

# Staff Report of Investigation

Sycamore Creek Solar Project  
Sycamore Creek Solar, LLC

Case No. 20-1762-EL-BGN

July 7, 2021



Mike DeWine, Governor | Jenifer French, Chair

**In the Matter of the Application of** )  
**Sycamore Creek Solar, LLC for a Certificate** ) **Case No. 20-1762-EL-BGN**  
**of Environmental Compatibility and Public Need** )

**Staff Report of Investigation**

Submitted to the  
OHIO POWER SITING BOARD

BEFORE THE POWER SITING BOARD OF THE STATE OF OHIO

**In the Matter of the Application of** )  
**Sycamore Creek Solar, LLC for a Certificate** ) **Case No. 20-1762-EL-BGN**  
**of Environmental Compatibility and Public Need** )

Chair, Public Utilities Commission	Director, Department of Natural Resources
Director, Department of Agriculture	Public Member
Director, Development Services Agency	Ohio House of Representatives
Director, Environmental Protection Agency	Ohio Senate
Director, Department of Health	

To the Honorable Power Siting Board:

In accordance with the Ohio Revised Code (R.C.) 4906.07(C) and rules of the Ohio Power Siting Board (Board), the staff of the Public Utilities Commission of Ohio (Staff) has completed its investigation in the above matter and submits its findings and recommendations in this Staff Report for consideration by the Board.

The findings and recommendations contained in this report are the result of Staff coordination with the following agencies that are members of the Board: Ohio Environmental Protection Agency, the Ohio Department of Health, the Ohio Development Services Agency, the Ohio Department of Natural Resources, and the Ohio Department of Agriculture. In addition, Staff coordinated with the Ohio Department of Transportation, the Ohio Historic Preservation Office, the U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers.

In accordance with R.C. 4906.07(C) and 4906.12, copies of this Staff Report have been filed with the Docketing Division of the Public Utilities Commission of Ohio to be served upon the Applicant or its authorized representative, the parties of record, and pursuant to Ohio Administrative Code 4906-3-06, the main public libraries of the political subdivisions in the project area.

The Staff Report presents the results of Staff's investigation conducted in accordance with R.C. Chapter 4906 and the rules of the Board, and does not purport to reflect the views of the Board nor should any party to the instant proceeding consider the Board in any manner constrained by the findings and recommendations set forth herein.

Respectfully submitted,



Theresa White  
Executive Director  
Ohio Power Siting Board

## TABLE OF CONTENTS

I. POWERS AND DUTIES.....	1
Ohio Power Siting Board .....	1
Nature of Investigation.....	1
Criteria .....	3
II. APPLICATION.....	4
Applicant .....	4
History of the Application.....	4
Project Description .....	4
Project Map .....	7
III. CONSIDERATIONS AND RECOMMENDED FINDINGS .....	8
Basis of Need.....	8
Nature of Probable Environmental Impact.....	9
Minimum Adverse Environmental Impact.....	25
Electric Grid .....	28
Air, Water, Solid Waste, and Aviation .....	31
Public Interest, Convenience, and Necessity.....	34
Agricultural Districts and Agricultural Land .....	36
Water Conservation Practice .....	37
IV. RECOMMENDED CONDITIONS OF CERTIFICATE .....	38

## **I. POWERS AND DUTIES**

### **OHIO POWER SITING BOARD**

The authority of the Ohio Power Siting Board (Board or OPSB) is prescribed by Ohio Revised Code (R.C.) Chapter 4906. R.C. 4906.03 authorizes the Board to issue certificates of environmental compatibility and public need for the construction, operation, and maintenance of major utility facilities defined in R.C. 4906.01. Included within this definition of major utility facilities are: electric generating plants and associated facilities designed for, or capable of, operation at 50 megawatts (MW) or more; electric transmission lines and associated facilities of a design capacity of 100 kilovolts (kV) or more; and gas pipelines greater than 500 feet in length and more than nine inches in outside diameter, and associated facilities, designed for transporting gas at a maximum allowable operating pressure in excess of 125 pounds per square inch. In addition, pursuant to R.C. 4906.20, the Board authority applies to economically significant wind farms, defined in R.C. 4906.13(A) as wind turbines and associated facilities with a single interconnection to the electrical grid and designed for, or capable of, operation at an aggregate capacity of five MW or greater but less than 50 MW. R.C. 4906.13 excludes from economically significant wind farms, one or more wind turbines and associated facilities that are primarily dedicated to providing electricity to a single customer at a single location and that are designed for, or capable of, operational at an aggregate capacity of less than 20 MW, measured at the customer's point of interconnection (POI) to the electrical grid.

Membership of the Board is specified in R.C. 4906.02(A). The voting members include: the Chairman of the Public Utilities Commission of Ohio (PUCO or Commission) who serves as Chairman of the Board; the directors of the Ohio Environmental Protection Agency (Ohio EPA), the Ohio Department of Health (ODH), the Ohio Development Services Agency (ODSA), the Ohio Department of Agriculture (ODA), and the Ohio Department of Natural Resources (ODNR); and a member of the public, specified as an engineer, appointed by the Governor from a list of three nominees provided by the Ohio Consumers' Counsel. Ex officio Board members include two members (with alternates) from each house of the Ohio General Assembly.

### **NATURE OF INVESTIGATION**

The Board has promulgated rules and regulations, found in Ohio Administrative Code (Ohio Adm.Code) 4906:1-01 et seq., which establish application procedures for major utility facilities and economically significant wind farms.

#### **Application Procedures**

Any person that wishes to construct a major utility facility or economically significant wind farm in this state must first submit to the Board an application for a certificate of environmental compatibility and public need.<sup>1</sup> The application must include a description of the facility and its location, a summary of environmental studies, a statement explaining the need for the facility and how it fits into the Applicant's energy forecasts (for transmission projects), and any other information the Applicant or Board may consider relevant.<sup>2</sup>

---

1. R.C. 4906.04 and 4906.20.

2. R.C. 4906.06(A) and 4906.20(B)(1).

Within 60 days of receiving an application, the Chairman must determine whether the application is sufficiently complete to begin an investigation.<sup>3</sup> If an application is considered complete, the Board or an administrative law judge will cause a public hearing to be held 60 to 90 days after the official filing date of the completed application.<sup>4</sup> At the public hearing, any person may provide written or oral testimony and may be examined by the parties.<sup>5</sup>

### **Staff Investigation and Report**

The Chairman will also cause each application to be investigated and a report published by the Board's Staff not less than 15 days prior to the public hearing.<sup>6</sup> The report sets forth the nature of the investigation and contains the findings and conditions recommended by Staff.<sup>7</sup> The Board's Staff, which consists of career professionals drawn from the staff of the PUCO and other member agencies of the Board, coordinates its investigation among the agencies represented on the Board and with other interested agencies such as the Ohio Department of Transportation (ODOT), the Ohio Historic Preservation Office (OHPO), and the U.S. Fish and Wildlife Service (USFWS).

The technical investigations and evaluations are conducted pursuant to Ohio Adm.Code 4906-1-01 et seq. The recommended findings resulting from Staff's investigation are described in the Staff Report pursuant to R.C. 4906.07(C). The report does not represent the views or opinions of the Board and is only one piece of evidence that the Board may consider when making its decision. Once published, the report becomes a part of the record, is served upon all parties to the proceeding and is made available to any person upon request.<sup>8</sup> A record of the public hearings and all evidence, including the Staff Report, may be examined by the public at any time.<sup>9</sup>

### **Board Decision**

The Board may approve, modify and approve, or deny an application for a certificate of environmental compatibility and public need.<sup>10</sup> If the Board approves, or modifies and approves an application, it will issue a certificate subject to conditions. The certificate is also conditioned upon the facility being in compliance with applicable standards and rules adopted under the Ohio Revised Code.<sup>11</sup>

Upon rendering its decision, the Board must issue an opinion stating its reasons for approving, modifying and approving, or denying an application for a certificate of environmental compatibility and public need.<sup>12</sup> A copy of the Board's decision and its opinion is memorialized upon the record and must be served upon all parties to the proceeding.<sup>13</sup> Any party to the proceeding that believes its issues were not adequately addressed by the Board may submit within

---

3. Ohio Adm.Code 4906-3-06(A).

4. R.C. 4906.07(A) and Ohio Adm.Code 4906-3-08.

5. R.C. 4906.08(C).

6. R.C. 4906.07.

7. Ohio Adm.Code 4906-3-06(C).

8. R.C. 4906.07(C) and 4906.10.

9. R.C. 4906.09 and 4906.12.

10. R.C. 4906.10(A).

11. R.C. 4906.10.

12. R.C. 4906.11.

13. R.C. 4906.10(C).

30 days an application for rehearing.<sup>14</sup> An entry on rehearing would then be issued by the Board within 30 days and may be appealed within 60 days to the Supreme Court of Ohio.<sup>15</sup>

### CRITERIA

Staff developed the recommendations and conditions in this *Staff Report of Investigation* pursuant to the criteria set forth in R.C. 4906.10(A), which reads, in part:

The board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the board, unless it finds and determines all of the following:

- (1) The basis of the need for the facility if the facility is an electric transmission line or gas pipeline;
- (2) The nature of the probable environmental impact;
- (3) That the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations;
- (4) In the case of an electric transmission line or generating facility, that the facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability;
- (5) That the facility will comply with Chapters 3704, 3734, and 6111 of the Revised Code and all rules and standards adopted under those chapters and under section 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code;
- (6) That the facility will serve the public interest, convenience, and necessity;
- (7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929 of the Revised Code that is located within the site and alternative site of the proposed major utility facility. Rules adopted to evaluate impact under division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site; and
- (8) That the facility incorporates maximum feasible water conservation practices as determined by the board, considering available technology and the nature and economics of the various alternatives.

---

14. R.C. 4903.10 and 4906.12.

15. R.C. 4903.11, 4903.12, and 4906.12.

## **II. APPLICATION**

### **APPLICANT**

Sycamore Creek Solar, LLC (Applicant) is a wholly owned subsidiary of National Grid Renewables Development, LLC. National Grid Renewables, headquartered in Minneapolis, Minnesota, is a developer of utility scale solar and wind energy projects. The Applicant would construct, operate, and maintain the facility.

### **HISTORY OF THE APPLICATION**

On January 4, 2021, the Applicant filed a pre-application notification letter regarding the project.

On January 26, 2021, the Applicant held a virtual public informational meeting for the project.

On February 12, 2021, the Applicant filed an application with the Board for a certificate of environmental compatibility and public need to construct the facility.

On April 8, 2021, the Applicant filed a supplement to the application.

On April 13, 2021, the Executive Director of the OPSB issued a letter of compliance regarding the application to the Applicant.

On May 24, 2021, the Crawford County Commissioners and the Township Trustees of Cranberry Township requested to intervene in this proceeding.

On June 9, 2021, the Ohio Farm Bureau Federation requested to intervene in this proceeding.

A local public hearing has been scheduled for July 22, 2021, at 6:00 p.m. The evidentiary hearing is scheduled to commence on August 5, 2021, at 10:00 a.m.

This summary of the history of the application does not include every filing in case number 201762-EL-BGN. The docketing record for this case, which lists all documents filed to date, can be found online at <http://dis.puc.state.oh.us>.

### **PROJECT DESCRIPTION**

The Applicant intends to construct the Sycamore Creek Solar Project, a 117 MW solar-powered generating facility in Cranberry Township in Crawford County. The project would consist of large arrays of photovoltaic (PV) modules, commonly referred to as solar panels, ground-mounted on a tracking rack system. The project would occupy approximately 917 acres comprised of private land secured by the Applicant through agreements with the landowners. Facility components would occupy 650.1 acres of land within the 917-acre project site. The project would include associated facilities such as access roads, an operations and maintenance (O&M) building, underground electric collection lines, pyranometers, inverters and transformers, a collection substation, and an interconnection switching station. The Applicant plans to secure the project with perimeter fencing which would be six-foot tall topped with one foot of barbed wire and accessed through gated entrances. The Applicant would ensure that solar modules are setback a minimum of 300 feet from adjacent non-participating residences, and at least 50 feet from non-participating property lines and 50 feet from public roads.



## **Solar Panels and Racking**

The solar panels would be attached to metal racking. The racking would include steel piles driven approximately eight to 15 feet into the ground. PV modules have not yet been procured for the project. The project would use microcrystalline bifacial silicon panels.<sup>16</sup> The Applicant would follow the US EPA's safety procedures to ensure all panels are compliant with the US EPA's Toxicity Characteristics Leaching Procedure ("TCLP") testing protocol. Depending on the module selected, the facility would include between 250,000 and 300,000 panels. The solar panel arrays would be grouped in large clusters that would be fenced in with gated entrances and electronic security systems. The highest point of each module would be approximately 17 feet, and the fence would not exceed seven feet. The project's arrays would be mounted on a single-axis tracking system that would rotate east-west to track the sun as it moves through the sky each day.

## **Collection System**

The Applicant would install an underground collector system made up of a network of electric and communication lines that would transmit the electric power from the solar arrays to a central location. The underground collector system would consist of approximately 10.4 miles of alternating current (AC) collection cable and direct current (DC) collection cable.

The underground lines would be installed by direct burial method or horizontal directional drilling (HDD). Installation of the cable would require an approximately 20-foot wide temporary work area along its entire length. The below grade portion of the collector system would be buried at a depth of at least three feet.

