

30.1 Intent and Purpose:

30.1.1 INTENT: The intent of the Solar Energy Overlay District (SEOD) is to establish an area or areas where utility scale solar energy production by photovoltaic (PV) solar cells and associated maintenance and battery/power storage facilities are allowed by Conditional Use Permit. Interested property owners in the area that is proposed for designation shall instigate the initiative for the designation.

30.1.2 PURPOSE: This Section has been adopted for the following purposes:

1. To assure that the development and production of utility scale solar generated electricity in Boone County assures the health, safety, and general welfare of the public;
2. To promote the safe, effective, and efficient use of utility scale solar energy systems;
3. To minimize the degradation of the visual character of the area;
4. To minimize impact to environmentally sensitive areas, wildlife, and wildlife habitat;
5. To facilitate economic opportunities for local residents and the community;
6. To facilitate the supply of renewable energy in a manner that respects the geographic, social, and environmental context of Boone County.

30.1.3 Qualifying Underlying Zoning Districts. Solar Energy Overlay District may be requested in Agriculture or Industrial zoning districts.

30.2 District Boundary Requirements

30.2.1 District Area Requirements:

30.2.1.1 Minimum Area: Area within each SEOD must be a minimum of 20 acres.

30.2.1.2 Maximum Area: Area within each SEOD cannot exceed a total of more than 640 acres.

30.2.2 District Design Requirements

30.2.2.1 Aspect Ratio. The longest length of the SEOD is not to exceed the longest width by a factor of five. Any proposal that does not meet the stated aspect ratios must seek a variance from the Board of Adjustment.

30.2.2.2 Contiguous. District boundary must be contiguous across entire area. Any land within the district boundary is part of the SEOD.

30.2.2.3 Minimum Distance. A SEOD must be at least 2640 feet from another SEOD.

30.3 Procedures for Designation

30.3.1 Application. Any Petition for Application for designation of a SEOD must be submitted to the County Commission through the Director. The Petition for Application shall be completed on forms provided by the Director and shall include information as required by Section 30.4.

30.3.2 Determination of Completeness. An application shall be deemed complete when the Director determines that all required application materials have been submitted and contain sufficient detail for review. An incomplete application will be returned to the applicant. The owner shall be responsible for the cost of shipping the returned application. The Director shall have up to 30 days to make a Determination of Completeness.

30.3.3 Review Period. The Director shall have 120-days from the Determination of Completeness to review the application materials and provide written comments to the owner. The owner shall have up to 120 days to address the comments.

30.3.4 Independent Third-Party Review. If the Director determines that the Department does not have the appropriate expertise to review any or all of the required application materials, they may contract with an independent third party to conduct such reviews. In such cases, the applicant shall be responsible for the cost of the external review.

30.3.5 Notice. When the Director and applicant agree that the application is ready for public hearing and at least 15 days prior to the next regularly scheduled Planning and Zoning Commission hearing, the Director shall give notice in a manner consistent with procedures described in Section 30.5. The applicant shall pay all costs of public notice prior to any public hearing regarding the proposal.

30.3.6 P&Z Commission Recommendation. The Planning and Zoning Commission shall hold a public hearing. Following the public hearing, the Commission shall vote on a recommendation to approve, modify, deny or table the request. In formulating its recommendation, the Commission shall make findings consistent with the criteria contained in Section 30.6.

30.3.7 County Commission Decision. Upon receipt of a recommendation from the Commission and before the adoption of a SEOD, the County Commission shall hold at least one public hearing thereon. The County Commission may approve, deny or remand the proposal back to the Commission for modification. In order to approve a SEOD, the County Commission must make findings consistent with the criteria contained in Section 30.6.

30.3.7.1 P&Z Commission denial procedures. In cases where the Commission recommends denial of a request, the County Commission shall summarily endorse denial action of the Commission unless the applicant files a Notice of Appeal to the County Commission. The Notice of Appeal must be filed with the Director

within 72 hours (three working days) following the Commission hearing. The Notice of Appeal shall state the grounds why the Commission recommendation for denial is in error. The applicant must appear before the County Commission in person or by a representative with written authorization by the applicant.

