



# **Wind Farm Regulations 2021**

## **Public Hearing Presentation**

4/29/2021



Welcome & Thank you

Please follow all guidance from the Boone County Public Health Order and Southern Boone R-1 School District regarding the COVID-19 pandemic.

We ask that all persons wear a face mask and maintain 6-feet of physical distance from other parties when possible.

Chairman Opening Statement



# Purpose

The intent of the regulations being discussed tonight is to provide a fair process for the County to evaluate and decide, whether a proposed windfarm should be allowed in Boone County and the manner in which the windfarm would be developed and operated. The process includes two separate decision-making processes.

The **first step** will be to decide whether to create a Wind Energy Conversion Overlay District (WECOD). The process to establish a WECOD in Boone County is **extensive** and requires the applicant to obtain the consent of a super-majority of property owners within the proposed WECOD **and** demonstrate to the Planning and Zoning Commission and the County Commission that the proposal meets or exceeds local standards. The Planning and Zoning Commission and the County Commission will each conduct at least one public hearing.

The **second step** occurs only after a WECOD is established. In this step, the proponent will have to obtain a Conditional Use Permit (CUP) from the County Commission for each wind turbine. Public hearings are required at this step too. Only after the CUP is issued, can the County issue a building permit for a wind turbine.



# Process overview

Express interest in establishing WECS-C (Commercial Wind Farm)

**Step 1:** Apply for Wind Energy Conversion Overlay District (WECOD)

**Step 2:** Apply for Conditional Use Permits for towers and accessory structures within WECOD

Applicant must meet **all** criteria for approval, pay fees, and meet established timeline



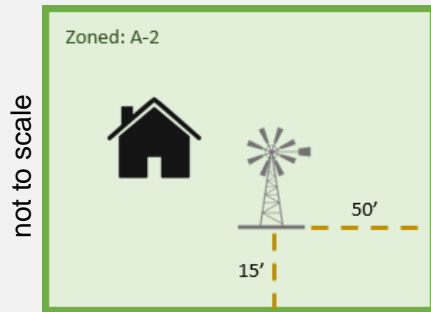
# Clarification

## Existing Regulations

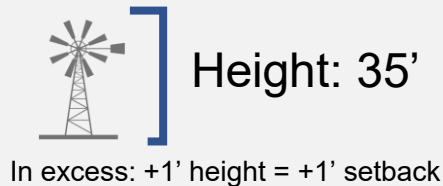
### WECS-S Small Residential Turbines

On-site **personal** use

Location: Agriculture or Residential Zoned



Setback: 6' - 50'



Neighbor support not necessary

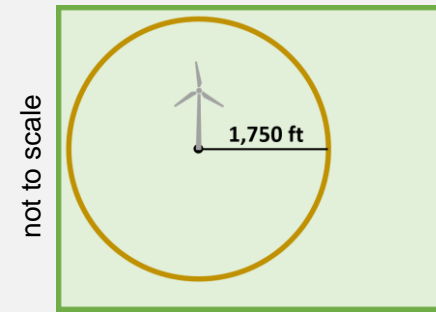
CUP required **IF** height 100' – 175'  
Mailed notice to all property owners within 1000'

## Proposed Regulations

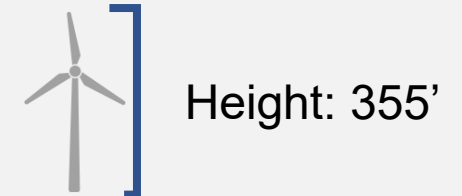
### WECS-C Commercial Wind Turbines

Off-site **commercial** use

Location: Agriculture or Industrial Zoned



Setback: 1750'



Neighbors would need to support

**WECOD** required  
CUP required



# WECOD (Wind Energy Conversion Overlay District)

WECOD is composed of two parts:

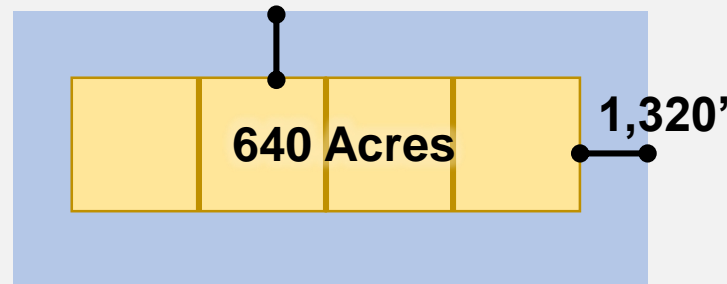
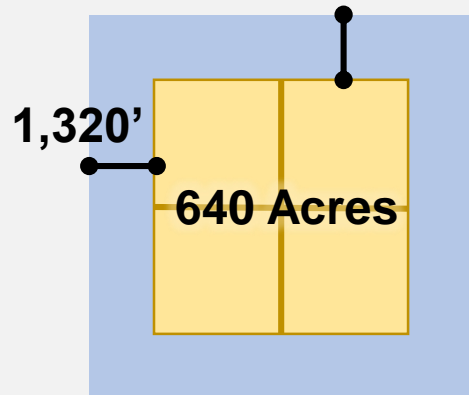
- Primary District
- Buffer Area

## Primary District:

This is the area wind turbines may be located in. It's based on location of property proposing to establish a Wind Farm. The minimum size is **640 Acres** (4 contiguous Quarter-Sections)

## Buffer Area:

**NO** wind turbines may be constructed here. The buffer extends outward from the perimeter of the Primary District to **1,320 feet** (1/4 mile)