The electricity from the solar panels would be generated in direct current (DC). DC power from the solar panels would be delivered to circuits, which would be routed through cable trays, then to combiner boxes. Power from the combiner boxes would be transmitted to groups of components, collectively called an inverter, which would include a DC-to- AC inverter, a step-up transformer that would increase the voltage to 34.5 kV, and a cabinet containing power control electronics. This would be housed in a power conversion station mounted on a concrete foundation. The facility would include approximately 32 inverters.

## **Collection Substation and Transmission Line**

The facility collection substation and switchyard would occupy approximately 2.8 acres of land and would interconnect to the Chatfield-Howard section of the existing 138 kV AEP Howard-West End Fostoria transmission line. The project would include a switching station between the project substation and the Howard-West End Fostoria circuit, which would serve as the interconnection point for the project. The project substation and the switching station would be adjacent to the existing Howard-West End Fostoria 138 kV transmission line. The overhead transmission line connecting the switching station to the transmission line will be considered in a future separate application to the Board. The major components of the Applicant's substation would be a collection system bus, a main power transformer, circuit breakers, surge arrestors, insulators, and a lightning mast. The collection substation and switchyard would be centrally located between Orr

---

16. Current solar panel technology are one of two basic types: crystalline or thin-film. Crystalline modules are silicon-based. Thin-film modules use several alternative semi-conducting compositions (such as cadmium telluride or copper indium gallium selenide). When the selected panel is a thin-film module, the panels typically contain only exceedingly small amounts of potentially hazardous materials, all of which are safely encased in polymer and tempered glass within an aluminum frame.

Road and Heetrich Road, on the north side of the existing AEP Howard-West End Fostoria transmission line.

The collection substation, switchyard, and electric transmission line are denoted on the maps in this report.

### **Roads**

The Applicant proposes to construct approximately 7.6 miles of new access roads for construction, operation, and maintenance of the solar facility. After construction, the finished access roads would be approximately 16 feet in width with two-foot shoulders.

### **Construction Laydown Area**

The Applicant proposes to use at least one centralized permanent laydown area, and up to 14 temporary construction laydown areas. The centralized laydown area would be located near the project substation and utilized for material and equipment storage, construction parking, and construction trailers. The laydown area(s) would be restored at the end of construction.

### **Weather Stations**

The project would include approximately six weather stations. These stations contain devices to measure solar irradiance, barometric pressure, rain gauge, temperature (i.e. thermometers), and wind speed. Solar irradiance is the amount of solar energy per square meter received from the sun. The weather stations would measure wind speed to ensure the solar panels can withstand wind speed in the area and, when wind speeds become too high, the racking systems include a stowing feature that activate to tilt the panels to a certain angle to reduce wind loading on the solar panels. These stations would also contain communications equipment.

### **O&M Building**

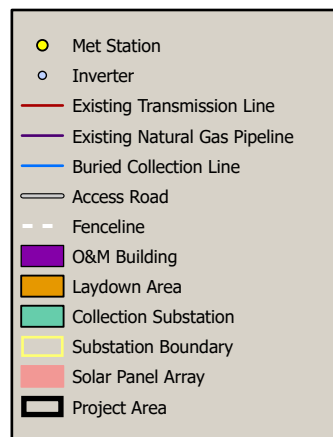
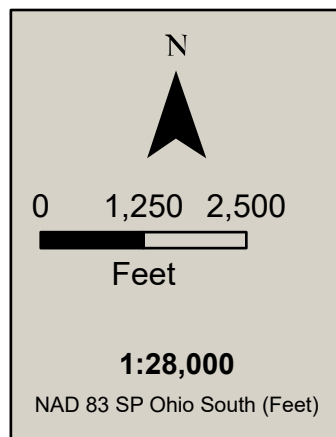
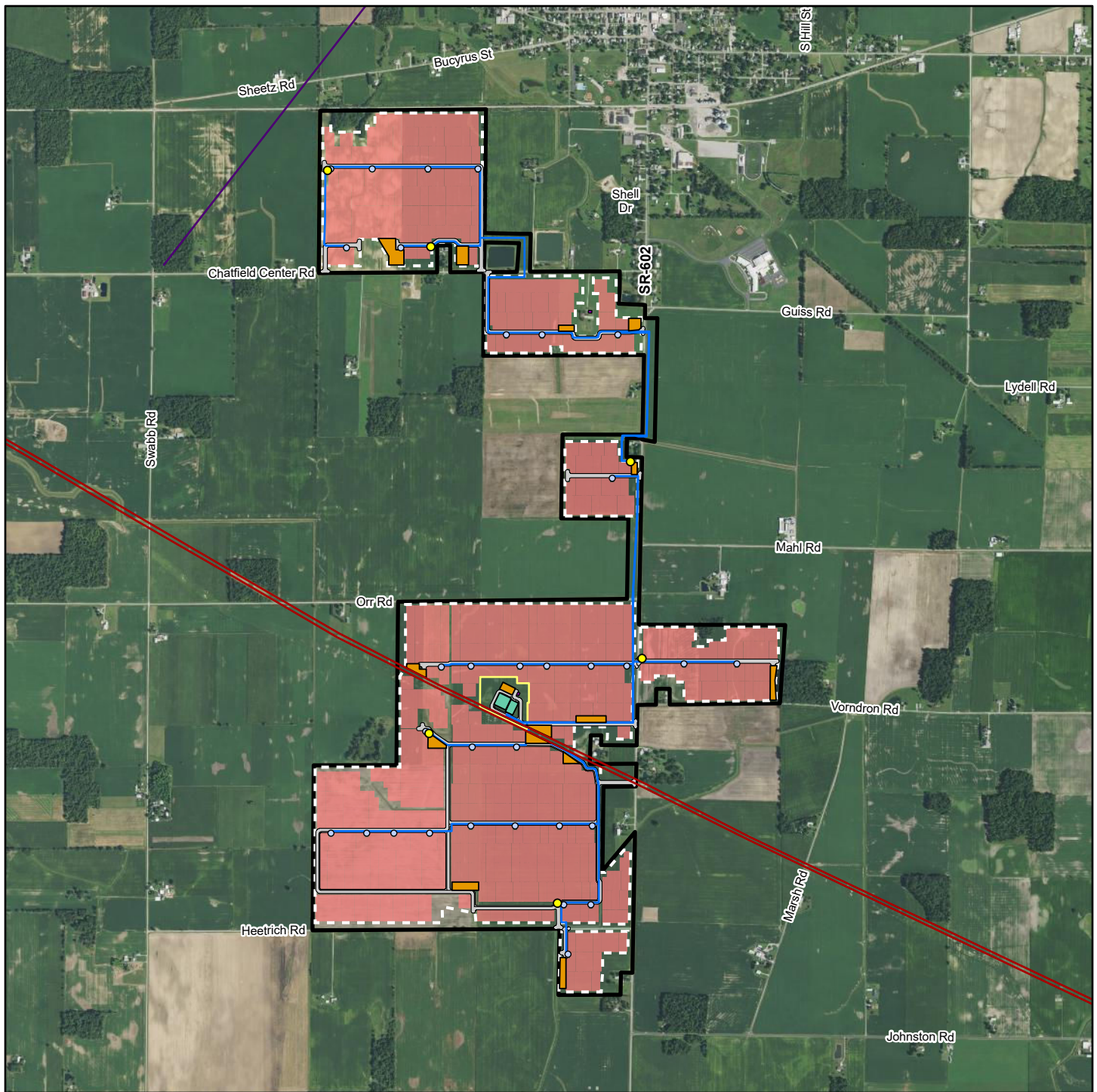
The Applicant proposes to have an O&M building. The O&M building would serve as a workspace for operations personnel. The Applicant would construct the building, which would be single story and approximately 5,000 square feet. The building would require a water supply and would have an onsite septic system.

### **Lighting**

Lighting would be installed at the substation. Temporary lighting would be used at the laydown area. The Applicant indicates that to the extent practical, lighting would be oriented toward the interior of the solar facility and away from roadways and residences. Lighting during operation would be directed at the substation entrance.

### **Project Schedule**

The Applicant expects to finalize design of the project as early as the third quarter of 2021. Construction would start as early as the fourth quarter of 2021. The Applicant expects to complete construction in the fourth quarter of 2022 and place the facility in service shortly thereafter.



## Overview Map

### 20-1762-EL-BGN

#### Sycamore Creek Solar

Maps are presented solely for the purpose of providing a visual representation of the project in the staff report, and are not intended to modify the project as presented by the Applicant in its certified application and supplemental materials.

### **III. CONSIDERATIONS AND RECOMMENDED FINDINGS**

In the Matter of the Application of Sycamore Creek Solar, LLC for a Certificate of Environmental Compatibility and Public Need, Staff submits the following considerations and recommended findings pursuant to R.C. 4906.07(C) and 4906.10(A).

#### **Considerations for R.C. 4906.10(A)(1)**

##### **BASIS OF NEED**

Pursuant to R.C. 4906.10(A)(1), the Board must determine the basis of the need for the facility only if the facility is an electric transmission line or gas pipeline. Therefore, Staff has found an analysis of R.C. 4906.10(A)(1) to be inapplicable to the facility in question.

##### **Recommended Findings**

Staff recommends that the Board find that the basis of need as specified under R.C. 4906.10(A)(1) is not applicable to this facility, as the facility is neither an electric transmission line nor a gas pipeline.

## **Considerations for R.C. 4906.10(A)(2)**

### **NATURE OF PROBABLE ENVIRONMENTAL IMPACT**

Pursuant to R.C. 4906.10(A)(2), the Board must determine the nature of the probable environmental impact of the proposed facility. Staff has found the following with regard to the nature of the probable environmental impact.

#### **Overview**

As described above, membership of the Board is specified in R.C. 4906.02(A) and its voting membership is comprised of leadership from the PUCO, Ohio EPA, ODH, ODSA, ODA, ODNR, and a member of the public specified as an engineer. Also as described above, the Board's Staff consists of career professionals from member agencies of the Board and their areas of expertise. Therefore, consideration of the nature of the probable environmental impact of a proposed facility incorporates such areas of expertise, as described below.

#### **Community Impacts<sup>17</sup>**

##### *Regional Planning<sup>18</sup>*

There are two applicable comprehensive plans that govern jurisdictions within five miles of the proposed solar facility. The Applicant reviewed the 2017 Huron County Comprehensive Land Use Plan and the 2020 Seneca County Multi-jurisdictional Comprehensive Plan. Based on overall review of these plans, the Applicant concluded that the proposed solar facility would be expected to aid long-term regional development by enhancing employment and increasing economic contributions to the local economy. The Huron County plan specifically expresses concern over the loss of farmland due to urban sprawl, while the Seneca County plan proposes enhancing economic growth through the development of renewable energy.

Staff opines that the construction and operation of the proposed solar facility is consistent with these comprehensive plans, as urban sprawl would likely decrease, and economic benefits would rise from the installation of this renewable energy facility. Staff asserts that the solar facility is not expected to conflict with regional land use plans. The proposed solar facility would also be expected to aid regional development by increasing local tax revenues. Importantly, the project is

---

17. "It is the mission of the Ohio Development Services Agency to help create jobs and build strong communities in Ohio, while ensuring accountability and transparency of taxpayer money exceptional customer service." (Ohio.gov, *Development Services Agency*, <https://ohio.gov/wps/portal/gov/site/government/state-agencies/development-services-agency>). See e.g., RC 122.011(A) states, in part, that the development services agency shall develop and promote plans and programs designed to assure that state resources are efficiently used, economic growth is properly balanced, community growth is developed in an orderly manner, and local governments are coordinated with each other and the state, and for such purposes may, among other things, cooperate with and provide technical assistance to state departments, regional and local planning commissions, and other appropriate organizations for the solution of community problems. According to R.C. 122.01(B)(1), "'community problems' includes, but is not limited to, taxation, fiscal administration, governmental structure and organization, intergovernmental cooperation, education and training, employment needs, community planning and development, air and water pollution, public safety and the administration of justice, mass transportation, community facilities and services, health, welfare, recreation, open space, and the development of human resources."

18. R.C. 713.23(A) states, in part: "[t]he regional or county planning commission may make studies, maps, plans, recommendations and reports concerning the physical, environmental, social, economic, and governmental characteristics, functions, services, and other aspects of the region or county, respectively."

consistent with agricultural industry support, in that the facility would provide supplemental income to farmers and the land could be returned to agricultural production upon decommissioning. By installing the facility onto leased land, the opportunity for agricultural preservation is maintained. Farming activities would require only minor land use modifications, aside from temporary disruptions that would occur during construction.

### *Land Use*

The predominant land use within the project area is agriculture. The Applicant states that all impacts from construction and operation of the facility would occur on agricultural land. Approximately 917 acres of agricultural land would be converted to solar and ancillary uses. The Applicant does not intend to remove or relocate any structures. Significant impacts to residential, commercial, industrial, recreational, and institutional land uses are not anticipated, and surrounding agricultural land use would continue with minimal disruption.

### *Recreation*

Construction and operation of the facility would not physically impact any recreational areas. The Applicant studied for the presence of recreational areas within five miles of the project area. According to the Applicant's visual impact study and subsequent mapping analysis, there are two nearby recreational resources.<sup>19</sup> Buckeye Recreation in the Village of New Washington is a local park located approximately 0.3 mile to the north of the proposed facility. This park would only experience limited visibility to the facility. The Cranberry Hills Golf Course is located approximately 1.3 miles northeast of the project area and no visibility is anticipated.

### *Aesthetics*

Aesthetic impacts and considerations are always measured against the surrounding land use features and potential viewers' subjective opinions. The rural nature of the project vicinity limits the number of potential viewers. Transportation corridors typically are smaller and much more lightly traveled, which reduces the number of viewing impacts. Existing woodlots are also able to offer additional natural screening. The project area predominantly consists of agricultural land. Traffic volume on roads throughout the project area is typically light, thus abating the potential number of viewers.