30.3.7.2 County Commission denial procedures. In cases where the Commission recommends approval of an application, the County Commission will summarily deny the application if the following two conditions occur: (1) the applicant does not appear at the County Commission hearing in person or by representative with the written authorization of the owner, and (2) there is opposition to the application expressed in person at the County Commission Hearing.

30.3.8 Applicant Demonstrates Need of SEOD. An applicant requesting the establishment of a SEOD shall have the responsibility to demonstrate to the Planning and Zoning Commission and the County Commission, by competent substantial evidence, that establishment of the SEOD is justified.

30.4 Application Process

30.4.1 No action on the request will be taken until all of the required information has been submitted. Applications for establishing a SEOD shall include the following:

30.4.1.1 Satisfactory evidence that the applicant is the owner of the property or has written permission of the owner(s) to make such application;

30.4.1.2 Developer information such as:

- Name, address, phone number, and e-mail address of the developer and the developer's contact person for the project;
- A statement from the developer providing relevant information regarding an overview of the company, the company's financial condition, the company's environmental management history, and the company's qualifications and experience in utility scale solar development. Specific references regarding other utility scale solar projects are required;
- An identification and description of the expected owner and builder of the proposed project and a complete financial statement for such owner and/or builder including audits or reviews, whichever are applicable, for three (3) years preceding the date of application;
- The name, address, phone numbers, and e-mail address of the project manager in the event the project is approved and the name, address, phone numbers, and e-mail address of any potential buyers of the project.

30.4.1.3 A Petition for Application of forms provided by the Director. For purposes of calculating the percentages described below, each legal lot will qualify for one signature. The product of all calculations shall be rounded to the nearest whole number. The petition shall contain the following:

- Notarized signatures of the owners of at least 75% of the real property, as identified by legal lot, within the proposed district. The following formula shall be used:
 - Total acreage of the district x 0.75 = total acreage for which signatures must be obtained.
- The notarized signatures of at least 67% of the owners of real property, as identified by legal lot, within the proposed district. The following formula shall be used:
 - Number of legal lots x 0.67 = number of signatures.
- A list including the name, address, and parcel number(s) of all property owners within the proposed district.
- A list including the name, address, and parcel number(s) or all property owners within one thousand feet (1000') of the boundary of the proposed overlay district.

30.4.1.4 Relevant background information on the project, including rationale and need for the project by the landowner and developer, timeframe and project life, phases of development, likely markets for the electricity produced, and the possibilities for future expansion;

30.4.1.5 Narrative explanation of why the proposed project site was chosen by the applicant over alternative locations for the project in the region and reasons for preferring the proposed site over the alternatives considered by the applicant. The region shall be defined as all counties adjoining and including Boone County;

30.4.1.6 Overlay District Plan, including:

- Legal description of the proposed SEOD prepared by and bearing the seal of a Land Surveyor licensed to practice in the State of Missouri;
- Aerial image showing the boundary of the proposed overlay district, displaying distinctly the components of the proposed district. Image shall also distinctly display property boundaries of

all legal lots within the proposed District and within one thousand feet (1000') of the boundary of the proposed District;

- General vicinity of the project location within the County;
- Scale and north arrow;
- Acreage of district;
- Location and dimension of existing and general location and approximate physical dimensions of proposed structures, including all proposed individual solar panels. If an exact number or dimension of solar panels is not known at the time of application, the site plan shall identify a maximum number and maximum dimension expected and a range from minimum number expected to maximum expected;
- Location of any proposed electrochemical (battery) storage devices or any other energy storage devices;
- Location of all proposed vegetative buffers and other proposed screening structures.
- Location of staging and maintenance areas;
- Houses inside and within one thousand feet (1000') of the overlay district boundary and the approximate distance of such houses from the district boundary;
- Location of existing and proposed electrical lines and facilities, both above and below ground;
- Existing topography;
- Proposed areas to be graded;
- Removal of natural vegetation;
- Proposed setbacks of all structures in the district boundary;
- Proposed traffic circulation with the district boundary;
- Location of public roads within proposed district boundary;
- Location of any major underground utilities or pipelines;

- Location of any utility easements;
- Location of any delineated 100-year floodplains, stream buffers, sinkholes, wetlands, and other environmentally sensitive areas.

