5.1 Small Wind Energy System:

A wind energy conversion system consisting of a wind turbine, tower, and associated control or conversion electronics. A system is considered a Small Wind Energy System only if it supplies electrical power solely for on site use, except that when a parcel on which the system is installed also receives electrical power supplied by a utility company, excess electrical power generated and not presently needed for on site use may be used by the utility company (i.e. net

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metering). These systems are considered Small Wind Energy Systems for the purpose of these regulations regardless if the system is used for agricultural, residential or commercial uses.

5.4 Fall Zone:

The area, defined as the furthest distance from the tower base, in which a tower will collapse in the event of a structural failure. This area is equal to the total height of the structure.

5.5 Property Line:

The boundary line of the area over which the entity applying for a Small Wind Energy System permit has legal control for the purposes of installation of a wind tower. This control may be attained through fee title ownership, easement, or other appropriate contractual relationship between the project developer and landowner.

5-5-6 **PERMITTED USE**

Small Wind Energy Systems shall be a permitted use in all Zoning District where structures of any sort are allowed. Any such Small Wind Energy System shall be subject to all provisions of these regulations, including setback requirements. Applicants are required to obtain a building permit from the Bremer County Building Department prior to erection of any Small Wind Energy System.

6.1 **Parcel Size:**

Small Wind Energy Systems shall not be allowed on parcels less than one (1) acre in size.

6.2 **Clearance of Blade:**

No portion of the Small Wind Energy System blade sweep shall extend within twenty feet of the ground. No blade sweep may extend over parking areas, driveways or sidewalks.

6.3 **Setbacks:**

Setbacks for the Small Wind Energy Systems tower shall be no closer from the property line than the height of the tower, with a minimum setback of (50) feet from all property lines. Guy wire anchor points may extend to within 10 feet of the property line. Building mounted systems shall also be required to be no closer than fifty (50) feet from all property lines, and shall not exceed the overall building height as allowed per Article 5 Chapter e Section 3.23 of the Bremer County Zoning Code (35ft) Building mounted systems shall comply with structural requirements of the building code. In no case shall a Small Wind Energy System tower be located less than the height of the tower from any road right of way.

6.4 **Automatic Over Speed Controls:**

All Small Wind Energy Systems shall be equipped with manual (electronic or mechanical) and automatic over speed controls to limit the blade rotation speed to within the design limits of the small wind energy system. Turbine/blade systems shall be rated to wind speeds of no less than 90 MPH, measured at sea level.

6.5 **Sound:**

On properties below thirty five (35) acres, Small Wind Energy Systems shall not exceed 60 dBA, as measured at the closest neighboring dwelling. The level, however, may be exceeded during short-term events such as utility outages and/or severe wind storms.

6.6 **Compliance With Building Code:**

Anyone who wishes to erect a Small Wind Energy System shall be required to obtain a building permit. Applications for Small Wind Energy Systems shall be accompanied by a site plan showing applicable setbacks and standard drawings of the wind turbine structure including the tower, base, footing, and guy wire anchors. An engineering analysis of the tower, guy wires, and anchors showing compliance with the Current County Building Code and certified by a licensed professional engineer shall also be submitted. This analysis is frequently supplied by the manufacturer; submission of wet stamped drawings in these cases may not be required, provided this is first approved by the Bremer County Building Official.

6.7 **Compliance With FAA Regulations:**

Small Wind Energy Systems must comply with applicable FAA regulations.

6.8 **Compliance With Airport Tall Structure Ordinance:**

No Small Wind Energy Systems tower shall be permitted that violates Title V Chapter 2 of the Bremer County Cod of Ordinance.

6.9 **Compliance With National Electric Code:**

Building Permit applications for Small Wind Energy Systems shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of the installation conforms to the National Electrical Code.

6.10 **Utility Notification:**

No permit for a Small Wind Energy System shall be issued until the applicant provides documentation showing that they have met with the local utility company and have agreed to their net metering and interconnection requirements and that the proposed equipment meets the utility companies requirements. Off-grid systems shall be exempt from this requirement.

6.11 **Ice Shedding:**

The Small Wind Energy System owner shall ensure that ice from the wind turbine blades does not impact any off-site property including road right of way. Compliance with this requirement shall be indicated on the plans and specifications submitted with the permit application.

SCOTT COUNTY WIND

**CHAPTER 6
ZONING FOR UNINCORPORATED AREAS**

- Section 6-6.V. is not permitted.
- (2) Home occupations and home industries in compliance with the requirement of Section 6-6.V.
 - (3) Roadside stands offering for sale primarily products grown on the premises. Such stands shall be removed during any season or period when they are not being used.
 - (4) Private kennel.
 - (5) Small **Wind** generators with rated capacity of not more than 100 kilowatts and associated structures and equipment with the following restrictions:
 - (a) The base of the structure shall be set back from all property lines and road easements a minimum distance equal to the height of the tower including rotor and/or blades;
 - (b) The maximum height of the wind turbine generator shall be 80 feet;
 - (c) The ground clearance for the rotors or blades shall be no less than fifteen (15) feet or one-third (1/3) the height of the tower whichever is greater;
 - (d) The maximum noise level produced by the wind generator shall be no more than 50 decibels as measured at the property line.
 - (e) The wind turbine shall not cause vibration perceptible beyond the property on which it is located nor interfere with television, microwave, navigational or radio transmission;
 - (f) The wind turbine shall be constructed in accordance with plans prepared and stamped by registered professional engineer.

A Guide for Residential Wind Generators and Towers

Zoning Requirements

Small Wind Energy Conversion Systems (SWECS) are allowed as an Accessory Use in every zoning district except M1 (Mobile Home).

Maximum Height (from the base of the tower to the tip of the blade)

For property sizes of less than 1 acre, tower height is limited to the lesser of 80 feet or as limited by setbacks. For Properties over one acre in size, the tower height is limited to the lesser of 120 feet or as limited by setbacks.

Setbacks Required

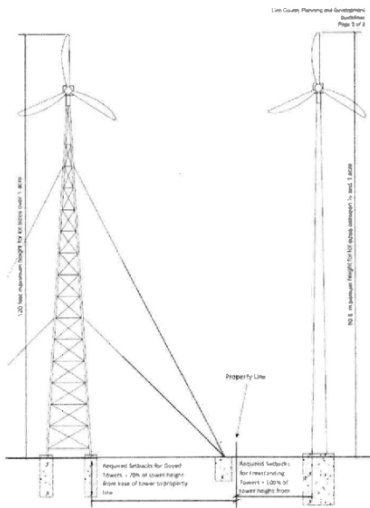
Free standing towers or towers attached to a building shall be located on the lot so that the distance from the base of the tower to any adjoining property line, public right-of-way, or above ground public utility lines is a minimum of 100% of the tower height.

Guy supported tower shall be located so that the distance from the base of the tower to any adjoining property line, public right-of-way, or above ground public utility lines is a minimum of 70% of the tower height. Guy wire anchors may be located anywhere within the boundaries of the parcel on which the tower is located.

Administrative Exception

An exception may be granted by the zoning administrator from height standards listed above to increase the height and setback by up to 25% of the maximum tower height if both of the following conditions are met:

- The exception is necessary for the bottom of the turbine rotor to clear the highest wind obstacle (i.e. rooftop, mature tree, etc.) by 30 feet (measured within a 500 foot radius of the tower).
- The owner and applicants shall record setback easements that conform to the setback standards on the adjacent property, when required setbacks cross property lines, which restrict new development within the easements.



Structural and Electrical Requirements

Compliance with FAA Regulations

Wind turbines must comply with applicable Federal Aviation Administration regulations.

Noise

Wind turbines shall not exceed 60 dBA, as measured at the closest neighboring inhabited dwelling. The level, however, may be exceeded during short term events such as utility outages and severe wind storms.

Utility Notifications

No wind turbine shall be installed until evidence has been given that the utility company has been informed of the customer-owned generators. Off grid systems shall be exempt from this requirement.

Additional Requirements

For requirements related to lighting, insurance, access and safety, and structural/unsafe or unward towers, please see Article 7, Sections (4) of the Line County Unified Development Code or contact the Line County Department of Planning and Development.

Structural Requirements

A building permit is required for each tower installation. Plans must be submitted with tower permit applications. Construction documents are required to be submitted in pdf format. Plans shall include dimension lines or be drawn to scale. Provide sufficient information for the building official to ascertain the scope of the project. Plans shall also allow for digital signatures and mark-ups. Online submittal is preferred. Plans can be submitted via the <https://pds.lincgov.net/>. In-person submittal is available by appointment, call 603.330.3300 to schedule. Plans for towers and tower foundations must be designed or reviewed by a registered professional engineer licensed in the State of Iowa and must bear a signed stamp or signature block of said engineer.

Towers shall be designed to meet the requirements of TIA/ISA 222
Towers shall be designed for wind loading based on icing conditions.

Electrical Connections

Separate electrical permits are required for all electrical work and shall be obtained by the electrician performing the installation.

Electricians shall be licensed under State of Iowa Electrical Licensing laws.

www.iowadep.gov/permits

802-217-0440 ext. 404
Center Road, IA 52204
Hours: 8:00 AM - 5:00 PM
Fax: 319.862.1130
Revised 11.11.20

Pottawattamie Small Wind

8.004.240 WIND ENERGY SYSTEMS, NON-COMMERCIAL (WES); (Ordinance #2023-0503-07-2024)

- 01 **PURPOSE:** This section provides uniform and comprehensive standards for the installation and the use of WES for on-site home, farm and small commercial use that are used primarily to reduce on-site consumption of utility power. The intent of this section is to protect the public health, safety and community welfare without unduly restricting the development of WES.
- 02 **CONSTRUCTION; CONFLICT:** This section does not repeal, abrogate, amend, impair or interfere with any existing ordinance. If this section 8.004.240 conflicts with any other provision of the Pottawattamie County, Iowa, Zoning Ordinance, this section 8.004.240 shall control.
- 03 **ACCESSORY USE:** WES shall be considered an accessory use to a permitted principal or conditional use in any zoning district, except within the A-4, R-1, R-2 and R-3 zoning districts.
- 04 **CONDITIONAL USE:** WES shall require a conditional use permit within the A-4, R-1 and R-2 zoning districts. The use is prohibited in the R-3 zoning district.
- 05 **SETBACKS:** WES shall not be located closer than a distance equal to one and one-tenth (1.1) times the total height to a dwelling, a property line, or a utility easement. Such distance shall be defined relative to the nearest surface of the WES as measured at grade.
- 06 **SPECIAL REQUIREMENTS:** WES shall be subject to the requirements included in this section:
 - A. **MINIMUM LOT SIZE:** WES shall not be placed on a parcel of land or lot which is less than one (1) acre in size.
 - B. **NO INTERFERENCE:**
 - 1. WES shall not cause interference to the radio and television reception on adjoining property and in the event of any such interference the WES owner shall remedy such interference.
 - 2. WES shall not cause interference with emergency communication transmissions of the County. Applicant shall request documentation from the County Sheriff to verify the same and submit said documentation with any building permit application. Any cost associated therewith shall be at the applicant's expense.

07 **BUILDING CODES:** All county, state and federal construction codes shall be followed.

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08 **USE:** WES shall provide electricity for on-site use by the owner. This does not prohibit an owner from making excess power available for net metering.

09 **BUILDING PERMIT:** Before a building permit is issued, the following shall be submitted to the Development Director for review Reference.

A. Site Plan Showing.

- 1. Address, email address, and phone number of the property owner;
- 2. Parcel lines;
- 3. All existing structures with heights clearly marked;
- 4. Sanitary infrastructure (i.e., septic field);
- 5. Setback measurements;
- 6. Easements present on the property, including those for utilities;
- 7. Septic field tile location;
- 8. Floodplain location, if applicable;
- 9. Topography lines (2-foot contours);
- 10. Location of all WTGs and associated equipment; and
- 11. Location of the electrical disconnect for the WES.

B. Evidence that the local electric utility has been informed of the customer's intent to install a customer-owned WES.

C. Evidence that the site plan has been submitted to the local fire protection district.

D. Evidence that all contact information for site has been provided to Emergency Management.

E. After a review and acceptance of site plan and required information, a building permit authorizing construction shall be issued.

Black Hawk County Wind

DEFINITIONS OF A WIND ENERGY FACILITY

- j. **Wind Energy Facility, Small.** A single wind energy system that generates electricity or performs other work, has a total height of one hundred twenty (120) feet or less, or is affixed to an existing structure, has a power output rated capacity of 100 kilowatts or less, and is intended to primarily reduce the on-site consumption

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of electricity. Any wind energy facilities not falling under this definition shall be deemed a large wind energy facility.

- k. **Wind Farm.** Two or more wind turbines under common ownership or control not falling under the definition of a small wind energy facility.
- l. **Wind Turbine.** A wind energy conversion system which converts wind energy into electricity through the use of a wind turbine generator, and includes the turbine, blade, tower, base, and pad.

4. If required, a plan for site grading, erosion control, storm water drainage, and storm water pollution prevention plan (SWPPP) shall be submitted to the County Engineer for review and approval prior to granting building permits.
5. All other permits, including those for work done in rights-of-way, shall be applied for by the applicant to the appropriate agency prior to construction.
6. Wind energy facilities shall not include offices, vehicle storage, or other outdoor storage. One accessory storage building may be permitted per large wind turbine at the Board of Adjustment's discretion. The site and location of any proposed accessory building shall be shown on the site plan. No other structure or building accessory to the wind energy facility is permitted unless used for the express purpose of the generation of electricity or performing other work related to the wind energy facility.
7. An applicant may submit one Special Permit application for the entire large wind energy facility project or small wind energy project (if required) located in Black Hawk County, provided that a detailed map identifying the precise location of all proposed wind turbine towers is provided at time of submittal of Special Permit. For additional wind turbine towers proposed that were not detailed in a previous Special Permit approval, a new separate Special Permit shall be required, including a detailed map identifying the precise location of all proposed and existing wind turbine towers.
8. No grading, filling, or construction shall begin until a building permit is issued. A separate building permit shall be required for each individual wind turbine tower and appurtenant facilities prior to construction of each wind turbine tower and appurtenant facilities to be constructed.
11. A wind energy facility authorized by Special Permit shall be started within twelve (12) months of Special Permit issuance and completed within thirty-six (36) months of Special Permit issuance, or in accordance with a timeline approved by the Board of Adjustment. Upon request of an applicant, and for good cause, the Board of Adjustment may grant an extension of time.
13. For wind energy facilities requiring Special Permit, the Board of Adjustment may require additional conditions to ensure public health, safety, and welfare.
14. Wind energy facilities that are constructed and installed in accordance with the provisions of this Section shall not be deemed to constitute the expansion of a nonconforming use or structure.
15. Nothing in this Ordinance shall be deemed to give any applicant the right to cut down surrounding trees and vegetation on any property not on the applicant's site to reduce turbulence and increase wind flow to the wind energy facility. Nothing in this Ordinance shall be deemed a guarantee against any future growth or construction or County approvals of future construction that may in any way impact the wind flow to any wind energy facility. It shall be the sole responsibility of the facility operator or owner to acquire any necessary wind flow or turbulence easements, or rights to remove vegetation.

c. Regulatory Framework

1. Large wind energy facilities may only be constructed in areas that are zoned "A" Agricultural District, "A-L" Agricultural-Limited District, and "C-M" Commercial-Manufacturing District upon approval of a Special Permit by the Board of Adjustment after recommendation of the County Planning and Zoning Commission.
2. Small wind energy facilities may be constructed in any zoning district as either a principal or accessory use. Small wind energy facilities that are constructed as an accessory use to a principal permitted use, and meet the setback, height, and power output requirements of this Section, shall not require Special Permit approval, and shall only require building permit approval. All small wind energy facilities that are constructed as a principal permitted use, or small wind energy facilities that do not meet the setback, height, or power output requirements of this Section, shall require Special Permit approval.
3. Application for a Special Permit, if required, for a large or small wind energy facility shall be submitted with the following information:
 - a. A properly filled out and signed application.
 - b. A signed statement indicating that the applicant has legal authority to construct, operate, and develop the wind energy facilities under state, federal and local laws and regulations, including Federal Aviation Administration (FAA), Federal Communications Commission (FCC), and state and local building codes.
 - c. A description of the number and kind of wind energy facilities to be installed.
 - d. A description of the large or small wind energy facilities' height and design, including a cross section, elevation, and diagram of how the wind energy facilities will be anchored to the ground, prepared by a professional engineer licensed in the State of Iowa.
 - e. A statement from the applicant that all wind energy facilities will be installed in compliance with manufacturer's specifications, and a copy of those manufacturer's specifications.
 - f. A signed statement from the landowner(s) of the site stating that he/she will abide by all applicable terms and conditions of this Section and the Special Permit, if approved.
 - g. A statement indicating what hazardous materials will be used or stored on the site, and, how those materials will be stored.
 - h. A statement indicating how the wind energy facility will be lit, if applicable.
- i. For small wind energy facilities, a site plan showing the parcel boundaries and a legal description, support facilities, access, fencing, and all other buildings on the site and within the 100 feet beyond the site.
- k. Any utility or easement locations shall be indicated on the site plan.

f. General Requirements

1. **Standards**
 - a. No television, radio or other communication antennas may be affixed or otherwise made part of a wind energy facility, except pursuant to the regulations for wireless communication towers. Applications may be jointly submitted for wind energy facilities and wireless communication facilities.
 - b. Wind energy facilities shall utilize measures to reduce the visual impact of the facility to the extent possible. Facilities with multiple wind turbine towers shall be constructed with an appearance that is similar throughout the site, to provide reasonable uniformity in overall size, geometry, and rotational

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- speeds. No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades except as otherwise provided in this Section.
- c. Small wind energy facilities shall be used primarily to reduce the on-site consumption of electricity.
 - d. For small wind energy facilities not requiring Special Permit approval, the maximum turbine power output rated capacity is limited to 50 kW. For small wind energy facilities requiring Special Permit approval, the maximum turbine power output rated capacity is limited to 100 kW. Power output rated capacity larger than 100 kW shall be deemed a large wind energy facility.
 - e. At least one sign shall be posted on the tower at a height of five (5) feet warning of electrical shock or high voltage, harm from revolving machinery, and the hazard of falling ice. No brand names, logo or advertising shall be placed or painted on the tower, rotor, generator or tail vane where it would be visible from the ground, except that a system of tower's manufacturer's logo or insignia may be displayed on a system generator housing in an unobtrusive manner that is not visible off site.

- f. Towers shall be constructed to provide one of the following means of access control:
 1. Tower-climbing apparatus located no closer than twelve (12) feet from the ground.
 2. A locked anti-climb device installed on the tower.
 3. A locked, protective fence at least six feet in height that encloses the tower.
- g. Anchor points for any guy wires shall be setback ten (10) feet from any property line, and shall not be on or across any above-ground electric transmission or distribution lines, and shall not be located within an easement. The point of attachment for the guy wires shall be enclosed by a fence six feet high or sheathed in bright orange or yellow covering from three to eight feet above the ground.

Design and Installation

- a. Wind energy facilities shall be painted a non-reflective, non-obtrusive color, such as grey, white, or off-white.

- c. Minimum lightning necessary for safety and security purposes shall be permitted. Techniques shall be implemented to prevent casting glare from the site, except as otherwise required by the FAA or other applicable authority.
- d. No form of advertising shall be allowed on the pole, turbine, blades, or other buildings or facilities associated with the use, except for reasonable identification of the manufacturer or contact information of the operator of the wind energy facility.
- e. All wind energy facilities shall be equipped with a redundant braking system. This includes both aerodynamic overspeed

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- f. controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for overspeed protection.
- f. To the extent applicable, all wind energy facilities shall comply with all applicable building codes and standards.
- g. Electrical controls, control wiring, and power lines shall be wireless or not above ground, except where wiring is brought together for connection to the transmission or distribution network, adjacent to that network. This provision can be waived by the Board of Adjustment for any wind energy facility approved by Special Permit if deemed appropriate by the Board.
- h. All electrical components of the wind energy facility shall conform to relevant and applicable local, state, and national codes, and relevant and applicable international standards.
- i. **The owner of a wind energy facility shall defend, indemnify, and hold harmless Black Hawk County and their officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever, including attorney fees, arising out of the acts or omissions of the operator or the operator's contractors concerning the construction or operation of the wind energy facility without limitation, whether said liability is premised on contract or tort. Owner's substantial for a building permit for a wind energy facility shall constitute agreement to defend, indemnify, and hold harmless Black Hawk County and their officials.**

- k. Where wind energy facility construction cuts through a private or public drain tile field, the drain tile must be repaired and reconnected to properly drain the site to the satisfaction of Black Hawk County.
- l. Any recorded access easement across private lands to a wind energy facility, in addition to naming the wind energy facility owner as having access to the easement, shall also name Black Hawk County as having access to the easement for purposes of inspection or decommissioning. If no such access easement exists, approval of the Special Permit for a wind energy facility

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- b. Each wind turbine associated with a small wind energy facility shall be set back from the nearest property line a distance of no less than 1.5 times its total height, except that a wind turbine associated with a small wind energy facility may be located closer than 1.5 times its total height if written consent from the property owners to which the proposed tower would be located closer than 1.5 times its total height is obtained, or if approved by Special Permit. In such cases, the minimum set back from the nearest property line shall be a distance of no less than 0.5 times its total height. As part of the Special Permit approval, the Board of Adjustment may grant a waiver to the setback requirements where strict enforcement would not serve the public interest and where it is demonstrated that such a setback will not have an adverse impact on the adjoining properties, however the setback shall generally not be less than 0.5 times the total height.

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shall constitute granting to Black Hawk County a right to access the wind energy facility for purposes of inspection or decommissioning.

- iii. Any wind energy turbine or facility that does not produce energy for a continuous period of twelve months shall be considered abandoned and shall be removed in accordance with the removal provisions of this Section. Failure to abide by and faithfully comply with this Section or with any and all conditions that may be attached to the granting of any building permit for a wind energy facility shall constitute grounds for the revocation of the permit by Black Hawk County.
 - o. Wind energy facilities exceeding one hundred twenty (120) feet hub height shall be of a monopole (tubular) design except in unusual circumstances as deemed appropriate by the Board of Adjustment as part of the Special Permit approval. For wind energy facilities not exceeding one hundred twenty (120) feet hub height, monopole (tubular) type towers shall be favored over guyed towers, and lattice towers shall be discouraged. For towers that require Special Permit approval, the Board of Adjustment shall have authority to determine required design elements, including type and height.
- g. Setbacks 1. The following setbacks and separation requirements shall apply to all wind turbines:**

- e. Wind energy facilities must meet all utility setbacks and/or easements. The owner of the wind energy facility is responsible for contacting the appropriate entities to determine the location of all above and underground utility lines on the site including, but not limited to, electricity, natural gas, cable television, communication, fiber optic, etc.

i. Noise and Vibration

1. Except during short-term events including severe windstorms, audible noise due to wind energy facility operations shall not exceed sixty (60) dBA, when measured at the site property lines. If audible noise exceeds sixty (60) dBA the offending wind turbine must be inoperable until repairs are completed, or a waiver is obtained from affected property owners in accordance with Subsection (f) below.
2. Wind energy facilities shall not create an audible steady, pure tone such as a whine, screech, hum, or vibration.
3. In the event the ambient noise level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted so as to equal the ambient noise level. The ambient noise level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is succeeded for more than five (5) minutes per hour. Ambient noise levels shall be measured at the site property lines. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind-generated noise at the microphone. Ambient noise level measurements may be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise level measurement location.
4. Any noise level emanating from a wind energy facility falling between two whole decibels shall be determined to be the higher of the two.
5. Any noise monitoring or measurements, with the need determined by the Black Hawk County Planning Staff, shall be paid for by the applicant or wind energy facility owner.
6. In the event the noise levels resulting from the wind energy facility exceed the criteria listed above, a waiver to said levels may be granted provided that the following has been accomplished:
 - a. Written consent from the affected property owners has been obtained stating that they are aware of the wind energy facility and the noise limitations imposed by this Ordinance, and that

6. In the event the noise levels resulting from the wind energy facility exceed the criteria listed above, a waiver to said levels may be granted provided that the following has been accomplished:
 - a. Written consent from the affected property owners has been obtained stating that they are aware of the wind energy facility and the noise limitations imposed by this Ordinance, and that

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consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and,

- b. A permanent noise impact easement has been recorded in the Office of the Black Hawk County Recorder which describes the benefited and burdened properties and which advises all subsequent owners of the burdened property that noise levels in excess of those permitted by this Ordinance may exist on or at the burdened property.

j. Minimum Ground Clearance

1. For small wind energy facilities, the minimum distance between the ground and any part of the rotor or blade system shall be fifteen (15) feet.
2. For large wind energy facilities, the minimum distance between the ground and any part of the rotor or blade system shall be thirty (30) feet.