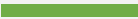



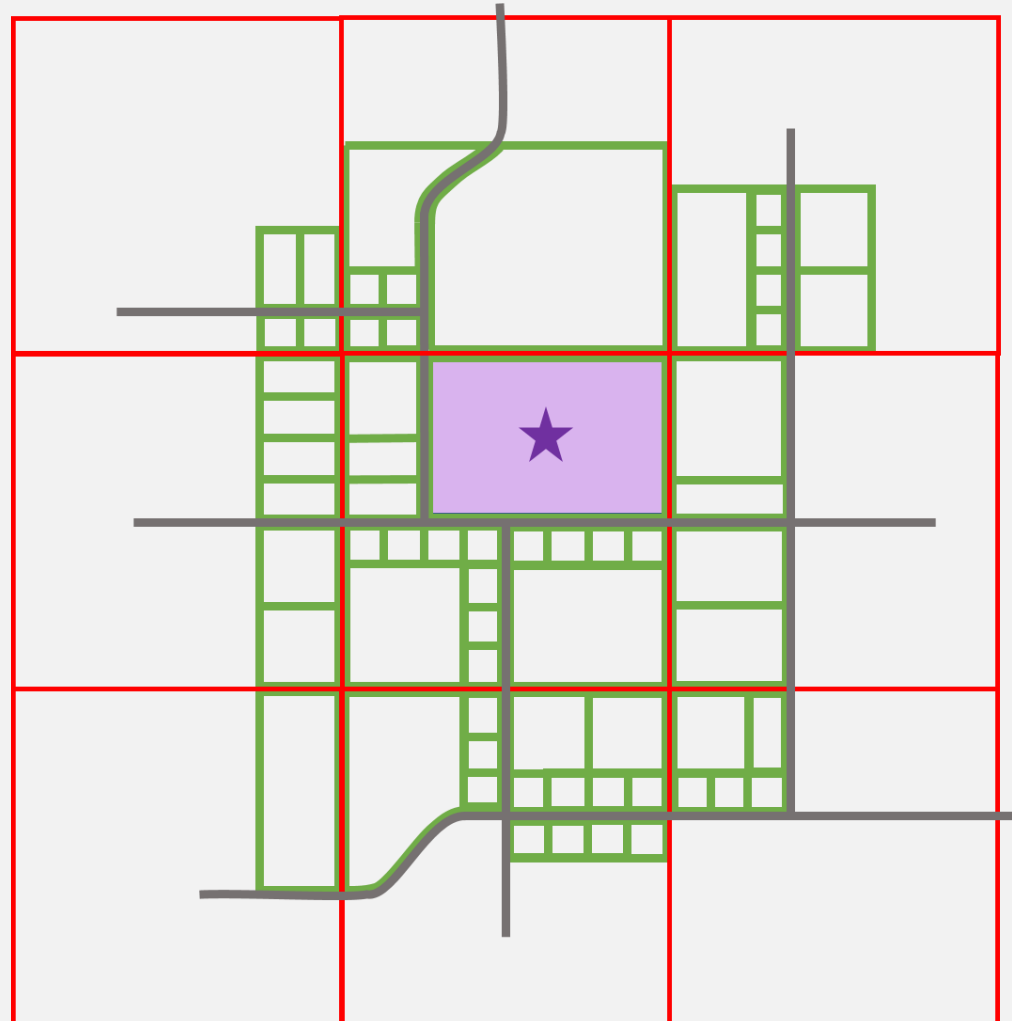


# WECOD (Wind Energy Conversion Overlay District)

Example: Farmer **STAR**

## KEY

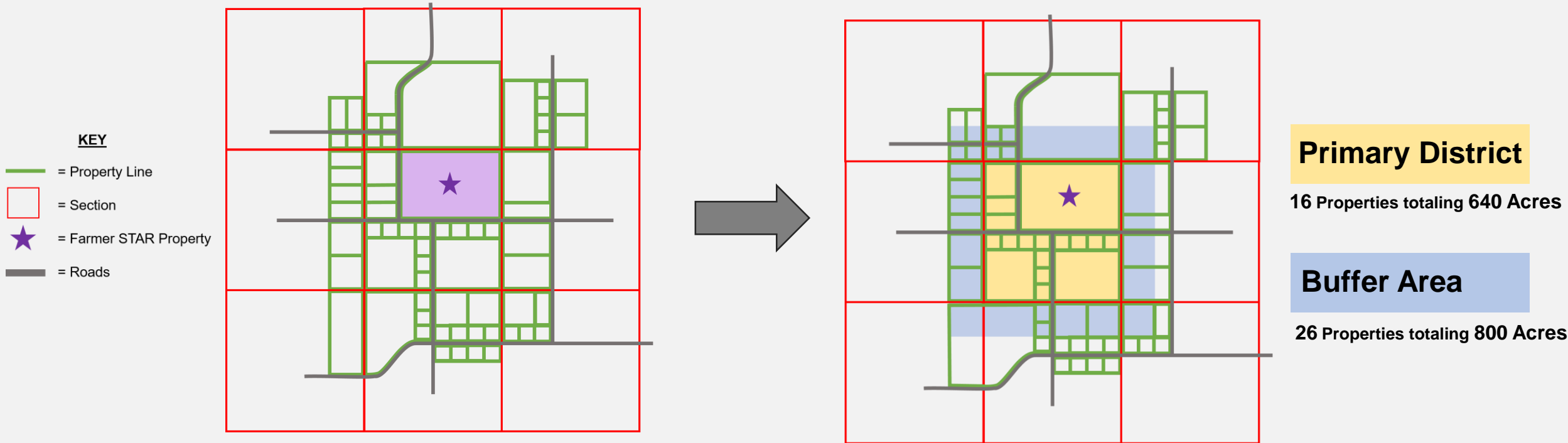
-  = Property Line
-  = Section
-  = Farmer STAR Property
-  = Roads





# WECOD (Wind Energy Conversion Overlay District)

**Example:** If Farmer **STAR** wanted to establish a Commercial Wind Farm on his 240-acre piece of land he would need to apply for a WECOD that contains 4 contiguous quarter sections.