30.4.1.7 An estimated Cost/Benefit Analysis (CBA) describing the impact of the project on the local and state economy in the following respects:

- The amount of property taxes to be generated by the project;
- The amount of sales taxes to be generated by the project;
- The amount of other applicable taxes to be generated by the project;
- Any distinction in the amount of taxes that will be generated and the distribution of the tax revenue if the facility is privately owned or acquired/owned by a public entity or public utility;
- The construction dollars to be spent locally;
- The number of construction jobs and estimated construction payroll;
- The benefit of the electricity generated by the project;
- Any projected costs or benefits to tourism in the County;
- Other projected economic benefits and costs of the project;
- Costs associated with impact on roads and other County infrastructure in the area and a draft Transportation Infrastructure Plan and Mitigation Agreement approved by the County Engineer and the Director.

30.4.1.8 Environmental Assessment of the potential adverse impacts from the project and any proposed measures to mitigate or lessen the effects of the adverse impacts. The assessment and mitigation plan shall be conducted by a Qualified Professional and include, at a minimum, all of the following:

- Documentation owner/applicant followed State/Federal guidelines
- Impact on wildlife and wildlife habitat on the site and in the proposed SEOD;

- Impact on any endangered or threatened species on the site and in the proposed SEOD;
- Impact on flora on the site;
- Any wastes, either municipal solid waste or hazardous waste, generated by the project at any point in its lifespan;
- Electromagnetic fields and communications interference generated by the project;
- Risk of fire from the project, including threat of lightning strikes;
- Impact of the project on civilian and military aviation in the area;
- Impact of the project on soil erosion;
- Impact of the project on water quality and water supply in the area;
- Dust from project activities;
- Impact on historical, cultural, or archaeological resources;

30.4.1.9 A copy of the written notification to the utility of the proposed interconnection;

30.4.1.10 Information, in as much detail as possible, on the type, size, maximum and minimum height, panel size, hazardous materials, panel color, rated power output per panel, safety, any fire suppression characteristics, and glare characteristics of each proposed solar panel model and electrical transmission equipment;

30.4.1.11 A general description of the decommissioning and land reclamation strategy in the event the project is abandoned or upon the end of the useful life of the project. The applicant shall specify the anticipated useful life of the project;

30.4.1.12 The anticipated volume and designated route for traffic generated during the construction phase, including routes for oversized and heavy equipment, and the proposed method of providing assurances to the public entities responsible for the roads of repairs and on-going maintenance to the roads and bridges needed to support the project;

30.4.1.13 The anticipated volume and designated route for traffic generated during the utilization of the facilities, including routes for oversized and heavy equipment needed for maintenance and repairs, and the proposed method of

providing assurances to the public entities responsible for the roads of repairs and on-going maintenance to the roads and bridges needed to support the project;

30.4.1.14 The anticipated operation and maintenance requirements (including estimated frequency of maintenance activities) for the solar panels and internal transmission lines connecting the individual arrays within the project and the transmission lines connecting the system to the power “grid”;

30.4.1.15 The anticipated location, width and proposed method of acquisition of transmission line easements required, including access requirements to the easements and any associated necessary restrictions on land use, development, and access within said easements;

30.4.1.16 The anticipated timeline for completing construction of all proposed structures within the proposed SEOD;

30.4.1.17 A general description of the plan for securing the site and the various structures and facilities from access by unauthorized persons;

30.4.1.18 Fees. The applicant shall submit an application fee, as established by the County Commission, with the application.

30.4.1.19 Costs. The applicant shall be responsible for the costs of all required public notice and the preparation of the application materials, including but not limited to all required surveys and property descriptions.

30.5 Notice Procedures

30.5.1 The Director shall give notice of the application in the following manner:

30.5.1.1 By certified mail to the owners of all property within the proposed overlay district.

30.5.1.2 By certified mail to the owners of all property within one thousand feet (1000') of the boundary of the proposed overlay district.

30.5.1.3 Publication of a locality map in a newspaper having a daily circulation.

30.6 Approval Standards. The following guidelines shall be considered by the Planning and Zoning Commission and the County Commission in evaluating the appropriateness of proposed locations for the SEOD and the proposed project components.

30.6.1 Natural and Biological Resources.

30.6.1.1 Avoid Biological Conflicts. SEOD should not be located in areas that have a substantial potential for biological conflicts.

