Site Assessment Report

South Fork Solar Project

Nicholas County, Kentucky

Case No. 2026-00256

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TABLE OF CONTENTS

1.0 Introduction **1**

2.0 Description of Proposed Facility **2**

2.1 Surrounding Land Uses 2

2.2 Legal Boundaries 3

2.3 Proposed Access Control 3

2.4 Location of Structures 3

2.5 Location and Use of Roads and Railways 3

2.6 Existing or Proposed Utilities 4

2.7 Compliance with Setbacks 4

2.8 Evaluation of Noise Levels 5

3.0 Evaluation of Compatibility with Scenic Surroundings **6**

4.0 Property Values and Land Use **7**

5.0 Anticipated Noise Levels **8**

6.0 Traffic, Roads, and Fugitive Dust **10**

7.0 Proposed Mitigation Measures **12**

LIST OF APPENDICES

Appendix A. Preliminary Site Plan

Appendix B. Property Value Impact Analysis

Appendix C. Parcel Map

Appendix D. Lease Agreements

Appendix E. Noise Assessment Report

Appendix F. Visual Impact Assessment

Appendix G. Solar Glare Analysis Report

Appendix H. Route Evaluation Study

1.0 INTRODUCTION

South Fork Solar, LLC (the Applicant) is seeking to construct the South Fork Solar Project (the Project) in Nicholas County, Kentucky. Kentucky Revised Statues (KRS) 278.706(2)(l) requires that a complete application include a site assessment report. Per KRS 278.708(3), the site assessment report shall include:

(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 278.704(2), (3), (4), or (5); and
   8. Evaluation of the noise levels expected to be produced by the facility;

(b) An evaluation of the compatibility of the facility with scenic surroundings;

(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;

(d) Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary; and

(e) The impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility.

Per KRS 278.708(4), the site assessment report shall suggest any mitigating measures to be implemented by the Applicant to minimize or avoid adverse effects identified in the site assessment report. This *Site Assessment Report* was prepared for the Applicant by Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR).

2.0 DESCRIPTION OF PROPOSED FACILITY

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 278.704(2), (3), (4), or (5); and*
8. *Evaluation of the noise levels expected to be produced by the facility*.

The South Fork Solar Project (the Project) is a proposed 45-megawatt (MW) solar facility located on approximately 315 of the 498 acres of private land (the Project Area) in unincorporated Nicholas County, Kentucky. The Project will consist of photovoltaic (PV) panel arrays, electrical collection lines, inverters, access roads, temporary laydown yards, perimeter fencing, and electrical interconnection facilities. A map of the preliminary site plan is included as Appendix A. The interconnection facilities will include a substation, a switchyard, and a nonregulated electric transmission line connecting the substation to the adjacent switchyard and then to an existing transmission line. The nonregulated transmission line is estimated to be no more than 300 feet in length and will be located entirely within the Project boundary. The facility will deliver power to a single point of interconnection (POI) on the existing Millersburg Junction-Headquarters 69-kilovolt (kV) transmission line, owned by the East Kentucky Power Cooperative (EKPC).

2.1 Surrounding Land Uses

Land uses surrounding the Project Area predominantly consist of agricultural land and rural homesteads, as further discussed in the *Property Value Impact Analysis* prepared by Kirkland Appraisals, LLC (Appendix B). Surrounding land use is summarized in Table 2-1.

Table 2-1. Adjacent Land Use

Land Use Category	Acreage
Agriculture/ Residential	81%
Agricultural	18%
Recreational	1%

2.2 Legal Boundaries

A map of the parcels within the Project Area is included in Appendix C. A summary of the parcels within the Project Area is included in Table 2-2. Copies of the lease agreements for the Project are included in Appendix D.

Table 2-2. Project Area Parcels

Parcel ID	Owner	Acreage
010-00-00-008.00	Luther, Rebekah, Darrell and Kathy Myers	297
017-00-00-017.00	Luther, Rebekah, Darrell and Kathy Myers	201

2.3 Proposed Access Control

Public access to the PV array areas will be restricted by a perimeter fence up to 7 feet in height. The Project is currently evaluating fencing options, including agricultural-style fencing that better pairs with the rural character of the surrounding area. The facility substation and switchyard are expected to be surrounded by a chain-link security fence topped by barbed-wire strands on extension arms, for a total height of up to 8 feet. Project entrances from public roads will be gated for security. Internal graveled roadways will provide access to facility components. The preliminary site plan shows locations for the proposed access roads and fenced areas (Appendix A). Facility lighting will be installed where necessary for safe facility operation and will be downward facing where practicable to minimize light trespass onto neighboring properties.