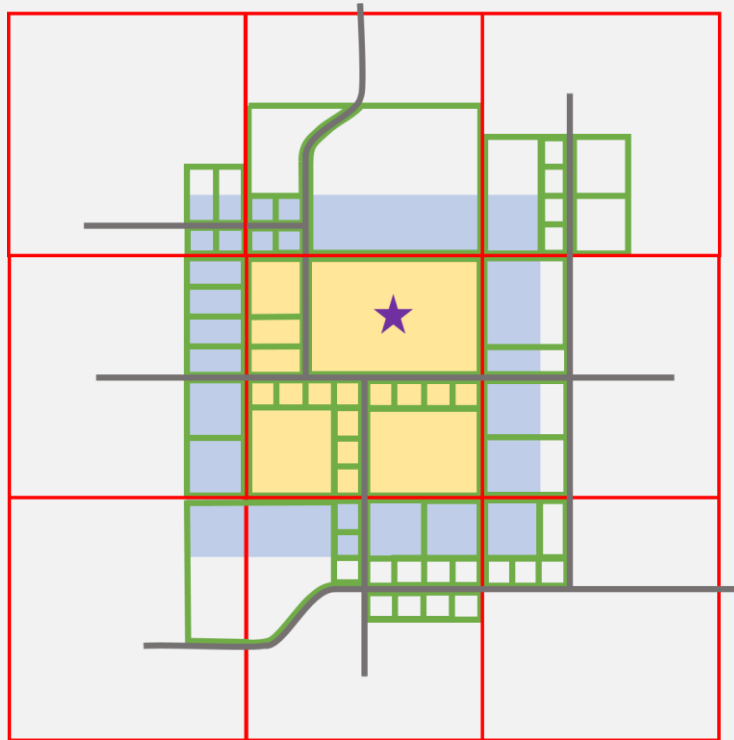






# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to **submit a petition** to the Director of Resource Management which includes the notarized signatures of:

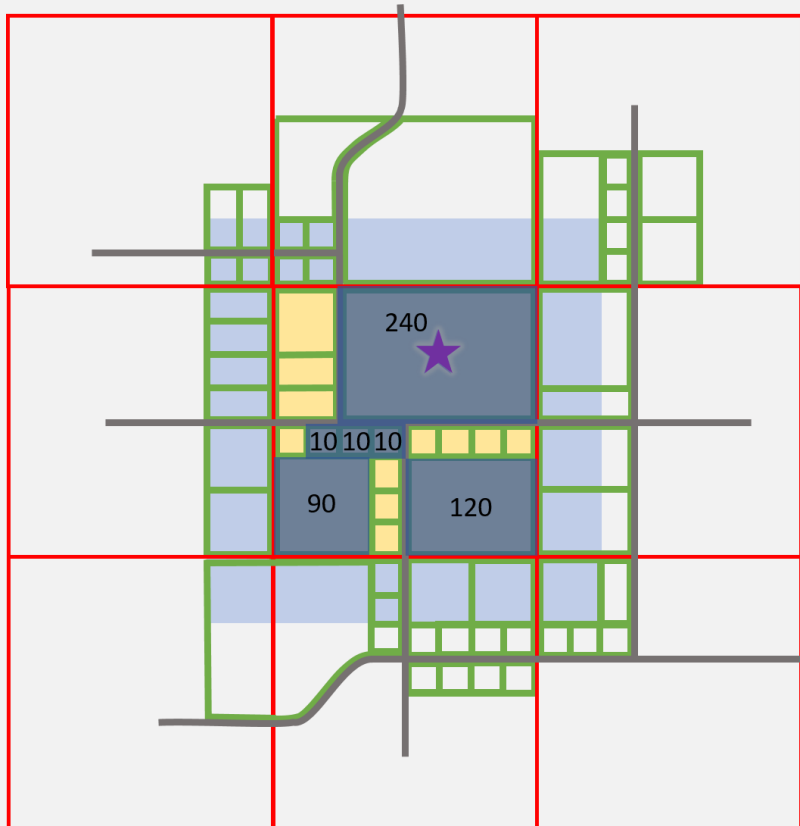


- A.) The owners of at least 75% of the ***total acreage*** within the primary district
- B.) at least 67% of the ***property-owners*** within the primary district
- C.) at least 67% of the ***property-owners*** within the buffer area



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a petition to the Director of Resource Management which includes the notarized signatures of:



A.) The owners of at least 75% of the total acreage within the primary district

B.) at least 67% of the property-owners within the primary district

C.) at least 67% of the property-owners within the buffer area

**Equation:**

Primary District includes: 640 Acres

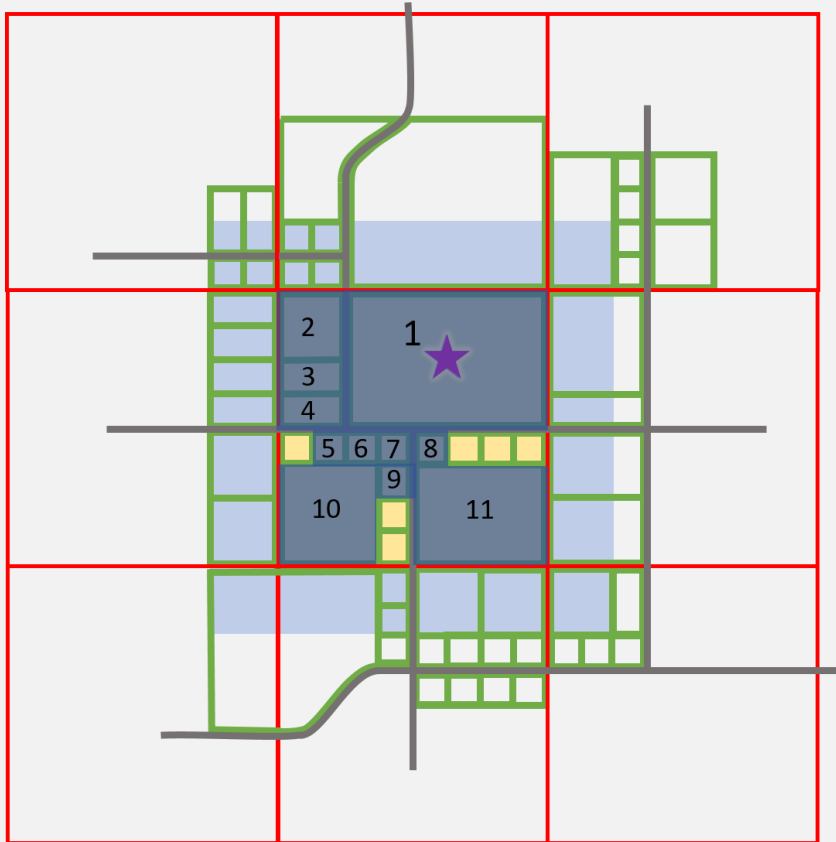
$640 \times 75\% = 480$  Acres ~ Petition signers must own at least 480 Acres

