

PINE GROVE SOLAR: SITE ASSESSMENT REPORT

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1 PROPOSED SITE DEVELOPMENT PLAN

REQUIREMENT: *per KRS 278.708 (3)(a); A description of the proposed facility that shall include a proposed site development plan that describes:*

- 1 *Surrounding land uses for residential, commercial, agricultural, and recreational purposes;*
- 2 *The legal boundaries of the proposed site;*
- 3 *Proposed access control to the site;*
- 4 *The location of facility buildings, transmission lines, and other structures;*
- 5 *Location and use of access ways, internal roads, and railways;*
- 6 *Existing or proposed utilities to service the facility;*
- 7 *Compliance with applicable setback requirements as provided under KRS 278.7 04(2), (3), (4), or (5); and*
- 8 *Evaluation of the noise levels expected to be produced by the facility*

COMPLIANCE: Please see the Application, Section 2 for a detailed description of the proposed Project and Project area. The following items provide information specifically in response to requirements 1 through 8 listed above.

- 1 A detailed description of surrounding land uses is provided in Appendix A: Property Value Impact Report (Kirkland Appraisals, LLC 2022). A summary of land use on parcels adjoining the Project is taken from this report and provided in Table 1 below.

Table 1. Land Use Adjoining the Pine Grove Solar Project

Land Use	Percent of Total Adjoining Acres	Percent of Total Adjoining Parcels
Residential	15.01	55.56
Agricultural	31.79	14.81
Agricultural/Residential	53.20	29.63
Total	100.00	100.00

Source: Kirkland Appraisals, LLC (2022)

- 2 The Project survey boundary is depicted in Appendix B, and the legal descriptions of the participating properties are listed in Appendix C.
- 3 As described in the Application, Section 2, “A fence meeting the National Electric Safety Code requirements, typically a six-foot fence with three strings of barbed wire at the top, will enclose the solar panels and associated infrastructure. A separate fence will enclose the substation. The Project will comply with the NESC and American National Standards Institute (ANSI) Z535 Safety Sign Standards for Electric Utility Power Plants and Substations to guide the placement of safety signage around the facility.” In addition, Pine Grove Solar or its contractor will control access to the site during construction and operation. All construction entrances will be gated and locked when not in use.
- 4 The locations of proposed Project transmission lines and other structures are depicted within the Preliminary Site Layout in Appendix B.
- 5 The locations of preliminarily designed access control points and internal roads are depicted on the Preliminary Site Layout in Appendix B. No railways are present within the proposed Project site.

- 6 The locations of existing and proposed utilities to service the Project are depicted on Preliminary Site Layout in Appendix B. If the project requires auxiliary electrical service, it will be acquired from Kentucky Utilities and delivered to the project substation.
- 7 The applicable setback requirements are identified in Section 4 of the Application. The Madison County Conditional Use Permit established setbacks of a minimum of 100 from the centerline of public roads, 200 feet from properties that do not contain a residence and 100 feet from properties that do contain a residence, from the Applicant's solar energy system.
- 8 The operational noise study report provided in Appendix D identifies the noise levels expected by the facility. The findings are further explained in Section 3.

2 COMPATIBILITY WITH SCENIC SURROUNDINGS

REQUIREMENT: *per KRS 278.708 (3)(b); An evaluation of the compatibility of the facility with scenic surroundings.*

COMPLIANCE: The Project site is located in an agricultural and rural residential area of eastern Madison County. As noted by Richard Kirkland in his report attached as Appendix A, “larger solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. . . . The solar panels are all less than 15 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as these proposed panels.”

The Project will adhere to the additional vegetative screening plan presented in Attachment B to the Application. This will help ensure that the Project will be compatible with the scenic surroundings.