The solar panels would be installed no higher than 17 feet above ground level. Based on the results of the Applicant's five-mile visual resources report, the solar panels would not likely be visible at locations beyond one and a half-mile from the perimeter of the project. According to the Applicant's analysis, solar panels would be screened from approximately 86.7 percent of the viewshed by intervening landforms, vegetation, and structures.<sup>20</sup> Landscape features concentrate a majority of viewshed impacts to under a half-mile.

Staff reviewed the Applicant's visual impact analysis, which includes proposed mitigation in the form of vegetative screening at selected areas around the project site. The Applicant's landscape mitigation plan proposes the installation of planting modules along the facility fence line to soften viewshed impacts and to blend the facility into the existing vegetation. The Applicant's plan would provide for the installation of numerous plant species that would vary in height and variety, as

---

19. Application, Exhibit U and Figure 08-3.

20. Application at page 89.



determined by the current location of sensitive receptors (such as non-participating residential structures) that are adjacent to the proposed facility.

Staff's landscaping condition requires that the Applicant consult with a certified professional landscape architect. Staff has reviewed Exhibit U, Appendix C of the application and analyzed the Applicant's proposed landscape mitigation plan data responses that were filed on June 16, 2021. As a result, Staff also recommends that the Applicant adjust its landscape and lighting plan to incorporate appropriate planting measures such as shrub planting (ex: Module 2) or enhanced pollinator plantings (i.e. Module 1), to address impacts to the traveling public, nearby communities, and recreationalists.

Staff is recommending that the Applicant's landscape and lighting plan incorporate design features to reduce impacts in areas where an adjacent non-participating parcel contains a residence with a direct line of sight to the project's infrastructure. Staff recommends that aesthetic impact mitigation include native vegetative plantings, alternate fencing, good neighbor agreements, or other methods in consultation with affected landowners and subject to Staff review.

Finally, the Applicant intends to utilize perimeter fencing that would be made of welded wire mesh supported on wooden posts, as this form of fencing is more traditionally utilized in rural areas. Staff is recommending a condition to ensure that specifications for the selected perimeter fencing also be small-wildlife permeable or in essence wildlife friendly. With implementation of Staff's landscape and fencing conditions, the overall expected aesthetic impact would be minimal.

#### *Cultural Resources*<sup>21</sup>

The Applicant enlisted a consultant to gather background information and complete cultural resources studies for this project. A Phase I cultural archaeological reconnaissance survey was completed and submitted to the Ohio Historic Preservation Office (OHPO) for review in January and February 2021. This study was filed as confidential under Attachment T in the application. The OHPO issued the Applicant a concurrence letter dated February 10, 2021 regarding the potential for impacts to archaeological sites from this project. In this concurrence letter, it was determined that a total of 19 archaeological sites were identified within the project area as prehistoric isolated finds and were recommended as ineligible for listing on the National Register of Historic Places (NRHP). Two of the identified historic scatters were recommended by OHPO either for further study or avoidance from this project.

In April 2021, the Applicant filed a supplement for the record in this case, which included additional information regarding the Phase I history of architecture reconnaissance survey. The OHPO issued the Applicant a concurrence letter dated March 19, 2021 for the history of architecture component of the cultural resource studies. In this concurrence letter, it was

---

21. According to RC 149.53, "[a]ll departments, agencies, units, instrumentalities, and political subdivisions of the state shall cooperate with the Ohio history connection and the Ohio historic site preservation advisory board in the preservation of archaeological and historic sites and in recovery of scientific information from such sites, and for such purposes shall, whenever practical, by contract or otherwise provide for archaeological and historic survey and salvage work during the planning phases, before work on a public improvement begins or at other appropriate times." In Ohio, the Ohio Historic Preservation Office (OHPO) is part of the Ohio History Connection. (See, Ohio History Connection, *About Section 106 Review*, <<https://www.ohiohistory.org/preserve/state-historic-preservation-office/hpreviews/about-section-106-review>>).

determined that a total of three out of 68 properties surveyed for this project were recommended as eligible for listing on the National Register of Historic Places (NRHP). One of these three properties was recommended as having an adverse effect from the proposed project. It was suggested that a Memorandum of Understanding (MOU) be the appropriate means to outline mitigation parameters regarding the effects of this project on the historic property as agreed upon by the Applicant and OHPO.

In response to a Staff data request seeking further information regarding coordination of this project with OHPO, the Applicant responded with a signed MOU between the Applicant and OHPO dated June 3, 2021. The MOU commits the Applicant to avoid sites identified in the studies as potentially eligible for NRHP listing and to also minimize visual impacts to identified historic resources through the landscape plan for this project. The MOU also details the steps to be taken if unanticipated archaeological discoveries are made. With the implementation of the commitments for protecting and avoiding cultural resources as detailed in the concurrence letters and MOU, Staff has determined that minimal adverse impacts to cultural resources would be achieved.

#### *Wind Velocity*

The Applicant has indicated that the facility would be designed and installed to withstand and minimize potential damage from high-wind occurrences. The support piles for the panels and racking would be made of galvanized steel and would be installed at sufficient depths, from eight to 15 feet, to prevent the movement of the associated equipment from wind and counteract freeze heaving.

The tracking systems currently under speeds ranging from 100 to 135 miles per hour.<sup>22</sup> Representative tracking systems that are currently under consideration by the Applicant are included in Exhibit B of the Application. res also can tilt panels to a certain angle to reduce wind loading on the solar panels during high wind speeds events. The Staff have found that components of the proposed facility are generally not susceptible to damage from high winds except for tornado-force winds, because generally panels and racking systems proposed have wind speed design load ratings inherent in their design.

The Applicant indicated that prior to construction, if deemed necessary, the Applicant may complete further refinement of the geotechnical report, provided in Exhibit C of the application and pull-testing of structural support piles. According to the Applicant, pull testing evaluates the lateral and vertical loading to identify local soils strength and the pile depth necessary to withstand high wind. During the detailed engineering phase, the Applicant would minimize any potential damage from high wind velocities by proper structural design of the project support equipment at sufficient depths based on the site-specific soil conditions to preclude any adverse influence from high wind velocities.

---

22. Application at Exhibit L.



### *Roads and Bridges*<sup>23</sup>

The Applicant has yet to finalize its delivery route, although it is expected that deliveries to the project site would be by way of US Route 30 to State Route 98 to State Route 602. Access points to the project site would potentially be situated along Chatfield Center Road, State Route 602, Orr Road, Vorndran Road, and Heetrich Road.

The Applicant conducted a route evaluation study report to identify viable means of accessing the project area. Traffic patterns, road surface conditions, culvert conditions, and potential obstructions were identified and analyzed. According to the Applicant's Route Evaluation Study no bridges are located along the proposed transportation routes.<sup>24</sup> Road surface quality has been determined by the Applicant to be in good or fair condition. The roads found to be in fair condition are maintained by Cranberry Township. The Applicant determined these roads to be stable but show signs of advanced aging. All culverts identified were found to be in either good or fair condition. No overhead obstructions, width restrictions, or weight restrictions were identified along the proposed delivery routes. Impact mitigation to these facilities is outlined in the Applicant's Route Evaluation Study.

Conventional heavy equipment which does not require special permitting would make up most of the construction traffic. The electrical transformer and switch gear are likely to be overweight and would require special permitting and route coordination for delivery. The Applicant stated that an increase in truck traffic would be anticipated during construction for the purpose of project area equipment access and equipment and material deliveries but does not anticipate significant changes to traffic patterns. Post construction and operation of the solar facility, the Applicant does not anticipate any additional traffic for the project beyond routine maintenance. No road closures are expected. The Applicant expects to enter into a Road Use Maintenance Agreement with Crawford County.

Once the transportation permitting process has been completed, Staff recommends that the Applicant develop a final transportation management plan which would include any county-required road use maintenance agreements. Mitigating damages to roadways caused by the project would be detailed in agreements and permits with the appropriate regulatory authorities. Any temporary improvements would be removed unless the appropriate regulatory authority requests that they remain in place.

### *Noise*

Noise impacts from construction activities would include site clearing, installation of mechanical and electrical equipment, and commissioning and testing of equipment. Many of the construction activities would generate significant noise levels during the 12-15 months of construction. However, the adverse impact of construction noise would be temporary and intermittent, would occur away from most residential structures, and would be limited to daytime working hours. The Applicant would use mitigation practices such as limiting construction activities to daylight hours, keeping equipment in good working condition, and establishing a complaint resolution process.

---

23. The entity responsible for maintaining roads and bridges within Ohio depends on many factors. See, e.g., ODOT, *Roadway Infrastructure Maintenance Responsibility Manual*, <https://www.transportation.ohio.gov/wps/portal/gov/odot/programs/maintenance-operations/rimr/rimr>.

24. Application at Exhibit L.

Operational noise impacts for a solar generation facility would be relatively minor and occur only during the day. Operational noise sources include inverters and tracking motors. The step-up transformer at the new substation and the inverters may operate at night but the noise impact would also be relatively minor.

The Applicant conducted an ambient noise level study in order to understand the existing noise levels near the proposed facility. Noise impacts to non-participating receptors were modeled using the proposed inverter and transformer models.<sup>25</sup> The model showed that operational noise impacts would be less than ambient nighttime noise levels. No non-participating receptors were modeled to receive noise impacts greater than the daytime ambient noise level plus five dBA. Therefore, the project would be expected to have minimal adverse noise impacts on the adjacent community. If an inverter or transformer model different than the proposed inverter or transformer model is chosen, the Applicant would submit a noise report confirming that no non-participating receptors were modeled to receive noise impacts greater than the daytime ambient noise level plus five dBA.

### *Economic Impact*

The Applicant states that it would be responsible for the ownership, construction, operation, and maintenance of the proposed project. The Applicant has obtained the necessary landowner agreements for the project. All other components of the facility would be located entirely on privately-owned land, and voluntary lease agreements between the Applicant and private landowners would accommodate the facility. The Applicant would work with local authorities to obtain necessary crossing permits and permissions for the public right-of-way crossing.

The Applicant chose to file its estimated capital and intangible costs, estimated O&M expenses, and estimated delay costs, under seal, and filed a motion for protective order to keep the information confidential. Similar requests have been common practice in many, but not all, solar facility applications.

Total cost comparisons between the proposed facility and other comparable facilities are to be provided in the application. The Applicant referenced a 2019 study conducted by the U.S. Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Laboratory) which states that the capacity-weighted average installed costs of solar PV projects was around \$1,640/kW in 2018 and that its costs are below this range. Also, recent solar PV projects of comparable scale undertaken by the Applicant report similar capital costs. Staff verified the Applicant's assertion that the reported average cost of similar facilities is not substantially different from Applicant's estimated costs for the proposed facility and that the reported average cost of the Applicant's similar facilities is not substantially different from Applicant's estimated costs for the proposed facility.

O&M expense comparisons between the proposed facility and other comparable facilities are to be provided in the application. The Applicant referenced the same 2018 study by Berkeley Laboratory that stated that, on average, utility scale solar operations reported O&M costs totaling

---

25. For the sound propagation model, the model used for the solar field transformer were calculated from NEMA TR-1 specified levels for a four MVA transformer, using the spectrum from a similarly sized measured transformer, the model used for the inverter was the Sunny Central UP, SMA SC 4200 UP, 4.6 MVA, and the model used for the substation transformer was an ONAN/ONAF/ONAF 65C 88/117/146 MVA transformer using spectral data from a similar sized measured transformer.

\$19/kW/year and that its costs are consistent with this amount. Staff verified that the Applicant's figures were consistent with the figures listed in the 2018 Berkeley Laboratory study.

The Applicant provided its estimates of the cost of delays in permitting and construction of the proposed facility, although the estimated costs were filed under seal. The Applicant stated that delays during the permitting stage can result in costs associated with the time value of money. The Applicant also stated that delays could prevent the project from meeting federal Investment Tax Credit deadlines which could result in the loss of those benefits to the Applicant. The Applicant's characterization of its estimated costs of delays appears reasonable to Staff.

Sycamore Creek Solar retained the services of Environmental Design & Research (EDR) to report on the economic impact of the Sycamore Creek Solar project. EDR used the National Renewable Energy Laboratory's (NREL) Jobs and Economic Development Impact (JEDI) model, the IMPLAN regional economic modeling system, as well as data from the Ohio Department of Taxation, to estimate the economic impact of the construction and operation of the solar facility. Staff verified that the methodology of the JEDI and IMPLAN models were appropriate for this study and that the estimated impacts reported by the Applicant are reasonable.

In this model, "earnings" are comprised of direct (on-site) wages, indirect (supply-chain labor) wages, and induced (through spending by persons in first two categories). "Output" in this model refers to the value of goods and services produced by direct, indirect, and induced labor. Based on the results of the JEDI model analysis conducted by EDR, the Sycamore Creek Solar project is expected to have the following impacts:

#### Jobs

- 274 construction related jobs for the state of Ohio
- 13 long-term operational jobs for the state of Ohio

#### Earnings

- \$18.2 million in annual earnings during construction for the state of Ohio
- \$0.9 million in annual earnings during facility operations for the state of Ohio

#### Output

- \$27.7 million in local output during construction for the state of Ohio
- \$1.9 million in local annual output during facility operation for the state of Ohio.