6 owners ( $240+120+90+10+10+10$ ) = **480**



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a petition to the Director of Resource Management which includes the notarized signatures of:



A.) The owners of at least 75% of the total acreage within the primary district

B.) at least 67% of the property-owners within the primary district

C.) at least 67% of the property-owners within the buffer area

### Equation:

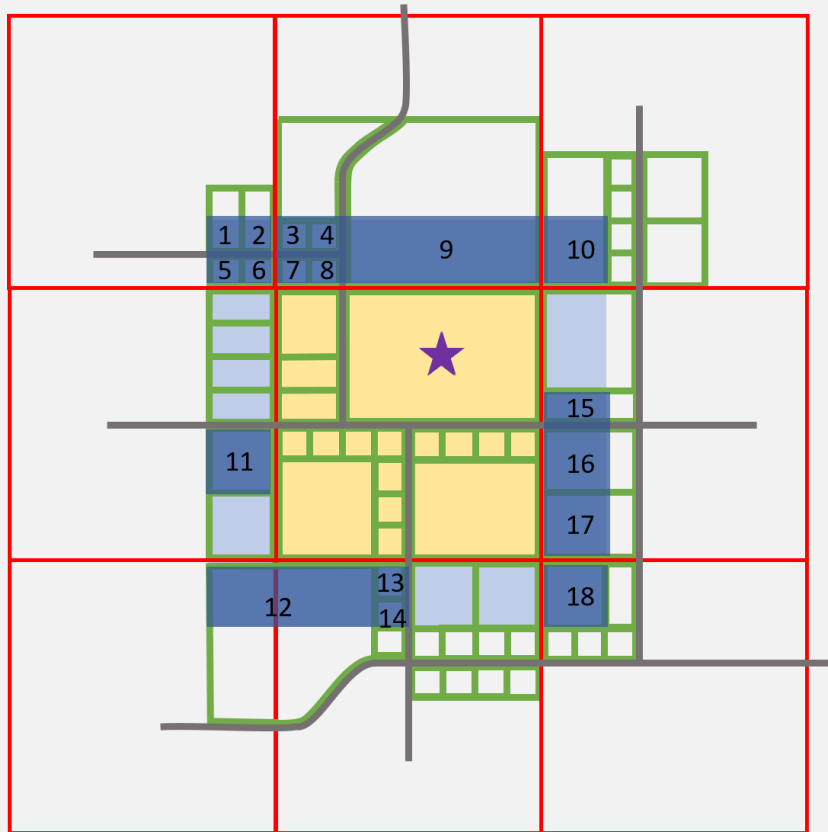
Primary District includes: 17 owners (including Farmer **STAR**)

$17 \times 67\% = 11.39 \sim$  rounds to **11** property-owners must sign petition



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a petition to the Director of Resource Management which includes the notarized signatures of:



- A.) The owners of at least 75% of the total acreage within the primary district
- B.) at least 67% of the property-owners within the primary district
- C.) at least 67% of the property-owners within the buffer area

**Equation:**

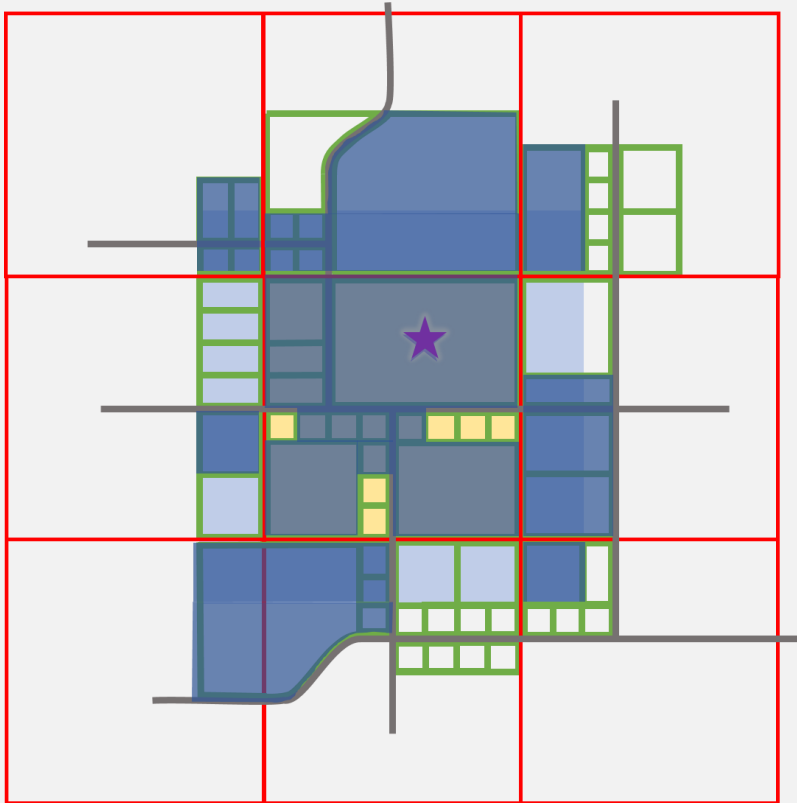
Buffer Area includes: 26 owners

$26 \times 67\% = 17.72$  owners ~ rounds up to **18** owners must sign petition



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** must meet **ALL** of the signature requirements in order to be **considered** for a WECOD