In addition, see Appendix E for a Visual Assessment report written by Tetra Tech studying potential visual impacts to the community surrounding the proposed facility. Page 10 discusses the overall impact of the Project as short term while screening vegetation grows in and with varying impacts from one location to another due to the rolling terrain and dense stands of trees of the surrounding area. Pine Grove Solar is obligated pursuant to the CUP to plant screening vegetation and will do so.

3 PROPERTY VALUE IMPACTS

REQUIREMENT: *per KRS 278.708 (3)(c); The potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the facility.*

COMPLIANCE: Please refer to the Property Value Impact Report provided as Appendix A (Kirkland Appraisals LLC 2022). In his transmittal letter, Mr. Kirkland provides the following conclusions on page 1.

The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where the solar farm is properly screened and buffered. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial negative effect to abutting or adjoining properties, and many of those findings of no impact have been upheld by appellate courts. Similar solar farms have been approved with adjoining agricultural uses, schools, churches, and residential developments.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting properties and that the proposed use is in harmony with the area in which it is located. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is minimal traffic.

4 ANTICIPATED NOISE LEVELS

REQUIREMENT: *per KRS 278.708 (3)(d); Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the project boundary*

COMPLIANCE: See Appendix D for a report studying the anticipated operational and construction noise levels as studied and measured at nearby Sensitive Receptors (SR). The excerpt below is a brief summary found on page 12 of Appendix D.

Operational sound levels were modeled and evaluated at NSRs in the Project area. Anticipated Project sound sources consist of the collector substation main power transformer and inverters and distribution transformers located at the power conversion stations. Modeling results show that Project operations will successfully comply with the U.S. EPA threshold of 55 dBA Ldn. Overall, sound emissions associated with the Project are expected to remain at a low level, consistent with other solar energy facilities of similar size and design sited in the State of Kentucky.

Additionally, the Madison County Board of Adjustments has mandated that all construction operating times shall be limited to 6:00 a.m. to 6:00 p.m. and the site will be cleared by 7:00 pm. Workdays will be seven days a week until completion of the project. Pile driving will only be permitted from 7:00 am to 5:00 pm Monday through Friday.

During construction, it is anticipated that the loudest noise will be generated from the temporary and migrant pile driving of the panel-racking system, which has been evaluated by the U.S. Department of Transportation Federal Highway Administration to be 101 dBA at 50 feet. Pine Grove Solar is familiar with prior noise studies submitted to the Siting Board by other projects and believes the anticipated noise generated during construction by those projects is consistent with the noise anticipated to be generated by this project. In compliance with the conditions issued by the Madison County Board of Adjustments, pile driving will only take place between 7:00 am to 5:00 pm, Monday through Friday.

5 EFFECT ON ROAD AND RAILWAYS

REQUIREMENT: *per KRS 278.708 (3)(e); The impact of the facility's operation on road and rail traffic to and within the facility, including any anticipated degradation of roads and lands in the vicinity of the facility*

COMPLIANCE: The report provided in Appendix F discusses the Project's impact on road and rail traffic, and possible degradation of roads as a result of the Project. The following is the conclusion of the report on page 7.

As part of the project, four driveways will be constructed on Pine Grove Road to provide temporary construction access and permanent O&M access to the site from the public and private roadway network. A review of available sight distance at the proposed stie driveways indicate that adequate sight lines are anticipated to be provided. The adjacent roadways are anticipated to have ample capacity to accommodate the temporary increase in daily and peak hour traffic. The Project will generate even less traffic post construction with only occasional routine inspection and maintenance of the solar panels and supporting equipment.

Based on the analyses performed, no changes to the roadway network are recommended within the study area in order for traffic conditions to operate within acceptable conditions.

Construction and associated land disturbance associated with the proposed project may temporarily contribute airborne materials. The Project will utilize Best Management Practices such as: appropriate revegetation measures, application of water, or covering of spoil piles, to minimize dust. Additionally, open-bodied trucks transporting dirt will be covered while moving. During construction activities water may be applied to internal road system to reduce dust generation. Water used for dust control is authorized under the Kentucky Pollutant Discharge Elimination System (KPDES) as a non-stormwater discharge activity, which will be required for the proposed project.

