

Oak Run Solar Project, LLC
Case No. 22-549-EL-BGN
Case No. 22-550-EL-BTX

Exhibit Y

Visual Impact Mitigation and Lighting Plan

August 25, 2022

OAK RUN SOLAR PROJECT

Visual Impact Mitigation and Lighting Plan

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Oak Run Solar Project, LLC (Oak Run Solar) intends to develop the Oak Run Solar Project (Project), on approximately 4,400 acres of a larger 6,050 acre Project area in Madison County, Ohio. The Project is almost exclusively sited on land used for row-crop agriculture. The Project would have a generating capacity of up to 800 megawatts alternating current and would include photovoltaic (PV) solar panels (modules) mounted on a single-axis horizontal tracker racking system (mounted on posts) to maximize solar energy capture and electric generation of the array. The maximum height of the modules on the trackers would be approximately 12 feet above ground. In solar energy facilities, electricity generated by the modules is sent to inverters located throughout the array that convert the electricity from direct current to alternating current. Underground collection lines would transmit the electricity from the inverters to the Project substations. The power generated by the Project would be conveyed from the two Project substations by two 230 kilovolt (kV) generation tie-lines (gen-tie lines) to a Project set-up substation. The Project step-up substation will contain equipment to step up incoming 230 kV electricity to interconnect into a new 765 kV switchyard that will be constructed, owned, and operated by American Electric Power (AEP) and is adjacent to the Project step-up substation. AEP will also construct, own, and operate a 765 kV transmission line to interconnect the switchyard to AEP's existing Marysville-Flatlick 765 kV transmission line. The Project may also contain a large-scale co-located battery energy storage system (BESS) up to 300 MW in size.

Oak Run Solar has actively worked throughout the development process to incorporate feedback from landowners and the community to proactively develop siting and mitigation measures to address viewshed concerns resulting from the Project. The steps taken by Oak Run Solar are contained within this Visual Impact Mitigation and Lighting Plan (Plan).

Siting Measures to Avoid Impacts

The first step taken by Oak Run Solar to mitigate the visual impact of the Project was through the Project siting effort. The Project area and surrounding vicinity are predominately agricultural areas with limited wooded areas. Oak Run Solar sited the Project infrastructure in the open areas (primarily row-crop agriculture) and avoided development in forested areas where clearing would be needed to the extent practical. By keeping the existing woodlots, Oak Run Solar is utilizing the natural screening ability of this vegetation to limit views of the Project, especially with respect to the Project step-up substation.

An additional siting component that Oak Run Solar implemented to minimize impacts was to establish setbacks from non-participating residences and parcel lines and also from public roadways. Setbacks from participating and non-participating residences and parcel boundaries were done to minimize the Project's impact on nearby residents, with setbacks of at least 300 feet from non-participating residences to the Project fenceline and 150 feet from non-participating parcel lines and public roads to

the Project fenceline. Additional considerations following discussions with neighbors and other stakeholders on the preliminary site layout were incorporated.

Project Design to Minimize Impacts

Following the effort to minimize the visual impact through siting of the Project, Oak Run Solar incorporated community and landowner feedback to identify ways to better integrate the Project into the landscape. As a result of this effort, the Project design includes agricultural, wildlife friendly fencing around the external areas of the Project rather than the typically proposed chain link fencing. This farm fencing will better blend into the existing agricultural landscape as shown in Photosimulation 1 below.

Photosimulation 1. Simulated view of Project with approximate location of agricultural farm fence implemented at the southwestern portion of the Project Area along Green Lane.



Visual Impact Mitigation

In addition to incorporation of the agricultural, wildlife friendly fencing to help minimize the visual impact of the Project, Oak Run Solar proposes to implement vegetative screening in strategic locations along the perimeter of the Project to partially screen the Project in views from the nearby residences and roadways. To identify the areas where the Project would be most visible on the landscape, Oak Run used a viewshed assessment that includes existing vegetation on the landscape to provide a realistic determination regarding the potential visibility of the Project. The output from the model is provided in Appendix A. A uniform deciduous vegetation height of 40 feet was used with the model. Consistent with the Visual Resources Technical Report included in the Application, it was assumed that any

resource located at a distance greater than 2 miles from the Project is not actually visible to the human eye.