The Sycamore Creek Solar project would generate between \$819,000 and \$1.05 million annually for the Crawford County taxing districts, depending on the amount the Applicant pays annually for an 117MW facility under the Payment in Lieu of Taxes (PILOT) plan (i.e. \$7000/MW or \$9,000/MW). At this time, the Applicant has not entered into a PILOT agreement with Crawford County.

#### Glare

Glare is the phenomenon where sunlight reflects from a surface to create a duration of bright light. Glare also encompasses glint, which is a momentary flash of bright light. Potential impacts of this reflection from solar panel(s) could be a brief reduction in visibility, afterimage, a safety risk to pilots, or a perceived nuisance to neighbors.

Solar panels are designed to absorb as much sunlight as possible with minimal reflectivity. The Applicant's consultant conducted a glint and glare analysis to identify any potential glare impacts to aircraft approaching Schulze's Field (69OI), Elkhorn Landing Strip (4D3) and along local roads.<sup>26</sup> To perform the analysis of glare, the Applicant's consultant uses the ForgeSolar's GlareGauge formerly known as the Solar Glare Hazard Analysis Tool (SGHAT) which was developed by Sandia National Laboratories to analyze potential glare at sensitive receptor locations. This software is commonly used by solar facility developers to determine the effect of solar glare.

GlareGauge analyzes potential for glare over the entire calendar year in one-minute intervals from when the sun rises above the horizon until the sun sets below the horizon. According to the Applicant, the glare hazard determination relies on observer eye characteristics, angle of view, and typical blink response time. When glare is found, the GlareGauge classifies the impact into three categories. The first category is green which has a low potential for temporary after-image. The next category is yellow, which is a potential for temporary after-image. The last category is red, which has potential for permanent eye damage. The results of the analysis predict no glare occurrences for the runway approaches to the Schulze's Field (69OI) and Elkhorn Landing Strip (4D3) from the proposed solar facility. According to the Applicant, these results conform to the Federal Aviation Administration's (FAA) published guideline for solar facilities and airports, "Interim Policy, FAA Review of Solar Energy System Projects on Federally Obligated Airports" (78 FR 63276).

The Applicant found that glare from the project is not predicted to impact drivers along the two major roads near the project, State Route 602 and Chatfield Center Road. Staff agrees with the study results. Staff notes that aesthetic impact mitigation measures that include vegetative plantings may also further reduce potential impacts as part of a landscape and lighting plan, which Staff has recommended for this project.

### *Decommissioning*

The Applicant holds land rights to and estimates that the solar facility can operate for 30 years or more. The Applicant has prepared a decommissioning plan and total decommissioning cost estimate of \$10,141,950.<sup>27</sup> Staff has reviewed that decommissioning plan. According to the Applicant's plan, at the end of the useful life of the facility, the solar facility would be decommissioned, and the land be returned to its current use as agricultural land use or the specific agricultural use desired by the landowner. Prior to the start of any decommissioning activities, the Applicant would obtain applicable federal, state, and local permits. The Applicant would remove all solar components constructed above ground with few exceptions. The Applicant may leave in place any electrical lines that would not impact the restored use and are greater than 48 inches below-grade. Access roads at landowner request would be left in place. The Applicant would restore the land significantly to its original topography to allow for resumption of the pre-construction agricultural land use or the landowner's preference. The Applicant stated that it anticipates decommissioning activities and restoration, which is often weather dependent, to occur over a 12 to 18-month period. Based on the weather dependent nature of site restoration, Staff

---

26. Application at Exhibit O.

27. Application at Exhibit M, Table 1.

recommends that the updated decommissioning plan include a requirement to monitor the site for at least one additional year to ensure successful revegetation and rehabilitation.

The Applicant states it would repurpose, salvage, recycle or haul offsite to a licensed solid waste disposal facility all solar components. Some of those solar components are anticipated to have a significant resale or salvage value and could be sold to offset the decommissioning cost. Those salvageable items typically are solar modules, tracking system, steel piles, inverters, and transformers. The Applicant is currently only considering panels that have historically been certified to comply with the US EPA's TCLP test and meet US EPA definition of non-hazardous waste.<sup>28</sup> The Applicant indicated it would ensure that panels, if required to be landfilled, meet all disposal requirements. Also, Staff has found that many solar panel manufacturers have programs or are developing programs to accept panels back to their manufacturing facility to recycle and reuse most of the components.

The Applicant indicates that it would notify Staff at least 30 days prior to initiating decommissioning activities. The Applicant would obtain all required approvals and necessary permits prior to the start of decommissioning. The decommissioning sequence consists of but is not limited to removal of panels, removal of weather stations/inverters/racking, removal of piles, removal of access roads, collection line removal, dismantling and removal of fencing, and demolition of substation. At this time, the Applicant has identified that during decommissioning, it may need to determine if needed and obtain at the least an Ohio EPA Construction Storm Water General Permit, Clean Water Act Sections 401/404 permits, and Crawford County building, road, discharge, and erosion permits. At the time of decommissioning, panels would be reused, recycled, or properly disposed and the necessary permits obtained in accordance with regulations in effect at that time.

The Applicant would also provide for financial security to ensure that funds are available for decommissioning/land-restoration. The Applicant states that, prior to the commencement of commercial operation of the project, it would provide updated decommissioning cost estimate and consider the salvage value of the solar components. The Applicant would calculate the net decommissioning costs (total decommissioning cost less salvage/resale value of solar components) to decommission the solar facility. If the total decommissioning costs exceeds the salvage value of solar equipment, then the net decommissioning cost would be a positive value. The Applicant's updated decommissioning costs would be prepared by a registered professional engineer or engineering firm licensed to practice engineering in the state of Ohio and re-evaluated every five years after commencement of commercial operation. The Applicant would also fund a decommissioning financial assurance mechanism that is a performance bond where the company is the principal, the insurance company is the surety, and the Ohio Power Siting Board is the obligee.<sup>29</sup>

Staff recommends that at least 30 days prior to the preconstruction conference, the Applicant submit an updated decommissioning plan and total decommissioning cost estimate without regard to salvage value on the public docket that includes: (a) a provision that the decommissioning financial assurance mechanism include a performance bond based on the total decommissioning

---

28. Sycamore Creek Solar, LLC's April 7, 2021 Responses to Staff's First (March 16, 2021), Second (March 23, 2021), and Fourth (March 31, 2021) Data Requests, Data Request #1.

29. Application at page 41.

cost without regard to salvage value and where the company is the principal, the insurance company is the surety, and the Ohio Power Siting Board is the obligee; (b) a provision to monitor the site for at least one additional year to ensure successful revegetation and rehabilitation; (c) a timeline of up to one year for removal of the majority of equipment; (d) a provision where the performance bond is posted prior to the commencement of construction; and (e) a provision that the performance bond is for the total decommissioning cost and excludes salvage value.

## **Geology<sup>30</sup>**

### *Surficial/Glacial<sup>31</sup>*

The project area lies within the glaciated margin of the state and includes several Wisconsinan-age glacial features. Much of the project area consists of flat to well-defined glacially derived ground moraine. The northern portion of the project area is covered by the hummocky New Washington Moraine where the southern portion of the project area is laminated lacustrine clay.<sup>32</sup> Glacial drift within the project area ranges from approximately 60 feet to approximately 130 feet in thickness. The average thickness throughout the project area is estimated to be approximately 90 feet.

### *Bedrock<sup>33</sup>*

The uppermost bedrock unit throughout the project area is the Ohio Shale. Due to the glacial drift thickness cited above, there are no bedrock exposures within the project area.

---

30. According, in part, to R.C. 1505.01, the ODNR's division of geological survey "[s]hall advise, consult, or collaborate with representatives of agencies of the state...on problems or issues of a geological nature when requested by such an agency...." One of the missions of the ODNR Division Geological Survey is "to provide geologic information and services needed for responsible management of Ohio's natural resources." (ODNR, Division of Geological Survey, *About the Division*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/division-of-geologic-survey/division-of-geologic-survey>>). This includes studying and investigating, among other things, glacial and surficial geology, bedrock geology, and geological hazards. According to ODNR a "geologic hazard or 'geohazard' is a geologic condition, either manmade or natural, that poses a potential danger to life and property. Ohio is home to a number of potential geohazards, including karst, mine subsidence, earthquakes, landslides, and shore erosion." (ODNR, *Geologic Hazards*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/geologic-hazards>>).

31. "Since its inception in 1837, the ODNR Division of Geological Survey has researched and mapped the state's glacial and surficial geology. Today, highly detailed mapping and meticulous studies continue to inform and broaden our knowledge of Ohio's glacial past." (ODNR, *Glacial Geology in Ohio* <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/glacial-geology>>).

"Since collaborating with the U.S. Geological Survey to release the first statewide *Glacial Map of Ohio* in 1961, the ODNR Division of Geological Survey has mapped the unconsolidated geologic materials found at Ohio's surface with increasing detail." (ODNR, *Glacial & Surficial Geologic Maps*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/glacial-geology/glacial-surficial-geologic-maps>>).

32. Application at Exhibit R (Ecological Assessment Part 6 of 6) - Appendix C— ODNR Geology overview at Page 32-34 of 46.

33. "The ODNR Division of Geological Survey has had a long history of generating bedrock geologic maps for the state of Ohio since its inception in 1839. The most recent iteration of the geologic map of Ohio was created by seamlessly piecing together 788 individual 7.5-minute bedrock geologic quadrangles." (ODNR, *Bedrock Geology*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-odnr/geologic-survey/bedrock-geology/bedrock-geology>>).

### *Karst*

Conditions typically necessary for the formation of karst geology features do not exist within the project area.<sup>34</sup> The nearest documented sinkhole feature is several miles away from the project area.<sup>35</sup>

### *Oil/Gas and Mining*<sup>36</sup>

ODNR records indicate that no oil and gas activity occurs within the project footprint. Four historic wells are located within one mile of the project area. Records indicate these wells are plugged and abandoned.<sup>37</sup> No Class II injection well activity occurs within several miles of the project area.

No active mining occurs within several miles of the project area.<sup>38</sup> No known abandoned underground mines are located within several miles of the project area.

### *Seismic Activity*<sup>39</sup>

No earthquakes have been recorded within 12 miles of the proposed project area.<sup>40</sup> Recent geologic history shows Crawford County to be at low risk for seismicity caused by earthquakes as no earthquakes have been documented in the county. Based on both boring data down to 15 feet below ground level (BGL), and estimated (based on the Applicant's Geotechnical Team experience and knowledge) site properties from 15 to 100 feet, the application assigns a Class D Seismic Site Classification for facility design pursuant to the international building code.<sup>41</sup>

The Applicant has indicated that no blasting activities are anticipated for the construction or operation of the proposed solar facility.<sup>42</sup>

---

34. Karst - A geologic feature formed within carbonate rocks through mineral dissolution caused by movement of water. Most common features include the formation of caves or the formation of sinkholes at the surface. Generally, karst features, and the likelihood of karst development are most prevalent in areas where the carbonate bedrock is overlain by 20 feet or less of glacial till material. Limestone and dolomite are the most common carbonate bedrock. Generally, Limestone is more prone to dissolution than dolomite.

35. ODNr Karst Viewer Interactive Map [https://gis.ohiodnr.gov/website/dgs/karst\\_interactivemap/](https://gis.ohiodnr.gov/website/dgs/karst_interactivemap/)

36. ODNr Division of Oil & Gas states: "[t]he Division is responsible for regulating Ohio's oil and natural gas industry and for the protection of all Ohioans and our environment while ensuring the state's abundant natural resources are managed properly." (ODNR, *Division of Oil & Gas*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/oil-gas/division-of-oil-and-gas/division-of-oil-and-gas>>).

37. ODNr Oil and Gas Viewer Interactive Map <https://gis.ohiodnr.gov/MapView/?config=OilGasWells>.

38. ODNr Mines Viewer Interactive Map <https://gis.ohiodnr.gov/MapView/?config=OhioMines>.

39. The ODNr Division of Geological Survey coordinates a 21-station network of seismograph stations throughout the state in order to continuously record earthquake activity. The Ohio Seismic Network (OhioSeis) went online in January 1999 to ensure Ohio has monitoring and coverage 24 hours a day, seven days a week by seismic stations with automatic detection, location and magnitude determination. (ODNR, *The Ohio Seismic Network*, <<https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/geologic-survey/division-of-geologic-survey/ohio-seis>>).

40. ODNr Earthquake Epicenters <https://gis.ohiodnr.gov/MapView/?config=Earthquakes>.

41. Application at Page 16 of Exhibit C (Preliminary Geotechnical Report by Terracon). Seismic Classification is based on the upper 100 feet of the site profile in accordance with Section 20.4 of American Society of Civil Engineers Standard 7 and the International Building Code.

42. Application at Page 54.

### *Soils*<sup>43</sup>

According to the USDANRCS Web Soil Survey, the project area consists primarily of soils derived from glacial till, loess, and lacustrine deposits.<sup>44</sup> Lenawee, Bono, and Luray are the most common soil series found within the boundaries of the project area. Combined these soils make up 59 percent of the soils within the project area. There is moderate risk of shrink-swell potential in these soils.