30.6.1.2 Avoid Wildlife Areas. SEOD should avoid areas that would interfere with important wildlife migratory corridors and habitats. If SEOD should be placed in an area that will interfere with important wildlife migratory corridors, clustering of panels should be done to create a natural corridor to allow wildlife movement. See Section 30.7.4.1.

30.6.2 Soil Erosion and Water Quality

30.6.2.1 Avoid Steep Slopes. SEOD shall avoid construction activities on slopes that are steep or susceptible to erosion.

30.6.2.2 Minimize Construction Activity. The number of improved private access roads and construction staging areas should be kept to a minimum.

30.6.2.3 Site Preparation and Grading Activity: Site preparation and the installation of solar facilities shall be completed with limited grading activities only. The mass grading of any portion of a solar facility site shall be avoided, except for that which is necessary to construct earthen stormwater BMP's such as detention and retention ponds. All site grading will be analyzed on a site-by-site basis and is subject to approval by Boone County Resource Management prior to issuance of a construction permit.

30.6.3 Historical, Cultural, and Archeological Resources

30.6.3.1 SEOD should avoid sites that are less than 3,070 lineal feet from any places that have been listed on the National Register of Historic Places or designated as a National Historic Landmark.

30.6.4 Transportation Infrastructure Impacts

30.6.4.1 All impacts to the transportation network should be mitigated to the maximum extent practicable. The applicant shall work with the County Chief Engineer and, if applicable, the Missouri Department of Transportation, and local municipalities to develop a Transportation and Infrastructure Mitigation Plan.

30.6.5 Appearance

30.6.5.1 Buffers. Vegetative screening should be present around the perimeter of the SEOD or around a cluster of panels. Vegetative screening must include a mixture of deciduous and evergreen trees capable of screening panels within five (5) years of project completion. All vegetative screening must be a minimum of 15 feet tall after the five-year period. Vegetative buffering must clearly be shown on the buffering plan required under Section 30.4.1.6. Any additional screening that is not vegetative is subject to the approval of the Director of Resource Management.

30.6.5.2 Permitted Height. Height shall be determined by the top of the panel at its maximum tilt. Height of the panels must be two feet less than the total vegetative screening.

30.6.5.3 Power Lines. To avoid visual clutter, intra-project power lines having a voltage of 34,500 volts or less shall be buried unless the applicant can sufficiently demonstrate that burying the lines will violate other governmental or industry-wide guidelines/standards, violate applicable law, or have demonstrated to the Commission that such lines will be hidden from public view.

30.6.5.4 Accessory Structures. To avoid unnecessary clutter, transformers, batteries/power storage approved under a separate conditional use permit, and other electrical equipment should be screened following the same guidelines as Section 30.6.5.1.

30.7 Siting and Performance Standards.

30.7.1 Following standards are to be achieved by each utility solar project within a designated SEOD without exception. Because they are standards, they are considered to be requirements of any utility scale solar project. The final decision on whether or not a particular standard is achieved by a utility scale solar project shall be made by the County Commission after considering the recommendations of the Planning and Zoning Commission and the Resource Management Department.

30.7.2 Glare

30.7.2.1 Glare. Glare should be kept to a minimum of no more than 5 percent reflection of sunlight off the solar array.

30.7.3 Natural and Biological Resources

30.6.3.1 Vegetative Burning Buffers. In areas where grassland burning is practiced, appropriate “buffer” areas shall be used to enable infrastructure to withstand periodic burning of vegetation.

30.7.4 Visual Impacts

30.7.4.1 Clusters. When panels cannot be continuous within a SEOD area, solar arrays may be clustered together. Clusters should be separated by enough room to allow wildlife to pass between. All clusters of solar arrays should be fenced and secured from outside intrusion.

30.7.4.2 Outdoor Storage. Except during construction, re-construction or removal, outdoor storage is not permitted provided that this restriction shall not apply to the

project's designated operations and maintenance facility as approved by a Conditional Use Permit.

30.7.4.3 Repair Requirements. If panels become inoperable for any reason, they shall be repaired within 90-days unless the County Commission approves an extension upon request of the operator and showing of good cause why such extension should be granted.