Oak Run Solar will engage with the affected landowners to obtain feedback on preferences regarding location of the proposed screening, types of trees and shrubs, tree height, and spacing.

Lighting Plan

To further minimize the potential for construction or operation impacts of the Project to nearby residents, Oak Run Solar proposes to adopt the following lighting practices.

During construction of the Project, working hours will be limited to between 7 a.m. and 7 p.m. or until dusk when sunset is later. Because work will be done during daylight hours, there is little need for supplemental lighting to pose light pollution issues for nearby residences. However, during dawn and dusk additional lighting may be needed. In those instances, portable lighting will be utilized and limited to the active work areas. The portable lighting will be pointed downward and away from roads and residences to minimize impacts. Lighting may be necessary for security surrounding the temporary construction trailer, as well as at staging areas and laydown yards. These security lights will be pointed downward and away from nearby residences or roadways to the extent practicable.

The need for lighting during operation of the Project is limited as most maintenance activities will occur during daylight hours and will not need supplemental lighting. The Project substations will require lighting for safety and security, as well as the inverter locations. The final locations of these features and the corresponding detail on the lighting will be determined as part of the final Project layout. Lighting at the switchyard and substation will be developed in compliance with applicable federal and state requirements and will be operational throughout the nighttime hours. The installed lights will be downlit to reduce the impact on nearby residences and drivers on the adjacent roadway.

Complaints related Project lighting during construction or operation can be reported via the Complaint Resolution plan. Oak Run Solar will work to resolve these issues according to the plan's procedures.

Appendix A

Viewshed Model

V:\2028\Active\2028113244\03_data\gis\mxd\visual_assessment_figures\2028113244_OakRunSolar_Visual.aprx Revised: 2022-08-31 By: J. Heideman