Slope is variable throughout the project area, rarely exceeding six percent. Areas with highly erodible soils do exist within the project area. Erosion and sediment controls would be managed per the project's Storm Water Pollution Prevention Plan.<sup>45</sup>

### *Geotechnical Report*

A Preliminary Geological Report prepared by Terracon discusses the geotechnical work performed to date. To further evaluate soil properties, 11 total borings were advanced to a depth of 15 feet BGL. In addition, field electrical resistivity testing, and laboratory testing for thermal resistivity and corrosion analyses were also performed. Additional geotechnical work planned includes but is not limited to supplemental borings and site-specific pile-load testing.<sup>46</sup> The preliminary report findings indicate the soils and bedrock at the site are considered suitable for the foundations proposed. The report recommends an estimated California Bearing Ratio (CBR) value of 3 be used in preliminary access road design. The recommendation also includes site specific CBR testing as part of the final design level study.<sup>47</sup> In addition, a geotextile fabric or grid will be installed beneath the access roads, if needed, to provide additional support.<sup>48</sup>

### *Conclusion*

Staff recommends that the final detailed engineering drawings of the final project design shall account for geological features and include the identity of the registered professional engineer(s), structural engineer(s), or engineering firm(s), licensed to practice engineering in the state of Ohio who reviewed and approved the designs. Staff recommends that the Applicant provide a final geotechnical engineering report to Staff at least 30 days prior to the preconstruction conference. Based on the Preliminary Geotechnical Report recommendations, Staff also recommends CBR Testing which would aid in determining sufficient access road design.

Based on the data and considerations provided within the application submittal to date, and based on Staff assessment (with consideration and input from ODNR), and implementation of the

---

43. The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) conducts soil surveys and provides technical assistance to private landowners. (USDA NRCS, *Ohio NRCS Soils*, <<https://www.nrcs.usda.gov/wps/portal/nrcs/oh/soils/>>).

"Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. It is operated by the USDA Natural Resources Conservation Service (NRCS) and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for more than 95 percent of the nation's counties and anticipates having 100 percent in the near future. The site is updated and maintained online as the single authoritative source of soil survey information. Soil surveys can be used for general farm, local, and wider area planning." (USDA NRCS, *USDA Web Soil Survey*, <<https://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>>).

44. USDA NRCS, Web Soil Survey, <https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>.

45. Application at Page 7. This plan would be required under an Ohio EPA Construction General Permit.

46. June 7, 2021 Applicant Response to May 25, 2021 Staff Data Request.

47. Application at Page 16 of Exhibit C (Preliminary Geotechnical Report by Terracon).

48. Application at Page 17.



recommended conditions, there appears to be no particular geological features within the project area that are incompatible with construction and operation of the proposed solar facility.

## Ecological Impacts

### *Public and Private Water Supply*<sup>49</sup>

There are no water wells within the project area.<sup>50</sup> The Applicant has been working with landowners to identify wells through landowner knowledge and record review. If water wells are identified at a later date, the Applicant would mark these on the final construction drawings and avoid or decommission as needed. Staff conferred with the ODH which regulates private water wells. The ODH indicated that the nearest solar components should be further than the minimum isolation distances outlined in Ohio Adm.Code 3701-28-07 between potential contamination sources and private water wells. Specifically, ODH highlighted that Ohio Adm.Code 3701-28-07(F) requires a sanitary isolation radius of fifty feet from any known or possible source of contamination.

There are no public drinking water source protection areas located within the project area; Staff reviewed Ohio EPA records and confirmed this. However, Staff is aware that the New Washington Upground Reservoir is adjacent to the project area and on the northwest corner of the intersection of Chatfield Center Road and State Route 602. Staff has conferred with the Ohio EPA about the matter. Staff notes that these reservoirs are not for public drinking water use; one reservoir is used for fire suppression by the village of New Washington and the other is privately owned. Staff notes that the facility substation is over 7,000 feet from the New Washington Upground Reservoir. Any oil utilized for the cooling and insulation of transformers at the facility substation may be stored within an aboveground storage tank at the substation footprint. The volume of the above ground storage tank would likely trigger the development and implementation of a spill prevention control and countermeasures plan (SPCC).

Additionally, the Applicant would implement a Stormwater Pollution Prevention Plan (SWPPP), an SPCC plan, and a preliminary HDD inadvertent return plan, an example of which was provided

---

49. “The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.” (US EPA, *Summary of Clean Water Act*, <<https://www.epa.gov/laws-regulations/summary-clean-water-act>>). The Ohio EPA Division of Surface Water “ensures compliance with the federal Clean Water Act and works to restore and enhance the integrity of Ohio’s waters.” (Ohio EPA, *Division of Surface Water*, <<https://www.epa.ohio.gov/dsw/Surface-Water/LiveTabId/113292#:~:text=Ensures%20compliance%20with%20the%20federal,the%20integrity%20of%20Ohio's%20waters.&text=We%20issue%20permits%20to%20regulate,aimed%20at%20improving%20polluted%20streams>>). In carrying out this mission, among other things, the Revised Code generally provides for the Ohio EPA to administer and enforce most laws and regulations regarding water pollution control and safe drinking water. See R.C. Chs. 6111 and 6109. The Ohio EPA states: “Division of Drinking and Ground Waters ensures compliance with the federal Safe Drinking Water Act and evaluates potential threats to source waters that supply Ohio’s more than 4,800 public drinking water systems. The division has a lead role for statewide ground water protection in cooperation with other state and federal agencies, implements a ground water quality monitoring program and provides technical assistance to the Agency’s waste management divisions.” (Ohio EPA, *Division of Drinking and Ground Waters*, <<https://www.epa.state.oh.us/ddagw/>>). “The Division of Drinking and Ground Water’s (DDAGW) Drinking Water Program manages the federally delegated drinking water program and implements both state and federal Safe Drinking Water statutes and rules adopted under these laws.” (Ohio EPA, *Division of Drinking and Ground Waters*, <<https://www.epa.ohio.gov/ddagw/#116665774-about-the-drinking-water-program>>); Private water systems are regulated by the Ohio Department of Health under R.C. 3701.344 to 3701.347 and Ohio Adm.Code Ch. 3701-28.

50. Application at page 58 and Figure 08-1.

in the application at Exhibit G, during construction to minimize and prevent potential discharges to surface waters in the project area and surrounding area.

### *Surface Waters*

The Applicant delineated eight streams and six wetlands within the project area.<sup>51</sup> Impacts to wetlands and streams associated with underground electrical installation would be avoided via using HDD techniques. HDD is typically preferred to open-cut trenching when crossing surface water resources as impacts can be avoided in most cases. However, the HDD process includes the risk of a frac-out. A frac-out occurs when the drilling lubricant, typically water or a non-toxic, fine clay bentonite slurry, is forced through cracks in bedrock and/or surface soils. The Applicant included a frac-out contingency plan as part of the application. Staff also recommends that the Applicant have an environmental specialist on site during construction activities where HDD activities may impact surface waters. The environmental specialist should have authority to stop HDD activities to ensure that any impacts related to a frac-out are addressed.

Three streams would be crossed by access roads at eight separate locations. Approximately 155 linear feet of streams would be permanently impacted by access road crossings, and an additional 94 linear feet would be temporarily impacted during construction. These impacts would be covered under the Army Corps of Engineers nationwide permit program.

The Applicant states that the boundaries of streams and wetlands within and immediately adjacent to the construction limits of disturbance would be demarcated with flagging prior to construction. Specifics about how surface waters would be further protected from indirect construction stormwater impacts using erosion and sedimentation controls would be further outlined in the Applicant's SWPPP. The Applicant would obtain an Ohio National Pollutant Discharge Elimination System (NPDES) construction stormwater general permit through the Ohio EPA prior to the start of construction. Staff recommends the Applicant apply Ohio EPA published Guidance on Post-Construction Storm Water Control for Solar Panel Arrays to project construction.

The project does not overlap with a 100-year floodplain.

### *Listed Species*<sup>52</sup>

The Applicant requested information from the ODNR and the USFWS regarding state and federal listed threatened or endangered plant and animal species. Additional information was also gathered

---

51. Wetlands falling within the purview of the Clean Water Act are regulated within Ohio by R.C. 6111, et seq. and Ohio Adm.Code 3745-1-50, et seq. Ohio Adm.Code 3745-1-54 establishes wetland categories.

52. Based on agency coordination with the USFWS and ODNR, identified species of concern are, in general, defined as those species that are protected under the federal Endangered Species Act of 1973, as amended (16 U.S.C. §§ 1531-1544) and/or according to the Conservation of Natural Resources within R.C. 1518.01-1518.99; 1531.25; and 1531.99. *See also e.g.*, R.C. 1531.08 states, in part: "In conformity with Section 36 of Article II, Ohio Constitution, providing for the passage of laws for the conservation of the natural resources of the state, including streams, lakes, submerged lands, and swamplands, and in conformity with this chapter and Chapter 1533. of the Revised Code, the chief of the division of wildlife has authority and control in all matters pertaining to the protection, preservation, propagation, possession, and management of wild animals and may adopt rules under section 1531.10 of the Revised Code for the management of wild animals."

One of the missions of the ODNR is to "conserve and improve the fish and wildlife resources and their habitats and promote their use and appreciation by the public so that these resources continue to enhance the quality of life for all

through field assessments and review of published ecological information. The following table provides the results of the information requests, field assessments, and document review.

MAMMALS				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Historical range includes the project area.
northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	Endangered	Historical range includes the project area.
tricolored bat	<i>Perimyotis subflavus</i>	N/A	Endangered	Historical range includes the project area.
little brown bat	<i>Myotis lucifugus</i>	N/A	Endangered	Historical range includes the project area.

REPTILES				
Common Name	Scientific Name	Federal Status	State Status	Presence in Project Area
eastern massasauga	<i>Sistrurus catenatus</i>	N/A	Endangered	Historical range includes the project area. Due to the location, and the type of habitat within the project area, this project is not likely to impact this species.
smooth greensnake	<i>Opheodrys vernalis</i>	N/A	Endangered	Historical range includes the project area. Due to the location, and the type of habitat within the project area, this project is not likely to impact this species.
Kirtland's snake	<i>Clonophis kirtlandii</i>	N/A	Endangered	Historical range includes the project area. Due to the location, and the type of habitat within the project area, this project is not likely to impact this species.

The Applicant did not identify any listed plant or animal species during field surveys. Further, the ODNR and the USFWS did not identify any concerns regarding impacts to listed plant species. In the event that the Applicant encounters listed plant or animal species during construction, Staff recommends that the Applicant contact Staff, the ODNR, and the USFWS, as applicable. Staff also recommends that if the Applicant encounters any listed plant or animal species prior to construction, the Applicant include the location and how impacts would be avoided in mapping based on final engineering drawings to be provided to Staff prior to the preconstruction conference.

---

Ohioans.” In carrying out this mission, the ODNR considers the “status of native wildlife species [to be] very important” and therefore lists wildlife species needing protection. (ODNR, *State Listed Species*, <https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/wildlife/state-listed-species>).

In addition to endangered species, those species classified as “threatened” are considered during OPSB project planning and approval because these species are those “whose survival in Ohio is not in immediate jeopardy, but to which a threat exists. Continued or increased stress will result in its becoming endangered.” *Id.*

The project area is within the range of state and federal endangered Indiana bat (*Myotis sodalis*), the state endangered and federal threatened northern long-eared bat (*Myotis septentrionalis*), the state endangered little brown bat (*Myotis lucifugus*), the state endangered tricolored bat (*Perimyotis subflavus*). As tree roosting species in the summer months, their habitat may be impacted by the project. In order to avoid impacts to these species, Staff recommends the Applicant adhere to seasonal tree cutting dates of October 1 through March 31 for all trees three inches or greater in diameter, unless coordination efforts with the ODNR and the USFWS reflects a different course of action.

During the winter months bats hibernate in caves and abandoned mines, also known as hibernacula. The project would not impact any bat hibernacula.

Impacts to other listed species would be avoided as no impacts to suitable habitats are proposed for the project.

### *Vegetation*

The following table reflects the different vegetative communities present in the project area and associated impact for the facility.

<b>APPROXIMATE VEGETATIVE COMMUNITIES WITHIN PROJECT AREA</b>	
<b>Vegetation Community Type</b>	<b>Total (Acres)</b>
Developed	35.7
Forestland	5.4
Agricultural Lands	875.3

Permanent vegetative impacts would occur primarily within agricultural lands. Forestland impact would total approximately one acre.

The Applicant proposes the implementation and maintenance of native pollinator-friendly plantings in selected locations in and around the solar fields. Plantings have been selected in consultation with the Ohio Pollinator Habitat Initiative. These features would enhance the visual appeal of the project, enrich local wildlife habitat, and benefit the local farming community. Pollinator plantings would: help reduce erosion; reduce fertilizer, herbicide, and pesticide use; discourage invasive species; and improve water quality. This would generally represent a reduced environmental impact when compared to the current land use of agricultural plant production. This is due to the elimination of frequent tilling, fertilizer and pesticide application, and increased plant diversity. To further assure that these benefits would be realized, Staff recommends that the Applicant take steps to prevent establishment and/or further propagation of noxious weeds identified in Ohio Adm.Code Chapter 901:5-37 during implementation of any pollinator-friendly plantings.

### **Recommended Findings**

Staff recommends that the Board find that the Applicant has determined the nature of the probable environmental impact for the proposed facility, and therefore complies with the requirements specified in R.C. 4906.10(A)(2), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(3)**

### **MINIMUM ADVERSE ENVIRONMENTAL IMPACT**

Pursuant to R.C. 4906.10(A)(3), the proposed facility must represent the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, along with other pertinent considerations.

#### **Site Selection**

The Applicant's site selection process focused on the following criteria: availability of solar resources, ease of access to the bulk power transmission system, compatible land use, sufficiently low population density, few environmentally sensitive areas, landowner interest and local governmental support. In preparation of the application, the Applicant engaged local officials and the public. According to the Applicant, local governmental guidance and public input have been incorporated into the project design where feasible.