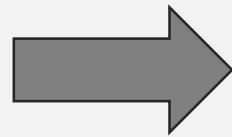
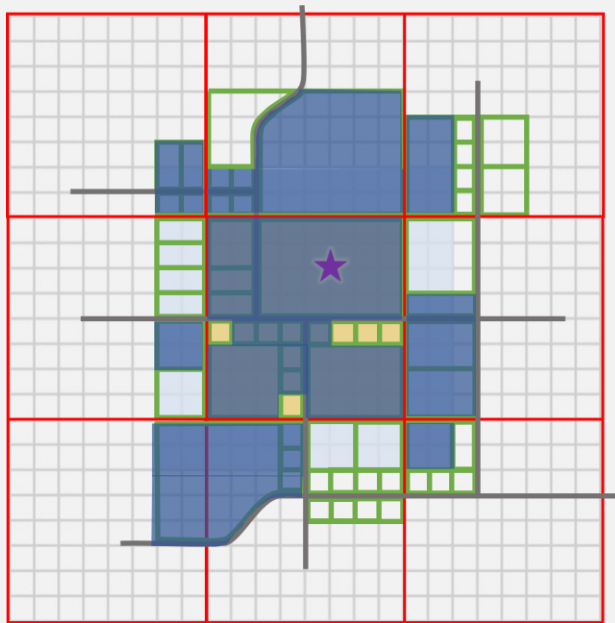


- A.) The owners of at least 75% of the ***total acreage*** within the primary district
- B.) at least 67% of the ***property-owners*** within the primary district
- C.) at least 67% of the ***property-owners*** within the buffer area



# WECOD (Wind Energy Conversion Overlay District)

**Example:** IF Farmer **STAR** can get the required signatures on the petition, **THEN** he would need to meet **series of criteria**



- Submit Complete Application
- Pay Fees
- Notify Neighbors
- Meet Approval Standards
- Meet Siting and Performance Standards



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a **completed application** including an:

## Overlay District Plan



includes, but not limited to:

- Legal Description of land
- Aerial Photography of region
- Location and dimensions of **existing** structures
- Location and dimensions of **proposed** structures
- All environmentally sensitive areas within WECOD

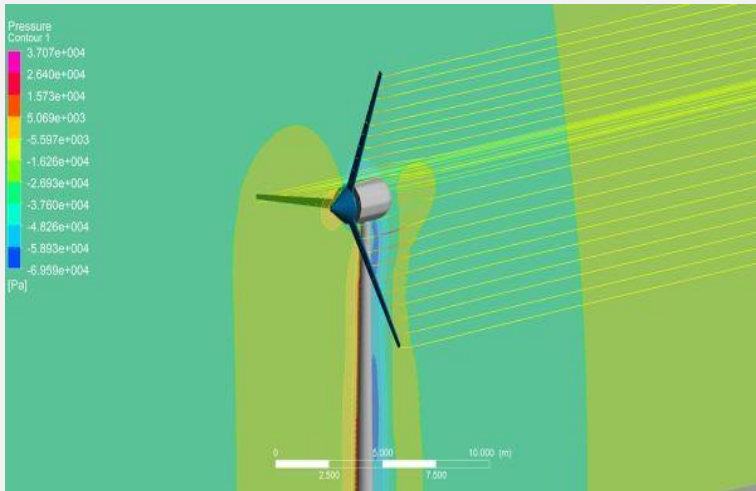


# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a **completed application** including a:

## Computer Generated Visual Simulation

includes, but not limited to:



- Impacts from turbine blades on surrounding area
- Viewpoints from houses who did **not** sign the Petition for Application
- Viewpoints from houses 1000' outside of WECOD boundary
- Up to 12 additional viewpoints



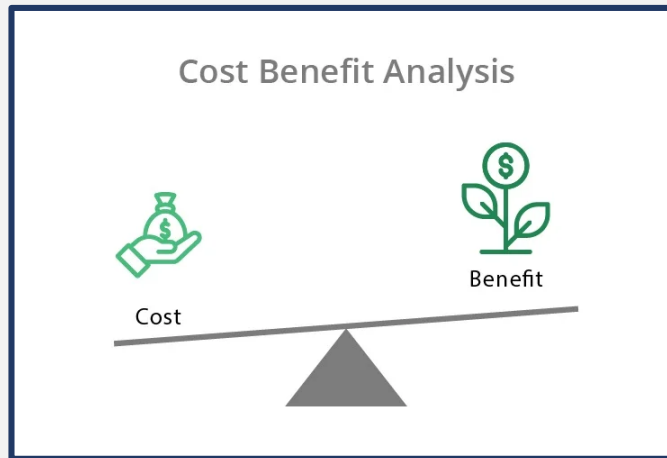


# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a **completed application** including an:

## Economic Cost Benefit Analysis

includes, but not limited to:



- Impact of the project on local and state economy
- Amount of **property** taxes to be generated
- Amount of **sales** taxes to be generated
- Number of permanent jobs gained and estimated payroll
- Impact on **property values**



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a **completed application** including an:

## Environmental Assessment

includes, but not limited to:



- Must follow United States Fish and Wildlife Service Land Based Wind Energy Guidelines
- Impact on wildlife and wildlife habitat
- Impact on soil erosion, and water quality
- Noise levels, shadow flicker and blade glint