6 MITIGATION MEASURES

REQUIREMENT: per KRS 278.708(4): *The site assessment report shall also suggest any mitigating measures to be implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report; and per KRS 278.708(6); The applicant shall be given the opportunity to present evidence to the board regarding any mitigation measures. As a condition of approval for an application to obtain a construction certificate, the board may require the implementation of any mitigation measures that the board deems appropriate.*

COMPLIANCE: Specific mitigation measures are listed below. These measures are the Madison County Conditional Use Permit conditions for the project.

AES Clean Energy a subsidiary of The AES Corporation, and Pine Grove Solar, LLC shall all adhere to the following requirements/conditions:

1. Construction operating times are as follows:
 - a. Workday will begin at 6:00am and end 6:00pm and site will be cleared by 7:00pm
 - b. Workdays will be seven days a week until completion of project
 - c. Pile driving will only run from 7:00am -5:00pm Monday thru Friday
2. Setbacks: Setbacks shall be 100ft from the center of any road. Setbacks shall be 100ft between the solar facility (includes fencing, panels, structures, or other related equipment) and any adjacent nonparticipating property. Setbacks shall be 200ft between the solar facility (includes fencing, panels, structures, or other related equipment) and any adjacent property which contains a residence.
3. Solar Panel Height: Height of panels shall not exceed 15ft at maximum tilt of the solar panels
4. Fencing: A Fence shall be constructed to enclose and secure the solar farm facility. Fencing shall be at least 6ft in height above ground level. If fencing is made of chain link material, it must be slatted or screened with a color to match the surrounding environment. If fencing is not a chain link material, fence must be made of an opaque material with color of natural wood or surrounding environment. This fence must meet all electric utility safety and security guidelines. A separate fence will enclose the substation.
5. Maintenance: Applicant shall provide to the Madison County Planning and Development Director a continuing maintenance plan for the entire project prior to construction and before production of solar energy commences on the solar farm. This plan will be updated annually on July 1st. This plan will include but not be limited to the following:
 - a. Any physical modifications to the solar farm and/or its infrastructure
 - b. Complaints pertaining to setbacks, noise, appearance, safety, lighting, and any use of public roads received by the applicant, owner and/or operator concerning the solar farm facility and the resolutions of such complaints
 - c. Calls for emergency services, including the nature of the emergency and how it was resolved, and this includes any environmental incidents whether considered emergency or not
 - d. Status/proof of liability insurance
 - e. Maintenance of Access Roads, Solar Panels, vegetation control, fence line maintenance, trash and debris clean up, wildlife protection, creek and stream protection and environmental protection