11. The owner/operator of a wind energy facility shall be responsible for the total cost of any incident(s) that occur on or at their facilities and/or properties.

k. Signal Interference

1. The applicant or wind energy facility owner shall mitigate any interference with electromagnetic communications, such as radio, telephone, computers, communication devices, or television signals, including any public agency radio systems, caused by any wind energy facility. However, in no case shall a wind energy facility be located within the microwave path of an emergency communication tower.

p. Removal

1. All wind generators and appurtenances shall be removed from the site within six (6) months of use termination notice to Black Hawk County by the owner of the facility or its assigns, or within three (3) months of permit revocation by Black Hawk County. Upon request of the owner or assigns of the wind energy facility, and for good cause, the Zoning Administrator may grant a reasonable extension of time.
2. The site shall be stabilized, graded, and cleared of any debris by the owner of the facility or its assigns. If site is not to be used for agricultural practices following removal, site shall be seeded to prevent soil erosion.
3. Any foundation shall be removed to a minimum depth of four (4) feet below grade, or to the level of the bedrock if less than four (4) feet below grade, by the owner of the facility or its assigns. Following removal, the

l. Shadow Flicker

1. Wind energy facilities shall attempt to avoid shadow flicker in any off-site residences. The wind energy facility owner and/or operator shall make reasonable efforts to minimize or mitigate shadow flicker to any off-site residence to the satisfaction (determination) of the Zoning Administrator. Any off-site residence owner or wind energy facility owner may appeal the determination of the Zoning Administrator to the Board of Adjustment, as provided in Section XXIV (D), 3)(a).

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m. Ice Shedding

1. The wind energy facility owner and/or operator shall ensure that ice from the wind turbine blades does not impact any off-site property.

n. Waste Management

1. All hazardous waste generated by the operation and maintenance of the facility, including, but not limited to lubricating materials, shall be handled in a manner consistent with all local, state, and federal rules and regulations.

location of any remaining wind turbine foundation shall be identified on a map as such and recorded with the deed to the property with the Office of the Black Hawk County Recorder.

o. Safety

1. Wind turbine towers shall not be climbable up to fifteen (15) feet above ground level and all large wind turbine tower access ladders must be located inside of the tower.
2. All access doors to wind turbine towers and electrical equipment shall be locked.

4. Any access roads shall be removed, cleared, and graded by the owner of the facility or its assigns, unless the property owner wants to keep the access road. Black Hawk County will not be assumed to take ownership of any access road unless through official action of the Board of Supervisors.

7. All substations shall be fenced to prevent public access. The provisions of Section II (B) shall apply.

5. Any expenses related to the decommissioning and removal shall be the responsibility of the wind energy facility owner, including any expenses related to releasing any easements.
6. Removal shall conform to the contract between property owner and the owner/operator of a wind energy facility, in addition to the requirements set forth in this Ordinance.

4. **Violation and Permit Revocation**

1. All wind energy facilities shall be maintained in operational condition at all times, subject to reasonable maintenance and repair outages. Operational condition includes meeting all noise requirements and other permit conditions. Should a wind energy facility become inoperable, or should any part of the wind energy facility be damaged, or should a wind energy facility violate a permit condition, the owner/operator shall remedy the situation within three (3) months after written notice from Black Hawk County. Upon request of the owner or assigns, and for good cause, the Zoning Administrator may grant a reasonable extension of time.
2. Notwithstanding any other abatement provision, if the wind energy facility is not repaired or made operational or brought into compliance after said notice, the Board of Supervisors may, after a public meeting at which the operator or owner shall be given opportunity to be heard and present evidence, including a plan to come into compliance, (1) order either remedial action within a specified timeframe, or (2) order revocation of the permit and require the removal of the wind energy facility within three (3) months. For large wind energy facilities not removed within the specified time period, Black Hawk County shall have the right to use the irrevocable letter of credit, bond, or cash escrow to cover the costs associated with removal of the large wind energy facility.
3. Any wind energy facility that does not meet the requirements of this Ordinance, including, but not limited to those dealing with noise, height, setback, or visual appearance, or does not meet any conditions attached to approval of the wind energy facility, shall be deemed an unlawful structure and shall provide grounds for the revocation of the permit.

Polk County (Wind)

General Use	Zoning Districts													
	AG	AT	ER	RR	LDR	MOR	HDR	MU	NE	GC	LI	HI	MH	OS
Renewable Energy Uses														
A Accessory Wind - AWECs	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC
B Utility Scale Wind - USWECS	C	N	N	N	N	N	N	N	N	N	N	N	N	N
C Accessory Solar - ASSECS	Y	Y	Y	Y	GY	GY	GY	GY	GY	GY	GY	GY	GY	GY
D Utility Scale Solar - USSECS	C	N	N	N	N	N	N	N	N	N	N	N	N	N
E Battery Energy Storage - BESS	C	SN	N	N	N	N	N	N	N	N	N	C	C	N

Section 1. Wind Energy Conversion Systems (WECS) Design Standards.

- (A) **Minimum parcel size.** The minimum parcel size for a WECS within a commercial or industrial zoning district shall be 1-acre. The minimum parcel size for a WECS within any agricultural or residential zoning district shall be three acres.
- (B) **Number of systems per parcel.** No more than one Accessory WECS may be placed on any parcel or lot. Utility Scale WECS, where permitted, may be allowed more than one per parcel.
- (C) **Setbacks.**
 - (1) **Accessory WECS (AWECs).**
 - (a) AWECs shall be setback a minimum distance from the base of the structure to all property lines equal to 1.5 times the height of the tower and rotor as measured from the base to the highest reach of its blade.
 - (b) AWECs including anchors shall not be located within a required principal structure setback in any zoning district.
 - (c) An AWECs shall not be located in front of any residential building located on the same parcel.
 - (2) **Utility Scale WECS (USWECS).**
 - (a) USWECS shall be located only in the AG Zoning District and shall be a minimum 1,320-feet from any property lines or residential dwellings, not included in the WECS application, or any public park and/or recreation property line with the following exceptions:
 - (b) Any public park or recreational land when approved by the appropriate County, State, or Federal administrative staff, boards, and/or commissions for a demonstrated public purpose.
- (D) **Rotor size.**
 - (1) AWECs on a parcel with residential as its principal use shall not have a blade diameter in excess of 25-feet.
 - (2) AWECs on a parcel with a non-residential principal use shall not exceed a 50-foot blade diameter.
 - (3) USWECS located in the Agricultural Zoning District and WECS used for federal, state, and local government entities and public schools may exceed the 50-foot maximum blade diameter subject to the setback requirements identified in this ordinance and as may be established by Board of Adjustment approval of the WECS Permit.

(E) Tower height.

(1) AWECs shall meet the following requirements:

- (a) AWECs on an individual parcel up to 3-acres shall not exceed a combined tower/pole and rotor height of 65-feet.
- (b) AWECs on a parcel greater than 3-acres and up to 7-acres shall not exceed a combined tower/pole and rotor height of 80-feet.
- (c) AWECs on a parcel greater than 7-acres shall not exceed a combined tower/pole and rotor height of 100-feet.

(2) Utility Scale WECS towers, poles and rotors may exceed the height limitations of the Agricultural Zoning District in which located.

Article 2424, Renewal Energy
Division 21, Purpose

- (F) **Blade clearance.** No portion of a horizontal axis WECS blade shall extend within 30-feet off the ground. No portion of a vertical axis WECS shall extend within 10-feet of the ground. No blades may extend over parking areas, driveways, or sidewalks. No blade may extend within 20-feet of the nearest tree, structure, or above-ground utility facilities.
- (G) **Building mounted WECS prohibited.** WECS mounted on a roof or wall or otherwise attached to a building are prohibited.
- (H) **Tower.** Only monopole towers shall be permitted for freestanding WECS. Guy-wire supported mast, lattice, and towers of any other type shall not be considered in compliance with this chapter.
- (I) **Signage.** All signs, both temporary and permanent, are prohibited on WECS, except as follows:
- (1) Manufacturer's identification on the wind turbine cowling.
 - (2) Appropriate warning signs and placards including visible warning sign of "High Voltage" placed at the base of all conversion systems. The sign shall have a minimum 6-inch letters with 3/4-inch stroke.
- (J) **Color.** The color of WECS shall be non-reflective and non-obtrusive.
- (K) **Shadow flicker.** No WECS shall be installed and operated so to cause a shadow flicker to fall on or in any existing residential dwelling that is not included as part of the WECS application.
- (L) **Rotor design and overspeed controls.** All WECS shall be equipped with manual and automatic overspeed controls to limit the rotation of blades to a speed below the designed limits. A professional engineer shall certify that the rotor and overspeed control design and fabrication conform to good engineering practices. No changes or alterations from the certified design shall be permitted unless accompanied by a professional engineer's statement of certification.

- (M) **Electrical compliance.** All electrical compartments, storage facilities, wire conduit and interconnections with utility companies shall conform to national and Polk County electrical codes.
- (N) **Experimental or prototype WECS.** Written evidence identifying the proposed use of an experimental or prototype WECS shall be submitted to the County by a professional engineer and/or factory representative. Experimental or prototype WECS are not permitted closer than 300-feet from all property lines.
- (O) **Tower, Poles, and Anchor points.** All towers, poles, and anchor points must be unclimbable by design or protected by anti-climbing devices such as:
- (1) Fences with locking portals at least 6-feet high.
 - (2) Anti-climbing devices 12-feet from base of pole.
 - (3) Anchor points for guy-wires supporting tower shall be enclosed by a six-foot high fence or shall be located within the confines of a yard which is completely fenced.
- (P) **Noise Levels.** The noise level measured at the property line of the property on which the WECS has been installed shall not exceed 55 decibels or cause a noise disturbance as defined in the Polk County Noise Pollution Ordinance. In no event shall the WECS create a nuisance.
- (Q) **Lighting.** Lighting of towers is only allowed when required by the FAA. The lighting method allowed shall be an FAA approved dual lighting system.
- (R) **Stormwater Management.** Depending on the scale and footprint of a proposed USWECS project, a stormwater management prevention plan may be required in accordance with the site plan regulations of Polk County. All site work shall further comply with the National Pollution Discharge Elimination System (NPDES) permit as required by the Iowa Department of Natural Resources (IDNR) including Section 404 of the Clean Water Act (CWA) related to impacts on wetlands and Waters of the United States (WUS).
- (S) **Emergency Access.** Hard surface access for emergency service equipment shall be provided and maintained to all USWECS towers and buildings.

Plymouth County Zoning Ordinance:

C. Private Wind Energy Conversion Systems. Private wind energy conversion system (WECS) turbines may be established as permitted principal uses in the A-1, Primary Agriculture, TA-1, Transitional Agriculture, and R-1, Rural Residential Districts, subject to the following standards and requirements: 1. Setbacks. a. Private WECS turbines shall be set back from any human occupied dwelling on adjacent property by two times the total height of the WECS turbine. b. Private WECS turbines shall be set back from any property line, public right-of-way or overhead utility easement 115% of the height of the WECS turbine. c. Setback distances shall be measured from the center of the support structure for the WECS turbine to the closest point of the structure, property line, right-of-way or utility easement. d. The height of the WECS turbine shall be measured from the base of the support structure to the tip of turbine rotor at its highest position. 2. Other standards. a. Color and finish. Private WECS shall, to the extent possible, use materials, colors and textures that will blend with the natural and existing environment. b. Signage. WECS shall not be used for display of advertising except for reasonable identification of the manufacturer or the owner/developer and appropriate safety warning signage. c. Mitigation. The owner/developer shall be responsible for satisfactory mitigation of any damages to drainage systems, roadways or adjacent properties caused by construction or operation of the WECS. The owner/developer shall be responsible for resolution of substantiated electrical interference issues caused by operation of the WECS.

Monona County Small Wind Energy Conversion Systems

ORDINANCE NO. 58 AN ORDINANCE AMENDING CHAPTER 100 – ZONING REGULATIONS OF THE MONONA COUNTY CODE OF ORDINANCES

WHEREAS, on February 21, 2012 the Board of Supervisors of Monona County, Iowa, adopted Ordinance 40 amending Chapter 100 – Zoning Regulations; and WHEREAS, on June 27, 2017 the Board of Supervisors of Monona County, Iowa adopted Ordinance 1 readopting the County Code of Ordinances as amended; and WHEREAS, the Planning and Zoning Commission and County Board of Supervisors wish to amend and add regulations governing wind and solar energy; therefore BE IT ORDAINED by the Board of Supervisors of Monona County, Iowa, that Chapter 100 – Zoning Regulations of the Monona County Code is hereby amended as follows: Zoning Districts Section 1. 100.13.1 Strike "one (1) overlay district" and insert therein "three (3) overlay districts". Section 2. 100.13.1.B After section "(1) Flood Plain Overlay Districts" insert "(2) Airport Overlay Districts • James G. Whiting

Memorial Field District (3) Loess Hills Overlay District" Section 3. 100.14.5 After section "A. Flood Plain Overlay Districts." insert therein: "B. Airport Overlay Districts (1) James G. Whiting Memorial Field (a) The James G. Whiting Memorial Field Overlay District, which shall also be referred to as the Mapleton Municipal Airport within this Code of Ordinances and amendments thereto, contained in Chapter 300(b), are a part of the Zoning Regulations and are in full force and effect. C. Loess Hills Overlay District (1) The Loess Hills Overlay District is intended to protect the geological, cultural, and historical significance of the Loess Hills in Monona County. (2) The overlay district boundaries shall be defined as extending 1 mile east or west of the Loess Hills. -2- (3) The boundary of the Loess Hills shall be determined by the Iowa Department of Natural Resources. (4) All base zoning ordinances and amendments thereto are allowed in the Loess Hills Overlay District with the exception of: (a) Large Wind Energy Conversion Systems, which shall be prohibited per Chapter 100.23 of this Code of Ordinances." Principal Permitted Uses Section 4. 100.15 Principal Permitted Uses Under the Zoning District A-1 column: Incorporate the following Regulators as Permitted Uses (P): • Sales of feed, seed, fertilizer, and agricultural chemicals except ammonia. • Storage and repair of custom hire machinery, equipment and supplies incidental to farming including tillage equipment, chemical application equipment (ground types only) and similar uses. • Tiling contractor storage and repair facilities. Incorporate the following Regulator as a Permitted Use with Restrictions (PR): • Child Care, including licensed daycares, nursery schools and preschools. Incorporate the following Regulators as Special Use Permit Required (SU): • Minor repair garages, including vehicle servicing • Tire and auto accessory store • Bed & Breakfast, lodging house • Campgrounds, RV parks • Commercial Wind Farms Incorporate the following Regulators as Special Use Permit Required with Restrictions (SR): • Vehicle, trailer, mobile home, and farm implement establishments for sales or lease; but excluding wrecking and used parts yards. • Microwave, radio, television and cellular telephone communication towers and exchanges. Under the Zoning District A-2 column: Strike "P" from "Wineries including accessory wine sales, banquet rooms, catering and food sales and vineyards" and insert in lieu thereof "PR". Add "P" to "Campgrounds, RV parks". Strike "SU" from "Commercial Wind Farms". -3- Insert the following new line at the end of Transportation & Utility uses: Small Wind Energy Conversion Systems. Section 5. 100.22, unnumbered first paragraph: Remove "Small wind energy conversion systems include only those systems having a rated capacity of no more than one hundred kilowatts (100kW)." Insert in lieu thereof: "Small wind energy conversion systems include only those systems having a rated capacity of no more than one hundred kilowatts (15kW) for residential districts and land uses, and no more than one hundred kilowatts (100kW) for all other zoning districts and land uses." Section 6. 100.22.3 Zoning Permit Required. Insert "or their designee" after each instance of "Zoning

Administrator"; Remove "an approved zoning permit or installing the system." and insert in lieu thereof: "an approved zoning permit or installing the system, and shall comply with all applicable overlay district regulations." Section 7. 100.22.4.A(4) Permit Application Required Remove: "(2) The area of the base of each tower and depths; (3) Utility lines, telephone lines and any other lines, both above and below ground, within a radius of 2,000 feet from the tower base; (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; (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 2,000 feet from the tower base; (6) Standard drawings and dimensional representations of the wind turbine structure, including the tower, base and footings; (7) A line drawing of the electrical components in sufficient detail to allow for a determination that the manner of the installation conforms to the National Electric Code; and (8) Design data for the system indicating the basis of design, including manufacturer's dimensional drawings and installation and operation instructions." and insert in lieu thereof: "(2) Utility lines, telephone lines and any other lines, both above and below ground, within a radius of 200% of the tower height measured from the tower base to the highest reach of the rotor tip, or 500 feet, whichever is larger; (3) Details as to how the power will be delivered to the grid, including the route and size of poles and towers to be used; Small Wind Energy Conversion Systems (SWECS) P P SU SU SU SU SU SU SU SU -4- (4) Property lot lines, land uses and the location and dimensions of all existing structures and uses on and off site within a radius of 200% of the tower height measured from the tower base to the highest reach of the rotor tip, or 500 feet, whichever is larger; and (5) Standard site drawings and dimensional representations of the wind turbine structure, including the tower and base." Section 8. 100.22.7.C Remove "shall be one hundred forty (140) feet." and insert in lieu thereof "shall conform to the following restrictions for each specified zoning district and/or land use: (1) one hundred (100) feet for residential properties, (2) one hundred eighty (180) feet for commercial properties, (3) three hundred sixty (360) feet for industrial properties, (4) five hundred (500) feet for agricultural properties Site plans with a SWECS exceeding the height limits of this chapter shall require a special exception prior to the issuance of a building permit. In no case shall a SWECS exceed 150% of the height allowed within this chapter." Section 9. 100.22.12.D Remove "shall be placed around the SWECS." and insert therein "may be required around the SWECS at the discretion of the Zoning Administrator or their designee." Section 10. Remove section 100.22.14 Section 11. 100.22.15 Remove "15." Insert in lieu thereof "14." This section shall henceforth be numbered 100.22.14. Remove "If it is determined that the SWECS is causing electromagnetic interference, the operator shall take the necessary corrective action to eliminate this interference, including relocation or removal of the facilities, subject to the approval of the appropriate County authority. The special use permit may be revoked if electromagnetic interference from the

SWECS becomes evident." Section 12. Remove sections 100.22.17 and 100.22.18 Section 13. 100.22.19 Remove "19." and insert in lieu thereof "16." This section shall henceforth be numbered 100.22.16. -5- Insert ", defined as not being connected to the distribution network of an electric utility," between "Offgrid systems" and "shall be exam

- **Permit Fee: Small Wind Energy Conversion Systems (SWECS): \$100**

The following documents were received from Kerry Kisslinger.



BERGEY EXCEL 15

ADVANCED TECHNOLOGY / MAXIMUM SIMPLICITY

POWERFUL. SUPER EFFICIENT. QUIET.

The Bergey Excel 15 is ideal for agricultural properties, larger rural homes, small businesses, public facilities, and electric car charging.

The EXCEL 15 benefits from 40 years of experience from the world's leading supplier of small wind turbines.

- Only two moving parts
- No scheduled maintenance required
- Direct-drive alternator
- Active speed control
- Certified for tax credit approval
- Carbon fiber blades
- HD galvanized steel structure

PROUDLY MADE IN THE USA

BERGEY WINDPOWER

2200 INDUSTRIAL BLVD, NORMAN, OK 73069 • 405.364.4212 • BERGEY.COM • SALES@BERGEY.COM

BERGEY EXCEL 15

PERFORMANCE:

- AWEA RATED POWER: 15.6 kW
- AWEA ANNUAL ENERGY: 29,800 kWh
- PEAK POWER: 20.6 kW
- CUT-IN WIND SPEED: 7 mph (3 m/s)
- START-UP WIND SPEED: 10 mph (4.5 m/s)
- CUT-OUT WIND SPEED: None
- MAX DESIGN WIND SPEED: 134 mph (60 m/s)
- ROTOR SPEED: 0-140 rpm

SPECIFICATIONS:

- ROTOR DIAMETER: 31.5 ft (9.6 m)
- WEIGHT: 1,400 lbs (640 kg)
- GEARBOX: None
- ACTIVE SPEED CONTROL
- TEMPERATURE RANGE: -40/140° F (-40/60° C)
- TOWERS: Guyed and Non-guyed 80-150 ft (28-49 m)
- INVERTER: 20 kW Powersync 25 (UL-1741 Certified)

INFLATION REDUCTION ACT OF 2022

- 40% investment tax credit through 2032
- 5-year MACRS depreciation (or Sec. 179)
- USDA grants for rural businesses, farms, and ranches, of up to 50% of the project
- Commercial tax credit is transferrable

Current federal incentives can pay up to 90%+ of cost!

AMERICAN Windpower
info@american-windpower.com
Call or Text Us Toll-Free: 833-604-WIND

Dear Mr. Priestley,

There are no turbine or tower safety data sheets for our Excel 15 wind energy system. Nor am I aware of any such documents for any small wind systems - which are very different from the utility scale turbine you reference. We have never been asked for such documentation.

We do not recommend any set-back distances and there are no "emergency response" recommendations. Our turbine will be the strongest structure in the area (engineered for winds up to 140 mph) and it does not require any intervention for storm protection.

Bergey Windpower has had roughly 5,000 systems installed in the U.S. and some have been in operation for over 40 years. While we have maintained significant liability insurance for over 40 years we have never had a liability claim and no one has ever claimed an injury.

The long perfect track record of safety speaks for itself. A Bergey 15 kW wind system will not present potential hazards to its owners and their neighbors that should warrant a rejection of its beneficial use.

Respectfully,

Mike Bergey
President & CEO
Bergey Windpower Co.
2200 Industrial Blvd.
Norman, OK USA
Tel: 405-364-4212
E-mail: mbergey@bergey.com
Web: www.bergey.com



DWEA Briefing Paper: Tower Setback

Summary

Excessive setback requirements for distributed wind turbines hinder the effective use of wind energy. Distributed wind turbine setbacks should be in line with setback requirements for other structures.

The Illusion of Prudence

"Setback" defines how close a wind turbine can be installed to existing property lines, roadways, power lines or other structures. The underlying logic is that the wind turbine structure might fall and it should do so safely and within the owner's property. In reality, however, setback restrictions are overreactions to a nearly nonexistent risk and often stand in the way of smart wind turbine siting.

The Strongest Structures in the Area

Many zoning jurisdictions require structural analyses of wind turbine towers and foundations, just as they do for buildings and other constructed facilities. The most common structural design standard in the United States is the International Building Code (IBC). The IBC defines the rules for applying wind loads to structures and includes maps of extreme wind speeds for the United States. For every site in the country, the IBC defines the worst-case wind conditions expected in 50 years. These conditions are then used to estimate the loads imparted to a structure and form the basis of the structural design.

For example, a tower and foundation to be installed in coastal North Carolina would need to be designed for sustained 140 mph winds and 3-second gusts to 165 mph according to the latest version of the IBC, which is updated every three years. Recent updates reflect increased design requirements in response to losses from hurricanes and other severe storms. The result is that a distributed wind system installed today will be designed to survive winds that would severely damage existing homes, buildings, and power lines that were built to earlier, less stringent, design codes.