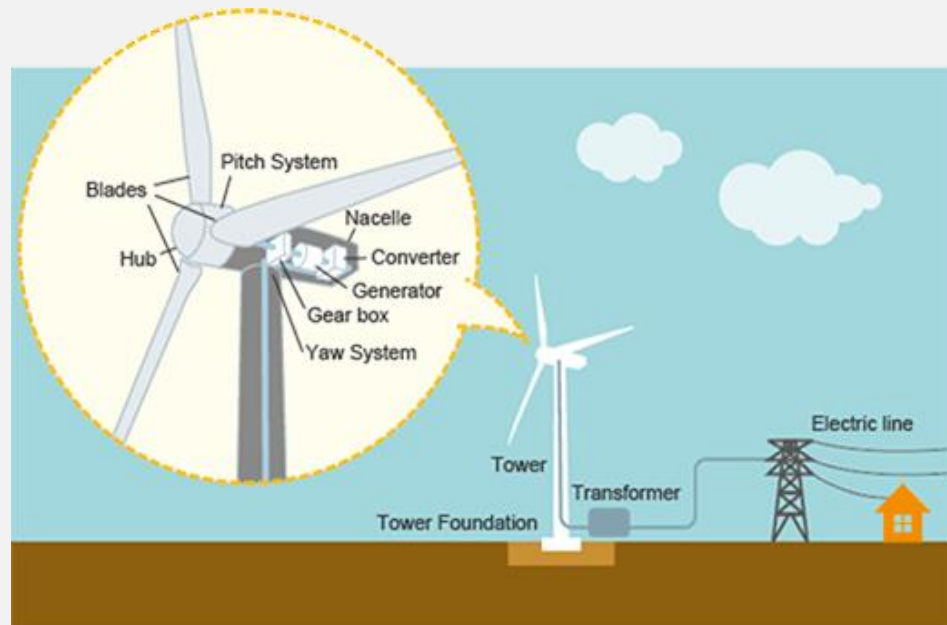


# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a **completed application** including a:

## Description of Turbine(s)

includes, but not limited to:



- Type of Turbine, Model number
- Size of tower, blades, foundation, etc.
- Construction Materials
- Color Scheme
- Performance, safety, and noise characteristics



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to submit a **completed application** including a:

## Traffic Plan

includes, but not limited to:



- Anticipated volume of traffic during/ after construction
- Routes for oversized and heavy equipment
- Method of assurance regarding road repair to public entities
- All impacts to the transportation network should be mitigated to the maximum extent practicable



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to pay **all associated costs** including:

## Pay Fees

includes, but not limited to:



- Public Notice Fees
- Costs of completing application documentation
- Review fee determined by County Commission



# WECOD (Wind Energy Conversion Overlay District)

**Example:** County will **notify** the following when public hearings occur on Farmer **STAR**'s behalf:

## Notice Procedures

includes, but not limited to:



- All property owners within the proposed WECOD
- All property owners within 1000' of the boundary of WECOD
- Newspaper with circulation in their area including a locality map
  - Columbia Daily Tribune
  - Centralia Fireside Guard
  - Boone County Journal



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to pass Commission **Approval Standards** including demonstrating:

## Natural and Biological Resources

includes, but not limited to:



- Turbines should not be located in areas that have a large potential for biological conflicts
- Avoid large intact areas of native vegetation that haven't been disturbed by man made developments
- Avoid areas that would interfere with important wildlife migratory corridors and staging areas.

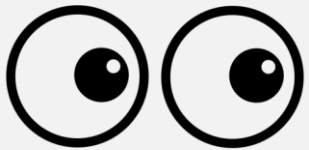


# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to pass Commission **Approval Standards** including demonstrating:

## Visual Impacts

includes, but not limited to:



- Avoid sites that are visible from scenic byways, scenic overlooks, public parks, Conservation Areas, and Wildlife Refuges
- Supporting structures, roads, and fences on the site should be minimized
- Turbines should appear similar and shall be a shade of white



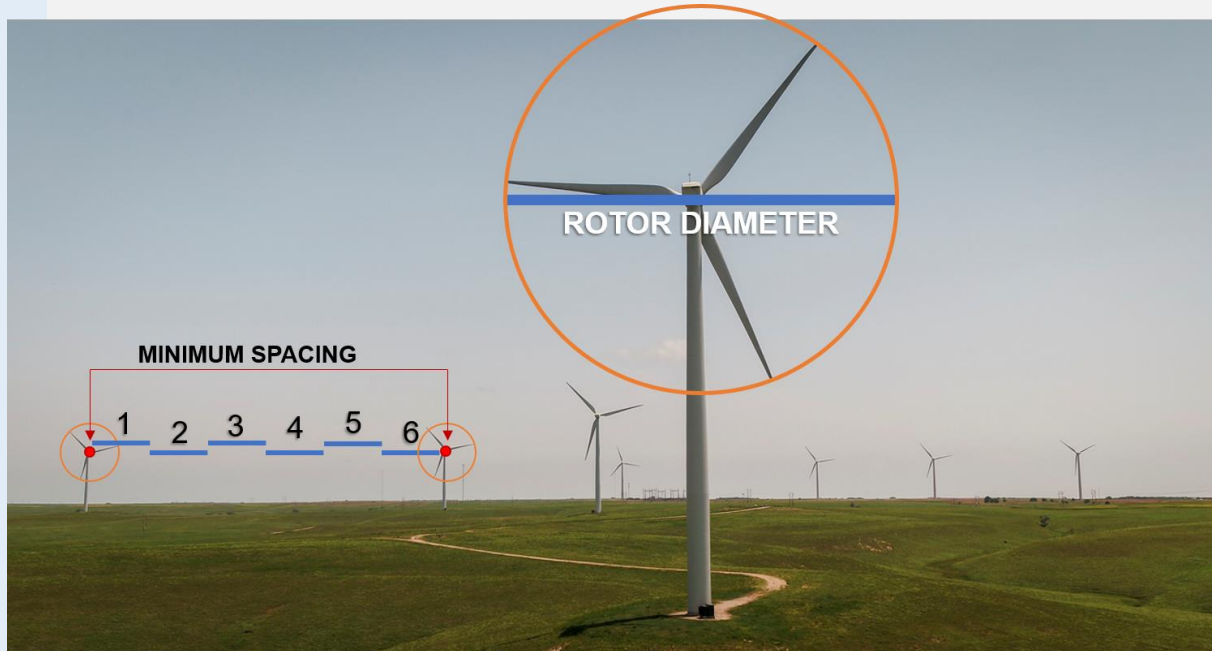


# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to pass Commission **Approval Standards** including demonstrating:

## Visual Impacts

includes, but not limited to:



- Each turbine shall maintain a minimum spacing of six (6) times the diameter of its rotor from any other turbine
- Intra-project power lines having a voltage of 34,500 volts or less shall be buried
- Transformers and other electric equipment should be hidden from view

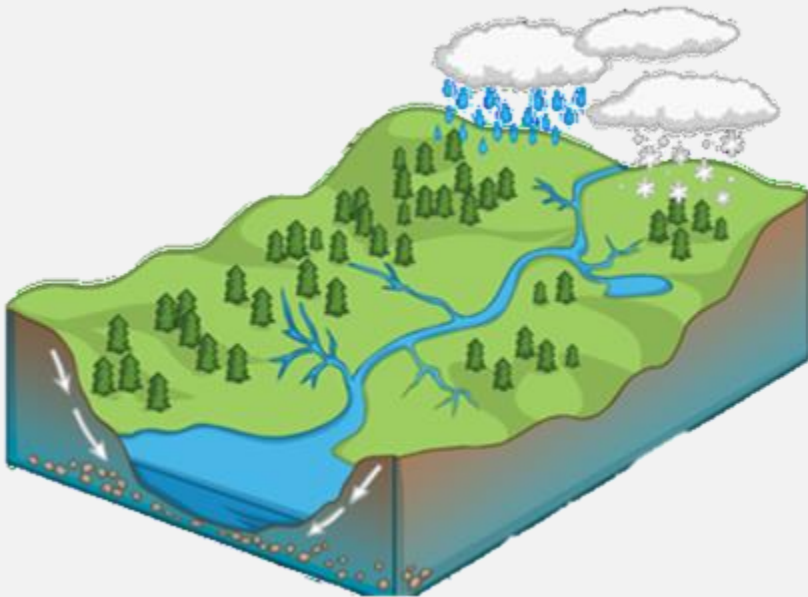


# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to pass Commission **Approval Standards** including demonstrating:

## Soil Erosion and Water Quality

includes, but not limited to:



- Avoid construction activities on slopes that are steep or susceptible to erosion
- Improved private access roads and construction staging areas should be kept to a minimum
- One-lane private access roads are recommended
- The number and size of staging areas should be minimized



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to **meet siting and performance standards** including:

## Noise Management

includes, but not limited to:



- Must meet established standards for noise
- Standards regarding noise level are upheld and have maximum limitation
- Project owner shall provide an acoustical study that shall demonstrate compliance with the regulatory noise standard



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to **meet siting and performance standards** including:

## Visual Impacts

includes, but not limited to:



- Turbines shall have the same number of rotor blades, spinning in the same direction
- Turbines should have the same height from blade tip to the ground
- Clusters of machines shall be limited to no more than 12 machines per cluster.
- The maximum height of the turbines should be 355 feet.
- Outdoor storage is generally not permitted, except during construction



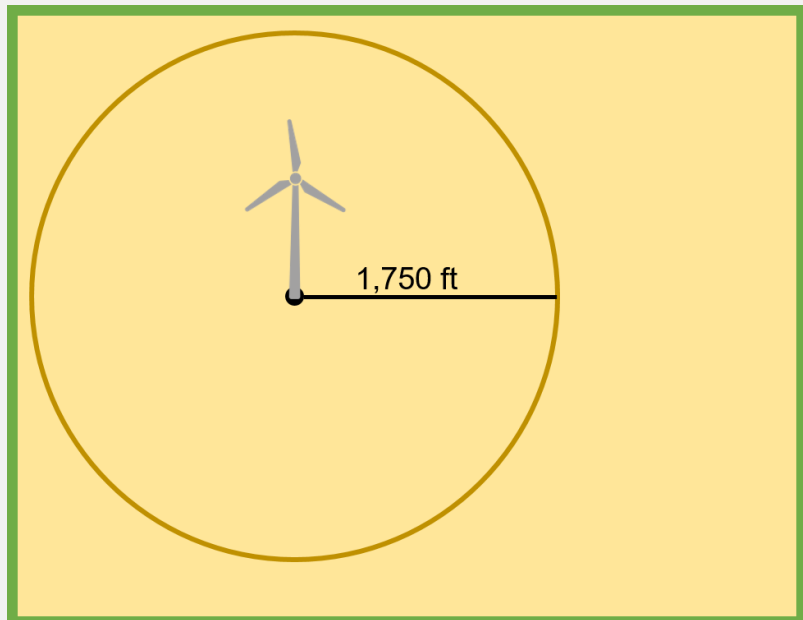
# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to **meet siting and performance standards** including:

## Safety

includes, but not limited to:

not to scale



- Turbine shall maintain a minimum clearance of 15-feet from the ground
- Individual wind turbines shall be set back 1,750-feet from all public road rights of way
- Individual wind turbines shall be set back 1,750-feet from all property lines
  - Planning and Zoning commission considered several setback requirements as a balance between safety, equity, and other community concerns



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to **meet siting and performance standards** providing:

## Financial Security



Ensures that the project owner provides adequate funding to pay the costs associated with:

- Decommissioning and Site Reclamation
- Removal of individual turbines and accessory structures in the event of abandonment.

Tax dollars are not to be spent on reclaiming WECOD areas

**Security** = Estimated Decommissioning and Site Reclamation Cost x (1.5)



# WECOD (Wind Energy Conversion Overlay District)

**Example:** Farmer **STAR** would need to **meet siting and performance standards** providing:

## Reclamation

Owner Initiated:

When the project has completed its life span, the owner shall abide by County standards to reclaim land. Financial Security will be released.

County Initiated:

If owner has abandoned project, the County may use provided Financial Security to complete the reclamation of land.