#### **Minimizing Impacts**

The Applicant found and OHPO agreed that the project would not have adverse impacts on archaeological resources. The Applicant and OHPO signed a MOU on June 3, 2021 that, when implemented, would avoid sites identified in the studies as potentially eligible for NRHP listing and to also minimize visual impacts to identified historic resources through the landscape plan for this project. The MOU also details the steps to be taken if unanticipated archaeological discoveries are made. With the implementation of the commitments for protecting and avoiding cultural resources as detailed in the concurrence letters and MOU, Staff has determined that minimal adverse impacts to cultural resources would be achieved.

The proposed facility would have an overall positive impact on the state and local economy due to the increase in construction spending, wages, purchasing of goods and services, annual lease payments to the local landowners, increased tax revenues and potential PILOT revenue.

The geology of the project site in Crawford County does not present conditions that would limit or negatively impact the construction and future operation of the proposed facility. Staff recommends that the final detailed engineering drawings of the final project design shall account for geological features.

The Applicant anticipates no temporary or permanent wetland impacts due to construction of the project, including construction of access roads and collection lines. The Applicant anticipates 249 linear feet of permanent impacts to streams due to the construction of the project and from construction of access road crossings for the project. All stream crossings would be done via HDD for collection line crossings to avoid impacting streams. Impacts to any state or federal listed species can be avoided by following seasonal restrictions for construction in certain habitat types, as detailed by the USFWS and the ODNR. The Applicant did not identify any listed plant or animal species during field surveys. While the project is within the range of several listed species, impacts would be avoided on suitable habitats.

Noise impacts are expected to be limited to construction activities. The adverse impact of construction noise would be temporary and intermittent and would occur away from most residential structures. Staff recommends that the Applicant limit the hours of construction to

address potential construction-related concerns from any nearby residents. No non-participating receptors were modeled to receive noise impacts greater than the daytime ambient noise level. If the Applicant changes inverter or transformer models, Staff recommends that the Applicant submit an updated noise study. The updated noise study would confirm that sound levels would not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor to assure that operation noise impacts are minimal. Further, the Applicant has developed a complaint resolution plan which would be implemented throughout construction and operation.

During the construction period, local, state, and county roads would experience a temporary increase in truck traffic due to deliveries of equipment and materials. Due to the location of the project, the Applicant anticipates that most components for the entire project would be delivered by using flatbed or tractor-trailer vehicles and multi-axle dump trucks. The transportation management plan would be finalized once the engineering layout is determined. A final delivery route plan would be developed through discussions with local officials. The Applicant intends to enter into a road use agreement or bond with the county engineer.

Due to the low profile of the project, combined with existing vegetation in the area, the visual impacts would be most prominent to landowners in the immediate vicinity of the infrastructure itself. The Applicant has developed a visual resource and mitigation plan in which it commits to install vegetation modules to lessen the visual impact to non-participating residences. During operation, the Applicant plans to use lighting directed at the substation gate and would design the lighting to minimize light trespass. The Applicant has committed to using a fence that fits in aesthetically with the rural nature of the project area. Staff would verify the fence aesthetics by recommending a fence condition.

The Applicant has committed to take steps in order to address potential impacts to farmland, including repairing all drainage tiles damaged during construction and restoring temporarily impacted land to its original use. The Applicant has consulted landowners and county records to determine the locations of drain tile mains. In order to avoid impacts to drain tiles, the Applicant stated that it would locate drain tiles as accurately as possible prior to construction. The Applicant has committed to promptly repair any drain tile found to be damaged by the project during the operational life of the project. Following decommissioning of the facility, land can be restored for agricultural use.

The Applicant has prepared a decommissioning plan to decommission the solar facility. The Applicant would provide for financial security to ensure that funds are available for decommissioning/land-restoration. The Applicant would restore the land significantly to its original topography to allow for resumption of agricultural use. Staff has recommended a condition requiring that the draft decommissioning plan be updated to include improved financial assurance and site monitoring to ensure successful revegetation, among other things.

## **Conclusion**

Staff concludes that the proposed project would result in both temporary and permanent impacts to the project and surrounding areas. The project is unlikely to pose a significant adverse impact to existing land use, cultural resources, recreational resources or wildlife. With Staff's recommended conditions to further mitigate potential impacts, Staff concludes that the project represents the minimum adverse environmental impact.

**Recommended Findings**

Staff recommends that the Board find that the proposed facility represents the minimum adverse environmental impact, and therefore complies with the requirements specified in R.C. 4906.10(A)(3), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **CONSIDERATIONS FOR R.C. 4906.10(A)(4)**

### **ELECTRIC GRID**

Pursuant to R.C. 4906.10(A)(4), the Board must determine that the proposed electric facilities are consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems, and that the facilities will serve the interests of electric system economy and reliability. The purpose of this section of the report is to evaluate the impact of integrating the proposed facility into the bulk power system (BPS).

The Applicant proposes to construct a solar-powered electric generation facility, capable of producing 117 MW. The proposed facility would interconnect from the facility substation to a newly proposed gen-tie connection which would connect the proposed facility to the proposed POI. The proposed POI would require the construction of a new 138 kV switching station. Energy would be injected to the BPS on AEP's Chatfield-Howard section of the Howard-West End Fostoria 138 kV circuit.

### **NERC Planning Criteria**

The North American Electric Reliability Corporation (NERC) is responsible for the development and enforcement of the federal government's approved reliability standards, which are applicable to all owners, operators, and users of the BPS. As an owner, operator, and/or user of the BPS, the Applicant is subject to compliance with various NERC reliability standards. NERC reliability standards are included as part of the system evaluations conducted by PJM Interconnection, LLC (PJM).<sup>53</sup>

### **PJM Interconnection**

The Applicant submitted a generation interconnection request for the proposed facility to PJM on December 28, 2016. PJM assigned the project queue position AC2-015.<sup>54</sup> The Applicant requested an energy injection of 117 MW, of which 53.55 MW could be available in the PJM capacity market.<sup>55</sup> PJM has completed the feasibility and system impact study (SIS) and is processing the facilities study.<sup>56, 57</sup>

### **PJM Network Impacts**

PJM analyzed the proposed facility interconnected to the BPS. A 2020 summer peak power flow model was used to evaluate the regional reliability impacts. The studies revealed reliability criteria

---

53. PJM Interconnection, LLC is the regional transmission organization charged with planning for upgrades and administering the generation queue for the regional transmission system in Ohio. Generators wanting to interconnect to the bulk electric transmission system located in the PJM control area are required to submit an interconnection application for review of system impacts. The interconnection process provides for the construction of expansions and upgrades of the PJM transmission system, as needed to maintain compliance with reliability criteria with the addition of generation in its footprint.

54. PJM Interconnection, "New Services Queue," for Queue ID: AC2-015, accessed June 2, 2021, <https://pjm.com/planning/services-requests/interconnection-queues>.

55. The capacity market ensures the adequate availability of necessary generation resources can be called upon to meet current and future demand.

56. PJM Interconnection, "New Services Queue," Feasibility Study for Queue ID: AC2-015, accessed June 2, 2021, [https://pjm.com/pub/planning/project-queues/feas\\_docs/ac2015\\_fea.pdf](https://pjm.com/pub/planning/project-queues/feas_docs/ac2015_fea.pdf).

57. PJM Interconnection, "New Services Queue," System Impact Study for Queue ID: AC2-015, accessed June 2, 2021, [https://pjm.com/pub/planning/project-queues/impact\\_studies/ac2015\\_imp.pdf](https://pjm.com/pub/planning/project-queues/impact_studies/ac2015_imp.pdf).



violations during full energy output on AEP's Carrothers-Saint Stephens 69 kV line. The below chart displays the results of the PJM SIS for the PJM regional footprint.

<b>PJM REGIONAL SYSTEM IMPACTS - (Summer Peak)</b>	
<b>Generator Deliverability - System Normal and Single Contingency Outage</b>	
<i>Capacity Level - 53.55 MW</i>	No problems identified
<b>Category C and D - Multiple Contingency Outages</b> - <i>Double Circuit Tower Line, Fault with a Stuck Breaker, and Bus Fault contingencies</i>	
<i>Energy Output - 117 MW</i>	AEP's Carrothers-Saint Stephens 69 kV line - Overloads to 112.83%

### **New System Reinforcements**

PJM requires mitigation of contingencies that cause reliability criteria violations which are initially caused by the addition of an applicant's project. The results identified that during a multiple contingency outage, AEP's Carrothers-Saint Stephens 69 kV line overloads from 76.89 percent to 112.83 percent. AEP is required to mitigate the reliability criteria violation under PJM baseline upgrade b2791.<sup>58</sup>

### **Contribution to Previously Identified Overloads - Network Impacts**

PJM studied overloading where the proposed facility may affect earlier projects in the PJM Queue. The results identified overloads on FirstEnergy's Black River-US Steel 138 kV transmission line which would be corrected by PJM baseline project b2896. PJM subsequently canceled baseline project b2896 at the May 3, 2018, Transmission Expansion Advisory Committee.<sup>59</sup>

### **Potential Congestion due to Local Energy Deliverability- Energy Delivery Impacts**

PJM studied the delivery of the energy portion. Network upgrades under this section would allow for the delivery of energy with operational restrictions. The upgrades to mitigate any future operational restrictions are not required for the facility to be operational and are at the discretion of the Applicant. If the Applicant wishes to proceed with upgrades, PJM requires a merchant transmission interconnection request. The results identified one overload on AEP's Howard-Brookside 138 kV transmission line. Analysis revealed the line overloads from 93.86 percent to 108.95 percent.

### **Short Circuit Analysis**

The short circuit analysis study, which is part of the SIS, evaluates the interrupting capabilities of circuit breakers that would be impacted by the proposed generation addition. The results identified no circuit breaker problems.

58. PJM Interconnection, "Transmission Construction Status," available at: <https://pjm.com/planning/project-construction.aspx> (Accessed June 2, 2021).

59. PJM Interconnection, "Transmission Expansion Advisory Committee," May 3, 2018, Reliability Analysis Update available at: <https://pjm.com/-/media/committees-groups/committees/teac/20180503/20180503-teac-reliability-analysis-update.ashx> (Accessed June 2, 2021).

**Recommended Findings**

Staff recommends that the Board find that the proposed facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems, and that the facility would serve the interests of electric system economy and reliability. Therefore, Staff recommends that the Board find that the facility complies with the requirements specified in R.C. 4906.10(A)(4), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(5)**

### **AIR, WATER, SOLID WASTE, AND AVIATION**

Pursuant to R.C. 4906.10(A)(5), the facility must comply with Ohio law regarding air and water pollution control, withdrawal of waters of the state, solid and hazardous wastes, and air navigation.

#### **Air<sup>60</sup>**

Air quality permits are not required for construction or operation of the proposed facility. However, fugitive dust rules adopted under R.C. Chapter 3704 may be applicable to the construction of the proposed facility. The Applicant would control temporary and localized fugitive dust by using best management practices (BMPs) such as using a dust suppressant such as calcium carbonate or water to wet soil to minimize dust during periods of high heat. These practices are outlined in the ODNR's *Ohio Rainwater and Land Development Manual*. This method of dust control is typically used to comply with fugitive dust rules.

This project would not include any stationary sources of air emissions and, therefore, would not require air pollution control equipment.

#### **Water<sup>61</sup>**

The Applicant anticipates obtaining environmental permits, if necessary. The Applicant would mitigate potential water quality impacts associated with aquatic discharges by obtaining NPDES construction storm water general permit (OHC000005) coverage from the Ohio EPA with submittal of a notice of intent and development and implementation of a SWPPP. The SWPPP would describe and outline BMPs to control soil erosion, minimize sedimentation, and outline placement of silt fence and compost filter sock where appropriate to minimize runoff.

The Applicant would obtain, if required, the following permits:

- The U.S. Army Corps of Engineers Section 404 or nationwide permit for stream crossings and wetland impacts.

---

60. The Revised Code provides for the Ohio EPA to administer and enforce the provisions of R.C. Ch. 3704 with regards to air pollution control. See e.g., R.C. 3704.03, 3704.161. The Ohio EPA Division of Air Pollution Control ensures compliance with the federal Clean Air Act and the Emergency Planning and Community Right-to-Know Act as part of its mission to attain and maintain air quality at a level that protects the environment and public health. (Ohio EPA, *Division of Air Pollution Control*, <https://www.epa.ohio.gov/dapc/#188913097-featured-topics>). The Division of Air Pollution Control develops and enforces rules in the Ohio Administrative Code, which assist the state of Ohio to: attain and maintain the National Ambient Air Quality Standards (NAAQS) contained in the Clean Air Act; fulfill the requirements set forth by the Ohio General Assembly in R.C. 3704; and protect and maintain healthy air quality for the citizens of the state of Ohio. (See, Ohio EPA, *Division of Air Pollution Control Rules and Laws*, <<https://www.epa.ohio.gov/dapc/DAPCrules>>).

61. The Revised Code provides for the Ohio EPA to be the lead agency in administering the provisions of Ch. 6111 with regards to water quality. See e.g., RC 6111.041. For example, the Ohio EPA, among other things, “ensures compliance with the federal Clean Water Act and works to restore and enhance the integrity of Ohio’s waters.” (Ohio EPA Website, *Division of Surface Water*, <https://www.epa.ohio.gov/dsw/Surface-Water/LiveTabId/113292#:~:text=Ensures%20compliance%20with%20the%20federal,the%20integrity%20of%20Ohio's%20waters.&text=We%20issue%20permits%20to%20regulate,aimed%20at%20improving%20polluted%20streams>). The Clean Water Act establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. (US EPA, *Summary of Clean Water Act*, <https://www.epa.gov/laws-regulations/summary-clean-water-act>).