What if the Worst Happens

Man-made structures are not the only tall objects that carry a risk of failure; so do trees. The most likely time for such a failure is during severe weather when the winds are at their highest. According to Kent State Professor Tom Schmidlin, 407 people were killed by falling trees in the U.S. between 1995 and 2007; 78% of these deaths occurred during severe weather. Other than accidents to workers during installation, no record can be found of a person being injured, let alone killed, by a falling distributed wind turbine. If you think about it, the prospects are quite remote. First, the risk of a failure is minimal due to the high design standards of the tower. Second, people are not likely to be outdoors in the vicinity of a wind turbine during severe weather.

Alleged risks of ice-throw and blade-throw have never been substantiated. Ice build-up disrupts the aerodynamics of the blades, so wind turbines only turn at very slow speeds when iced up. Therefore,



when the ice sheds it falls straight down, just as it does from trees and power lines. And while it might be possible for a blade to become detached from a defective wind turbine, the likelihood is remote and the chances of causing an injury are almost nil.

Are Setbacks Really Justified?

Setbacks do limit the effective use of distributed wind systems. They can limit allowable tower height, they can keep towers from being placed optimally on a property where a turbine can take the best advantage of the wind, and they can eliminate the use of long and narrow properties. **DWEA recommends that setback requirements be set prudently and in line with actual risks. Our recommendation is for no setback restrictions beyond what is in place for other structures on the property, and we recommend any wind turbine specific setback be referenced to the nearest neighboring occupied dwelling rather than the property line.** No matter how many small wind turbines are installed they will never equal the magnitude of the risk posed by trees, and trees have no setback restrictions.



ICC-SWCC™ CERTIFICATION SWCC-16-05



Small Wind Turbine Certification Program

Certification Number: SWCC-16-05
Original Certification Date: Feb. 1, 2021
Expiration Date: Jan. 1, 2025
Certification subject to renewal annually.

www.smallwindcertification.org (888) 422-7233 3060 Saturn St., Suite 100, Brea, CA 92821 USA
A Program of the ICC Evaluation Service (ICC-ES)

Program: This wind turbine has been evaluated and certified by the Small Wind Certification Council (ICC-SWCC™), an ISO/IEC 17065 accredited Certification Body, in accordance with the Small Wind Turbine Certification Program, as defined in [ICC-SWCC Rules for Wind Turbine Listing Reports](#). This award of certification is subject to all terms and conditions of the current SWT Program Agreement and the documents incorporated therein by reference.

Products: Small Wind Turbines—electricity-producing wind turbines with a swept area up to 200 m²
Reference Standard: AWEA Small Wind Turbine Performance & Safety Standard (AWEA 9.1-2009)

Listee: **Bergey Windpower Company** www.bergey.com
2200 Industrial Boulevard
Norman, OK 73069, USA (405) 364-4212

Model: **Excel 15 (240 VAC, 1-phase, 60 Hz)**

Changes to the design of this wind turbine are to be approved by ICC-SWCC. If changes are made to the turbine without approval, this Certificate is not valid.

The specifications of the certified wind turbine, relevant to this Certificate, are provided on the following page. This document must be reproduced in its entirety.

Shawn Martin

Vice President of Technical Services, ICC-SWCC

Please verify certification is active on the ICC-SWCC website: www.smallwindcertification.org
© Small Wind Certification Council (ICC-SWCC)™

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ICC-SWCC™ CERTIFICATION SWCC-16-05



Wind Turbine Specification:

Turbine Parameters

Manufacturer	Bergey Windpower Co.
Model	Excel 15
Power Form	240 VAC, 1-phase, 60 Hz
Rotor Diameter	9.6 m
Rotor Swept Area	72.4 m ²
Cut-In Wind Speed	3.0 m/s
Cut-Out Wind Speed	N/A
Maximum Power	21.5 kW
Maximum Voltage	600 V _{rms}
Maximum Current	55 A _{rms}

Turbine Ratings

AWEA Rated Annual Energy @ 5 m/s	29,800 kWh
AWEA Rated Sound Level	48.5 dB(A)
AWEA Rated Power	15.6 kW @ 11 m/s
Peak Power	20.6 kW @ 16 m/s

Design and Duration

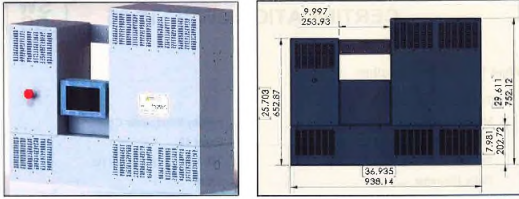
Turbine design and duration test comply with AWEA Standard 9.1 – 2009 for an IEC Class III SWT with an average wind speed (V_{ave}) of 7.5 m/s and reference wind speed (V_{ref}) of 37.5 m/s.

Please verify certification is active on the ICC-SWCC website: www.smallwindcertification.org
© Small Wind Certification Council (ICC-SWCC)™
3060 Saturn Street, Suite 100 • Brea, CA 92821 • (888) 422-7233

Page 2 of 2

BWC EXCEL 15 Wind Turbine

Powersync 25 Inverter



The Powersync 25 is an advanced power conversion system using high-speed Silicon-Carbid switching technology to provide ultra-clean alternating current (AC) output for the Bergy Excel 15 wind turbine. It is certified to UL 1741 and has a peak efficiency of 97%. The inverter is also available for 230 VAC, 1P, 50 Hz. The Powersync 25 is built under license from Intergrid.

INTERGRID IG25-240-2

USE ONLY THE FACTS AND FIGURES SHOWN ON THIS LABEL FOR THE PURPOSES OF IDENTIFYING THE PRODUCT AND FOR REFERENCE TO THE LISTING AGENCY. THIS LABEL IS NOT TO BE USED AS A BASIS FOR THE DESIGN OF ANY SYSTEM OR AS A BASIS FOR THE DESIGN OF ANY SYSTEM OR AS A BASIS FOR THE DESIGN OF ANY SYSTEM.

INPUT VOLTAGE RANGE	200-270 VAC
OUTPUT VOLTAGE RANGE	230-240 VAC
OUTPUT CURRENT RANGE	10-15 A
OUTPUT POWER RANGE	2.3-3.6 kW
OUTPUT FREQUENCY RANGE	50-60 Hz
OUTPUT WAVEFORM	SINUSOIDAL
OUTPUT THD	< 5%
OUTPUT EFFICIENCY	> 97%
OUTPUT FACTOR	1.0
OUTPUT TEMPERATURE RANGE	-20°C to 40°C
OUTPUT PROTECTION	OVERCURRENT, OVERTEMPERATURE, OVERVOLTAGE, UNDERVOLTAGE, OVERHEAT, OVERSPEED, OVERLOAD, OVERTEMPERATURE, OVERVOLTAGE, UNDERVOLTAGE, OVERHEAT, OVERSPEED, OVERLOAD

INVERTER SPECIFICATIONS

Input - From Turbine	
Input Voltage Maximum (3 Phase Input)	480 VAC
Input Voltage Minimum	270 VAC
Input Operating Voltage Range	270 to 480 VAC
Input Frequency Maximum	47 Hz
Input Current Maximum	34 Amperes
Output - To Utility	
Model	IG25-240-2
Continuous Output Power Maximum	21.1 kW
Continuous Output Power Tolerance	±10%
Output Voltage Nominal (Single Phase) Line-Line	240 VAC
Output Voltage Range Line-Line	212-264 VAC
Output Voltage Nominal (Single Phase) Line-Neutral	120 VAC
Output Voltage Range Line-Neutral	105-132 VAC
Continuous Output Current Maximum	89 Amperes
Output Current Tolerance	±10% Amperes peak
Voltage Measurement Tolerance	±1%
Operating Frequency Nominal	60 Hz
Operating Frequency Range	58.3 to 60.3 Hz
Operating Frequency Measurement Tolerance	±0.05 Hz
Output Power Factor	1.00 ± 5%
Temperature Range Normal Operations	-4°F to 113°F (-20°C to 45°C)
Output Over Current Protection Maximum	150 Amperes
Synchronization In-Rush Current Maximum	15 Amperes
Utility Interconnection Trip Time	Variable, see chart
Time Measurement Tolerance	±2.00% ± 32 msec
A. Other Specifications	
Dimensions	See drawing
Weight	153 lbs. / 69 Kg
Enclosure	NEMA Type 1

NEMA 1 indicates that the enclosure is constructed for indoor use only. It provides protection to personnel against incidental contact with the enclosed equipment.



Bergy Windpower Co.
2200 Industrial Blvd., Norman, OK 73069

www.Bergy.com
Tel: 405-364-4212



1 Fairholm Avenue
Peoria, IL 61603 USA
Phone: (309)-566-3000
Fax: (309)-566-3079

DATE: AUGUST 07, 2023

PURCHASER: BERGEY WINDPOWER

PROJECT: 100FT SSV SELF SUPPORT TOWER
MOVILLE, IA

FILE NUMBER: 243973

I CERTIFY THAT THE ATTACHED DRAWINGS WERE PREPARED UNDER MY SUPERVISION IN ACCORDANCE WITH THE DESIGN AND LOADING CRITERIA SPECIFIED BY THE PURCHASER AND THAT I AM A REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

THE REFERENCED FOUNDATION DESIGN IS BASED ON PRESUMPTIVE SOIL PARAMETERS. A GEOTECHNICAL SITE INVESTIGATION SHOULD BE PERFORMED PRIOR TO INSTALLATION FOR COMPETENT PROFESSIONAL EXAMINATION AND VALIDATION OF THE SUITABILITY OF THE PRESUMPTIVE SOIL PARAMETERS FOR THE SITE.



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Allen Schneider
Allen Schneider, P.E., License Number P27223 Date 08/03/2023

My license renewal date is December 31, 2023

Pages or sheets covered by this seal: all

Products for a Growing World of Technology®



AUTHORIZATION TO MARK

This authorizes the application of the Certification Mark(s) shown below to the models described in the Product(s) Covered section when made in accordance with the conditions set forth in the Certification Agreement and Listing Report. This authorization also applies to multiple listee model(s) identified on the correlation page of the Listing Report.

This document is the property of Intertek Testing Services and is not transferable. The certification mark(s) may be applied only at the location of the Party Authorized To Apply Mark.

Applicant: Intergrid, LLC
Address: 164 Hill Road Temple, NH 03084
Country: USA

Manufacturer: Bergy Windpower Co. LLC
Address: 2200 Industrial Blvd. Norman, OK 73069
Country: USA

Party Authorized To Apply Mark: Same as Manufacturer
Report Issuing Office: Intertek Testing Services NA, Inc., Cortland, NY

Control Number: 5026569

Authorized by: *Kenneth L. Lacey*
for L. Matthew Snyder, Certification Manager



This document supersedes all previous Authorizations to Mark for the noted Report Number.

This Authorization to Mark is for the exclusive use of the Client and is a non-transferable right. It is not to be used for any other purpose without the prior written consent of Intertek. Intertek's responsibility and liability is limited to the use of this Authorization to Mark. Only the Client is authorized to accept responsibility for the use of this Authorization to Mark. Intertek is not responsible for the use of this Authorization to Mark for any other purpose. Intertek is not responsible for the use of this Authorization to Mark for any other purpose. Intertek is not responsible for the use of this Authorization to Mark for any other purpose.

Intertek Testing Services NA, Inc.
645 East Algonquin Road, Arlington Heights, IL 60005
Telephone 800-345-3851 or 847-436-5697 Fax 312-283-1872

Standards:	Inverters, Converters, Controllers and Interconnection System Equipment for use with Distributed Energy Resources (UL 1741:2021 Ed.3)
Product:	Power Conversion Equipment (CSA C22.2#107.1:2018 Ed.4)
Models:	Utility Interactive Inverter IG25-240-2

ATM for Report 103481855CRT-001

Page 1 of 2

ATM Issued: 18-Jul-2023

©D 18 JUL 15 11:36:2023 WAT066

SECTION	DESCRIPTION	UNIT	VALUE
1	TOP CHORD	IN	1.5
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100	WIND BRACE	IN	1.5

September 3, 2019

To Whom It May Concern,

This statement will certify that all components of the Bergey Windpower Excel 15 wind turbine have been designed in conformance with AWEA 9.1-2009, AWEA Small Wind Turbine Performance and Safety Standard. Towers sold by Bergey Windpower for use with the Excel 15 turbine meet the requirements of ANSI/TIA 222-H, as referenced in the International Building Code IBC 2018. The Rohn Self-Supporting Lattice tower has been used successfully in hundreds of sites over the last four decades with an earlier BWC turbine model which produces similar tower loads. With proper installation and maintenance, the risk of tower failure is extremely minimal.

Sincerely,
Kenneth Craig PhD, PE



Kenneth Craig
03 September 2019
20017

MSDS's for these compounds are attached. None of them would be considered hazardous materials.

I will also comment that I have reviewed the proposed siting of the three turbines for L&K Tabke Farms and we have no issues of concern. The use of tall towers allows turbine placements within farmsteads without suffering reduced performance from turbulence caused by the buildings and other structures.

We hope that the Board will rule favorably on the Tabke conditional use permit.

Sincerely,

Michael L. Bergey

Michael L. S. Bergey
President & CEO
mbergey@bergey.com



Bergey Windpower Co.
2200 Industrial Blvd.
Norman, OK 73069
Tel: 405-364-4212
Fax: 405-364-2078

Daniel J. Priestley, MPA
Woodbury County Zoning Coordinator
620 Douglas Street #609
Sioux City, IA 51101

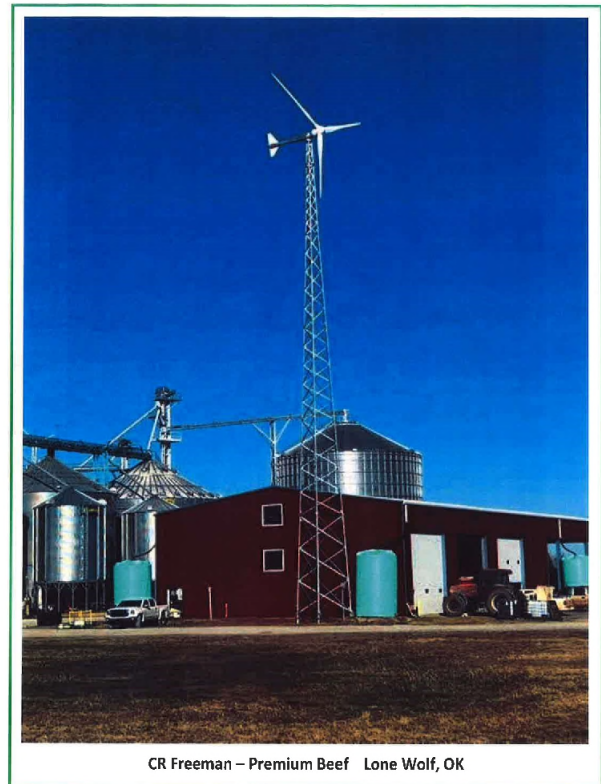
October 14, 2024

Dear Mr. Priestley,

Bergey Windpower is pleased to be of assistance in the consideration of the L&K Tabke Farms' conditional use permit for the installation of our small wind turbines. The Board of Adjustments has requested information on MSDS's associated with our wind turbines. We three compounds in the turbine as stipped that have MSDS's:

1. SKF LGMT 2 ball bearing grease, inside four sealed ball bearings (two for the alternator and two for the yaw axis pintle), ~ 8 oz. total per turbine.
2. Vibra-Lite threadlocker compound packet, 0.06 oz supplied for assembly of the turbine
3. Vibra-Lite Nickel Anti-Sieze Compound packet, 0.06 oz supplied for assembly of the turbine

One of the turbine bearings and the Vibra-Lite packets are shown in the following photo:



CR Freeman – Premium Beef Lone Wolf, OK



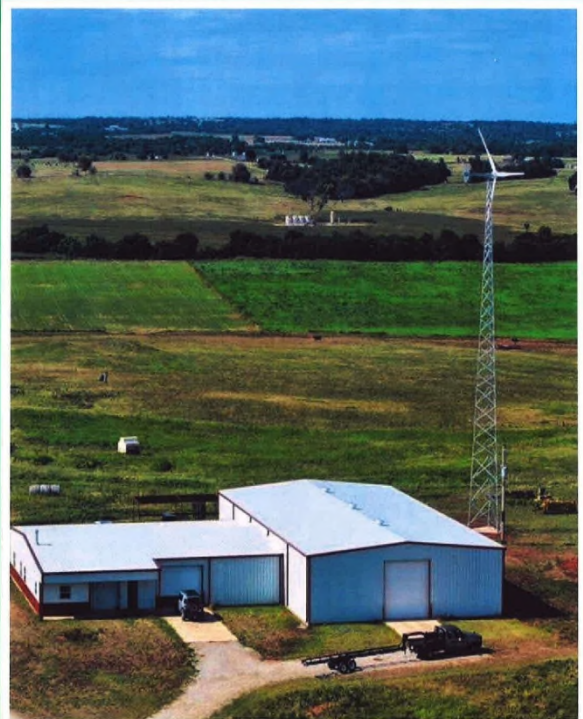
Mark Cavanee Farms Tribune, KS



Merle Hoffman FTS Enterprises Juniata, NE



Mid American Pipe Scammon, KS



Orr Ranch Maysville, OK



Mid American Pipe Weir, KS



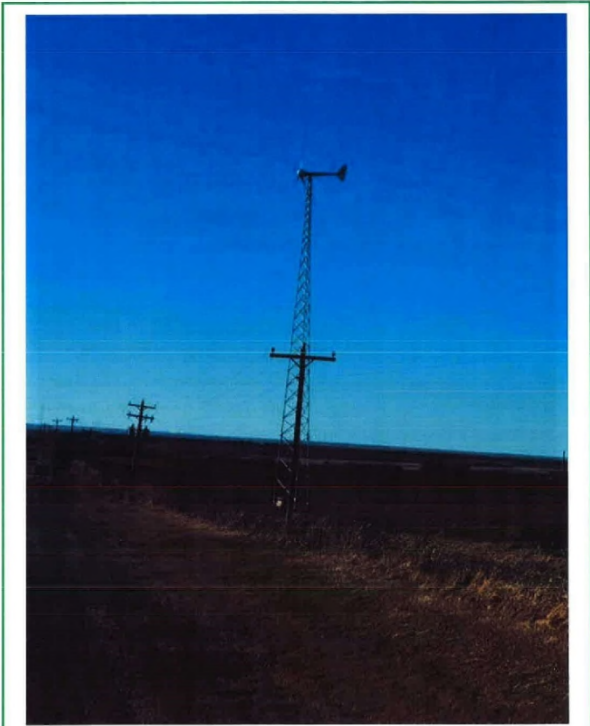
Dean Pudenz Carroll, IA



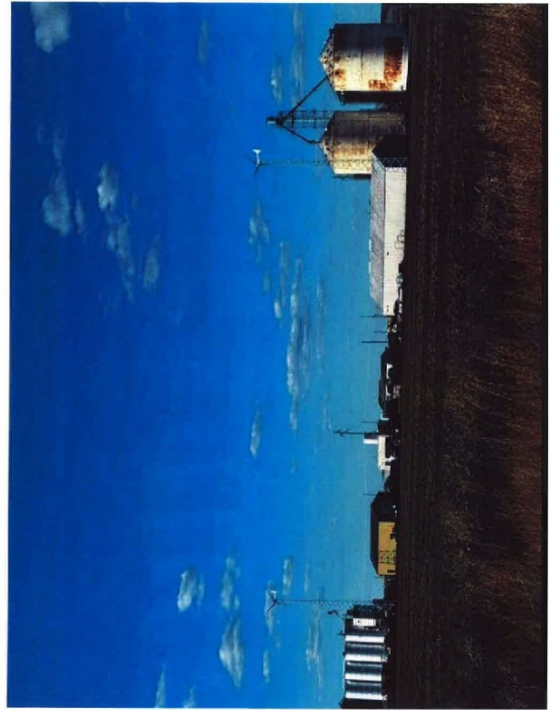
Walker Bros Sloan, IA



Kirk Duff Hobart, OK



Mark Graf Colony, OK



Darr Grain Cozad, NE



Darr Grain Cozad, NE



Paul Iburg Alexandria, SD



WOODBURY COUNTY PLANNING & ZONING

620 Douglas Street, Sixth Floor, Sioux City, Iowa 51101
712.279.6609 – 712.279.6530 (Fax)

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

Dawn Norton – Senior Clerk
dnorton@woodburycountyiowa.gov

APPLICATION DETAILS

Owner/Applicant(s): David W. Peterson and Patricia J. Peterson, Trustees of the Joint Revocable Trust of David W. Peterson and Patricia J. Peterson, dated November 15, 2023
Application Type: Variance
Zoning District: Agricultural Estates (AE)
Total Acres: 0.72
Current Use: Residential **Proposed Use:** Residential
Pre-application Meeting: January 3, 2025
Application Date: January 15, 2025
Legal Notice Date: January 21, 2025
Stakeholders' (500') Letter Date: January 17, 2025
Board of Adjustment Public Hearing Date: February 3, 2025

PROPERTY DETAILS

Parcel(s): 894631300010
Township: T89N R46W (Concord)
Section: 31
Auditor's Subdivision of the W 1/2 of SW Fractional 1/4 of Section 31
Zoning District: Agricultural Estates (AE)
Floodplain District: Zone X, not in floodplain
Address: 5602 Stone Ave., Sioux City, IA 51106

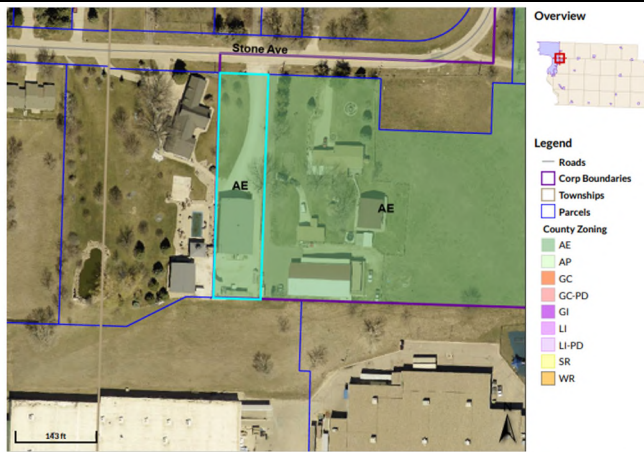
TABLE OF CONTENTS

Application
 Site Plan
 Ordinance Sections
 Legal Notification
 Stakeholder Comments
 Property Layout
 Zoning Maps
 Variance Regulations
 Review Criteria
 Conclusions

VARIANCE APPLICATION DESCRIPTION

Pursuant to Section 335 of the Code of Iowa, the Woodbury County Board of Adjustment will hold a public hearing to consider a variance request from David W. Peterson and Patricia J. Peterson. The applicants seek approval to construct an accessory building on a 0.72-acre lot that currently lacks a principal structure or single-family dwelling, as required under Section 4.12.2 of the Woodbury County Zoning Ordinance. Additionally, they request a reduction of the required 10-foot rear yard setback for accessory structures in the Agricultural Estates (AE) Zoning District, per Section 3.04, from 10 feet to 3 feet or less. The proposed accessory structure is planned, while subject to changes, to be approximately 18 feet by 52.5 feet with a height of around 10 feet. The property is located at 5602 Stone Avenue, Sioux City, IA 51106, on Parcel #894631300010 in T89N R46W (Concord Township), Section 31, Auditor's Subdivision of the W 1/2 of SW Fractional 1/4 of Section 31. The parcel, situated in the AE Zoning District and outside the floodplain, directly abuts Sioux City's jurisdiction. Owner/Applicants: David W. Peterson and Patricia J. Peterson, Trustees of the Joint Revocable Trust of David W. Peterson and Patricia J. Peterson, dated November 15, 2023, 5600 Stone Avenue, Sioux City, IA 51106. Parcel Address: 5602 Stone Avenue, Sioux City, IA 51106.