30.7.5 Soil Erosion and Water Quality

30.7.5.1 Minimize Impact. Construction and maintenance shall be done in strict accordance with the erosion and sediment control plan submitted with the building permit so as to minimize soil erosion and damage to native vegetation.

30.7.5.2 Restoration. If native vegetation is damaged during construction, it shall be restored after construction is complete in areas not occupied by the SEOD and related facilities and roads.

30.7.5.3 Stormwater Ordinance. Compliance with Section 28 is required.

30.7.6 Safety

30.7.6.1 Fire Suppression. The applicant shall submit a fire suppression plan to the Director of Resource Management and the corresponding Fire Protection District the project is located within. The submitted fire suppression plan must be approved by the Fire Protection District and the Director of Resource Management before approval of the SEOD.

30.7.6.2 Battery Storage. Addition of any electric energy storage devices approved as a separate Conditional Use Permit and not demonstrated on the Fire Suppression Plan will require an updated Plan submitted to the Director of Resource Management and corresponding Fire Protection District the project is located within.

30.8 Decommissioning

30.8.1 Security

30.8.1.1 Purpose. The purpose of the security requirement is to ensure that adequate funding is available to be used to pay the costs of decommissioning and site reclamation, including removal of individual arrays and other above-ground project improvements subject to permit in the event of abandonment of individual panels or abandonment of the entire project.

30.8.1.2 Submittal of Security. The project owner of a SEOD shall, at its expense, and not later than 30-days before commencement of project construction, obtain

and submit Security in favor of the County for approval by the County Commission.

30.8.1.3 Form of Security. Such Security shall be in the form of a letter of credit, a cash escrow account, a performance bond, or other form of Security which is acceptable to the County. Any entity providing Security must be authorized to provide such Security in the State of Missouri and must be acceptable to the County Commission. The Security must contain such provision, terms or conditions as the County deems to be necessary, including, but not limited to, those set out herein, unless specifically waived in writing by the County.

30.8.1.4 Amount. The Security shall be in an amount equal to one hundred fifty (150) percent of the estimated decommissioning and reclamation costs and shall provide for an annual adjustment of the amount of the Security based on the annual rate of inflation. Such amount shall be determined by the County Commission based upon estimates from knowledgeable contractors and such other information or factors that the Commission deems to be relevant.

30.8.1.5 Maintenance of Security. The Security may not be canceled, released, or in any way terminated without prior written approval from Boone County. The Security shall be maintained and continued in force as long as such arrays or their above-ground improvements exist and until all decommissioning and site reclamation has been completed and paid for.

- Additional Security. When Required. If the County Commission has any reason to believe that the Security is insufficient, it may demand such other Security as it deems to be necessary.
- Survival of Sale. The Security must be written so as to survive any sale or transfer of the arrays and related project property or the insolvency of the project owner. It shall further apply to all successors and assigns of the project owner. Any entity providing Security must be authorized to provide such Security in the State of Missouri and must be acceptable to the County Commission.

30.8.2 Post Development Plan

30.8.2.1 Owner Initiated. The owner/operator shall commence reclamation proceedings within 90 days of the date of abandonment of an entire project. Reclamation activities shall be conducted in accordance with the reclamation plan and the standards contained in these regulations.

30.8.2.2 County Initiated. Upon determining that an individual arrays and/or entire project has been abandoned, the Director shall notify the owner/operator by certified mail. The notice shall allow 90-days for the commencement of

decommissioning. The notice shall also inform the owner/operator of their right to request a hearing before the County Commission.

30.8.2.2.1 Abandonment and Reclamation Hearing. Upon request of the owner/operator or expiration of the 90-day deadline, the Director shall schedule a hearing with the County Commission and provide the owner/operator notice as to the time and location of the hearing.

30.8.2.2.2 Hearing Purpose. The purpose of the hearing is to determine the validity of the determination of abandonment, establish whether the owner/operator intends to reclaim, and whether to authorize the use of Security to complete the reclamation of the individual solar array or the entire project.

30.8.3 Abandonment

30.8.3.1 Time Frame. An entire project shall be considered to have been abandoned when a project does not produce electricity for a continuous period of six months, and there is no demonstrated viable plan to restore the equipment to operating condition. Except for any Repowering Event or Casualty Event subject to a County approved schedule of completion not to exceed five (5) years.