- Ohio EPA Water Quality Certification under Section 401 of the Clean Water Act.
- Ohio Isolated Wetland Permit in accordance with R.C. 6111.03(J) and R.C. 6111.021.

The Applicant would develop an SPCC plan to manage the storage and mitigate the unlikely release of hazardous substances.

With these measures, construction and operation of this facility would comply with requirements of R.C. Chapter 6111, and the rules and laws adopted under that chapter.

### **Solid Waste<sup>62</sup>**

Debris generated from construction activities would include items such as plastic, wood, cardboard, metal packing/packaging materials, construction scrap, and general refuse. The Applicant estimated that the construction activities would generate approximately 170 cubic yards of debris and solid waste. The Applicant stated that all construction-related debris would be disposed of at an authorized solid waste disposal facility.

During operation of the project, the Applicant anticipates that the O&M building would generate solid waste comparable in type and quantity to a small business office; it would use a local solid waste disposal and recycling service to handle the waste.

The Applicant's solid waste disposal plans would comply with solid waste disposal requirements set forth in R.C. Chapter 3734.

### **Aviation<sup>63</sup>**

The height of the tallest above ground structures would be the substation support structures which would be approximately 65 feet tall.<sup>64</sup> That height is under the height requirement from the FAA, pursuant to 14 CFR Part 77.9(a), for filing a Form 7460-1. However, the FAA performed an aeronautical study for various points around the solar facility. The FAA provided the results of that aeronautical study to the Applicant as a determination of no hazard to air navigation for those various points of the solar facility (Aeronautical Study Numbers 2020-AGL-21517-OE through 2020-AGL-215130-OE).<sup>65</sup>

According to the Applicant, there are no helicopter pads, or landing strips within five miles of the project area.<sup>66</sup> Staff confirmed through the FAA, that the next closest public-use airports are the Shelby Community (12G) and Willard (8G1) airports which are approximately eight miles from the proposed solar facility project substation.

---

62. The Revised Code generally provides for Ohio EPA to administer and enforce the provisions of Chapters 3714. and 3734., in particular with regard to solid waste facilities, infectious waste treatment facilities and construction and demolition debris facilities.

63. The FAA is the authority in the U.S. government responsible for regulating all aspects of civil aviation, including issuing determinations on petitions for objects that penetrate the nation's airspace. The FAA conducts aeronautical studies for new structures that will exceed 200 feet in height under the provisions of 49 U.S.C. 44718, and applicable 14 CFR Part 77. Pursuant to R.C. 4561.32, ODOT regulates the height and location of structures and objects within any airport's clear zone surface, horizontal surface, conical surface, primary surface, approach surface, or transitional surface.

64. Application at page 65.

65. Application at Exhibit N.

66. Application at page 49 and Figure 08-3.

The Applicant did identify two privately owned private use airfields: the Schulze's Field (69OI) airport located approximately 2.6 miles west of the project area and the Elkhorn Landing Strip (4D3) airport located approximately 4.75 miles south of the project area. An aircraft would need to obtain permission prior to landing at a private-use airport.

In accordance with R.C. 4906.10(A)(5), Staff contacted the ODOT Office of Aviation during the review of this application in order to coordinate review of potential impacts of the facility on local airports.<sup>67</sup> As of the date of this filing, no such concerns have been identified.

### **Recommended Findings**

Staff recommends that the Board find that the proposed facility complies with the requirements specified in R.C. 4906.10(A)(5), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

---

67. R.C. 4906.10(A)(5) states, in part: "[i]n determining whether the facility will comply with all rules and standards adopted under section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under section 4561.341 of the Revised Code." R.C. 4561.341 states, in part: "[p]ursuant to any consultation with the power siting board regarding an application for certification under section 4906.03 or 4906.10 of the Revised Code, the office of aviation of the division of multi-modal planning and programs of the department of transportation shall review the application to determine whether the facility constitutes or will constitute an obstruction to air navigation based upon the rules adopted under section 4561.32 of the Revised Code. Upon review of the application, if the office determines that the facility constitutes or will constitute an obstruction to air navigation, it shall provide, in writing, this determination and either the terms, conditions, and modifications that are necessary for the applicant to eliminate the obstruction or a statement that compliance with the obstruction standards may be waived, to the power siting board under section 4906.03 or 4906.10 of the Revised Code, as appropriate."

## **Considerations for R.C. 4906.10(A)(6)**

### **PUBLIC INTEREST, CONVENIENCE, AND NECESSITY**

Pursuant to R.C. 4906.10(A)(6), the Board must determine that the facility will serve the public interest, convenience, and necessity.

#### **Safety**

The Applicant stated that it would use reliable and certified equipment compliant with applicable Underwriters Laboratories, Institute of Electrical and Electronics Engineers, National Electrical Code, National Electrical Safety Code (NESC), and American National Standards Institute standards. Also, the Applicant would ensure that components are inspected regularly for safe and reliable operation.

The Applicant intends to use warning signs, fencing, and gates to restrict access to the potential hazards within the solar project area. Additionally, the Applicant intends to design its facility with setbacks to non-participating sensitive receptors, non-participating properties, and public roads.

The Applicant stated that it intends to restrict public access to the facility by enclosing the project area with fencing that complies with NESC requirements. The Applicant has proposed fencing for the PV panel area that would be either a six feet tall woven wire fence topped with one-foot barbed wire strand or similar fence, with access through gates. The Applicant has proposed fencing for the substation area that would be seven feet tall chain link fence topped with one-foot barbed wire strand or similar fence, with access through gates. Staff has recommended that, except for the substation fencing, the solar panel perimeter fence type be both wildlife permeable and aesthetically fitting for a rural location.

Prior to construction, the Applicant also intends to develop and implement an emergency response plan and further consultation with potentially affected local and regional emergency response personnel. The Applicant has provided an example emergency response plan, which Staff has reviewed.<sup>68</sup>

#### **Electromagnetic Fields**

Electric transmission lines, when energized, generate electromagnetic fields (EMF). Laboratory studies have failed to establish a strong correlation between exposure to EMF and effects on human health. There have been concerns, however, that EMF may have impacts on human health. The gen-tie transmission line is not within 100 feet of an occupied residence or institution, therefore calculation of the production of EMF during operation of the proposed gen-tie transmission line is not warranted per Ohio Adm.Code 4906-5-07(A)(2).<sup>69</sup> The Applicant states that the transmission facilities would be installed according to the requirements of the NESC.

---

68. Sycamore Creek Solar, LLC's May 7, 2021 Responses to Staff's March 31, 2021 Data Requests, Data Request #14.

69. Sycamore Creek Solar, LLC's April 7, 2021 Responses to Staff's First (March 16, 2021), Second (March 23, 2021), and Fourth (March 31, 2021) Data Requests, Data Request #5.

### **Public Interaction and Participation**

The Applicant hosted a virtual public informational meeting for the project. Attendees were provided the opportunity to listen to a presentation about the project, ask questions, and provide comments. According to information provided by the Applicant, the questions and comments shared by attendees covered topics including setbacks, economic impacts, effects on radio and TV transmission, cultural resources, lifespan of the project, and potential health risks from solar panel composition.

The Applicant has drafted a complaint resolution plan to handle complaints during the construction and operation of the facility. Staff recommends that a final version of this plan be filed on the docket no later than 30 days prior to the start of construction. The Applicant has committed to notify, by mail, affected property owners and tenants who were provided notice of the public information meeting and OPSB hearings, local officials who received a copy of the application, residences located within one mile of the certificated boundary, and other applicable parties who have requested updates regarding the project, at least seven days prior to the start of construction and again at least seven days prior to the start of facility operation. The Applicant has also committed to provide the OPSB with a quarterly complaint update during construction and the first five years of operation of the facility. Staff recommends that these reports be filed on the public docket.

The Administrative Law Judge has scheduled a public hearing and an evidentiary hearing for this proceeding. The public hearing will be held on July 22, 2021, beginning at 6 p.m. The evidentiary hearing is scheduled for August 5, 2021, at 10:00 a.m.

As of July 6, 2021, the OPSB has not received any public comments in this proceeding. All public comments are available for Board members and the public to view online in the case record at <http://dis.puc.state.oh.us>.

The Crawford County Commissioners, the Township Trustees of Cranberry Township, and the Ohio Farm Bureau Federation have requested to intervene in this proceeding.

### **Recommended Findings**

Staff recommends that the Board find that the proposed facility would serve the public interest, convenience, and necessity, and therefore complies with the requirements specified in R.C. 4906.10(A)(6), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

## **Considerations for R.C. 4906.10(A)(7)**

### **AGRICULTURAL DISTRICTS AND AGRICULTURAL LAND**

Pursuant to R.C. 4906.10(A)(7), the Board must determine the facility's impact on the agricultural viability of any land in an existing agricultural district within the project area of the proposed facility. The agricultural district program was established under R.C. Chapter 929. Agricultural district land is exempt from sewer, water, or electrical service tax assessments.

Agricultural land can be classified as an agricultural district through an application and approval process that is administered through local county auditors' offices. Eligible land must be devoted exclusively to agricultural production or be qualified for compensation under a land conservation program for the preceding three calendar years. Furthermore, eligible land must be at least 10 acres in size or produce a minimum average gross annual income of \$2,500.

Approximately 780 acres of agricultural land would be disturbed by the proposed project. Approximately 776 acres of agricultural land, including approximately 192 acres of agricultural district land, would be taken out of service. However, the repurposed land could be restored for agricultural use when the project is decommissioned.

The construction and operation of the proposed facility would disturb the existing soil and could lead to broken drainage tiles. A drain tile system consists of laterals, which are branches off a main, and main lines. Main lines can allow water to flow into or out of one parcel to another. The locating and avoiding of damaging drain tile mains can help prevent the pooling of water on project parcels and adjacent parcels.

When landowners lay down or repair drain tiles, they often keep records of the location of the drain tiles. The Applicant has consulted landowners and county officials to collect data on existing drain tiles within the project area. The Applicant has supplied a Drain Tile Mitigation Plan with its OPSB application (Exhibit E). This report discusses repair and mitigation details and provides a map of all known drain tile locations. The Applicant has committed to promptly repair any drain tile found to be damaged by the project during the operational life of the project.

The Applicant has committed to take steps to address potential impacts to farmland, including repairing all drainage tiles damaged during construction and restoring temporarily impacted land to its original use. Excavated topsoil would be separated during construction and returned as topsoil after construction. Restored topsoil would be de-compacted and seeded after construction.

### **Recommended Findings**

Staff recommends that the Board find that the impact of the proposed facility on the viability of existing agricultural land in an agricultural district has been determined, and therefore complies with the requirements specified in R.C. 4906.10(A)(7), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this Staff Report of Investigation entitled Recommended Conditions of Certificate.



### **Considerations for R.C. 4906.10(A)(8)**

#### **WATER CONSERVATION PRACTICE**

Pursuant to R.C. 4906.10(A)(8), the proposed facility must incorporate maximum feasible water conservation practices, considering available technology and the nature and economics of the various alternatives.

Construction of the proposed facility would not require the use of significant amounts of water. Water may be utilized for dust suppression and control on open soil surfaces such as construction access roads or unpaved transportation routes as needed during periods of high heat.

Operation of the proposed facility would not require the use of significant amounts of water. The O&M building would have water use and wastewater discharge comparable to a small office building. The Applicant anticipates obtaining water through drilling a new onsite water well. Also, a septic system would be installed for the sanitary wastewater from the O&M building.<sup>70</sup> The Applicant would depend on rainfall to clean the solar panels. The Applicant only anticipates that during times of drought would it need to clean the panels with water and calculates that approximately 1,300 to 1,800 gallons per MW would be used.<sup>71, 72</sup>

#### **Recommended Findings**

The Staff recommends that the Board find that the proposed facility would incorporate maximum feasible water conservation practices, and therefore complies with the requirements specified in R.C. 4906.10(A)(8), provided that any certificate issued by the Board for the proposed facility include the conditions specified in the section of this *Staff Report of Investigation* entitled Recommended Conditions of Certificate.