2.4 Location of Structures

The proposed locations of all Project infrastructure (buildings, transmission lines, and other structures) are included in Appendix A.

2.5 Location and Use of Roads and Railways

The proposed Project access roads are shown in Appendix A. The Project will be accessed from Carpenter Pike/State Highway 386 at Speaser Lane/County Road 1215, which enters the Project Area from the west and becomes a private road within the site. The anticipated route to the site is from U.S. Route 68 to Carpenter Pike, then south to Speaser Lane. New private gravel access roads are expected to be used for equipment and materials delivery within the Project Area. Construction traffic could also use U.S. Route 68 to Concrete Road/State Highway 36 to Miller

Station Road, then onto Carpenter Pike and north to the site. These routes provide access to the site from multiple directions and allow for one-way ingress and egress to the site for equipment delivery vehicles. Probable routes to the site are shown in Appendix H.

The Transkentucky Transportation Railroad runs east-west along the northern border of the Project Area. The rail system is not anticipated to be used for the transportation of any Project components.

2.6 Existing or Proposed Utilities

Electric power necessary for operation of the facility at the substation control room is anticipated to be obtained through the local electricity provider.

2.7 Compliance with Setbacks

KRS 278.704(2) requires, for merchant generating facilities such as the Project, that the exhaust stack of the proposed facility and any wind turbine to be at least 1,000 feet from adjoining property boundaries. The Project will not include an exhaust stack or wind turbine, so this setback does not apply. KRS 278.704(2) also requires structures or facilities used for the generation of electricity to be located at least 2,000 feet from a residential neighborhood, school, hospital, or nursing home facility. There are no schools, hospitals, nursing home facilities, or residential neighborhoods within 2,000 feet of structures or facilities used for the generation of electricity for the Project.

KRS 278.704(3) requires merchant generating facilities proposed to be located in a county or municipality with planning and zoning to follow the setbacks established by the planning and zoning commission. The Project is located in Nicholas County, which has not established a planning and zoning commission pursuant to KRS Chapter 100 and, therefore, has not enacted any planning and zoning for the Project location. There are no setback requirements established by a planning and zoning commission for the Project location.

KRS 278.704(4) allows the board to grant a deviation from the requirements of subsection (2). As discussed previously, no deviation is needed for the Project. The Project is not proposed to be

located on a site of a former coal processing plant in the Commonwealth where the electric generating facility will utilize on-site waste coal as a fuel source, so KRS 278.704(5) does not apply.

As shown on the preliminary site plan (Appendix A), the Applicant has incorporated voluntary setbacks of 100 feet from adjacent property lines, 50 feet from jurisdictional wetlands, 75 feet from existing transmission lines, and 100 feet from public roads. The nearest residence to a solar array is approximately 671 feet.

2.8 Evaluation of Noise Levels

A *Noise Assessment Report* prepared by Paxwood Acoustics, LLC, is included as Appendix E. During construction, sound-producing activities will be intermittent and for a given area occur over a relatively short period of time. While some construction activities produce little noise such as assembly and wiring, some involve the use of heavy machinery. The noise levels associated with these activities are evaluated in Table 1 of Appendix E. During operation, inverters and transformers may produce sound during the day; only transformers would produce sound at night as these remain energized. The anticipated operational noise levels are provided in Figures 2 and 3 and Appendix C within Appendix E. Projected operational sound levels are less than published community guidelines for noise impacts from the U.S. Environmental Protection Agency and World Health Organization. Noise levels are discussed in further detail in Section 5.0 of this report.

3.0 EVALUATION OF COMPATIBILITY WITH SCENIC SURROUNDINGS

KRS 278.708(3)(b) *An evaluation of the compatibility of the facility with scenic surroundings*

EDR prepared a *Visual Impact Assessment* for the Project (Appendix F), which describes an evaluation of the potential visibility of the facility and compatibility with the scenic surroundings. As part of the evaluation, a preliminary viewshed analysis was completed to determine the geographic extent of potential Project visibility. The results suggest that the facility will not be visible from locations beyond 2 miles from the Project Area. Additionally, based on observations of operational projects, PV panel arrays become indistinguishable at distances beyond 2 miles due to their low profile, the limits of human visual acuity, and atmospheric haze. Therefore, the Project's visual study area (VSA) has been conservatively defined as the area within a 2-mile radius surrounding the Project Area.

The viewshed analysis indicates that PV panel visibility would be limited to 9.7% of the VSA and the Project substation could be visible from approximately 6.7% of the VSA. Therefore, the majority of areas within the VSA would not experience visibility of the facility and would not experience any visual impacts.