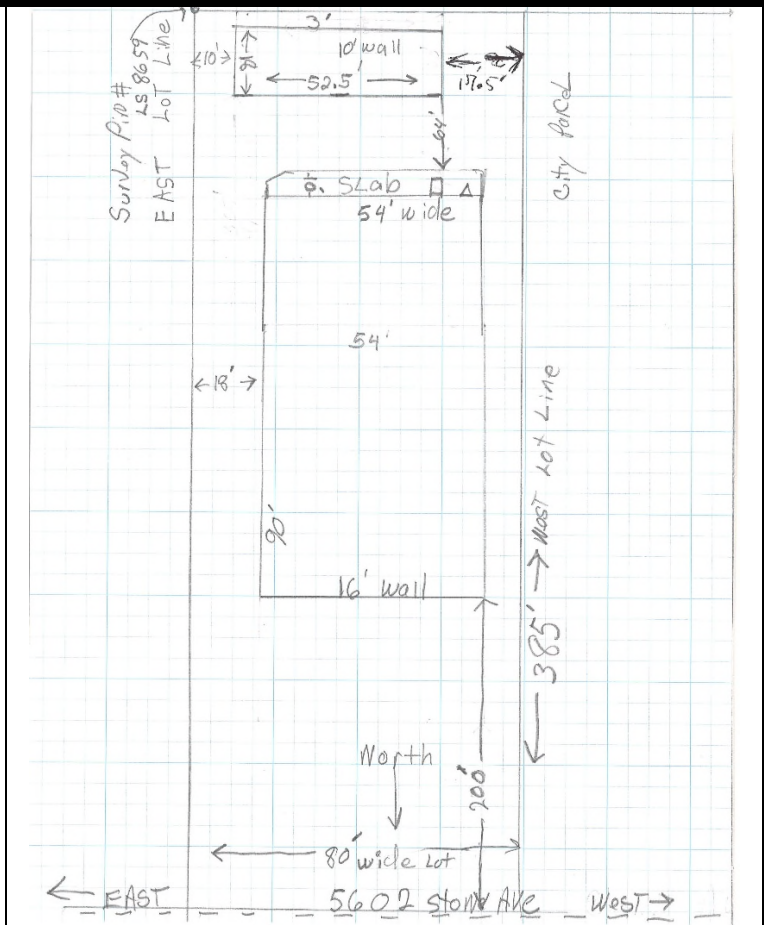
LOCATION MAP



Parcel ID 894631300010 Alternate ID 880726 Owner Address PETERSON DAVID W & PATRICIA J JOINT REVOCABLE TRUST
 Sec/Twp/Rng 31-89-46 Class R 5600 STONE AVE
 Property Address 5602 STONE AVE Acreage 0.72 SIOUX CITY, IA 51106
 District 0025
 Brief Tax Description SUB DIV W1/2 SW AN IRREG TCT BEG @ NE CORNER LOT9 THEC W3 84.2 FT THEC S 413.29 FT THEC W 82.07 FT THEC N 413.44 FT THEC E 82.61 TOPT OF BEG
 (Note: Not to be used on legal documents)

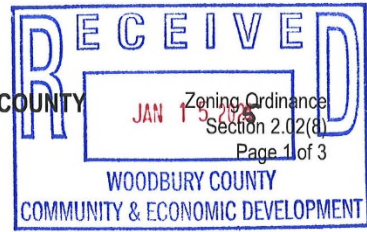


SITE PLAN EXCERPT





OFFICE OF PLANNING AND ZONING WOODBURY COUNTY



Variance Application

Owner Information: Owner <u>David w. Peterson</u> Address <u>5602 Stone Ave</u> <u>Sioux City IA 51106</u> Phone <u>1-712-276-1773</u>	Applicant Information: Applicant _____ Address <u>SAME</u> Phone _____
---	--

Engineer/Surveyor _____ Phone _____

Property Information:

Property Address or Address Range 5602 Stone Ave

Quarter/Quarter S/W Sec 31 Twshp/Range 89-46

Parcel ID # 894631300010 GIS # 8946313000010 Total Acres 0.720

Current Use out door storage Proposed Use Indoor storage

Current Zoning AG estate

The filing of this application is required to be accompanied with all items and information required pursuant to section 2.02(8)(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 JAN 3rd 2025 Staff present Dan Priestley

The undersigned is/are the owners(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 Board of Adjustment members to conduct a site visit and photograph the subject property.

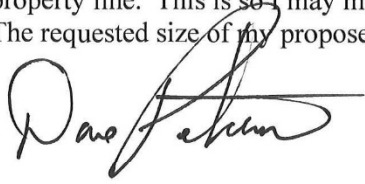
This Variance Application is subject to and shall be required, as a condition of final approval, to comply with all applicable Woodbury County ordinances, policies, requirements and standards that are in effect at the time of final approval.

Owner David w. Peterson Applicant David w Peterson
 Date 1-15-25 Date 1-15-25

Fee: \$300 **Case #:** 7041
 Check #: cc ending 6652
 Receipt #: _____

Date Received
Patty Peterson 1-15-25
Pugs 1-15-25

I am requesting this variance for two purposes. First, so I may build on my lot next to my house. I have three lots, two of which are in the city and one is in the county. The county lot can not be combined with my city lot due to the different jurisdiction. Second, I am requesting for a reduced accessory structure rear yard setback to be changed from 10 FT to 3 FT from the rear property line. This is so I may maximize the space where I can move my vehicles on the lot. The requested size of my proposed structure is 18' X 52.5' X 10'



1-15-25

**Applicant Statement Re: Variance Requirements
Attachment to Woodbury County, Iowa Variance Application
Pursuant to Requirement of Zoning Ordinance Section 2.02:8.F(1) - Pages 19-20
Adopted July 22, 2008; Effective August 01, 2008**

In order to grant any variance the Board of Adjustment must determine that granting the variance will not be contrary to the public interest or the general intent and purpose of the ordinances:

(If filling out form online, tab at the end of each line to continue on next line.)

Section F. (1)(a)

- (i) Explain below why granting the variance will not adversely impact nearby properties:

I would be 10' Away from the only Property near the Building that has A sculpture on it

- (ii) Explain below why granting the variance will not substantially increase congestion of people, buildings or traffic:

This building is to store Lawn mower & tractor Attachments & clean up the Area.

- (iii) Explain below why granting the variance will not endanger public health or safety:

This is cold storage only no utility.
No Health Rise
No Safety Rise

- (iv) Explain below why granting the variance will not overburden public facilities or services:

This building has no utilities
no facilities

- (v) Explain below why granting the variance will not impair the enjoyment, use or value of nearby property:

It will better his view & clear up the clutter
for all concerned

Section F. (1)(b)

In order to explain why granting the variance is necessary to assure that the owner does not suffer an economic hardship answer the below questions. (Note: Increased financial return or reduced costs to the applicant are not adequate cause for a finding of hardship.) A finding of economic hardship is based upon each of the following questions.

- i) Explain below why the property cannot yield a reasonable return without the granting of the variance:

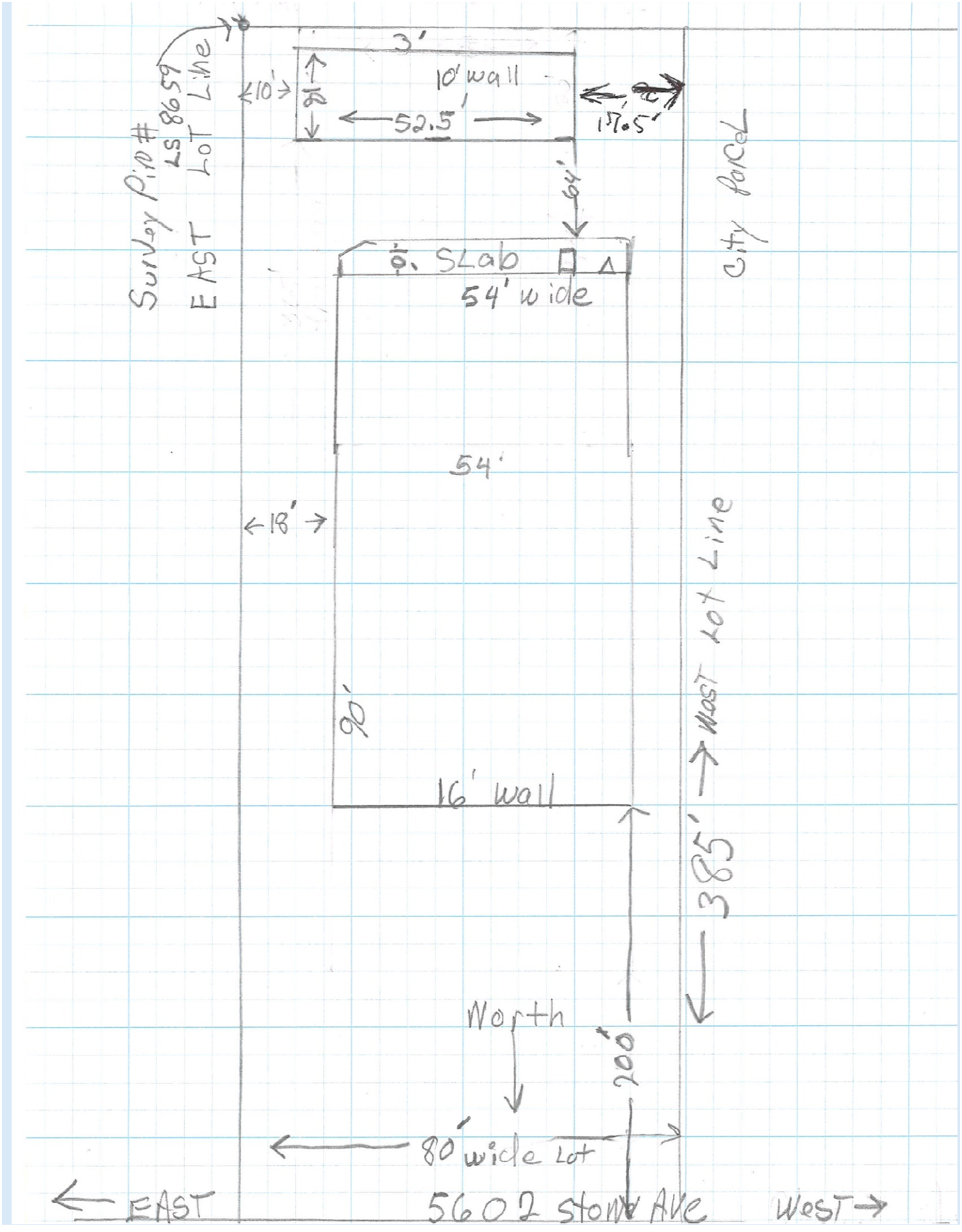
Economics - not a consideration or concern
I want to get the best use of the land available
& look good doing it

- ii) Explain below why the property has unique physical constraints that result in its inability to be used without the granting of the variance:

10' is not a problem on the East
I need to be on the lot line or 3' away or less to
be able to still bring trucks - crane -
trailers & still be able to maneuver in & out
to care for the property.

- iii) Explain below why the hardship is not a result of actions or decisions by the owner:

The only hardship is the room available not
being cut 10' from the south lot line.
that is nowhere near any structure - red -
or right of way. my 3 parcels 2 west parcels
are in the city This East parcel is in the county
I'm not able to combine the 3 parcels.



SECTIONS OF ORDINANCE PERTAINING TO VARIANCE REQUEST

Section 4.12.2 – Accessory Buildings

Section 4.12: Accessory Buildings

1. For the AP, AE, NR and SR zoning districts, side and rear yard setback requirements for accessory buildings are set forth in section 3.04.
2. No accessory building shall be constructed upon a lot until the construction of the principal building has commenced. In no event shall such building be used as a dwelling unless it is a facility designed for human habitation and a certificate of occupancy shall have been issued for such use.

Section 3.04 – Zoning District Dimensional Standards

Section 3.04: Zoning District Dimensional Standards

Zoning District	AP	AE	NR	SR	GC	HC	LI	GI	--PD
Minimum Lot Area ⁽¹⁾				10,000 sf ⁽¹⁾					
-- Single Family	2 acres ⁽¹⁾	2 acres ⁽¹⁾	2 acres ⁽¹⁾	10,000 sf ⁽¹⁾	--	--	3 acres ⁽¹⁾	3 acres ⁽¹⁾	TBD
-- Two Family				6,000 sf/DU ⁽¹⁾					
-- Multiple Family				4,000 sf/DU ⁽¹⁾					
Minimum Lot Width	200 ft	200 ft	200 ft	80 ft	--	--	60 ft	60 ft	TBD
Front Yard Setback	100 ft	75 ft	75 ft	25 ft	50 ft	50 ft	50 ft	50 ft	TBD
Side Yard Setback	20 ft	20 ft	20 ft	10 ft					
-- Accessory Structures	10 ft	10 ft	10 ft	3 ft.	10 ft	10 ft	10 ft	10 ft	TBD
Corner Side Yard Setback	50 ft	50 ft	50 ft	15 ft	25 ft	25 ft	50 ft	50 ft	TBD
Rear Yard Setback	50 ft	50 ft	50 ft	25 ft					
-- Accessory Structures	10 ft	10 ft	10 ft	3 ft	40 ft	10 ft	50 ft	10 ft	TBD
Maximum Height				45 ft					
-- Accessory Structures	45 ft	45 ft	45 ft	Not more than height of principal structure	45 ft	45 ft	75 ft	--	TBD
Maximum Lot Coverage	--	--	--	30%	--	--			TBD

⁽¹⁾ Minimum lot areas are net of area of rights-of-way.

Sioux City Journal
AFFIDAVIT OF PUBLICATION

Sioux City Journal
2802 Castles Gate Drive
Sioux City 51106
(712) 293-4250

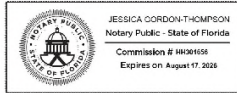
State of Florida, County of Orange, ss:

Kevin Richman, being first duly sworn, deposes and says: That (s)he is a duly authorized signatory of Column Software, PBC, duly authorized agent of Sioux City Journal, printed and published by Journal Communications, in Sioux City in Woodbury County and issued daily and Sunday and that this affidavit is Page 1 of 1 with the full text of the sworn-to notice set forth on the pages that follow, and the hereto attached:

PUBLICATION DATES:
Jan. 21, 2025

NOTICE ID: wSyS2YfP3OHKlqTTk909
PUBLISHER ID: COL-IA-501295
NOTICE NAME: BA_2-3-25
Publication Fee: \$48.99

(Signed) Kevin Richman



VERIFICATION

State of Florida
County of Orange

Subscribed in my presence and sworn to before me on this: 01/22/2025

J. Ra

Notary Public
Notarized remotely online using communication technology via Proof.

**NOTICE OF PUBLIC HEARING
BEFORE THE WOODBURY
COUNTY BOARD OF
ADJUSTMENT REGARDING A
VARIANCE REQUEST TO BUILD
AN ACCESSORY BUILDING ON
A LOT WITHOUT A PRINCIPAL
STRUCTURE AND FOR A
REDUCTION IN THE REAR YARD
SETBACK REQUIREMENTS**

The Woodbury County Board of Adjustment will hold a public hearing on the following item hereafter described in detail on February 3, 2025 at 6:00 PM or as soon thereafter as the matter may be considered. Said hearing will be held in the Board of Supervisors' meeting room in the Basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, Iowa. Copies of said item may now be examined at the office of the Woodbury County Community and Economic Development, on the 6th Floor of said courthouse by any interested persons. All persons who wish to be heard in respect to the matter should appear at the aforesaid hearing in person or call 712-454-1133 and enter the Conference ID: 742 346 1296 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. 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 Daniel Priestley at: dpristley@woodburycountyia.gov. Only signed comments will be considered and should be received no later than 10:00 AM on Fri., Jan. 31, 2025.

Item One (1)

Pursuant to Section 335 of the Code of Iowa, the Woodbury County Board of Adjustment will hold a public hearing to consider a variance request from David W. Peterson and Patricia J. Peterson. The applicants seek approval to construct an accessory building on a 0.72-acre lot that currently lacks a principal structure or single-family dwelling, as required under Section 4.12.2 of the Woodbury County Zoning Ordinance. Additionally, they request a reduction of the required 10-foot rear yard setback for accessory structures in the Agricultural Estates (AE) Zoning District, per Section 3.04, from 10 feet to 3 feet or less. The proposed accessory structure is planned, while subject to changes, to be approximately 18 feet by 32.5 feet with a height of around 10 feet. The property is located at 5602 Stone Avenue, Sioux City, IA 51106, on Parcel #694631300010 in T88N R46W (Concord Township), Section 31, Auditor's Subdivision of the W 1/2 of SW Fractional 1/4 of Section 31. The parcel, situated in the AE Zoning District and outside the floodplain, directly abuts Sioux City's jurisdiction. Owner/Applicants: David W. Peterson and Patricia J. Peterson, Trustees of the Joint Revocable Trust of David W. Peterson and Patricia J. Peterson, dated November 15, 2023, 5602 Stone Avenue, Sioux City, IA 51106. Parcel Address: 5602 Stone Avenue, Sioux City, IA 51106. COL-IA-501295

PROPERTY OWNER(S) NOTIFICATION

The 16 property owners within 500 FT; and listed within the certified abstractor's affidavit; were notified by a **January 17, 2025** letter of the public hearing before the Woodbury County Board of Adjustment on **March 3, 2025**.

As of **the printing of this packet**, the Community and Development office has received:

- 0 Phone Inquiries
- 1 Written Comments

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.



Property Owner(s)	Mailing Address			Comments
David W. Peterson and Patricia J. Peterson	5600 Stone Avenue	Sioux City	IA 51106	No comments.
Rufugio DeAnda and Teresa DeAnda	5620 Stone Avenue	Sioux City	IA 51106	No comments.
Steven L. Husk and Beach A. Husk	5800 Stone Avenue	Sioux City	IA 51106	No comments.
Michael J. Crew	5802 Stone Avenue	Sioux City	IA 51106	No comments.
5957-81 Gordon Drive, LLC	302 Jones Street, Ste. 100	Sioux City	IA 51101-1342	No comments.
Fifth Generation Investments	1805 Zenith Drive	Sioux City	IA 51103	No comments.
Jessica Stultz and Seth Stultz	5601 Stone Avenue	Sioux City	IA 51106	No comments.
Tyler Broekemeier and Brooke Broekemeier	5603 Stone Avenue	Sioux City	IA 51106	No comments.
Robert E. LaBrune and Paula J. LaBrune	5615 Stone Avenue	Sioux City	IA 51106	No comments.
Douglas Gude and Christine Gude	5715 Stone Avenue	Sioux City	IA 51106	No comments.
Timothy L. Meyers and Cynthia L. Meyers	5806 Stone Avenue	Sioux City	IA 51106	No comments.
Sunrise Hills	5501 Gordon Dr. E	Sioux City	IA 51106	No comments.
Richard E. Pruehs	5517 Stone Avenue	Sioux City	IA 51106	No comments.
Lonnie J. Stuhr Revocable Trust and Carolyn A. Stuhr Revocable Trust	5519 Stone Avenue	Sioux City	IA 51106	Go.- Go – Go. Build, Build, Build.!
Dustin Tweety	5523 Stone Avenue	Sioux City	IA 51106	No comments.
LeRoy G. Robinson and Andrea J. Robinson	5527 Stone Avenue	Sioux City	IA 51106	No comments.

STAKEHOLDER COMMENTS

911 COMMUNICATIONS CENTER:	No comments.
CITY OF SIOUX CITY:	SEE EMAIL EXCHANGE BELOW WITH CHRISTOPHER MADSEN FROM SIOUX CITY.
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. No comments.
MAGELLAN PIPELINE:	No comments.
MIDAMERICAN ENERGY COMPANY (Electrical Division):	I have reviewed the following proposed variance for MEC electric and we have no conflicts. – Casey Meinen, 1/21/25.
MIDAMERICAN ENERGY COMPANY (Gas Division):	No comments.
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, 1/20/25.
NUSTAR PIPELINE:	No comments.
SIOUXLAND DISTRICT HEALTH DEPARTMENT:	SEE EMAIL EXCHANGE BELOW WITH IVY BREMER FROM SIOUXLAND DISTRICT HEALTH
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:	No comment. – Diane Swoboda Peterson, 1/22/25.
WOODBURY COUNTY RURAL ELECTRIC COOPERATIVE (REC):	No comments.
WOODBURY COUNTY SOIL AND WATER CONSERVATION DISTRICT:	The WCSWCD has no comments regarding this request. – Neil Stockfleth, 1/18/25.

Daniel Priestley

From: Christopher Madsen
Sent: Wednesday, January 22, 2025 11:32 AM
To: Daniel Priestley
Subject: RE: Comments requested for a county variance application

Follow Up Flag: Follow up
Flag Status: Flagged

Dan,
Not sure how you look at hardship with variances, but this proposal would be allowed by right in City Zoning. If he annexed and combined the three lots, the petitioner would have the land area and City setbacks appears to be met.

Thank you,

Chris R. Madsen, AICP, CFM
Senior Planner
City of Sioux City
Phone: 712.279.6341
Email: cmadsen@sioux-city.org
405 6th Street, Box 447
Sioux City IA 51102

Daniel Priestley

From: Christopher Madsen
Sent: Wednesday, January 22, 2025 1:48 PM
To: Daniel Priestley
Subject: RE: Comments requested for a county variance application

Since this would be outside another City's urban area the Secretary of State would approve the annexation. Generally I would say two months. Three at most.

Thanks,

Chris R. Madsen, AICP, CFM
Senior Planner
City of Sioux City
Phone: 712.279.6341
Email: cmadsen@sioux-city.org
405 6th Street, Box 447
Sioux City IA 51102

From: Daniel Priestley <dpriestley@woodburycountyiowa.gov>
Sent: Wednesday, January 22, 2025 11:40 AM
To: Christopher Madsen <cmadsen@sioux-city.org>
Subject: RE: Comments requested for a county variance application

Chris,

I appreciate your reply. If he took the annexation route, what is the typical turnout when going through the city and state board?

Thanks,

Daniel J. Priestley, MPA
Woodbury County Zoning Coordinator
620 Douglas Street #609
Sioux City, IA 51101

Phone: 712-279-6609
Fax: 712-279-6530
Website: WoodburyCountyIowa.gov

Daniel Priestley

From: Ivy Bremer
Sent: Wednesday, January 22, 2025 2:09 PM
To: Daniel Priestley
Subject: RE: Well Location 5602 Stone Ave., Sioux City

There is not a set back to a building. I would encourage the homeowner to verify with a well contractor that it is accessible for any future needs.

Ivy Bremer
Environmental Specialist
Siouxland District Health Department
1014 Nebraska St Sioux City IA 51105
Ph: 712-279-6119 | Fax: 712-255-2604
ibremer@siouxlanddistricthealth.org
Visit us at: www.siouxlanddistricthealth.org



From: Daniel Priestley <dpriestley@woodburycountyiowa.gov>
Sent: Wednesday, January 22, 2025 2:05 PM
To: Ivy Bremer <ibremer@siouxlanddistricthealth.org>
Subject: RE: Well Location 5602 Stone Ave., Sioux City

Do you see any issues if the new building is within 7.5 feet? My understanding is that well has been out there for years.

Daniel J. Priestley, MPA
Woodbury County Zoning Coordinator
620 Douglas Street #609
Sioux City, IA 51101

Phone: 712-279-6609
Fax: 712-279-6530
Website: WoodburyCountyIowa.gov

From: Ivy Bremer <ibremer@siouxlanddistricthealth.org>
Sent: Wednesday, January 22, 2025 2:03 PM
To: Daniel Priestley <dpriestley@woodburycountyiowa.gov>
Subject: RE: Well Location 5602 Stone Ave., Sioux City

No, well setbacks are 10' from property line. I would assume the driller has adequate access to well if was installed in the location.