---

70. Application at page 47.

71. Application at page 11.

72. Sycamore Creek Solar, LLC's May 7, 2021 Responses to Staff's March 31, 2021 Data Requests, Data Request #16.

#### **IV. RECOMMENDED CONDITIONS OF CERTIFICATE**

Following a review of the application filed by the Sycamore Creek Solar, LLC, and the record compiled to date in this proceeding, Staff recommends that a number of conditions become part of any certificate issued for the proposed facility. These recommended conditions may be modified as a result of public or other input received subsequent to the issuance of this report. At this time, Staff recommends the following conditions to ensure conformance with the proposed plans and procedures as outlined in the case record to date, and to ensure compliance with all conditions listed in this Staff Report:

- (1) The Applicant shall install the facility, utilize equipment and construction practices, and implement mitigation measures as described in the application and as modified and/or clarified in supplemental filings, replies to data requests, and recommendations in this *Staff Report of Investigation*.
- (2) The Applicant shall conduct a preconstruction conference prior to the commencement of any construction activities. Staff, the Applicant, and representatives of the primary contractor and all subcontractors for the project shall attend the preconstruction conference. The conference shall include a presentation of the measures to be taken by the Applicant and contractors to ensure compliance with all conditions of the certificate, and discussion of the procedures for on-site investigations by Staff during construction. Prior to the conference, the Applicant shall provide a proposed conference agenda for Staff review and shall file a copy of the agenda on the case docket. The Applicant may conduct separate preconstruction conferences for each stage of construction.
- (3) Within 60 days after the commencement of commercial operation, the Applicant shall submit to Staff a copy of the as-built specifications for the entire facility. If the Applicant demonstrates that good cause prevents it from submitting a copy of the as-built specifications for the entire facility within 60 days after commencement of commercial operation, it may request an extension of time for the filing of such as-built specifications. The Applicant shall use reasonable efforts to provide as-built drawings in both hard copy and as geographically referenced electronic data.
- (4) To ensure adequate access road design, the Applicant shall conduct site specific CBR testing with the final design level study as recommended in the Preliminary Geotechnical Report.
- (5) Separate preconstruction conferences may be held for the different phases of civil construction and equipment installation. At least 30 days prior to each preconstruction conference, the Applicant shall submit to Staff, for review and acceptance, one set of detailed engineering drawings of the final project design for that phase of construction and mapping in the form of PDF, which the Applicant shall also file on the public docket of this case, and geographically referenced data (such as shapefiles or KMZ files) based on final engineering drawings to confirm that the final design is in conformance with the certificate. Mapping shall include the limits of disturbance, permanent and temporary infrastructure locations, areas of vegetation removal and vegetative restoration as applicable, and specifically denote any adjustments made from the siting detailed in the application. The detailed engineering drawings of the final project design for each phase

of construction shall account for geological features and include the identity of the registered professional engineer(s), structural engineer(s), or engineering firm(s), licensed to practice engineering in the state of Ohio who reviewed and approved the designs. All applicable geotechnical study results shall be included in the submission of the final project design to Staff.

- (6) At least 30 days prior to the preconstruction conference, the Applicant shall submit the final geotechnical engineering report to Staff for review and acceptance, and then shall file it on the public docket. This shall include a summary statement addressing the geologic and soil suitability.
- (7) The certificate shall become invalid if the Applicant has not commenced a continuous course of construction of the proposed facility within five years of the date of journalization of the certificate unless the Board grants a waiver or extension of time.
- (8) As the information becomes known, the Applicant shall file on the public docket the date on which construction will begin, the date on which construction was completed, and the date on which the facility begins commercial operation.
- (9) Prior to the commencement of construction activities in areas that require permits or authorizations by federal or state laws and regulations, the Applicant shall obtain and comply with such permits or authorizations. The Applicant shall provide copies of permits and authorizations, including all supporting documentation, to Staff within seven days of issuance or receipt by the Applicant and shall file such permits or authorizations on the public docket. The Applicant shall provide a schedule of construction activities and acquisition of corresponding permits for each activity at the preconstruction conference.
- (10) The certificate authority provided in this case shall not exempt the facility from any other applicable and lawful local, state, or federal rules or regulations nor be used to affect the exercise of discretion of any other local, state, or federal permitting or licensing authority with regard to areas subject to their supervision or control.
- (11) At least 30 days prior to the start of construction, the Applicant shall file a copy of the final complaint resolution plan on the public docket. At least seven days prior to the start of construction and at least seven days prior to the start of facility operations, the Applicant shall notify via mail affected property owners and tenants including those individuals who were provided notice of the public informational meeting, residences located within one mile of the project area, parties to this case, county commissioners, township trustees, emergency responders, airports, schools, and libraries, as well as anyone who has requested updates regarding the project. These notices shall provide information about the project, including contact information and a copy of the complaint resolution plan. The start of construction notice shall include written confirmation that the Applicant has complied with all preconstruction-related conditions of the certificate, as well as a timeline for construction and restoration activities. The start of facility operations notice shall include written confirmation that the Applicant has complied with all construction-related conditions of the certificate, as well as a timeline for the start of operations. The Applicant shall file a copy of these notices on the public docket. During the construction and operation of the facility, the Applicant shall submit to Staff a complaint summary report by the fifteenth day of April, July, October, and January of each year through the first five years

of operation. The report shall include a list of all complaints received through the Applicant's complaint resolution process, a description of the actions taken toward the resolution of each complaint, and a status update if the complaint has yet to be resolved. The Applicant shall file a copy of these complaint summaries on the public docket.

- (12) The Applicant shall not commence any construction of the facility until it has executed an Interconnection Service Agreement and Interconnection Construction Service Agreement with PJM Interconnection, which includes construction, operation, and maintenance of system upgrades necessary to integrate the proposed generating facility into the regional transmission system reliably and safely. The Applicant shall docket in the case record a letter stating that the Agreement has been signed or a copy of the executed Interconnection Service Agreement and Interconnection Construction Service Agreement.
- (13) The facility shall be operated in such a way as to assure that no more than 117 megawatts would be injected into the Bulk Power System at any time.
- (14) The Applicant shall adhere to the June 3, 2021 Memorandum of Understanding executed between the Applicant and the Ohio Historic Preservation Office, which commits the Applicant to avoid sites identified as potentially eligible for National Register of Historic Places listing; to minimize visual impacts to identified historic resources through the landscape plan for this project; and details the steps to be taken if unanticipated archaeological discoveries are made.
- (15) Prior to commencement of construction, the Applicant shall submit to Staff for approval a solar panel perimeter fence type that is both small-wildlife permeable and aesthetically fitting for a rural location. Following Staff approval, the Applicant shall file details of this solar panel perimeter fence on the public docket. This condition shall not apply to substation fencing.
- (16) Prior to commencement of any construction, the Applicant shall prepare a landscape and lighting plan in consultation with a landscape architect licensed by the Ohio Landscape Architects Board that addresses the aesthetic and lighting impacts of the facility with an emphasis on any locations where an adjacent non-participating parcel contains a residence with a direct line of sight to the project area. The plan shall also address potential aesthetic impacts to nearby communities, the travelling public, and recreationalists by incorporating appropriate landscaping measures such as shrub plantings or enhanced pollinator plantings. The plan shall include measures such as fencing, vegetative screening, or good neighbor agreements. Unless alternative mitigation is agreed upon with the owner of any such adjacent, non-participating parcel containing a residence with a direct line of sight to the fence of the facility, the plan shall provide for the planting of vegetative screening designed by the landscape architect to enhance the view from the residence and be in harmony with the existing vegetation and viewshed in the area. The Applicant shall maintain vegetative screening for the life of the facility and the Applicant shall replace any failed plantings so that, after five years, at least 90 percent of the vegetation has survived. The Applicant shall maintain all fencing along the perimeter of the project in good repair for the term of the project and shall promptly repair any damage as needed. Lights shall be motion-activated and designed to narrowly focus light inward toward the facility, such as being downward-facing and/or fitted with side shields. The Applicant shall provide the plan to Staff for

review and confirmation that it complies with this condition and shall also file it on the public docket.

- (17) General construction activities shall be limited to the hours of 7:00 a.m. to 7:00 p.m., or until dusk when sunset occurs after 7:00 p.m. Impact pile driving shall be limited to the hours between 9:00 a.m. and 7:00 p.m. or until dusk when sunset occurs after 7:00 p.m. Impact pile driving may occur between 7:00 a.m. and 9:00 a.m. if the noise impact at non-participating receptors is not greater than daytime ambient Leq plus 10 dBA. If impact pile driving is required between 7:00 a.m. and 9:00 a.m., the Applicant shall install a noise monitor in a representative location to catalog that this threshold is not being exceeded. Hoe ram operations, if required, shall be limited to the hours between 10:00 a.m. and 4:00 p.m., Monday through Friday. Construction activities that do not involve noise increases above ambient levels at sensitive receptors are permitted outside of daylight hours when necessary. The Applicant shall notify property owners or affected tenants within the meaning of Ohio Adm.Code 4906-3-03(B)(2) of upcoming construction activities including potential for nighttime construction.
- (18) If the inverters or substation transformer chosen for the project have a higher sound power output than the models used in the noise model, the Applicant shall show that sound levels will not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor and will be submitted at least 30 days prior to construction. If noise data is not available from the inverter or transformer manufacturer, an operational noise test may be performed to comply with this condition. The test must be performed on a sunny day between 10:00 a.m. and 2:00 p.m. in the months of May-August, at a distance equal to the minimum distance from an inverter to a non-participating residence. If the test shows the operational noise level is greater than project area ambient Leq level plus five dBA additional noise mitigation will be required. This condition is complied with if the test shows the operational noise level is equal or less than project area ambient Leq level plus five dBA. The Applicant shall file a report on the public docket that shows either: 1) for the chosen inverter and substation transformer that sound levels will not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor, or 2) results of the operational noise test showing that sound levels will not exceed the daytime ambient level plus five dBA at any non-participating sensitive receptor.
- (19) The Applicant shall avoid, where possible, or minimize to the extent practicable, any damage to functioning field tile drainage systems and soils resulting from the construction, operation, and/or maintenance of the facility in agricultural areas. Damaged field tile systems shall be promptly repaired to at least original conditions or modern equivalent at the Applicant's expense. However, if the affected landowner agrees to not having the damaged field tile system repaired, they may do so only if the field tile systems of adjacent landowners remain unaffected by the non-repair of the landowner's field tile system.
- (20) The Applicant shall adhere to seasonal cutting dates of October 1 through March 31 for the removal of trees three inches or greater in diameter to avoid impacts to Indiana bats, northern long-eared bats, little brown bat, and the tricolored bat unless coordination with the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) allows a different course of action. If coordination with these agencies allows

clearing between April 1 and September 30, the Applicant shall docket proof of completed coordination on the case docket prior to clearing trees.

- (21) The Applicant shall conduct no in-water work in perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat, unless coordination efforts with the Ohio Department of Natural Resources (ODNR) allows a different course of action. If coordination with ODNR allows in-water work in perennial streams between April 15 and June 30, the Applicant shall file proof of such coordination on the docket prior to conducting such work.
- (22) The Applicant shall construct the facility in a manner that incorporates post construction stormwater management under OHC00005 (Part III.G.2.e, pp. 19-27) in accordance with the Ohio Environmental Protection Agency's Guidance on Post-Construction Storm Water Controls for Solar Panel Arrays.
- (23) The Applicant shall take steps to prevent establishment and/or further propagation of noxious weeds identified in Ohio Adm. Code Chapter 901:5-37 during implementation of any pollinator-friendly plantings.
- (24) If the Applicant encounters any new listed plant or animal species or suitable habitat of these species prior to construction, the Applicant shall include the location in the final engineering drawings and associated mapping, as required in condition 5. The Applicant shall avoid impacts to these species and explain how impacts would be avoided during construction.
- (25) The Applicant shall have an environmental specialist on site during construction activities that may affect sensitive areas, to be mutually agreed upon by the Applicant and Staff. Sensitive areas which would be impacted during construction shall be identified on a map provided to Staff, and shall include wetlands, streams, and locations of threatened or endangered species. The environmental specialist shall be familiar with water quality protection issues and potential threatened or endangered species of plants and animals that may be encountered during project construction. The environmental specialist mutually agreed upon by Staff and the Applicant shall be authorized to report any issues simultaneously to Staff and the Applicant. To allow time for the Applicant and Staff to respond to any reported issues, the environmental specialist shall have authority to stop construction activities for up to 48 hours if the construction activities are creating unforeseen environmental impacts in the sensitive areas identified on the map.
- (26) The Applicant shall contact Staff, the ODNR, and the USFWS within 24 hours if state or federal listed species are encountered during construction activities. Construction activities that could adversely impact the identified plants or animals shall be immediately halted until an appropriate course of action has been agreed upon by the Applicant, Staff and the appropriate agencies. The Applicant shall also notify OPSB Staff and ODNR DOW if any wildlife mortality or entrapment is discovered in the facility during operation.
- (27) Prior to commencement of construction activities that require transportation permits, the Applicant shall obtain all such permits. The Applicant shall coordinate with the appropriate authority regarding any temporary road closures, road use agreements, driveway permits, lane closures, road access restrictions, and traffic control necessary for construction and

operation of the proposed facility. Coordination shall include, but not be limited to, the county engineer, the Ohio Department of Transportation, local law enforcement, and health and safety officials. The Applicant shall detail this coordination as part of a final transportation management plan submitted to Staff prior to the preconstruction conference for review and confirmation by Staff that it complies with this condition and then file the plan on the public docket. This final transportation management plan would include any county required road use maintenance agreements. Any damaged public roads, culverts and bridges would be repaired promptly to their previous or better condition by the Applicant under the guidance of the appropriate regulatory authority. Any temporary improvements would be removed unless the appropriate regulatory authority requests that they remain in place.

- (28) At least 30 days prior to the preconstruction conference, the Applicant shall submit an updated decommissioning plan and total decommissioning cost estimate without regard to salvage value on the public docket that includes: (a) a provision that the decommissioning financial assurance mechanism include a performance bond based on the total decommissioning cost without regard to salvage value and where the company is the principal, the insurance company is the surety, and the Ohio Power Siting Board is the obligee; (b) a provision to monitor the site for at least one additional year to ensure successful revegetation and rehabilitation; (c) a timeline of up to one year for removal of the majority of equipment; (d) a provision where the performance bond is posted prior to the commencement of construction, and (e) a provision that the performance bond is for the total decommissioning cost and excludes salvage value.



*An Equal Opportunity Employer and Service Provider*

[www.OPSB.ohio.gov](http://www.OPSB.ohio.gov)  
(866) 270-OPSB (6772)

180 E. Broad St.  
Columbus, OH 43215-3793



**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**7/7/2021 11:26:20 AM**

**in**

**Case No(s). 20-1762-EL-BGN**

Summary: Staff Report of Investigation electronically filed by Mr. Matt Butler on behalf of Staff of OPSB