EDR also conducted a search for resources that could be considered visually sensitive based on the type or intensity of use they receive. Of the 30 visually sensitive resources identified within the VSA, nine have potential visibility of the PV panels and/or Project substation. The anticipated visual effect on these resources is minimal, as discussed further in the report.

Photographic simulations of potential views of the Project are included in Appendix F, along with an evaluation of potential visual impacts at each view. The selected views represent public viewing locations with the highest potential for Project visibility.

EDR also prepared a *Solar Glare Assessment Report* (Appendix G) to identify potential glare impacts from the facility on adjacent public roadways and at residences where there is potential visibility of the Project. Based on the current site plan and use of single-axis tracking arrays, no glare is anticipated at any public roadways or residences. As such, glare from the Project is not anticipated to impact the compatibility of the facility with the scenic surroundings.

4.0 PROPERTY VALUES AND LAND USE

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*

Kirkland Appraisals, LLC was retained by the Applicant to conduct a property value and land use assessment for the proposed facility. The *Property Value Impact Analysis* (Appendix B) includes a review of data from existing solar facilities, university studies, and assessor surveys. The report concludes:

> 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.
>
> The data that I have researched includes new home construction as well as new subdivision developments adjoining solar project [sic] which speaks to a finding of no impact on adjoining uses and development potential.
>
> 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 is quiet, and there is minimal traffic.

See Appendix B at 2.

5.0 ANTICIPATED NOISE LEVELS

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

Paxwood Acoustics, LLC was retained by the Applicant to prepare the *Noise Assessment Report* (Appendix E) to evaluate anticipated peak and average noise levels associated with the facility's construction and operation at the nearest residence and Project boundary.

Table 1 of Appendix E describes anticipated sound levels associated with construction equipment commonly used during the construction of solar facilities, assuming hard ground, flat terrain, and no attenuation from forests, which results in conservative estimates. For each type of equipment, sound levels were predicted at the closest PV panel and inverter to a non-participating residence. At times when construction activity occurs farther away from property boundaries and receptors, sound levels will be less than those predicted in this analysis. The projected equivalent continuous sound levels (L_{eq}) from construction equipment at the closest panel to a residence range from 47 to 73 A-weighted decibels (dBA). The projected maximum sound levels (L_{max}) range from 47 to 79 dBA.

Earth moving equipment (e.g., excavator, dozer, roller, grader) is not expected to exceed 66 dBA (L_{max}) at the nearest PV panel to a non-participating residence. Pile driving is not anticipated to exceed 79 dBA (L_{max}) at the nearest PV panel to a non-participating residence. Earth moving activities and pile driving in any one area are anticipated to be completed in relatively short time periods, so expected noise impacts are anticipated to be minimal. Horizontal directional drilling (HDD) activities are not anticipated to exceed 66 dBA (L_{max}) at the nearest residence. As HDD activities would take place at a few select locations within the Project boundaries, noise impacts from HDD construction activities are anticipated to be minimal.

Sound modeling of the Project during operations, based on the preliminary site plan and equipment specifications, was performed as described in further detail in Appendix E. Modeling inputs included sound emissions data from representative inverters and transformers under consideration for the facility. The sound propagation modeling conservatively assumed nighttime operation of the facility substation, as it will remain energized at night. Based on the sound

propagation modeling, the highest sound level anticipated at a non-participating residence from noise-emitting equipment during operation of the facility is 33 dBA during the day and 22 dBA at night. The highest projected sound level at the Project boundary is 50 dBA during the day and 28 dBA at night.

Ultimately, the report concluded that the Project "is expected to produce sound levels that are below the commonly-used community noise guidelines..." See Appendix E at 1.

6.0 TRAFFIC, ROADS, AND FUGITIVE DUST

KRS 278.708(3)(e) *The impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility*

Potential impacts of the facility on road traffic, degradation of roads, and fugitive dust are summarized in the *Route Evaluation Study* (Appendix H). For the majority of the delivery vehicles, no delays to local traffic should be experienced except where the delivery vehicles may need to travel on roadways less than 2 lanes in width. Any delays to local traffic will be minimal due to the low traffic volume in the Project Area. When delivery vehicles are travelling on narrow roadways or when there is an occasional oversized vehicle, traffic control will be utilized to manage local traffic. Prior to construction, a traffic control plan will be prepared that describes the procedures that will be used to manage traffic during construction. During operation and maintenance of the facility, there will be a negligible increase in traffic as solar electric generating facilities typically only require a few permanent operations staff and occasional maintenance vehicles. All required road use and access permits will be obtained from the relevant jurisdictional transportation authority. The Project is not anticipated to use railways, so no rail traffic impacts are anticipated.