Ivy Bremer
Environmental Specialist
Siouxland District Health Department
1014 Nebraska St Sioux City IA 51105
Ph: 712-279-6119 | Fax: 712-255-2604
ibremer@siouxlanddistricthealth.org
Visit us at: www.siouxlanddistricthealth.org



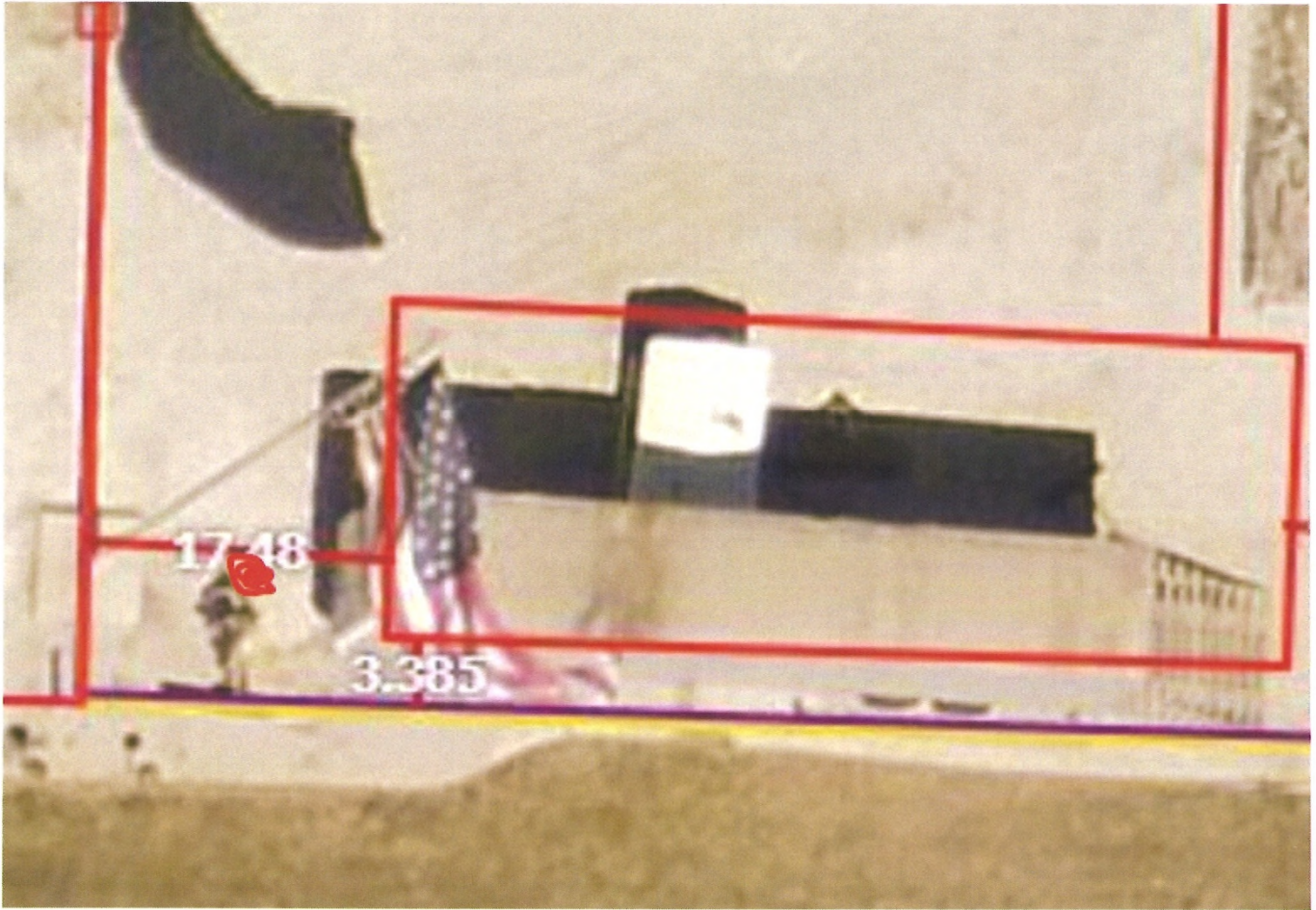
"A Healthy Community for All"



From: Daniel Priestley <dpriestley@woodburycountyiowa.gov>
Sent: Tuesday, January 21, 2025 10:20 AM
To: Ivy Bremer <ibremer@siouxlanddistricthealth.org>
Subject: Well Location 5602 Stone Ave., Sioux City

Ivy,

Attached is a copy of a building variance request. The owner has informed me there is a well located 6 FT north of the rear property line and 10 FT from the west property line, thereby making the well about 7.5 FT from the building. Do you see any issues with the well being 7.5 FT from the proposed structure?



Thanks,

Daniel J. Priestley, MPA
Woodbury County Zoning Coordinator
620 Douglas Street #609
Sioux City, IA 51101

Phone: 712-279-6609
Fax: 712-279-6530
Website: WoodburyCountyIowa.gov

From: Daniel Priestley
Sent: Friday, January 17, 2025 3:24 PM
To: Daniel Priestley <dpriestley@woodburycountyiowa.gov>; Dawn Norton <dnorton@woodburycountyiowa.gov>
Subject: Comments requested for a county variance application

To: Woodbury County Stakeholders

From: Daniel J. Priestley, MPA – Woodbury County Zoning Coordinator, Planning and Zoning

Date: January 17, 2025

Subject: Comments requested for a Woodbury County Variance Application

As a stakeholder, you are requested to offer any comments or concerns you might have about the attached variance application that will go before the Woodbury County Board of Adjustment for a public hearing. Please send your comments to dpriestley@woodburycountyiowa.gov no later than **January 28, 2025 before 10:00 AM CT**. The Board of Adjustment public hearing is scheduled for Monday, February 3, 2025 at 6:00 PM at the Woodbury County Courthouse, 620 Douglas St., Sioux City, IA, Board of Supervisors' meeting area in the basement.

Variance Application Summary:

Pursuant to Section 335 of the Code of Iowa, the Woodbury County Board of Adjustment will hold a public hearing to consider a variance request from David W. Peterson and Patricia J. Peterson. The applicants seek approval to construct an accessory building on a 0.72-acre lot that currently lacks a principal structure or single-family dwelling, as required under Section 4.12.2 of the Woodbury County Zoning Ordinance. Additionally, they request a reduction of the required 10-foot rear yard setback for accessory structures in the Agricultural Estates (AE) Zoning District, per Section 3.04, from 10 feet to 3 feet or less. The proposed accessory structure is planned, while subject to changes, to be approximately 18 feet by 52.5 feet with a height of around 10 feet. The property is located at 5602 Stone Avenue, Sioux City, IA 51106, on Parcel #894631300010 in T89N R46W (Concord Township), Section 31, Auditor's Subdivision of the W ½ of SW Fractional ¼ of Section 31. The parcel, situated in the AE Zoning District and outside the floodplain, directly abuts Sioux City's jurisdiction. Owner/Applicants: David W. Peterson and Patricia J. Peterson, Trustees of the Joint Revocable Trust of David W. Peterson and Patricia J. Peterson, dated November 15, 2023, 5600 Stone Avenue, Sioux City, IA 51106. Parcel Address: 5602 Stone Avenue, Sioux City, IA 51106.

APPLICATION DETAILS / PROPERTY DETAILS

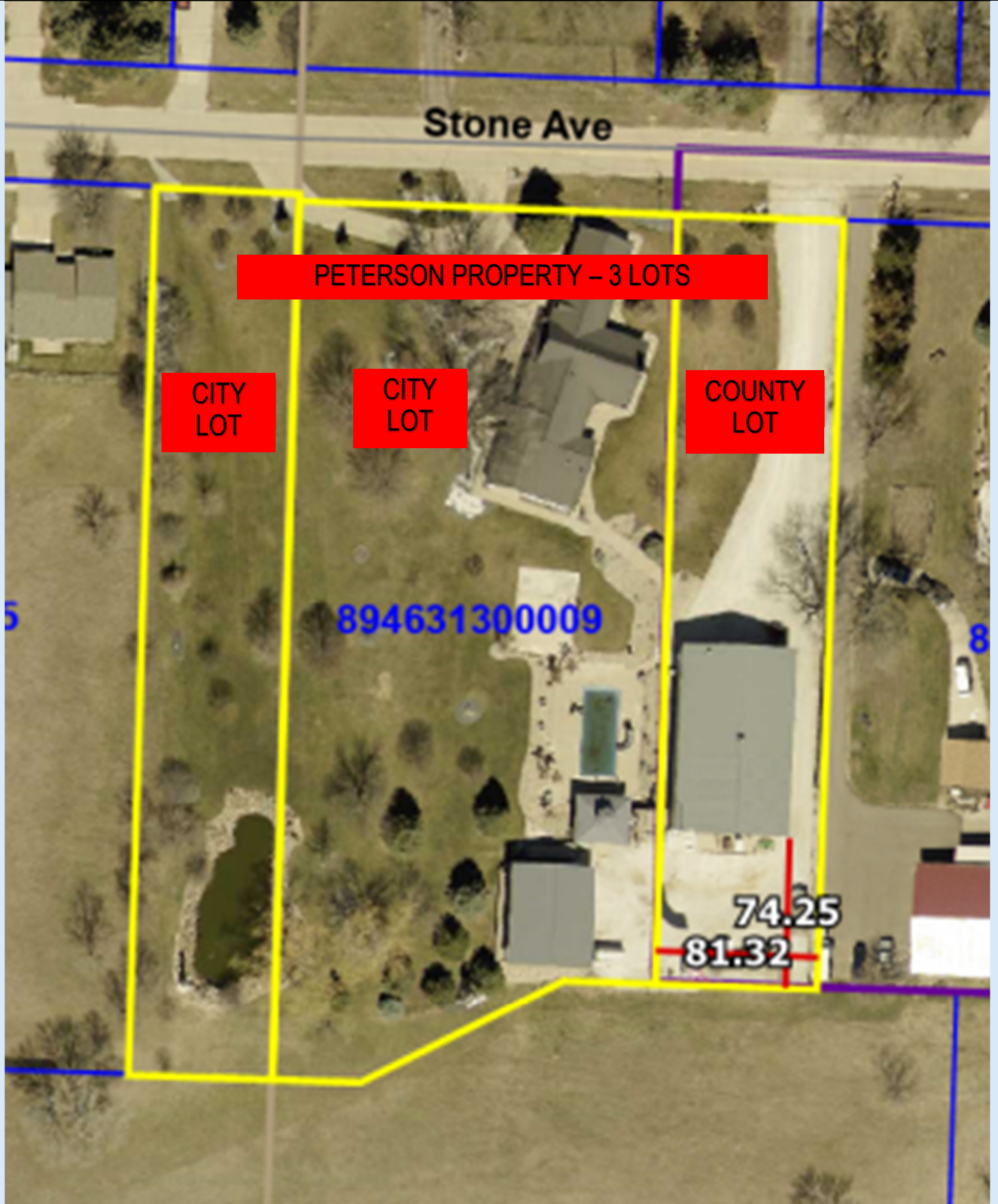
Owner/Applicant(s): David W. Peterson and Patricia J. Peterson, Trustees of the Joint Revocable Trust of David W. Peterson and Patricia J. Peterson, dated November 15, 2023
Application Type: Variance
Zoning District: Agricultural Estates (AE)
Total Acres: 0.72
Current Use: Residential Proposed Use: Residential
Pre-application Meeting: January 3, 2025
Application Date: January 15, 2025
Legal Notice Date: January 21, 2025
Neighbors' within (500') Letter Date: January 17, 2025
Board of Adjustment Public Hearing Date: February 3, 2025
Parcel(s): 894631300010
Township: T89N R46W (Concord)
Section: 31
Auditor's Subdivision of the W ½ of SW Fractional ¼ of Section 31
Zoning District: Agricultural Estates (AE)
Floodplain District: Zone X, not in floodplain
Address: 5602 Stone Ave., Sioux City, IA 51106

Respectfully and sincerely,

Daniel J. Priestley, MPA
Woodbury County Zoning Coordinator
620 Douglas Street #609
Sioux City, IA 51101

Phone: 712-279-6609
Fax: 712-279-6530
Website: WoodburyCountyIowa.gov

PROPERTY LAYOUT



SITE FOOTPRINT

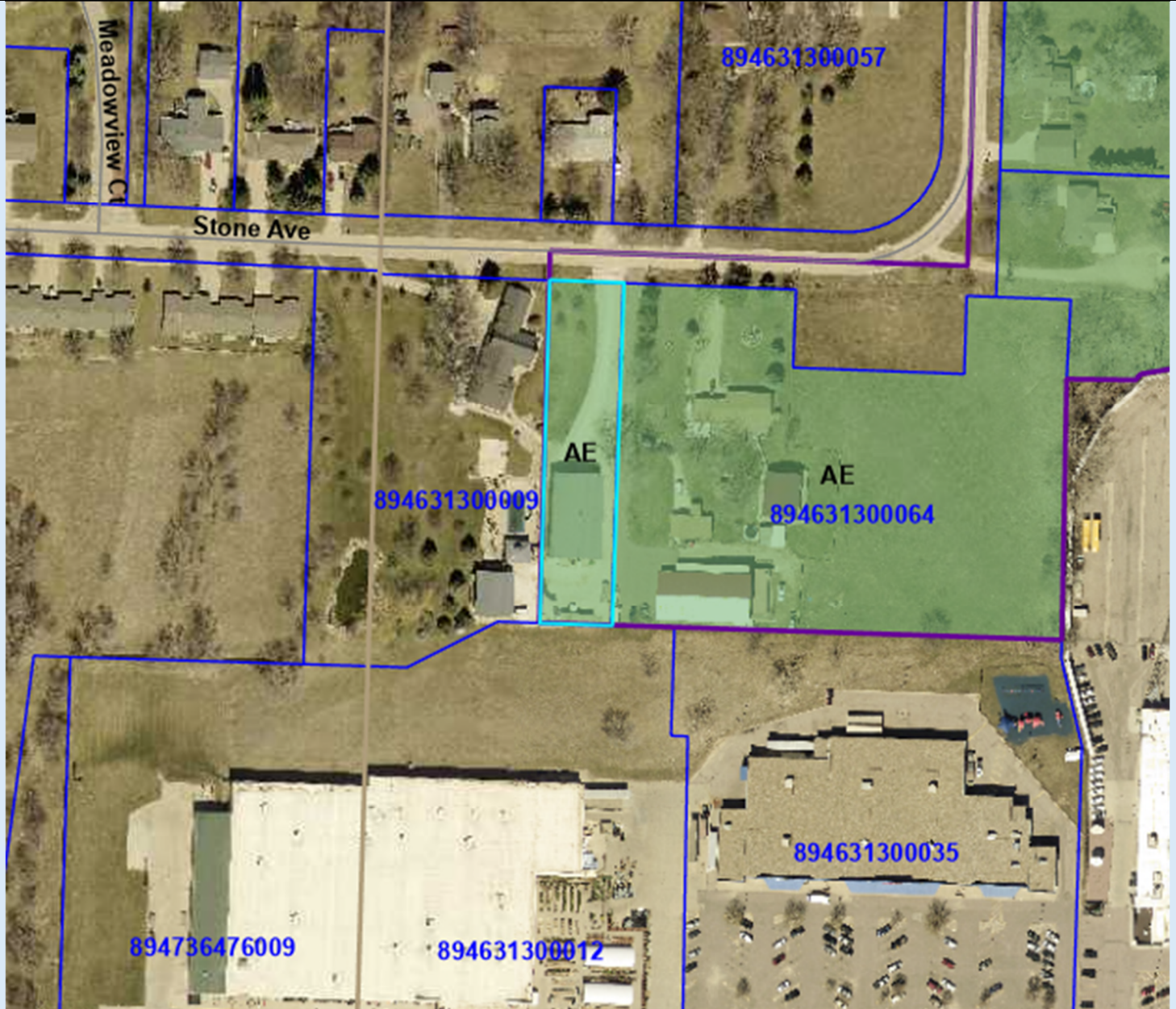


ELEVATION





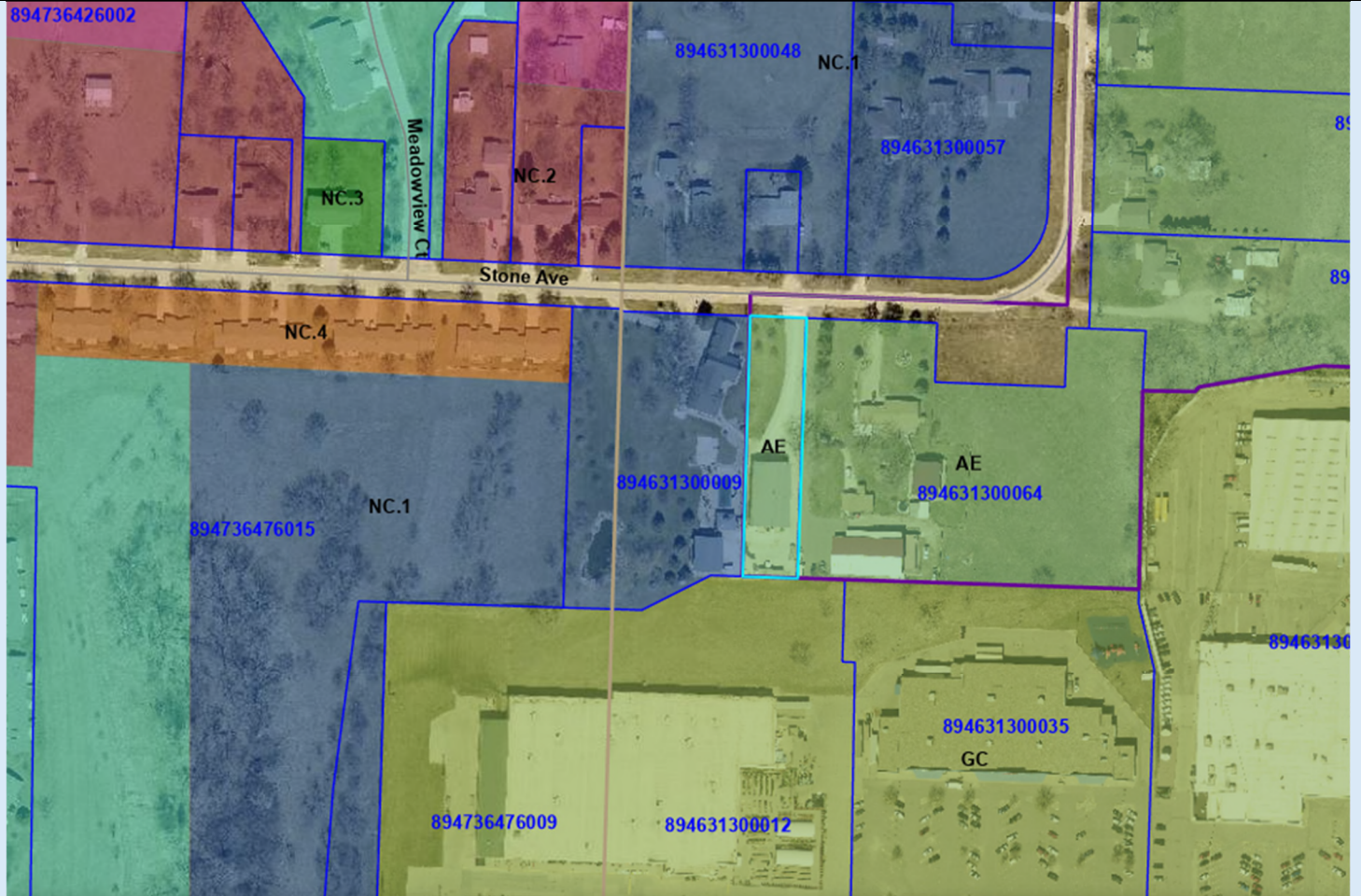
COUNTY ZONING MAP



Legend

- Roads
- Corp Boundaries
- Townships
- Parcels
- County Zoning
 - AE
 - AP
 - GC
 - GC-PD
 - GI
 - LI
 - LI-PD
 - SR
 - WR

COUNTY & CITY ZONING MAP



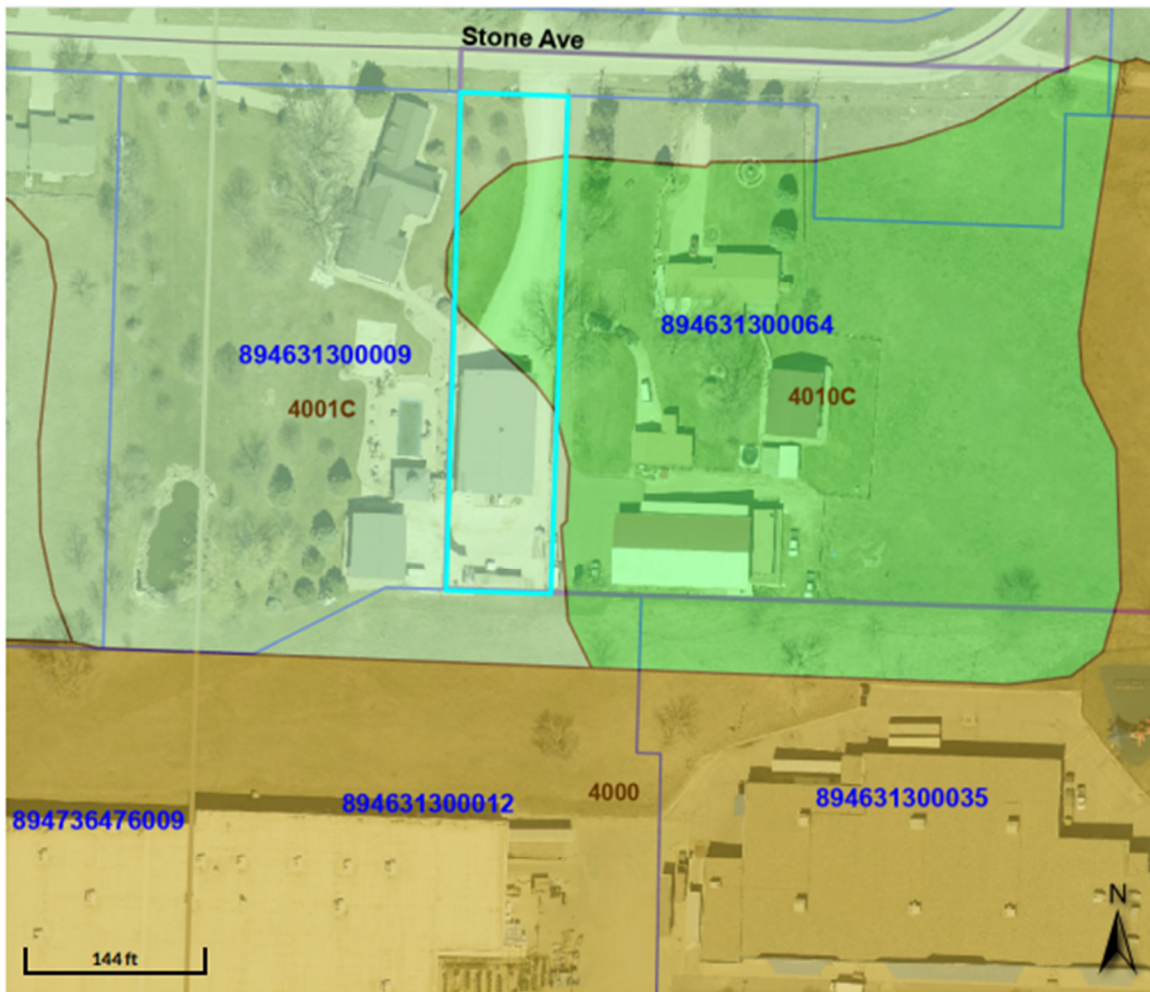
Legend

- Roads
- ▭ Corp Boundaries
- ▭ Townships
- ▭ Parcels
- Sioux City Zoning**
- AG
- BP
- CE
- DC
- GC
- GI
- GR
- HA-4
- HA-P
- MU
- NC.1
- NC.2
- NC.3
- NC.4
- NC.5
- PI
- SC
- SR
- <all other values>

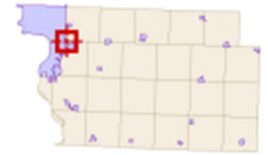
Legend

- Roads
- ▭ Corp Boundaries
- ▭ Townships
- ▭ Parcels
- County Zoning**
- AE
- AP
- GC
- GC-PD
- GI
- LI
- LI-PD
- SR
- WR

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	894631300010	Alternate ID	880726	Owner Address	PETERSON DAVID W & PATRICIA J JOINT REVOCABLE TRUST
Sec/Twp/Rng	31-89-46	Class	R		5600 STONE AVE
Property Address	5602 STONE AVE	Acres	0.72		SIOUX CITY, IA 51106
	SIOUX CITY				
District	0025				
Brief Tax Description	SUB DIV W1/2 SW AN IRREG TCT BEG @ NE CORNER LOT9 THEC W3 84.2 FT THEC S 413.29 FT THEC W 82.07 FT THEC N 413.44 FT THEC E 82.61 TOPT OF BEG				
	<i>(Note: Not to be used on legal documents)</i>				

SPECIAL FLOOD HAZARD AREA (SFHA)

The property is not located within the floodplain.