30.8.3.2 Extension. An extension of the 6-month time period may be granted by the County Commission upon the presentation of enough justification by the project owner.

30.8.3.3 Excavation. All underground equipment and foundation systems of the solar arrays shall be removed to a depth of at least four feet (4') to allow for the cultivation of crops, restorations of pasture, or installation of underground utilities.

30.9 Permit Procedures

30.9.1 Permit Holder. All Commission Orders by the County Commission granting a SEOD district for a utility solar project shall specify that the project owner is sole operator within the district.

30.9.2 Transfer of Solar Project within a SEOD area. Any transfer of a utility scale solar energy facility with a designated SEOD area must be approved by the Director of Resource Management before the transfer. The new operator must provide the same information required in Section 30.4.1.2 and a written statement requesting approval of the transfer between the previous operator to the proposed new operator. All information must be documented on forms provided by the Director. The Director shall have thirty (30) days from the date of submission of the transfer request to approve or deny the request. Any denial will be accompanied with a written statement from the Director explaining why the transfer was denied.

30.9.3 Transfer of Conditional Use Permit – Battery Storage

30.9.3.1 County Commission must approve the transfer of the Conditional Use Permit for battery/power storage.

30.9.4 Building Permit Issuance. Upon signing of the conditional use permit, the Resource Management Department may issue a building permit for the project following a 30-day waiting period and prior to the start of construction. In addition to the requirements outlined in the building code, as adopted by the County of Boone, the building permit application shall contain all of the following information to be provided by the project owner:

30.9.4.1 All of the special conditions outlined in the conditional use permit approval for battery/power storage;

30.9.4.2 A site plan, in final detail, that include all of the information required on the application site plan;

30.9.4.3 A final grading plan;

30.9.4.4 A final erosion and sediment control plan;

30.9.4.5 A final plan for site security;

30.9.4.6 A final decommissioning and reclamation plan;

30.9.4.7 Documentation of the establishment of the Security for reclamation;

30.9.4.8 Documentation that the project is in compliance with all of the requirements of the following:

- Federal Aviation Administration, if applicable;
- Federal Communications Commission, if applicable;
- Missouri Department of Natural Resources, if applicable;
- Missouri Department of Conservation, if applicable;

30.9.5 The Resource Management Department shall issue a separate building permit for the construction of each individual solar panel structure and each related accessory structure and each structure within a staging area as determined by the Resource Management Director.

30.10 Procedures for Vacation (Removal) of the Overlay District:

30.10.1 Removal of a designated SEOD shall be accomplished by the same procedures as followed to establish the overlay district except as provided below.

30.10.2 Failure to perform. Additionally, the County Commission shall have the authority, after a public hearing, to remove the overlay district if it is determined that no solar panels have been constructed in the SEOD within a period of ten (10) years from the date of the County Commission Order that established the District.

30.10.3 Abandonment. If an entire project is deemed abandoned under Section 30.8.3, the County Commission shall have the authority, after a public hearing, to remove the overlay district.

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Definitions:

- 1) **Grading**: shall mean excavating, filling, or any combination thereof which alters the topography of a site resulting in a change of elevation, slope, or surface cover.
- 2) **Limited grading**: shall mean the excavation or filling of earth for small projects or individual components such as building foundations, structure foundations, driveways, access roadways, utility installations, etc. and occurs within the footprint of and in immediate proximity to the individual component.
- 3) **Mass grading**: shall mean the movement or redistribution of substantial quantities of earth over significant areas.
- 4) **Qualified Professional**: A person with experience and training in the pertinent discipline, and who is a qualified expert with expertise appropriate for the relevant subject and has been approved by the County Commission in consultation with the Director of Resource Management.
- 5) **Photovoltaic Solar Panel**: Panel designed to collect sun energy for conversion into electrical energy by utilization of individual photovoltaic cells manufactured together to form a single panel.
- 6) **Photovoltaic Solar Array**: Collection of individual photovoltaic solar panels connected together to operate as a single device of solar energy capture.
- 7) **Glare**: Amount of light reflected off a photovoltaic panel, measured in percent.
- 8) **Cluster**: A group of solar arrays within a SEOD area.
- 9) **Wildlife Corridors**: Spaces between clusters designed to allow wildlife to move within the SEOD area.