Construction traffic may cause accelerated pavement deterioration or stress on pavement and drainage structures that could necessitate temporary repairs. All roads should be monitored for deterioration during construction to promptly repair public roads as needed and ensure they are safe for local traffic. After completion of construction activities, improvements may be required to return the roadways and drainage structures to pre-construction conditions. The Applicant will work with state and county authorities to address any damage to roads. Additional mitigation measures to address inadequate roads are included in Appendix H.

Fugitive dust is expected to be generated primarily from vehicular traffic on roads, general construction activities, and material handling. The level of fugitive dust will vary depending on several factors including traffic volume, vehicle speed, road surface conditions, and weather conditions such as wind speed and precipitation. Internal access roads will consist of gravel, which may generate airborne dust particles during dry conditions and when internal roadway traffic is heavy during construction. To address the anticipated levels of fugitive dust, mitigation measures

are recommended during construction activities. These include implementing Project speed limits, barriers, and other traffic control measures; along with the use of water for dust control as authorized under the Kentucky Pollutant Discharge Elimination System as a non-stormwater discharge activity.

7.0 PROPOSED MITIGATION MEASURES

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*

Proposed mitigation measures to minimize or avoid potential adverse effects are discussed in detail in each section of the report and are listed below.

- Facility lighting will be downward facing and/or motion-switch activated to minimize light trespass onto neighboring properties to the greatest extent practicable.
- The Project is surrounded by extensive existing vegetation, preventing the need for planting additional visual screening. Existing vegetation between the Project and homes will be left in place to the greatest extent feasible to help minimize visual impacts and screen the Project from nearby homeowners and travelers. Woodlots and hedgerows surrounding the perimeter of the site have been avoided in the current site plan. Other than minimal tree trimming to prevent shading of panels, tree clearing near the perimeter of the site is not anticipated.
- Solar facilities provide an opportunity for habitat enhancement from existing vegetation. The Applicant will include at least 2 acres of native, pollinator-friendly habitat to provide enhanced ecological function.
- The Applicant will develop a Soil and Vegetation Management Plan in collaboration with the Project landowners to best manage the facility and plan for future land use options following decommissioning of the Project.
- Agricultural-style fencing will be the preferred fencing option evaluated to mitigate visual impacts by helping the Project blend in with the surrounding agricultural setting. This evaluation will take place at the appropriate time of procurement prior to construction.
- Construction noise mitigation measures may include keeping construction equipment well-maintained and routinely checking vehicles using internal combustion engines equipped with mufflers to ensure they are in good working order; locating noisy equipment as far from possible from sensitive areas; and implementing a complaint resolution program to address any noise-related issues.

- Potential noise from pile driving and other construction activities will be mitigated by construction phasing and limiting noise-causing activities to certain hours. Construction activities will be limited to the hours between 6:00 a.m. through 7:00 p.m. local time, Monday through Saturday, with construction only occurring on Sunday as necessary to make up for delays. Non-noise causing and non-construction activities can take place on the site between 6 a.m. and 10 p.m. local time, Monday through Sunday, including field visits, arrival, departure, planning, meetings, mowing, surveying, etc.
- The Project has designed setbacks to aid in minimizing noise near residences and other sensitive receptors, which are depicted in Appendix C of the *Noise Assessment Report*. No further mitigation is proposed due to the distance of homes to the Project.
- The Project is not expected to create traffic delays. To mitigate fugitive dust, the Project will implement speed limits, barriers, and other traffic control measures as necessary; along with the use of water for dust control as authorized under the Kentucky Pollutant Discharge Elimination System as a non-stormwater discharge activity.
- The Applicant has incorporated voluntary setbacks of 100 feet from adjacent property lines, 50 feet from jurisdictional wetlands, 75 feet from existing transmission lines, and 100 feet from public roads. The nearest residence to a solar array is approximately 671 feet.
- The Applicant will fix or pay for repairs for damage to roads and bridges resulting from any vehicle transport to the site for the purposes of construction or operation of the Project. The Applicant will document existing road conditions prior to construction unless otherwise documented through a Road Use Agreement with the appropriate jurisdiction(s).
- The Applicant will initiate and maintain a Project Inquiry and Complaint Resolution Program to address any requests, questions, concerns, and/or complaints from community members. The Applicant strives to be a good community member and values feedback and opportunities for engagement.