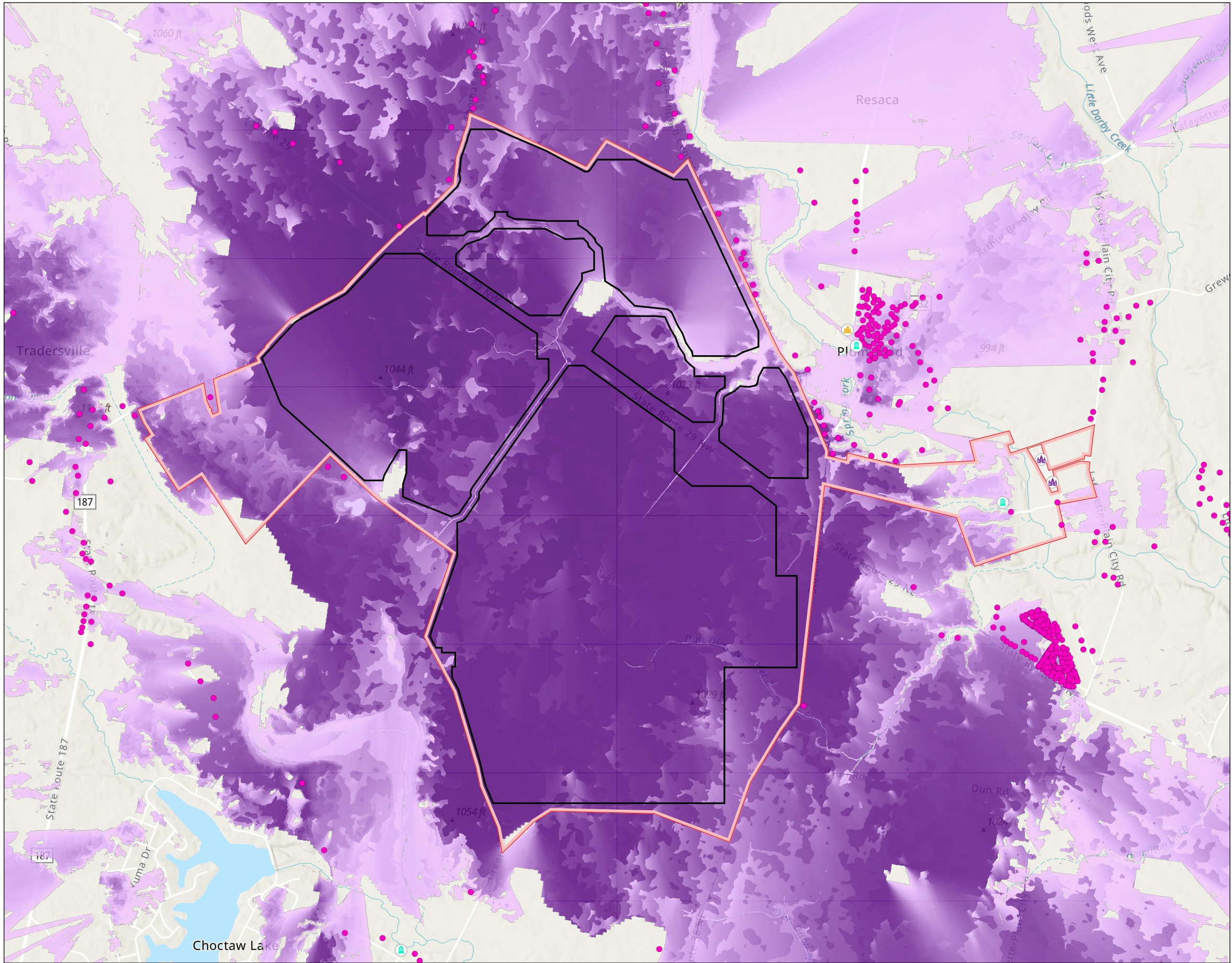
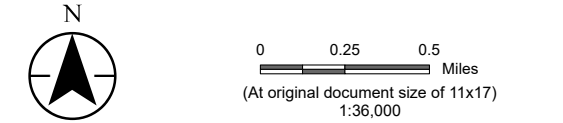


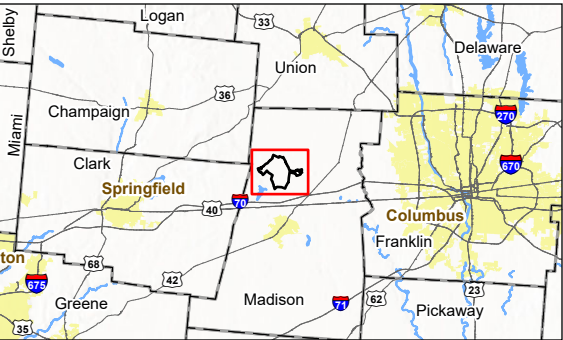
Figure No. 1
Title Project Viewshed Map (Vegetation)

Client/Project Oak Run Solar Project, LLC 2028113244
Oak Run Solar Project

Project Location Madison County, Ohio Prepared by JLH on 2022-08-31
TR by XX on 2022-XX-XX
IR by XX on 2022-XX-XX



- Legend
- Project Boundary
 - Security Fence Boundary
 - Residence
 - Cemetery
 - Place of Worship
 - School
- Visibility Assessment ⁴
- More Visible
 - Less Visible



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources: Stantec, Savion, USGS, NADS
3. Orthophotography: Esri
4. Visibility indicates the theoretical visibility of solar panels 12 feet in height above the existing terrain to a 6 foot observer height. For areas with a forested land use classification a 40 foot elevation increase was added to the terrain for analysis purposes. 3 meter elevation data and NLCD land use data were used for this analysis.



**This foregoing document was electronically filed with the Public Utilities
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Case No(s). 22-0549-EL-BGN, 22-0550-EL-BTX

Summary: Application - Application 31 of 32 (Exhibit Y – Visual Impact Mitigation and Lighting Plan) electronically filed by Christine M.T. Pirik on behalf of Oak Run Solar Project, LLC