1. Variances

- A. Authority. The Board of Adjustment shall hear and decide on requests for a variance pursuant to subsection 2.01-5. D subject to the procedures, standards and conditions set out in this subsection and Section 335 of the Iowa Code.
- B. Purpose. A variance is intended to provide necessary relief from the requirements of the zoning provisions of this title that would create unnecessary hardships or practical difficulties.
- C. Filing.
 - (1) Right to seek variance. A request for a zoning variance may be filed by any person aggrieved by a provision of the zoning ordinance that limits their intended use of property.
 - (2) Form of application. An application for a variance shall be submitted to the zoning director and shall include at least the following information:
 - (a) The name and address of the property owner and the applicant;
 - (b) The address, if any, and the legal description of the property;
 - (c) The current zoning district classification;
 - (d) A specific description of the proposed variance including the section of this title from which a variance is requested;
 - (e) A map, drawn to scale, showing the subject property, all structures and other improvements, with the proposed variance identified;
 - (f) Statements in response to the criteria and standards for approval of variances in subsection 2.02-8. F (1) below.
 - (3) Fee. A filing fee, as established by resolution of the Board of Supervisors to defray administrative costs, shall accompany the notice of appeal.
 - (4) A certified abstractor's listing of the names and mailing addresses of all owners of real property lying adjacent to the subject property.
- D. Stay of Proceedings. A request for a variance appeal shall have the effect of a temporary suspension of enforcement of the provisions of these regulations that are the subject of the variance request until the conclusion of the variance process, unless the zoning director certifies that the suspension may cause imminent peril to life or property.
- E. Review and decision-making process.
 - (1) Hearing required. The Board of Adjustment shall conduct a public hearing on the variance request in accordance with subsection 2.02-1. B.
 - (2) Notification. Public notification of the Board of Adjustment hearing on the variance request shall be as required by subsection 2.02-1. B(1). Such notices shall provide information on the time, date and location of the hearing and a brief description of the requested variance.
 - (3) Decision. Within 10 days after the public hearing the Board of Adjustment shall approve, approve with conditions or limitations, or deny the requested variance. The Board of Adjustment shall set forth findings of fact addressing the points enumerated in subsection 2.02-8. F(1) below as a basis for its action.
- F. Requirements for variances:
 - (1) In order to grant a variance, the Board of Adjustment must determine that:
 - (a) Granting the variance will not be contrary to the public interest or the general intent and purpose of this title in that it:
 - (i) Adversely impacts nearby properties;
 - (ii) Substantially increases congestion of people, buildings or traffic;

- (iii) Endangers public health or safety;
 - (iv) Overburdens public facilities or services; or
 - (v) Impairs the enjoyment, use or value of nearby property.
- (b) Granting the variance is necessary to assure that the owner does not suffer an economic hardship. (Note: Increased financial return or reduced costs to the applicant are not adequate cause for a finding of hardship.) A finding of economic hardship must be based on each of the following:
- (i) The property cannot yield a reasonable return if used in compliance with the requirements of this title;
 - (ii) The property has unique physical constraints that result in its inability to be used in compliance with the requirements of this title; and
 - (iii) The hardship is not a result of actions by the owner.

- (2) No variance shall be granted which would permit the establishment of a use within a given district which is prohibited therein;
- (3) No variance shall be granted which is so commonly recurring that it is a de facto amendment of this ordinance; and
- (4) No variance shall be granted that is more than the minimum relief needed.
- (5) No variance shall be granted to the provisions of Section 5.03 relative to flood plain management requirements unless the Board of Adjustment considers the factors listed in subsection 5.03-9.C (4).

G. Conditional approval of variances. The Board of Adjustment may, as a condition related to approval of a variance, impose restrictions and safeguards upon the property and the variance granted if it determines the restrictions to be necessary to minimize adverse effects on other property or the public interest. Such conditions shall be set forth in the resolution of the Board of Adjustment granting the variance. Failure to comply with any conditions imposed on a variance approval is a violation of this title.

H. Appeal of the actions of the Board of Adjustment. Any interested party may appeal a variance decision of the Board of Adjustment in two ways.

- (1) If the Board of Adjustment approves a variance, the Board of Supervisors pursuant to Section 335.10 of the Iowa Code may remand the matter to the Board of Adjustment for further consideration at any time within 30 days.
- (2) Any aggrieved party may appeal a decision of the Board of Adjustment within 30 days as provided by Section 335.18 of the Iowa Code. Such an appeal suspends the effect of the action of the Board of Adjustment until the appeal has been resolved. Any construction or cost incurred during the period subject to appeal is at the risk of the applicant.

REVIEW CRITERIA 1: (Section 2.02.8F1[A])

In terms of the variance application process, it is the duty of the Board of Adjustment to determine that the *granting of the variance will not be contrary to the public interest or the general intent and purpose of this title in that it:*

1. ADVERSELY IMPACTS NEARBY PROPERTIES;

2. SUBSTANTIALLY INCREASES CONGESTION OF PEOPLE, BUILDINGS OR TRAFFIC;

3. ENDANGERS PUBLIC HEALTH OR SAFETY;

4. OVERBURDENS PUBLIC FACILITIES OR SERVICES OR;

5. IMPAIRS THE ENJOYMENT, USE OR VALUE OF NEARBY PROPERTY.

Applicant Response:

- 1. Explain below why granting the variance will not adversely impact nearby properties:**
 - I would be 10' away from the only property near the building that has a structure on it.
- 2. Explain below why granting the variance will not substantially increase congestion of people, buildings or traffic:**
 - This building is to store lawn mowers & tractor attachments & cleanup the area.
- 3. Explain below why granting the variance will not endanger public health or safety:**
 - This is cold storage only no utilities. No health risk. No safety risk.
- 4. Explain below why granting the variance will not overburden public facilities or services:**
 - This building has no utilities. No facilities.
- 5. Explain below why granting the variance will not impair the enjoyment, use or value of nearby property:**
 - It will better his view & clear up the clutter for all concerned.

Staff Analysis:

The property owners are in a unique situation as they control three parcels, two of which are in the City of Sioux City and one is located in the county. Standalone accessory structures are not allowed on a property without first having a principal structure or single-family dwelling in the Agricultural Estates (AE) Zoning District. Short of annexing the eastern parcel into the city, the property owner's use of this property is limited. The existing structure on the property received a variance from the Board of Adjustment in early 1998. Additionally, the area on the property is limited as the property owners are requesting reduced setbacks to allow for more efficient maneuvering of their vehicles on the premises. This property is on top of a hill where the hill begins to slope approximately 14 FT to 16 FT beyond the property line thereby already limiting the neighbor to the south's use of their property.

- **Adversely Impacts Nearby Properties:** The applicant explains that the structure will be 10 feet from the nearest property with a building, suggesting minimal impact. However, the proposed reduction to 3 feet or less from the rear yard setback might be seen as an adverse impact due to proximity.
- **Substantially Increases Congestion of People, Buildings or Traffic:** The use described (storage of lawn mowers and tractor attachments) seems unlikely to increase congestion significantly, as it's for personal use and not commercial.
- **Endangers Public Health or Safety:** The structure's use for cold storage without utilities suggests no direct health or safety risks. However, the variance's impact on safety due to reduced setbacks should be considered, especially regarding fire safety or emergency access.
- **Overburdens Public Facilities or Services:** No utilities or additional services are required as per the applicant's statement, thus not likely to overburden public facilities.
- **Impairs the Enjoyment, Use or Value of Nearby Property:** The applicant claims it would enhance the view and clear clutter, but proximity to the property line might be contentious with neighbors, particularly those directly south on the slope. However, no objections have been received.

REVIEW CRITERIA 2: (Section 2.02.8F1[B])

The ordinance also states that *granting the variance is necessary to assure that the owner does not suffer an economic hardship. (Note: increased financial return or reduced costs to the applicant are not adequate cause for a finding of a hardship.) A finding of economic hardship must be based on each of the following:*

6. THE PROPERTY CANNOT YIELD A REASONABLE RETURN IF USED IN COMPLIANCE WITH THE REQUIREMENTS OF THIS TITLE;

7. THE PROPERTY HAS UNIQUE PHYSICAL CONSTRAINTS THAT RESULT IN ITS INABILITY TO BE USED IN COMPLIANCE WITH THE REQUIREMENTS OF THIS TITLE; AND

8. THE HARDSHIP IS NOT A RESULT OF ACTIONS BY THE OWNER.

Applicant Response:

- 6. Explain below why the property cannot yield a reasonable return without the granting of the variance:**

- Economics – not a consideration or concern. I want to get the best use of the land available & look good doing it.

7. Explain below why the property has unique physical constraints that result in its inability to be used without the granting of the variance:

- 10' is not a problem on the east. I need to be on the lot line or 3' away or less to be able to still bring trucks – crane – trailers & still be able to maneuver in & out to care for the property.

8. Explain below why the property has unique physical constraints that result in its inability to be used without the granting of the variance:

- The only hardship is the room available not being cut 10' from the south lot line that is no where near any structure – rd – or rite of way. My 3 parcels 2 west parcels are in the city. This east parcel is in the county I'm not able to combine the 3 parcels.

Staff Analysis:

- **Reasonable Return:** The applicant doesn't argue economic return but rather the best use of the land. This does not meet the criterion of "cannot yield a reasonable return" unless further economic analysis for hardship is provided.
- **Unique Physical Constraints:** The physical constraints mentioned include the need for space to maneuver vehicles, which seems valid.
- **Hardship Not Resulting from Owner's Actions:** The hardship seems to stem from the zoning and property configuration rather than actions taken by the owner, which supports this criterion.

REVIEW CRITERIA 3: (Section 2.02.8F2-5)

The ordinance also states that no variance shall be granted:

9. WHICH WOULD PERMIT THE ESTABLISHMENT OF A USE WITHIN A GIVEN DISTRICT WHICH IS PROHIBITED THEREIN;

10. WHICH IS SO COMMONLY RECURRING THAT IT IS A DE FACTO AMENDMENT OF THIS ORDINANCE; AND

11. THAT IS MORE THAN THE MINIMUM RELIEF NEEDED.

12. TO THE PROVISIONS OF SECTION 5.03 RELATIVE TO FLOOD PLAIN MANAGEMENT REQUIREMENTS UNLESS THE BOARD OF ADJUSTMENT CONSIDERS THE FACTORS LISTED IN SUBSECTION 5.03-9.C (4).

Staff Analysis:

- **Prohibited Uses:** The use (storage) does not appear to be prohibited in the AE district.
- **Common Recurrence:** This variance is specific enough not to constitute a common recurrence.
- **Minimum Relief:** Reducing the setback from 10 feet to 3 feet or less goes beyond what might be considered minimum relief unless justified by the unique conditions of the property.

STAFF CONCLUSION

Staff recommends for the board to conduct a thorough evaluation of the criteria including the full consideration of the applicant's testimony at the public hearing. It is essential to note that, the City of Sioux City has stated the following "...this proposal would be allowed by right in City Zoning. If he annexed and combined the three lots, the petitioner would have the land area and City setbacks appears to be met." The annexation process appears to be the alternative to this variance request. According to the city, the property location would be out of the City's urban area and the Secretary of State would be involved with the approval process which could take around two months (see Christopher' Madsen's email above).

In the case, *Early v. Bd. of Adjustment of Cerro Gordo County, Iowa*, No. 19-1672 (Iowa Sup. Ct. Feb. 26, 2021), the Iowa Supreme Court has interpreted variances as requiring a high bar threshold to be approved. Under Iowa Code § 335.15(3), a variance can be granted if it results in an unnecessary hardship. The criteria for this hardship are outlined in the Deardorf standard, which is the basis of this application procedure:

- The land cannot yield a reasonable return if used only for permitted purposes.
- The hardship is due to unique circumstances, not general neighborhood conditions.
- The variance won't alter the essential character of the locality.

The role of the Deardorf criteria, to ensure that variances are not granted merely for convenience but only when strict enforcement of zoning regulations would cause an undue hardship on the property owner. This standard is used to evaluate area variances (allowing deviation from specific dimensional requirements like setbacks).

**RULES OF PROCEDURE
FOR THE
WOODBURY COUNTY BOARD OF ADJUSTMENT**

ARTICLE I: PURPOSE

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

The following rules of procedure have been approved by the Board of Supervisors on MONTH/DATE/YEAR and are hereby adopted by the Woodbury County Board of Adjustment.

February 8, 2022

ARTICLE II: MEMBERS

There are 5 members of the Woodbury County Board of Adjustment. 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 Board 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 Board 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 Board. 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 Board member 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 Board of Adjustment 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 Board 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 Board 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 Board shall be conducted in compliance with Chapter 21 of the Code of Iowa and other applicable law.

Section 2. Regular Meetings

The Board of Adjustment is on-call for its regular meeting scheduled on the first Monday of every month beginning at 6pm 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 Board.

Section 6. Manner of Acting

Any question to come before the Board shall be in the form of a motion by a Board member and shall require a second for consideration. Remarks made by a Board member shall be limited to 10-minutes unless an extension is granted by a majority of the Board. Board members shall address the Chairperson and confine their remarks to the question before the Board and shall be respectful of other Board members and avoid referencing or questioning the motives of another Board member.

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 Board member abstains due to a conflict of interest, the vote of the Board shall be computed on the basis of the number of Board members not disqualified by reason of conflict of interest. However, at least 3 Board members 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 Board 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.

Board 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. Board member 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. Board member 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 Board. The Chair will restate the motion before a vote is taken. The Board 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 Board must vote on first, then the Board votes on the underlying motion.
- C. Motion to Postpone discussion of a matter until a future meeting.

Section 2.

Another Board member may then second a motion. The motion dies if no member seconds it.

Section 3.

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

6/6/22

 DATE ADOPTED

 ATTESTOR

_____ 
 CHAIRPERSON

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FOR THE
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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 Board member abstains due to a conflict of interest, the vote of the Board shall be computed on the basis of the number of Board members not disqualified by reason of conflict of interest. However, at least 3 Board members 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 Board 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.

Board 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. Board member 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. Board member 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 Board. The Chair will restate the motion before a vote is taken. The Board 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 Board must vote on first, then the Board votes on the underlying motion.
- C. Motion to Postpone discussion of a matter until a future meeting.

Section 2.

Another Board member may then second a motion. The motion dies if no member seconds it.

PROPOSED DRAFT

Section 3.

The Board 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 Board 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 Board 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 Board 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 PLANNING & ZONING

620 Douglas Street, Sixth Floor, Sioux City, Iowa 51101

712.279.6609 – 712.279.6530 (Fax)

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

Dawn Norton – Senior Clerk
dnorton@woodburycountyiowa.gov

PRELIMINARY REPORT

NUCLEAR ENERGY FACILITIES

SUMMARY:

Nuclear Power Plant –

- A nuclear power plant is a thermal power station that harnesses energy from nuclear fuel fission. Here's how it works: the heat released during fission boils water, producing steam. This steam drives a turbine connected to a generator, ultimately producing electricity.

Small Modular Reactors (SMR) –

- Type of advanced nuclear reactor designed to be smaller in size and capacity compared to traditional nuclear reactors.
- Characteristics:
 - o Small Size. SMRs have a power capacity of up to 30 MW per unit, which is about one-third of the capacity of conventional nuclear reactors.
 - o Modular Construction. These reactors are designed to be factory-assembled and transported to the site for installation.
 - o Flexibility. SMRs can be deployed in single or multiple modules, making them suitable for a variety of application, including industrial use and remote areas with limited grid capacity.
 - o Safety. Many SMR designs incorporate passive safety features, which rely on natural physical processes rather than active controls to ensure safety.

INFORMATIONAL MEETINGS AND PUBLIC HEARINGS

- Zoning Commission, Information Item – August 26, 2024
- Board of Adjustment, Information Item – September 4, 2024
- Zoning Commission, Public Hearing – September 23, 2024
- Board of Adjustment, Information Item – October 7, 2024
- Zoning Commission, Information Item – November 25, 2024
- Zoning Commission, Public Hearing – January 27, 2025
- Board of Adjustment, Information Item – February 3, 2025

BACKGROUND

Presently, under Section 3.03.3 of the Zoning Ordinance, nuclear energy generation could be administratively interpreted as a utility use that is eligible for conditional use permit consideration by the Zoning Commission and Board of Adjustment in the General Industrial (GI) Zoning District. However, as the same section reads “the table in subsection 3.03.4 may be updated pursuant to the procedure outlined in Section 2.03 from time to time to reflect legislative acceptance or rejection of the interpretations of the zoning director.” (p. 31).

As nuclear and modular nuclear technological systems are evolving, Woodbury County is in a position to legislatively address the county's nuclear policy for clarification. At this time, in terms of county zoning the question is, do the citizens of Woodbury County view nuclear as a viable alternative energy option for the future? If so, are there areas within the county that would be most appropriate for nuclear power generation? Depending on the input from the public stakeholders and the industry, the Woodbury County Zoning Ordinance could potentially be updated to clearly clarify the permitting of future nuclear projects.

Based on the regulations as presented by the NRC and the State of Iowa including the Iowa Utilities Board, the county could choose to add “Nuclear Energy Facilities” or “Nuclear Energy Generation” as a land use in Section 3.03.4 (Land Use Summary Table of Allowed Uses...) under the “Utilities” category as either a “Conditional Use” or a “Principal Allowed Use” in the General Industrial (GI) Zoning District in the Woodbury County Zoning Ordinance. Regardless of either a conditional use or a principal allowed use, the applicants must go through a rigorous permitting process through other levels of government.

It is apparent that nuclear energy is significant, complex, and consequential. As directed by the Board of Supervisors, the work of the Zoning Commission is to examine nuclear energy as an option for zoning. Hence, a Zoning Commission public hearing process can be employed to seek public comments and consider potential recommendations including possibly legislatively adding “nuclear energy generation” formally as an option to the Zoning Ordinance’s land use summary table.

NUCLEAR PROCESS

Nuclear energy power plants including their establishment is primarily governed by the United States Nuclear Regulatory Commission (NRC). The NRC has a significant amount of control over the permitting and operation of such plants. Companies who wish to get involved in nuclear must directly work with the NRC through the process of obtaining an “Early site permit (ESP).” An example of this process can be found at the following NRC website: <https://www.nrc.gov/reactors/new-reactors/large-lwr/esp/north-anna.html>

This website illustrates the process for the North Anna Site that was submitted by Dominion Nuclear North Anna, LLC. It includes application information, a review schedule, a safety evaluation report, a final environmental impact statement, the North Anna Early Site Permit, and contacts. There is also a “combined license process” which includes construction and operation approvals. The applicants must provide detailed plans for the plant’s design, construction, and operation as well as safety measures. It is the duty of the NRC to thoroughly review the submissions. The following website includes a list of combined license applications for new reactors: <https://www.nrc.gov/reactors/new-reactors/large-lwr/col.html>

An example of a combined license can be found at this link for the North Anna, Unit 3 site: <https://www.nrc.gov/reactors/new-reactors/large-lwr/col/north-anna.html>. The application materials include: referenced documents; application information; review schedule; safety evaluations; early site permit; final supplemental environmental impact statement; combined licenses; related application information; and contacts. In the combined license process, the application is reviewed and includes a public participation process, safety and environmental reviews and compliance with the National Environmental Policy Act (NEPA). The NRC also is involved in design certification, construction and operation, and post-license oversight.

It appears at this time that the permitting process for nuclear power plants including modular is a multi-governmental complex process largely governed by the NRC. The Iowa legislature appears to have considered two study bills (House Study Bill 555 and Senate Study Bill 3075) which would designate modular nuclear as an alternative energy production facility in Iowa. For more information, there is a January 25, 2024 article written by Wally Taylor entitled “Iowa Utilities bill includes a good idea – and a lost cause” <https://www.bleedingheartland.com/2024/01/25/iowa-utilities-board-bill-includes-a-good-idea-and-a-lost-cause/>

ANNOTATED BIBLIOGRAPHY

Baranwal, R. (2019, October 16). New DOE and NRC Agreement Will Lead to Faster Deployment and Licensing of U.S. Nuclear. U.S. Department of Energy. Retrieved from <https://www.energy.gov/ne/articles/new-doe-and-nrc-agreement-will-lead-faster-deployment-and-licensing-us-nuclear>

- The U.S. Department of Energy and the NRC are collaborating to accelerate the deployment of advanced nuclear technologies. This partnership will streamline the licensing process, provide information sharing, and enable faster commercialization of these technologies.

Endesa. (2022, January 18). Nuclear Power. Endesa. Retrieved from <https://www.endesa.com/en/the-e-face/power-plants/nuclear-power>

- The article aims to clarify nuclear energy, its generation, and its role in energy production, particularly in Spain. It seeks to provide an informative overview for understanding nuclear energy's implications, especially in land use planning for county zoning ordinances.

Galindo, Andrea. (2022, November 15). What is Nuclear Energy? The Science of Nuclear Power. International Atomic Energy Agency. Retrieved from <https://www.iaea.org/newscenter/news/what-is-nuclear-energy-the-science-of-nuclear-power>

- Nuclear energy, derived from nuclear fission, is harnessed in power plants to generate electricity. The process involves splitting uranium atoms, managing radioactive waste, and adhering to international safety standards set by the IAEA.

Iginia, Martina. (2023, January 28). The Advantages and Disadvantages of Nuclear Energy. Earth.org. Retrieved from <https://earth.org/the-advantages-and-disadvantages-of-nuclear-energy/>

- Educates readers on nuclear energy's environmental, economic, and safety implications. This information is crucial for zoning and land use policies.

Just Energy. (2023, August 17). Pros and Cons of Nuclear Energy: Safety, Cost, Efficiency. Retrieved from <https://justenergy.com/blog/pros-and-cons-of-nuclear-energy-safety-cost-efficiency/>

- Nuclear energy offers carbon-neutral power and significant energy output, but risks include accidents, waste disposal, and limited resources. Technological advancements are crucial for improving safety and efficiency.

Kanost, Taylor & Lawrence, Brandon. (2024, January 12). Nuclear Energy in Iowa: Future Developments with MidAmerican. We Are Iowa. Retrieved from <https://www.weareiowa.com/article/tech/science/climate-change/nuclear-energy-in-iowa-future-developments-midamerican/524-aaed2ac4-7c3b-406a-a84b-c6e356b181ee>

- MidAmerican Energy's Wind PRIME project explores nuclear energy, specifically small modular reactors (SMRs), to achieve net-zero emissions. While SMRs offer potential benefits, safety, cost, and waste management concerns remain.

Let's Talk Science. (2019, January 23). What Are the Pros and Cons of Nuclear Energy?. Retrieved from <https://letstalkscience.ca/educational-resources/stem-in-context/what-are-pros-and-cons-nuclear-energy>

- Nuclear energy has both advantages and disadvantages. While it offers safety and reduces air pollution, concerns remain about nuclear weapons proliferation, waste management, and potential accidents.