- f. In addition, this plan must provide a local point of contact should an emergency or other issue arise
 - g. Any other information that the County might reasonably request on the initial plans or annual updates
 - h. Within 30 days of submission of initial and subsequent Maintenance Plans to the Planning and Development Director, the Planning and Development Office will review the Maintenance Plan and conduct an on-site field inspection of the solar farm facility.
 - i. Within 60 days of Maintenance Plan submission, Planning and Development office will compile a written report of any findings and request the help of any Madison County department to assist them with any remedy recommendations. The Solar Farm Facility will have a reasonable time, set by the Planning and Development Director, to remedy any maintenance issues not found to comply.
 - j. There will be a \$500 Fee for the initial and each subsequent annual maintenance plans. This fee will be due upon submission of each report. Failure to provide the annual maintenance plans and payment of required fee shall be considered a cessation of operations.
6. Installation and Design: Solar Farm Facility will be designed and located to prevent/limit glare toward any adjacent properties and all roadways in addition to any requirements of the Federal Aviation Administration
 7. Lighting: Lighting will be shielded and directed so that it does not spill on to adjacent properties and roadways.
 8. Noise: Noise levels, during operation, shall not exceed 50 decibels when measured at the property line of an adjacent nonparticipating properties. Noise levels will be enforced by local and state officials. Only exception of this is during the pile driving phase of construction.
 9. Landscaping: A landscaping screen will be on the outside of the required fencing, around the entire perimeter of the solar farm.
 - a. The screening shall consist of a continuous line of native evergreen foliage and/or native shrubs and/or native trees and/or any existing wooded area and/or plantings of tall native grasses and other native flowering plants. Screening shall not be required if solar farm is not visible to a dwelling or roadway by virtue of existing topography as determined by the Madison County Planning and Development Director.
 - b. Landscaping under panels will be of native or other types of grasses. No gravel or concrete ground covering unless needed for roadway or to be support pads for accessory equipment or allow proper drainage.
 10. Wiring: All Wiring between solar panels and other facilities (ie substations, O&M Buildings, Inverters) shall be underground unless applicant can show a special hardship in a particular location. A waiver may be granted by the Madison County Planning and Development Director.
 11. Outdoor storage: Only outdoor storage of materials, vehicles and equipment that directly support the operation and maintenance of this solar farm facility will be allowed and shall be subject to the same fencing and screening requirements as the rest of the solar farm unless already within the confines of the required fencing in Condition #3.
 12. Buildings: Any buildings built in support of this solar farm must be constructed of material that best blend in with the surrounding environment (ie: color, building height, foundation type, etc). This condition will be at the discretion of the Planning and Development director.
 13. Access Points: Any new access point for this project from county roads must be approved by the Madison County Road Supervisor. These access points must be similar in design to the surrounding properties.

14. Roads: Prior to the start of construction, the applicant will provide the Madison County Road Department with a roads survey. This survey will map and log all the conditions of the county roads that will be used during the construction of this project. This will ensure that the applicant returns the roads post construction to pre-construction condition or better. In addition, the applicant shall post a bond in an amount determined by the Madison County Road Supervisor sufficient to guarantee the above. Madison County Fiscal Court will be the beneficiary of such bond.
15. Decommission: Prior to the start of construction, applicant will submit a decommissioning plan to the Madison County Planning and Development office and make it available to anyone upon request. Applicant will commit to the following decommissioning requirements to be performed within 12 months from the date the lease expires or terminates or proof that the Solar Farm Facility is no longer generating/producing solar energy:
 - a. Description of the plan to remove the solar farm facility equipment, solar panels and any other improvements and restore the land to its previous use upon the end of the project's life
 - b. Provisions for Removal of solar facilities, structures, debris and associated equipment to a depth of not less than 4ft of surface grade and the sequence in which removal is to be expected
 - c. Provisions for removal of all infrastructure including concrete mountings and foundations
 - d. Provisions to restore the land to as close to pre-construction condition as reasonably practical including soil and vegetation restoration
 - e. An estimate of the decommissioning costs in future dollars at the time of filing certified by a disinterested third party certified professional engineer
 - f. A written financial plan approved by the Planning and Development Director to ensure that funds will be available for decommissioning and land restoration
 - g. A provision that the terms of the decommissioning plan shall be binding upon the applicant, owner and/or operator and any of their successors, assigns or heirs
 - h. Upon review of the decommissioning plan, the Planning and Development Director/Office shall set an amount to be held in the form of a Bond
 - i. This Plan shall state that the project applicant/owner/operator shall provide the Madison County Fiscal Court with financial assurance to cover the estimated costs of decommissioning of the solar farm facility/project and that the Madison County Fiscal Court shall have access to the solar farm facility/project and to the Bond proceeds to effect or complete decommissioning within one (1) year after cessation of operations; and,
 - j. The Applicant/owner/operator shall provide Madison County Planning and Development Director/Office with a new estimate of the cost of decommissioning of the solar farm facility/project every five (5) years under the same conditions as set forth in this section above. Salvage value of structures, electrical wire and other appurtenances shall be considered within the cost estimate calculations. Upon receipt of this new estimate, the county may require, and the applicant, owner and/or operator shall provide, a new financial plan for decommissioning acceptable to the Planning and Development Director/Office or their designated representative. A new Bond amount may be determined and required to ensure decommissioning is adequately funded. Failure to provide these new cost estimates and updated financial plans every five (5) years shall be considered a cessation of operations.
16. Bonds/Guarantees: Pine Grove Solar, LLC, will provide a bond/guarantee ensuring the decommissioning of the site under the proposed requirements stated above. The beneficiary of said bond/guarantee shall be:
 - a. If leased there will be a dual beneficiary between the property owner and Madison County