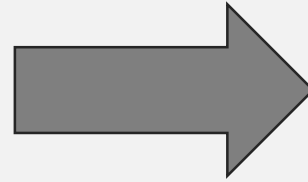
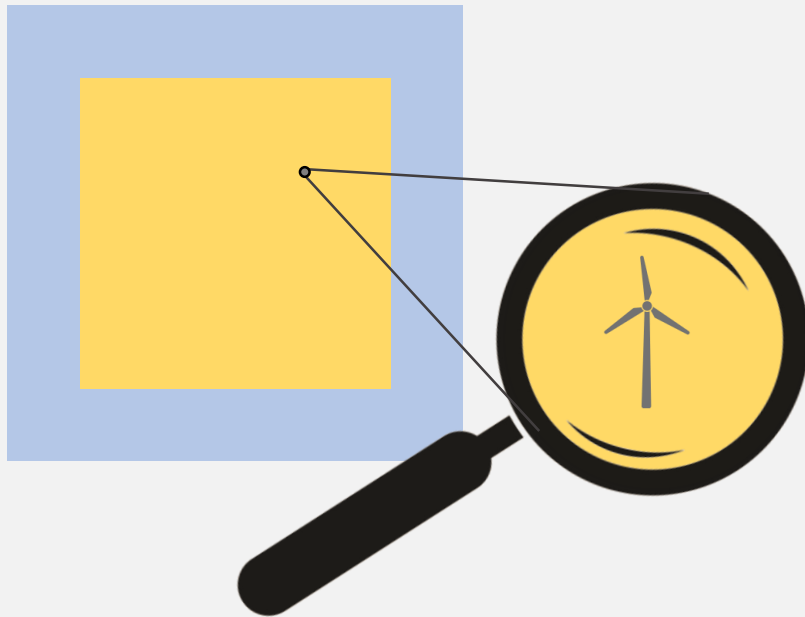
Tax dollars are not to be spent on County Initiated Reclamation





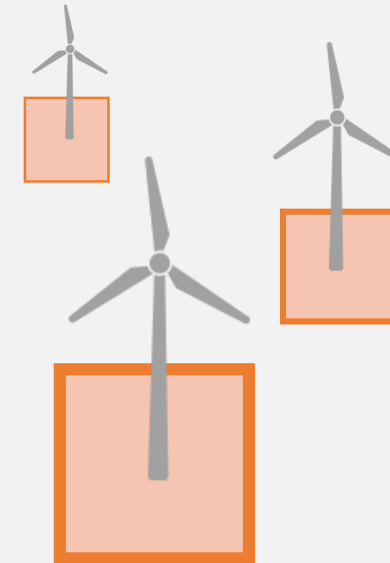
# WECOD

(Wind Energy Conversion Overlay District)



# CUP

(Conditional Use Permit)





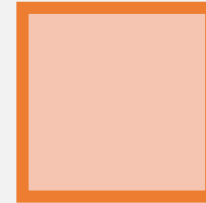


# CUP (Conditional Use Permit)



**WECS-C  
Wind  
Turbine**

=



**CUP**

Every turbine and accessory structure must be covered by a Conditional Use Permit –

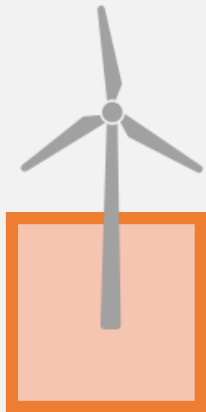
- Applicant must apply for a CUP
- The CUP application must provide details specific to the structure's location and conditions



# CUP (Conditional Use Permit)

The applicant would need to provide a wide variety of documentation **in addition to** the application from the *corresponding* WECOD for each CUP

including, but not limited to:



- Project Owner Information
- A detailed Site Plan
- Environmental Assessment
- Detail Description of Turbine(s) including size, height, rotor material, etc.
- A plan for the physical security of the site



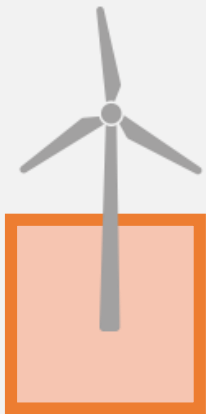
# CUP (Conditional Use Permit)

The WECS-C CUP must comply with Section 15 within the Zoning Regulations in addition to the criteria laid out within these regulations.

## Conditions

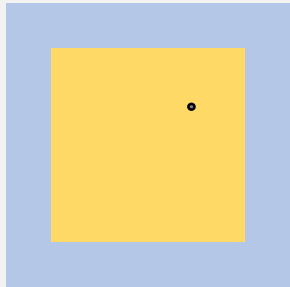
includes, but not limited to:

- Limitation on future subdividing of land
- Must enter a transportation mitigation agreement with County Commission
- Continually comply with U.S. Fish and Wildlife Service Land Based Wind Energy Guidelines





# Failure to Perform



## WECOD

The County Commission shall have the authority, after a public hearing, to remove the WECOD if it determines that no WECS-C have been constructed in the District within a period of **ten (10) years** from the date of the County Commission Order that established the WECOD.



## CUP

Any approved conditional use permit should be utilized within **one (1) year** of approval by the County Commission.

An invalidated permit can only be renewed by reapplication and approval as outlined within Section 15 of the Zoning Regulations.

If an applicant fails to meet **any** of the criteria outlined within the regulations, then the application shall fail. Whether or not an application meets all requirements is ultimately the decision of the County Commission.



# Thank you

**This information can be found on our website**

[www.showmeboone.com/resource-management/WECOD](http://www.showmeboone.com/resource-management/WECOD)

This slideshow will be made available online as well as:

Links to the draft Regulations

Wind Farm Frequently Asked Questions

The email address [WECOD@BooneCountyMO.org](mailto:WECOD@BooneCountyMO.org)

Written comments may be submitted to Resource Management through April 30, 2021