Liou, Joanne. (2023, September 13). What are Small Modular Reactors (SMRs)? International Atomic Energy Agency. Retrieved from <https://www.iaea.org/newscenter/news/what-are-small-modular-reactors-smrs>

- Small Modular Reactors (SMRs) are compact, factory-built nuclear reactors with a power capacity of up to 300 MW(e). They offer advantages like flexible siting, cost-effectiveness, and enhanced safety, making them suitable for various applications and locations.

Lumley, Graham. (2024, September). Pros and Cons of Nuclear Energy. BKV Energy Retrieved from <https://bkvenergy.com/learning-center/nuclear-energy-pros-and-cons/>

- Nuclear energy offers low emissions and high efficiency but faces challenges like accidents, waste management, and high costs. While it can reduce fossil fuel dependency, safety, proliferation, and long-term viability concerns remain.

Mathis, Joel. (2023, May 3). The Pros and Cons of Nuclear Power. The Week. Retrieved from <https://theweek.com/climate-change/1013907/the-pros-and-cons-of-nuclear-power>

- Nuclear power is a double-edged sword, offering emissions-free energy and energy security but posing challenges like waste management, high costs, and safety risks.

Moses, Marta. (2020, July 28). What are the Advantages of Nuclear Energy? EDF Energy. Retrieved from <https://www.edfenergy.com/energywise/what-are-advantages-nuclear-energy>

- Nuclear energy is a low-carbon, reliable, and efficient solution. It provides a stable power supply, is highly efficient, and has a long operational life.

National Geographic. (2020, May 15). Nuclear Energy. Retrieved from <https://education.nationalgeographic.org/resource/nuclear-energy/>

- Nuclear energy, derived from splitting atoms, is harnessed in reactors to generate electricity. While clean and renewable, it requires careful handling of radioactive waste.

Nuclear Regulatory Commission. (n.d.). Backgrounder on Nuclear Power Plant Licensing Process. Retrieved from <https://www.nrc.gov/reading-rm/doc-collections/fact-sheets/licensing-process-fs.html>

- The Nuclear Regulatory Commission (NRC) oversees the licensing process for nuclear power plants in the United States, which involves a two-step process, combined license, early site permits, and design certification. The NRC ensures compliance with regulations for public health, safety, and environmental protection throughout the plant's lifetime.

Nuclear Regulatory Commission. (n.d.). Office of Nuclear Material Safety and Safeguards. Retrieved from <https://scp.nrc.gov/>

- The Office of Nuclear Material Safety and Safeguards (NMSS) within the Nuclear Regulatory Commission (NRC) manages communication and relationships with various government entities. NMSS also oversees key programs like the Agreement State Program and Tribal Liaison Program, providing resources and support.

Rhodes, Richard. (2018, July 19). Why Nuclear Power Must Be Part of the Energy Solution: Environmentalists and Climate. Yale Environment 360. Retrieved from <https://e360.yale.edu/features/why-nuclear-power-must-be-part-of-the-energy-solution-environmentalists-climate>

- Nuclear power, with its low carbon emissions and high capacity factor, is a valuable solution to climate change, despite concerns about accidents and waste.

Smith, Jaime. (n.d.). Nuclear Energy Pros and Cons. Solar Reviews. Edited by Catherine Lane. Retrieved from <https://www.solarreviews.com/blog/nuclear-energy-pros-and-cons>

- Nuclear energy offers low-cost, reliable power with zero-carbon emissions, but it comes with environmental concerns, water usage, and the risk of accidents.

The Conversation. (2021, December 21). How to Make Up Your Mind About the Pros and Cons of Nuclear Power. Retrieved from <https://theconversation.com/how-to-make-up-your-mind-about-the-pros-and-cons-of-nuclear-power-172474>

- Nuclear power offers low carbon emissions and reliable energy, but concerns remain about accidents, waste disposal, and high initial costs.

Unwin, Jack. (2019, May 28). Nuclear Power: Pros and Cons. Power Technology. Retrieved from <https://www.power-technology.com/features/nuclear-power-pros-cons/>

- Nuclear power offers low carbon emissions and reliable energy, but risks nuclear accidents and waste disposal. High initial costs and long-term storage challenges must be considered.

U.S. Department of Energy. (2024, June 11). Advantages and Challenges of Nuclear Energy. Retrieved from <https://www.energy.gov/ne/articles/advantages-and-challenges-nuclear-energy>

- Nuclear energy is a clean and reliable source of power, but faces challenges such as public perception, used fuel management, and high construction and operating costs.

U.S. Department of Energy. (2024, July 10). Newly Signed Bill Will Boost Nuclear Reactor Deployment in the United States. Retrieved from <https://www.energy.gov/ne/articles/newly-signed-bill-will-boost-nuclear-reactor-deployment-united-states#:~:text=President%20Biden%20signed%20the%20Fire,t%20seen%20since%20the%201970s.>

- The ADVANCE Act, part of the Fire Grants and Safety Act, aims to revitalize the U.S. nuclear power sector by accelerating reactor deployment, supporting innovation, and ensuring a secure, clean energy future.

U.S. Department of Energy. (n.d). What are Small Modular Reactors (SMRs)?. Retrieved from <https://www.energy.gov/ne/advanced-small-modular-reactors-smrs>

- Advanced Small Modular Reactors (SMRs) offer versatility, safety, and economic benefits, with government support and funding opportunities for their development.

U.S. Department of Energy. (2024, December 3). What is High Assay Low Enriched Uranium (HALEU)?. Retrieved from <https://www.energy.gov/ne/articles/what-high-assay-low-enriched-uranium-haleu>

- High-Assay Low-Enriched Uranium (HALEU) is essential for advanced nuclear reactors, and the DOE is exploring production methods to meet the growing domestic demand. The Piketon Demonstration Project and HALEU Availability Program aim to ensure a domestic supply chain for HALEU.

U.S. Department of Energy. (2024, May 23). NRC Dockets Construction Permit Application for TerraPower's Sodium Reactor. Retrieved from <https://www.energy.gov/ne/articles/nrc-dockets-construction-permit-application-terrapowers-sodium-reactor>

- The NRC accepted TerraPower's application for a sodium-cooled fast reactor in Wyoming, marking the first time in over 40 years. The project aims to demonstrate advanced reactor technology and support clean energy.

U.S. Energy Information Administration. (n.d.). Nuclear explained. Nuclear power and the environment. U.S. Energy Information Administration. Retrieved from <https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php>

- Nuclear power plants in the U.S. have robust safety measures and containment structures. While nuclear power generation is low-emission, it produces radioactive waste requiring strict management and disposal.

U.S. Energy Information Administration. (2022, November 22). Nuclear Power and the Environment. Retrieved from <https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php>

- Nuclear power plants in the U.S. have safety measures and produce low carbon emissions, but concerns remain about radioactive waste and the lack of a permanent disposal facility.

White House. (2024, May 29). Fact Sheet: Biden-Harris Administration Announces New Steps to Bolster Domestic Nuclear Industry and Advance America's Clean Energy Future. Retrieved from <https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/29/fact-sheet-biden-harris-administration-announces-new-steps-to-bolster-domestic-nuclear-industry-and-advance-americas-clean-energy-future/>

- The Biden-Harris Administration announced initiatives to strengthen the domestic nuclear industry, reduce reliance on Russian uranium, and advance clean energy. These efforts aim to support a carbon-free electricity sector by 2035.

World Nuclear Association. (2021, March 16). Economics of Nuclear Power. Retrieved from <https://world-nuclear.org/information-library/economic-aspects/economics-of-nuclear-power>


- Nuclear power is cost-competitive, especially with low fuel costs and long-term operation, despite high capital costs. Government support is crucial for financing nuclear power projects in deregulated markets.

X-Energy. (2023, July 10). The Advantages of Nuclear Energy. Retrieved from <https://x-energy.com/blog-all/investing-in-our-planet-earth-day-and-beyond-2sz9p>

- Nuclear energy is highlighted as a clean, safe, and reliable solution. Advanced nuclear technologies, like small modular reactors, offer benefits such as reduced water usage, enhanced safety, and cost-effectiveness.

STAKEHOLDER COMMENTS

Stakeholders including other jurisdictions, government agencies, utilities, and organizations have been contacted and have been requested to comment on July 26, 2024, December 4, 2024, and January 3, 2025. The comments received are provided for review below.

 **WOODBURY COUNTY COMMUNITY & ECONOMIC DEVELOPMENT**
 620 Douglas St. Sixth Floor, Sioux City, IA 51101 | Phone: 712.279.6609 | Fax: 712.279.6530 | Web: woodburycountyia.gov
 Daniel J. Priestley, MPA - Zoning Coordinator | dpriestley@woodburycountyia.gov
 Dawn Norton - Senior Clerk | dnorton@woodburycountyia.gov

July 26, 2024

Dear Woodbury County Stakeholder(s):

The Woodbury County Zoning Commission has been tasked to explore the addition of nuclear energy including modular nuclear facilities as a potential land use to the Woodbury County Zoning Ordinance.

Currently, we are requesting your insights, perspective, and input on this matter. Your participation will play a crucial role in shaping the future zoning regulations pertaining to the potential siting of nuclear energy plants in our community. Specifically, we are seeking your comments and recommendations regarding the following aspects:

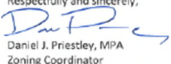
- Appropriate Locations / Zoning District Designations:**
 - Where do you believe nuclear energy facilities, including modular nuclear reactors, could be appropriately sited within the unincorporated areas of Woodbury County?
 - Which zoning districts do you think would be most suitable for accommodating nuclear energy facilities (General Industrial, Agricultural Preservation, etc.)? See map included.
 - Are there any specific considerations or criteria we should prioritize in these areas?
- Impact Assessment:**
 - What potential impacts (economic, environmental, social) do you foresee with the introduction of nuclear energy facilities in our community?
- Regulatory Framework:**
 - Are there any specific regulatory frameworks or best practices from other jurisdictions that you believe we should consider when updating our zoning ordinance to include nuclear energy?

Your perspective is highly valued in helping us make informed decisions that reflect the interests and concerns of all Woodbury County stakeholders involved. We aim to ensure that any changes to our zoning ordinance are comprehensive, inclusive, and aligned with both community needs and regulatory standards.

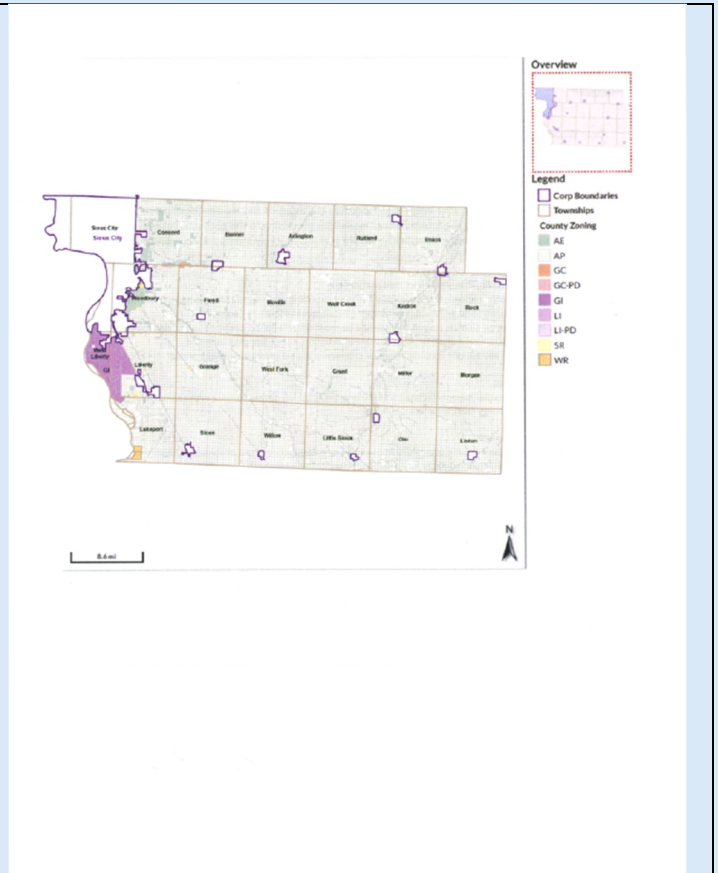
Please provide your initial feedback by **August 23, 2024 before 10:00 AM**. You can send your response to dpriestley@woodburycountyia.gov, **Woodbury County Planning and Zoning, 620 Douglas St., Sixth Floor, Sioux City, IA 51101** or call **712-279-6609** to discuss this matter further.


The Woodbury County Zoning Commission is in the introductory stage of this process. There will be an information / discussion agenda item at the next public meeting on **Monday, August 26 at 5:00 PM** at the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA, basement meeting area. Subsequently, public hearings and work sessions will be scheduled and announced at a future date.

Thank you in advance for your time and contribution to this important investigation. We look forward to hearing from you.

Respectfully and sincerely,

 Daniel J. Priestley, MPA
 Zoning Coordinator

Enclosure: Woodbury County Zoning Map



 **WOODBURY COUNTY COMMUNITY & ECONOMIC DEVELOPMENT**
 620 Douglas St. Sixth Floor, Sioux City, IA 51101 | Phone: 712.279.6609 | Fax: 712.279.6530 | Web: woodburycountyia.gov
 Daniel J. Priestley, MPA - Zoning Coordinator | dpriestley@woodburycountyia.gov
 Dawn Norton - Senior Clerk | dnorton@woodburycountyia.gov

December 4, 2024

Dear Woodbury County Stakeholder(s):

The Woodbury County Zoning Commission continues its study of potentially adding nuclear energy facilities, including modular nuclear technology, as potential land uses in the Woodbury County Zoning Ordinance.

As part of this ongoing effort, we are again seeking your insights, perspectives, and input on this matter. Your involvement remains vital to shaping zoning regulations that thoughtfully consider the potential siting of nuclear energy facilities within our community. Specifically, we welcome your comments and recommendations regarding the following:

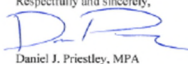
- Appropriate Locations / Zoning District Designations (see enclosed map)**
 - Where do you believe nuclear energy facilities, including modular nuclear reactors, could be appropriately located within the unincorporated areas of Woodbury County?
 - Which zoning districts (e.g., General Industrial, Agricultural Preservation) would you consider most suitable for such facilities? Please reference the enclosed map.
 - Are there particular considerations or criteria we should prioritize for these areas?
- Impact Assessment**
 - What economic, environmental, or social impacts do you anticipate with the introduction of nuclear energy facilities in our community?
- Regulatory Framework**
 - Are there regulatory frameworks, examples, or best practices from other jurisdictions you believe we should examine when updating our zoning ordinance?

We highly value your input and seek to ensure any changes to our zoning ordinance are inclusive, comprehensive, and aligned with community needs and regulatory requirements.

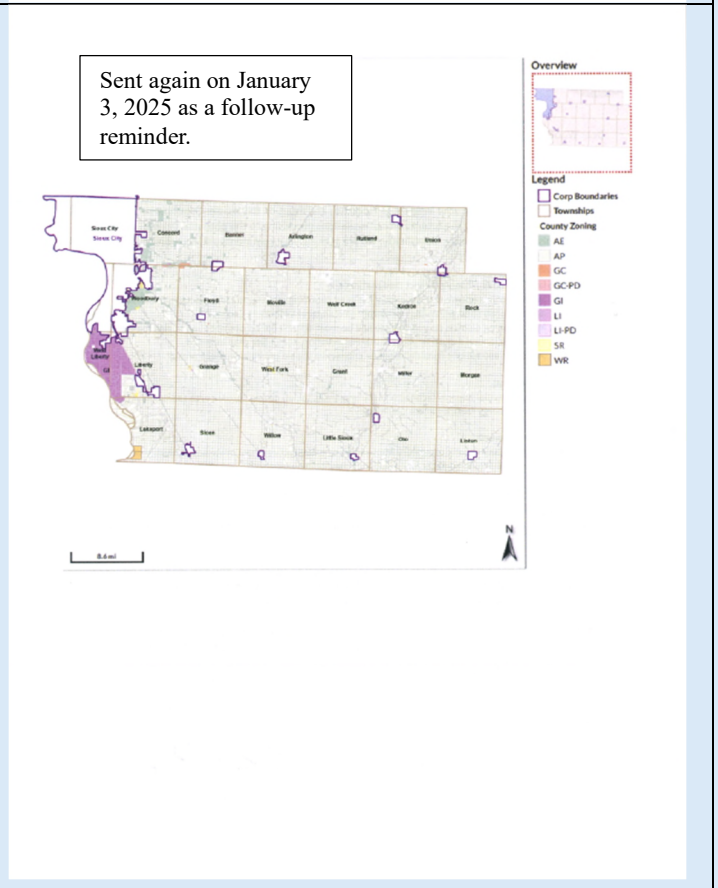
Please provide your feedback by **January 20, 2025, at 10:00 AM**. You may send your response via email to dpriestley@woodburycountyia.gov, by mail to **Woodbury County Planning and Zoning, 620 Douglas St., Sixth Floor, Sioux City, IA 51101**, or call **712-279-6609** to discuss this matter further.

The Zoning Commission will continue this exploration at public hearings starting on **January 27, 2025, at 5:00 PM** in the **basement of the Woodbury County Courthouse, 620 Douglas Street, Sioux City, IA**.

Thank you for your continued engagement in this important matter. We look forward to hearing from you and incorporating your perspectives into this decision-making process.

Respectfully and sincerely,

 Daniel J. Priestley, MPA
 Zoning Coordinator

Enclosure



PUBLIC COMMENTS

From: Wendi Hess
Sent: Wednesday, August 7, 2024 9:22 AM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

Follow Up Flag: Follow up
Flag Status: Flagged

Dan: In regards to the 911 Dispatch Center- having this type of facility in our response area would potentially create a need for additional training for our staff members along with participating in regular exercises and training related to potential emergencies at the facility. For us that would become a budgetary item needing to add training funds to our annual budget for overtime, etc related to the additional training activity that would be necessary. I am not sure if there are any specific certifications that would be required by our staff.

Thanks,
Wendi

Wendi Hess
Communications Center Director/Accreditation Manager
Woodbury County Communications
PO Box 447
Sioux City, IA 51102
Office: 712-279-6268
whess@sioux-city.org

Aug 6 2024
Woodbury Co. Planning & Zoning
I would like to say NO
to Any Nuclear facilities in
Woodbury County. Nuclear Waste
And Malfunctions can be Catastrophic

Thank You

Jerry Holder
105 D Street
Sergeant Bluff IA 51054



From: Bob Scott
Sent: Monday, July 29, 2024 9:44 AM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

I am all for a nuke plant in the area south of town. I am also for wind energy and solar farms. The construction of a nuclear plant would be a boon to our local economy. Nuclear plants are so highly regulated that we should not have to do much locally.

From: Mark Nahra
Sent: Friday, July 26, 2024 4:11 PM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

Follow Up Flag: Follow up
Flag Status: Flagged

Dan,

I gave this some thought, but reserve the opportunity to add to these comments at a later date. See my preliminary thoughts in **red**.

Mark J. Nahra, P.E.
Woodbury County Engineer
759 E. Frontage Road
Moyville, IA 51039
Phone: 712-873-3215 or 712-279-6484
Fax: 712-873-3235
Email: mnahra@woodburycountyia.gov

From: Daniel Priestley <dpriestley@woodburycountyia.gov>
Sent: Friday, July 26, 2024 10:16 AM
To: Daniel Priestley <dpriestley@woodburycountyia.gov>
Subject: Comments Requested Nuclear Energy in Woodbury County, Iowa
Importance: High

Dear Woodbury County Stakeholder(s):

The Woodbury County Zoning Commission has been tasked to explore the addition of nuclear energy including modular nuclear technology as a potential land use to the Woodbury County Zoning Ordinance.

Currently, we are requesting your insights, perspective, and input on this matter. Your participation will play a crucial role in shaping the future zoning regulations pertaining to the potential siting of nuclear energy plants in our community. Specifically, we are seeking your comments and recommendations regarding the following aspects:

Appropriate Locations / Zoning District Designation(s):

- Where do you believe nuclear energy facilities, including modular nuclear reactors, could be appropriately sited within the unincorporated areas of Woodbury County? **I think the General industrial zoning areas are the best for these facilities with the exception of allowing such a facility to be located within a city's two mile jurisdictional area. Communities desiring to control their own power generation should be able to expand into the rural area from their current boundaries to their two mile jurisdictional limits. When we lived in Tipton, IA, we lived in a community with its own electric generation capacity. I don't feel the county ordinance should interfere with communities' efforts to be energy self-sufficient.**

- Which zoning districts do you think would be most suitable for accommodating nuclear energy facilities (General Industrial, Agricultural Preservation, etc.)? See map included. **General industrial plus portions of districts bordering cities as noted above.**
- Are there any specific considerations or criteria we should prioritize in these areas? **On site security should be a priority to prevent sabotage to nuclear generation plants. I am not sure what this looks like as I sit here today, but feel it should be noted as a consideration in developing site selection standards. Additional concerns may include items like standoff from existing/future housing, distances from water or wastewater treatment facilities, land drainage characteristics, offsets from highways and public properties.**

Impact Assessment:

- What potential impacts (economic, environmental, social) do you foresee with the introduction of nuclear energy facilities in our community? **Less costly, clean energy for county residents and our city dwellers. I don't see a downside to allowing nuclear to develop within the county. I think public perception of the safety of such plants will be a huge issue for entities seeking to develop nuclear power generation.**

Regulatory Framework:

- Are there any specific regulatory frameworks or best practices from other jurisdictions that you believe we should consider when updating our zoning ordinance to include nuclear energy? **Depending upon the size of the reactor and its construction needs, the county should require a Road agreement to assure restoration of county roads damaged by nuclear plant construction. The road agreement for wind generation can, and should be utilized, for nuclear plant construction to assure taxpayers aren't left holding the bag for energy plant construction.**

From: Meinen, Casey (MidAmerican) <Casey.Meinen@midamerican.com>
Sent: Friday, July 26, 2024 10:33 AM
To: Daniel Priestley
Subject: RE: [INTERNET] Comments Requested Nuclear Energy in Woodbury County, Iowa

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.**

Daniel,

I have forwarded this to company Management for their input.

Have a great weekend.

Casey Meinen
Lead, Electric Distribution Engineering
Casey.meinen@midamerican.com

Phone (712-233-4831)

MIDAMERICAN
 ENERGY COMPANY.

From: Bob Scott
Sent: Wednesday, December 4, 2024 4:04 PM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

Follow Up Flag: Follow up
Flag Status: Flagged

I am speaking for myself but I am in favor of a small nuke plant in the area around Neal power plants. I think the investment and the long term affect on rates is worth the risk for these low level type plants. And I have a question if we annex land into the city, your zoning laws regarding solar farms cannot apply to land in the city can they?

From: Bob Scott
Sent: Friday, January 3, 2025 10:47 AM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

Follow Up Flag: Follow up
Flag Status: Flagged

Not that the county will care what my opinion is but I would be supportive of a small nuke plant.

From: Diane Swoboda Peterson
Sent: Monday, January 6, 2025 9:12 AM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

Follow Up Flag: Follow up
Flag Status: Flagged

No comments

Diane Swoboda Peterson
Woodbury County Real Estate/Recorder Deputy
620 Douglas Street; Room 106
Sioux City, Iowa 51101
(712)279-6528

From: Kyle Gates
Sent: Thursday, January 16, 2025 3:33 PM
To: Daniel Priestley
Subject: RE: Comments Requested Nuclear Energy in Woodbury County, Iowa

I fully support Nuclear Energy in Woodbury County and would feel quite safe with a modern reactor next door.

Items that come to mind:

- Setbacks for perimeter security
- Returning land to previous state after future decommissioning
- Possible collocation with industries for use of low cost/free waste heat (fertilizer production for example)
- Grid resilience/redundancy via distributed locations near end users providing baseload power
- If a lower cost per kwh is attainable, there is a potential for economic development

ORDINANCE NO. _____

WOODBURY COUNTY, IOWA

AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO INCLUDE THE USE OF NUCLEAR ENERGY FACILITIES AS AN ENERGY OPTION IN WOODBURY COUNTY AND TO ALLOW FOR THE ESTABLISHMENT OF SUCH FACILITIES IN INDUSTRIAL ZONING AREAS.