Fiscal court. In the event the property owner fails to reclaim the property to pre-construction condition, Madison County Fiscal court shall have the sole authority to execute the bond for purposes of reclaiming the property to pre-construction condition.

- b. If property is owned by applicant, then Madison County Fiscal court will be beneficiary of said bond/guarantee and shall have the sole authority to execute the bond for purposes of reclaiming property to pre-construction condition.
17. Safety: Applicant shall provide a report to the planning and development office identifying any special hazards associated with this project. Report will identify any special signage High Hazard areas or specialized training that may be required for first responders related to this project.
18. Compliance: In addition to the items listed above the applicant must comply with any and all Local, State, and Federal guidelines that would be related to a project such as this. In the event the applicant fails to comply with any condition mentioned above, the permit to operate this facility will be suspended and the facility must cease production until such time as the deficiencies are corrected or the solar farm facility/project must be decommissioned.
19. Cessation of Operations: If any Solar farm Facility/Project has not been in operation and production of solar energy electricity for at least two hundred seventy (270) consecutive days then it will be deemed to be in cessation of operations and decommissioning must commence. The Madison County Planning and Development Office/Director shall notify applicant, owner and/or operator of their decommissioning commitment. Within 30 days the applicant, owner and/or operator shall provide evidence of operation and production of solar energy electricity or begin decommissioning. If the applicant, owner and/or operator fails to refuse to begin decommissioning then the Madison County Fiscal Court has the right to bring legal action and claim Bond proceeds to begin decommissioning.
20. Indemnification and Liability:
 - a. The applicant, owner and/or operator of the solar farm facility/project shall defend, indemnify, and hold harmless the County of Madison and its officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses and liabilities whatsoever, including attorney fees, without limitation, arising out of acts or omissions of the applicant, owner and/or operator associated with the construction and/or operation of this solar farm facility/project.
 - b. The applicant, owner and/or operator of the solar farm facility/project shall maintain a current general liability policy covering bodily injury and property damage with limits set by the Planning and Development Office/Director and/or their designated representative sufficient to cover a project of this size. Evidence of liability coverage must be reported and presented to the Madison County Planning and Development Office/Director prior to any construction and on an annual basis every July 1st. Any loss of coverage must be reported to the Madison County Planning and Development Office/Director within three (3) working days of loss. Failure to maintain coverage shall be considered a cessation of operations.
21. Penalties:
 - a. A failure to obtain applicable building permit(s) for construction of this solar farm facility/project or failure to comply with the requirements of a building permit or the provisions of this Conditional Use Permit shall be deemed a violation of this Conditional Use Permit. The Madison County Attorney and/or the KY Commonwealth Attorney may bring action to enforce compliance.
 - b. Applicant, Owner and or Operator could be imposed with fines of not less than \$25 or no more than \$500 for violations of any of the terms of this Conditional Use Permit.
 - c. Nothing herein shall prevent the Madison County Fiscal Court from seeking such other legal remedies available to prevent or remedy any violations of this Conditional Use Permit.

In addition, the Project has prepared a Decommissioning Plan which is attached within Appendix G, to be used for guidance upon Project termination.