WHEREAS, WOODBURY COUNTY IS COMMITTED TO SUPPORTING SUSTAINABLE AND RELIABLE ENERGY SOLUTIONS THAT ENSURE LONG-TERM ENVIRONMENTAL AND ECONOMIC BENEFITS FOR ITS RESIDENTS AND BUSINESSES; AND

WHEREAS, NUCLEAR ENERGY IS RECOGNIZED AS A EFFECTIVE METHOD OF PRODUCING BASELOAD ENERGY THAT IS CARBON-FREE AND CAPABLE OF MEETING THE GROWING DEMAND FOR CLEAN ENERGY IN BOTH RESIDENTIAL AND INDUSTRIAL SECTORS; AND

WHEREAS, ADVANCEMENTS IN NUCLEAR TECHNOLOGY, INCLUDING SMALL MODULAR REACTORS (SMRS) AND OTHER INNOVATIVE DESIGNS, PROVIDE A SAFER, MORE EFFICIENT, AND MORE FLEXIBLE OPTION FOR ENERGY GENERATION COMPARED TO TRADITIONAL NUCLEAR PLANTS, MAKING THEM A VIABLE ADDITION TO THE COUNTY'S ENERGY PORTFOLIO; AND

WHEREAS, THE COUNTY ACKNOWLEDGES THE POTENTIAL FOR ECONOMIC GROWTH THROUGH THE DEVELOPMENT OF NUCLEAR ENERGY FACILITIES, INCLUDING JOB CREATION, INCREASED INVESTMENT IN LOCAL INFRASTRUCTURE, AND A BROADENED TAX BASE; AND

WHEREAS, WOODBURY COUNTY SEEKS TO DIVERSIFY ITS ENERGY RESOURCES TO PROMOTE RESILIENCE, ENERGY INDEPENDENCE, AND STABILITY IN ENERGY PRICING FOR ITS RESIDENTS AND INDUSTRIES; AND

WHEREAS, THE SITING OF NUCLEAR ENERGY FACILITIES IN GENERAL INDUSTRIAL ZONING AREAS WILL ALLOW FOR BETTER LAND USE PLANNING BY UTILIZING SPACES ALREADY DESIGNATED FOR LARGE-SCALE INDUSTRIAL OPERATIONS, MINIMIZING POTENTIAL CONFLICTS WITH RESIDENTIAL OR AGRICULTURAL AREAS, AND ENSURING THE AVAILABILITY OF APPROPRIATE INFRASTRUCTURE TO SUPPORT SUCH FACILITIES; AND

WHEREAS, THE COUNTY IS COMMITTED TO ENSURING THAT ANY NUCLEAR ENERGY FACILITIES COMPLY WITH FEDERAL AND STATE SAFETY STANDARDS, AS WELL AS LOCAL REGULATIONS, TO PROTECT THE HEALTH, SAFETY, AND WELFARE OF THE PUBLIC AND THE ENVIRONMENT; AND

WHEREAS, THE PASSAGE OF THIS ORDINANCE WILL PROVIDE THE FRAMEWORK FOR THE REVIEW AND APPROVAL OF CONDITIONAL USE PERMITS FOR NUCLEAR ENERGY FACILITIES WITHIN INDUSTRIAL ZONES, ENSURING THAT EACH PROJECT IS CONSIDERED ON A CASE-BY-CASE BASIS WITH INPUT FROM THE COMMUNITY, REGULATORY BODIES, AND EXPERTS;

NOW, THEREFORE, BE IT RESOLVED BY THE WOODBURY COUNTY BOARD OF SUPERVISORS:

SUPPORT FOR NUCLEAR ENERGY: WOODBURY COUNTY AFFIRMS ITS SUPPORT FOR THE DEVELOPMENT OF NUCLEAR ENERGY FACILITIES AS PART OF ITS LONG-TERM ENERGY STRATEGY TO MEET CLEAN ENERGY GOALS AND FOSTER ECONOMIC GROWTH.

DESIGNATION OF GENERAL AND LIMITED INDUSTRIAL ZONES: THE COUNTY APPROVES THE AMENDMENT TO ITS ZONING ORDINANCE TO ALLOW NUCLEAR ENERGY FACILITIES AS A CONDITIONAL USE IN GENERAL AND LIMITED INDUSTRIAL ZONES, ENSURING THAT SUCH FACILITIES ARE APPROPRIATELY LOCATED WITHIN AREAS DESIGNED FOR INDUSTRIAL ACTIVITIES.

CONDITIONAL USE PERMIT PROCESS: THE COUNTY WILL ESTABLISH A TRANSPARENT AND RIGOROUS PROCESS FOR THE EVALUATION OF CONDITIONAL USE PERMITS FOR NUCLEAR ENERGY FACILITIES, WHICH WILL INCLUDE ENVIRONMENTAL ASSESSMENTS, SAFETY REVIEWS, AND PUBLIC HEARINGS TO ADDRESS ANY CONCERNS.

COMMITMENT TO SAFETY AND COMPLIANCE: THE COUNTY WILL ENSURE THAT ALL NUCLEAR ENERGY FACILITIES COMPLY WITH APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS, PARTICULARLY REGARDING SAFETY, ENVIRONMENTAL PROTECTION, AND EMERGENCY PREPAREDNESS.

PUBLIC ENGAGEMENT AND EDUCATION: THE COUNTY WILL WORK TO INFORM AND ENGAGE THE PUBLIC ON THE BENEFITS AND SAFETY MEASURES ASSOCIATED WITH NUCLEAR ENERGY, PROVIDING OPPORTUNITIES FOR COMMUNITY INPUT THROUGHOUT THE PROCESS.

NOW, THEREFORE, BE IT ENACTED BY THE BOARD OF SUPERVISORS OF WOODBURY COUNTY, IOWA THAT THE BELOW ZONING ORDINANCE LANGUAGE AMENDMENTS BE MADE:

Amendment #1:

On page 39: To add the following line-item use language within zoning ordinance Section 3.03.4 *Land Use Summary Table of Allowed Uses in each Zoning District* under the “Utilities” category:

“Nuclear Energy Facilities”. With placement of the letter “C” within the (Limited Industrial), and GI (General Industrial) zoning districts columns on the table related to this line-item use.

On page 104: To add the following definition, “Nuclear Facility” as definition 112 to Article 6. Definitions. Section 6.02: Definitions as “112. Nuclear Energy Facility” includes any facility designed for the generation of electricity or power through nuclear fission or fusion, as well as any associated storage or handling of nuclear materials and waste in compliance with federal and state regulatory requirements.”

THE WOODBURY COUNTY BOARD OF SUPERVISORS

Daniel Bittinger II, Chairman

Mark Nelson, Vice-Chairman

Kent Carper

Attest:

David Dietrich

Michelle Skaff, Woodbury County Auditor _____
Matthew Ung

Adoption Timeline:
Date of Public Hearing and First Reading _____
Date of Public Hearing and Second Reading _____
Date of Public Hearing and Third Reading _____
Date of Adoption _____
Published/Effective Date _____

POTENTIAL CONCEPT 2

ORDINANCE NO. _____

WOODBURY COUNTY, IOWA

AN ORDINANCE AMENDING THE TEXT OF THE WOODBURY COUNTY ZONING ORDINANCE TO INCLUDE THE USE OF NUCLEAR ENERGY FACILITIES AS AN ENERGY OPTION IN WOODBURY COUNTY AND TO ALLOW FOR THE ESTABLISHMENT OF SUCH FACILITIES IN INDUSTRIAL ZONING AREAS AND TO AMEND PORTIONS OF: THE TABLE OF CONTENTS; TO ADD ANEW SECTION ENTITLED SECTION 5.09: NUCLEAR ENERGY FACILITIES CONDITIONAL USE; AND TO INCLUDE THE RENUMBERING OF PAGE NUMBERS.

WHEREAS, WOODBURY COUNTY IS COMMITTED TO SUPPORTING SUSTAINABLE AND RELIABLE ENERGY SOLUTIONS THAT ENSURE LONG-TERM ENVIRONMENTAL AND ECONOMIC BENEFITS FOR ITS RESIDENTS AND BUSINESSES; AND

WHEREAS, NUCLEAR ENERGY IS RECOGNIZED AS A EFFECTIVE METHOD OF PRODUCING BASELOAD ENERGY THAT IS CARBON-FREE AND CAPABLE OF MEETING THE GROWING DEMAND FOR CLEAN ENERGY IN BOTH RESIDENTIAL AND INDUSTRIAL SECTORS; AND

WHEREAS, ADVANCEMENTS IN NUCLEAR TECHNOLOGY, INCLUDING SMALL MODULAR REACTORS (SMRS) AND OTHER INNOVATIVE DESIGNS, PROVIDE A SAFER, MORE EFFICIENT, AND MORE FLEXIBLE OPTION FOR ENERGY GENERATION COMPARED TO TRADITIONAL NUCLEAR PLANTS, MAKING THEM A VIABLE ADDITION TO THE COUNTY'S ENERGY PORTFOLIO; AND

WHEREAS, THE COUNTY ACKNOWLEDGES THE POTENTIAL FOR ECONOMIC GROWTH THROUGH THE DEVELOPMENT OF NUCLEAR ENERGY FACILITIES, INCLUDING JOB CREATION, INCREASED INVESTMENT IN LOCAL INFRASTRUCTURE, AND A BROADENED TAX BASE; AND

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WHEREAS, THE SITING OF NUCLEAR ENERGY FACILITIES IN GENERAL INDUSTRIAL ZONING AREAS WILL ALLOW FOR BETTER LAND USE PLANNING BY UTILIZING SPACES ALREADY DESIGNATED FOR LARGE-SCALE INDUSTRIAL OPERATIONS, MINIMIZING POTENTIAL CONFLICTS WITH RESIDENTIAL OR AGRICULTURAL AREAS, AND ENSURING THE AVAILABILITY OF APPROPRIATE INFRASTRUCTURE TO SUPPORT SUCH FACILITIES; AND

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WHEREAS, THE PASSAGE OF THIS ORDINANCE WILL PROVIDE THE FRAMEWORK FOR THE REVIEW AND APPROVAL OF CONDITIONAL USE PERMITS FOR NUCLEAR ENERGY FACILITIES WITHIN INDUSTRIAL ZONES, ENSURING THAT EACH PROJECT IS CONSIDERED ON A CASE-BY-CASE BASIS WITH INPUT FROM THE COMMUNITY, REGULATORY BODIES, AND EXPERTS;

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Amendment #2:

In the Table of Contents, on page iii: To add “Section 5.09: Nuclear Energy Facilities Conditional Use” under the Article 5, Supplemental Requirements category(PAGE NUMBER).

Amendment #3:

Beginning on page 92, to re-designate or re-number the definitions in Article 6. Definitions. Section 6.02: Definitions 112 through 191. The purpose is to add “Nuclear Energy Facilities” as definition 112 thereby pushing the existing definitions 112 through 191 ahead one position with Article 6. Definitions. Section 6.02 now including definitions 1 through 192.

Beginning on page 82, to amend Article 6. Definitions by moving the start page from page ____ to page ____.

Amendment #4:

Beginning on Page 97, to add the following section to be known as “Section 5.09: Nuclear Energy Facilities Conditional Use.”

Section 5.09: Nuclear Energy Facilities Conditional Use

1. **Purpose.** This section is established to regulate the siting, development, and operation of nuclear energy facilities, including but not limited to nuclear power plants and small modular reactors (SMRs), within Woodbury County. The intent is to ensure public health, safety, environmental protection, and compliance with federal and state regulations, while facilitating orderly land use and development.
2. **Definition.** For the purposes of this ordinance, a “Nuclear Energy Facility” includes any facility designed for the generation of electricity or power through nuclear fission or fusion, as well as any associated storage or handling of nuclear materials and waste in compliance with federal and state regulatory requirements.
3. **General Requirements for Conditional Use Permit (CUP) Approval**
 - A. **Compliance with Federal and State Regulations**
 - (1) All nuclear energy facilities must comply with regulations set forth by the Nuclear Regulatory Commission (NRC), the Environmental Protection Agency (EPA), and the Iowa Department of Natural Resources (IDNR), including but not limited to licensing, environmental impact assessments, waste management, and operational safety.
 - (2) Applicants must provide evidence of approval or pending approval from the NRC, including required licensing documentation for the proposed facility.

B. Environmental Impact

- (1) Applicants shall conduct a comprehensive Environmental Impact Statement (EIS) in accordance with the National Environmental Policy Act (NEPA) and state-level environmental regulations, demonstrating minimal adverse effects on air and water quality, soil, wildlife habitats, and surrounding land uses.
- (2) The applicant must submit a mitigation plan outlining how environmental impacts will be managed and minimized, including measures for water usage, waste containment, and radiation control.

C. Safety, Security, and Emergency Response

- (1) A detailed Emergency Response Plan must be submitted, reviewed, and approved by Woodbury County's Emergency Management Department in coordination with state and federal authorities. This plan must address potential radiation leaks, natural disasters, fire, and other hazards.
- (2) The facility shall include 24/7 security, perimeter fencing, surveillance systems, and controlled access points as required by NRC guidelines for nuclear facilities.
- (3) The facility operator must provide ongoing safety training for county emergency services personnel and coordinate regular emergency response drills.

D. Nuclear Waste Storage and Transportation

- (1) The storage and transportation of nuclear materials and waste must be in full compliance with federal standards outlined by the NRC and Department of Transportation (DOT), including regulations regarding the safe handling, containment, and transportation of radioactive materials.
- (2) A long-term waste management plan shall be submitted as part of the CUP application, detailing storage solutions, transportation routes, and potential impacts on local infrastructure and communities.

E. Decommissioning Plan

- (1) A detailed decommissioning plan must be submitted, outlining procedures for safely shutting down the facility at the end of its operational life. The plan shall include financial assurance mechanisms (such as bonds or escrow accounts) to ensure the proper removal of radioactive materials and the restoration of the site to its original condition.

4. Conditions for Approval

- A. The County may impose additional conditions, restrictions, or safeguards to ensure compatibility with surrounding land uses and protect the health, safety, and welfare of the public.
- B. Approval of the CUP may be conditioned upon periodic review by the County to verify ongoing compliance with applicable regulations and conditions of the permit.

5. Revocation of Permit

- A. The conditional use permit may be revoked by the County if the facility is found to be in violation of any applicable federal, state, or local regulation, or if any conditions of approval are not met. The County reserves the right to impose corrective actions or suspend operations as necessary to protect public welfare.

THE WOODBURY COUNTY BOARD OF SUPERVISORS

Daniel Bittinger II, Chairman

Mark Nelson, Vice-Chairman

Kent Carper

Attest:

David Dietrich

Michelle Skaff, Woodbury County Auditor _____
Matthew Ung

Adoption Timeline:
Date of Public Hearing and First Reading _____
Date of Public Hearing and Second Reading _____
Date of Public Hearing and Third Reading _____
Date of Adoption _____
Published/Effective Date _____

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

Date: 6/27/24 Weekly Agenda Date: 7/2/24

ELECTED OFFICIAL / DEPARTMENT HEAD / CITIZEN: Supervisor Keith Radig

WORDING FOR AGENDA ITEM:

Motion to direct the Zoning Commission to look at the zoning of nuclear energy.

ACTION REQUIRED:

- Approve Ordinance Approve Resolution Approve Motion
Public Hearing Other: Informational Attachments

EXECUTIVE SUMMARY:

This directs the Zoning Commission to look at the zoning of nuclear energy as a potential energy option in Woodbury County.

BACKGROUND:

The Zoning Commission shall explore the zoning potential of nuclear energy as a potential option.

FINANCIAL IMPACT:

0

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:

Approve the motion.

ACTION REQUIRED / PROPOSED MOTION:

Motion to direct the Zoning Commission to look at the zoning of nuclear energy.

Approved by Board of Supervisors April 5, 2016.

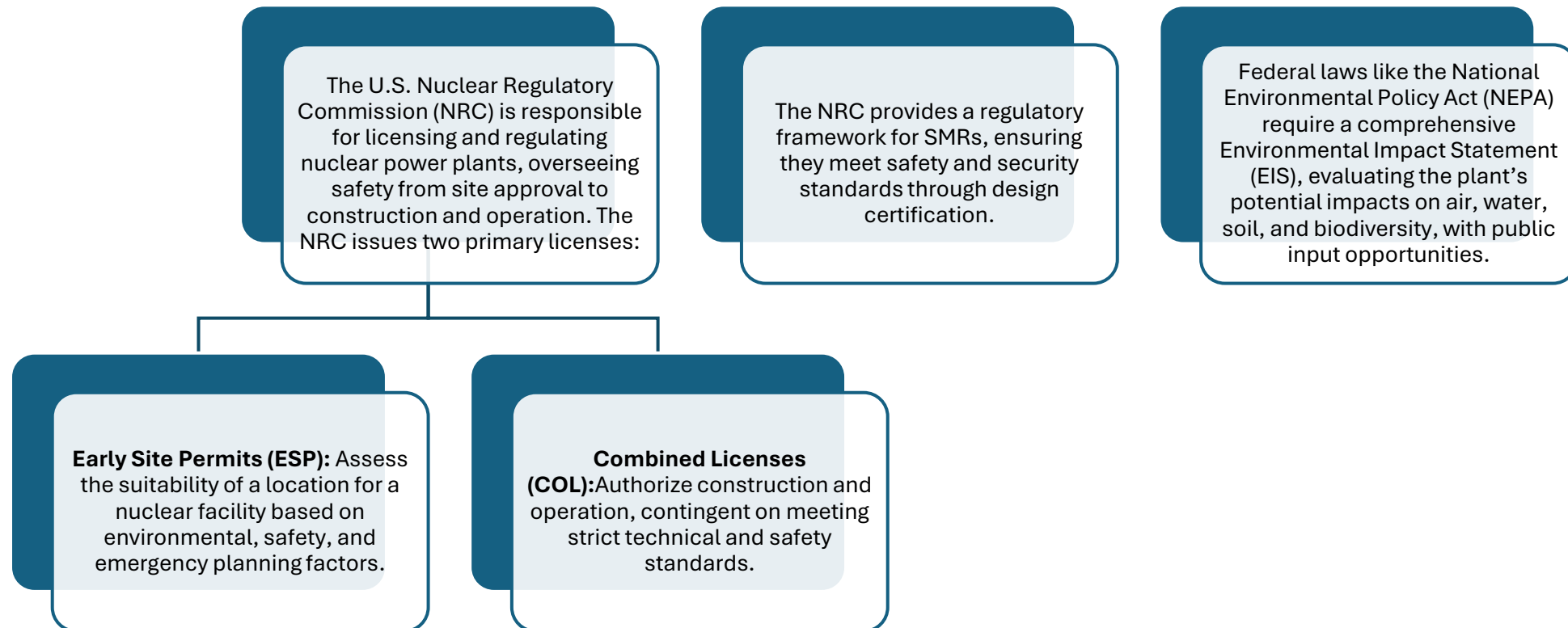
LINKS TO ARTICLES

- Baranwal, R. New DOE and NRC Agreement Will Lead to Faster Deployment and Licensing of U.S. Nuclear. <https://www.energy.gov/ne/articles/new-doe-and-nrc-agreement-will-lead-faster-deployment-and-licensing-us-nuclear>
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- Let's Talk Science. What Are the Pros and Cons of Nuclear Energy? <https://letstalkscience.ca/educational-resources/stem-in-context/what-are-pros-and-cons-nuclear-energy>
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- Unwin, Jack. Nuclear Power: Pros and Cons. <https://www.power-technology.com/features/nuclear-power-pros-cons/>
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- U.S. Department of Energy. What are Small Modular Reactors (SMRs)? <https://www.energy.gov/ne/advanced-small-modular-reactors-smrs>
- U.S. Department of Energy. What is High Assay Low Enriched Uranium (HALEU)? <https://www.energy.gov/ne/articles/what-high-assay-low-enriched-uranium-haleu>
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- U.S. Energy Information Administration. Nuclear Power and the Environment. <https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php>
- White House. Fact Sheet: Biden-Harris Administration Announces New Steps to Bolster Domestic Nuclear Industry and Advance America's Clean Energy Future. <https://www.whitehouse.gov/briefing-room/statements-releases/2024/05/29/fact-sheet-biden-harris-administration-announces-new-steps-to-bolster-domestic-nuclear-industry-and-advance-americas-clean-energy-future/>
- World Nuclear Association. Economics of Nuclear Power. <https://world-nuclear.org/information-library/economic-aspects/economics-of-nuclear-power>
- X-Energy. The Advantages of Nuclear Energy. <https://x-energy.com/blog-all/investing-in-our-planet-earth-day-and-beyond-2sz9p>

The Role of Counties in Permitting Nuclear Power Plants

- Nuclear power plants, including small modular reactors (SMRs), offer a significant advancement in low-carbon, reliable energy.
- Permitting these facilities involves navigating complex federal, state, and local regulations, with counties playing a key role in land use, zoning, and addressing community concerns.
- This presentation explores the permitting process, focusing on the role of counties in establishing nuclear power facilities.

Federal Regulations: Setting the Framework



State Regulations: Bridging Federal and Local Oversight

State governments serve as intermediaries between federal mandates and local implementation, regulating the siting and permitting of nuclear plants through Public Utilities Commissions (PUCs) or similar agencies. They also handle energy planning, grid integration, and economic considerations.

In Iowa, nuclear plants must meet siting requirements set by the Iowa Utilities Board (IUB), including demonstrating need, economic viability, and alignment with state energy goals. States also coordinate with environmental agencies to ensure compliance with water and air quality standards.

States may have specific frameworks for SMRs, which could integrate into distributed energy systems or replace retiring fossil fuel plants. Legislatures often decide if nuclear facilities qualify for renewable energy credits or incentives, impacting project viability.

County Roles: Zoning and Community Engagement

Counties implement regulations and serve as the main liaison between project developers and the community. Their role in permitting nuclear power plants includes:

- **Land Use and Zoning**
 - Counties set zoning regulations to determine suitable locations for nuclear facilities, ensuring compatibility with existing uses, proximity to residences, and alignment with local development plans. For example, in agricultural zones, conditional use permits (CUPs) may be required.
- **Environmental and Safety Review**
 - Counties conduct supplementary environmental reviews to address local concerns, such as groundwater use, emergency response, and transportation impacts.
- **Public Hearings and Community Input**
 - Counties hold public hearings to ensure transparency and address concerns like property values, radiation risks, and waste storage.
- **Emergency Preparedness**
 - Local governments work with state and federal agencies to develop emergency response plans, ensuring local services are trained to handle nuclear-related incidents.

The Unique Role of Counties in Small Modular Reactor Deployment



SMRs provide new opportunities for counties, as their smaller size allows deployment on existing industrial sites, reducing land-use conflicts. Their reduced size and safety features, like passive cooling systems, may make them more compatible with local zoning requirements.



Counties also play a role in addressing the integration of SMRs with other local infrastructure, such as district heating systems or microgrids, further tailoring the projects to meet local needs.

Challenges and Opportunities for Local Counties

Counties play a key role in permitting but face challenges like limited expertise in nuclear technology and potential conflicts with state or federal mandates. Training local officials and promoting interagency collaboration are crucial to overcoming these obstacles.

Counties can also attract investment by fostering a favorable regulatory environment. By engaging with developers, streamlining permitting, and aligning policies with state and federal goals, they can position themselves as leaders in clean energy development.

Conclusion

- The permitting of nuclear power plants, including SMRs, is a multi-jurisdictional effort requiring coordination across federal, state, and local levels.
- Counties play an indispensable role in this process by addressing land use, engaging with the community, and ensuring that local concerns are considered.
- As nuclear technology evolves, counties must adapt their regulations and processes to balance safety, economic development, and environmental stewardship, ensuring that these projects benefit their communities while contributing to national energy goals.