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December 23, 2020

Ms. Tanowa Troupe, Secretary
Docketing Division
Ohio Power Siting Board
180 E. Broad Street, 11th Floor
Columbus, OH 43215

Re: Case No. 20-1405-EL-BGN
AEUG Union Solar, LLC

Dear Ms. Troupe:

Accompanying this letter is the application by AEUG Union Solar, LLC for a Certificate of Environmental Compatibility and Public Need for the Union County Solar Project, an up to 325 megawatt solar-powered electric generation facility to be located in Union County, Ohio. The original application was electronically filed. Five hard copies have been provided to the Ohio Power Siting Board along with ten disc copies.

In accordance with Ohio Adm.Code 4906-2-04, I would like to make the following declarations:

Name of the applicant:

AEUG Union Solar, LLC
c/o Acciona Energy USA Global LLC
55 East Monroe Street, Suite 1925
Chicago, Illinois 60603

Name and location of the proposed facility:

Union County Solar Project
Washington and York Townships in Union County, Ohio



Legal Counsel

Ms. Tanowa Troupe, Secretary

December 23, 2020

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Name of the authorized representative:

Michael J. Settineri
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Notarized Statement:

See attached Affidavit of Rafael Esteban Fernández de Córdoba
Officer of AEUG Union Solar, LLC

Please note the following information which has been revised by AEUG Union Solar, LLC since the issuance of the Pre-Application Notification Letter filed September 21, 2020. The Union Solar Project schedule has changed: construction of the facility is scheduled to begin in the first quarter of 2022, with commercial operations beginning in the fourth quarter of 2023. Additionally, the Union Solar Project website has been changed to <https://www.unionsolarfarm.com>. Also, AEUG Union Solar, LLC held a second web-based virtual public information meeting regarding the Union Solar Project at 5:30 p.m. on Thursday, December 10, 2020, which was immediately followed by a second phone-based public information meeting at 7:30 p.m.

Very truly yours,

/s/ Michael J. Settineri

Michael J. Settineri
Attorney for AEUG Union Solar, LLC

Enclosure

**BEFORE
THE OHIO POWER SITING BOARD**

**In the Matter of the Application of
AEUG Union Solar, LLC for a
Certificate of Environmental
Compatibility and Public Need**

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Case No. 20-1405-EL-BGN

OFFICER'S AFFIDAVIT

STATE OF ILLINOIS
COUNTY OF COOK

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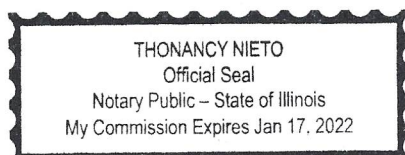
Now comes Rafael Esteban Fernández de Córdoba, Chief Executive Officer of AEUG Union Solar, LLC and an officer of AEUG Union Solar, LLC, having been first duly sworn, declares and states as follows:


1. I am an executive officer for AEUG Union Solar, LLC, the developer of the AEUG Union Solar Project to be located in Washington and York Townships, Union County, Ohio.
2. I have reviewed the Application of AEUG Union Solar, LLC for a Certificate of Environmental Compatibility and Public Need to Construct an Electric Generating Facility in Case No. 20-1405-EL-BGN.
3. To the best of my knowledge, the information and statements contained in the Application are true and correct.
4. To the best of my knowledge, the Application is complete subject to any request(s) for waiver(s).

Signature: _____

Rafael Esteban Fernández de Córdoba
Chief Executive Officer
AEUG Union Solar, LLC

Sworn to before me and signed in my presence this 17 day of December, 2020.




Notary Public

My Commission Expires 01-17-2022

**Application to the
Ohio Power Siting Board for a**

**Certificate of Environmental Compatibility
and Public Need for the Union Solar Project**
Washington and York Townships, Union County, Ohio

Case No. 20-1405-EL-BGN



**Submitted by:
AEUG Union Solar, LLC**



December 2020

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ACRONYMS/ABBREVIATIONS

%	Percent
AC	Alternating Current
ACM	Asbestos containing material
AEP	American Electric Power
AEUG	Acciona Energy USA Global LLC
AEZ	Alternative energy zone
ANSI	American National Standards Institute
AUS	AEUG Union Solar, LLC
B	Boring
BESS	Battery energy storage system
BMPs	Best Management Practices
CAFO	Concentrated Animal Feeding Operation
CIA	Critical issues assessment
COD	Commercial operation date
CR	County Road
CWA	Clean Water Act
dB	decibels
dba	A-weighted decibels
DC	Direct Current
DOE	Department of Energy
DOW	Division of Wildlife
ESRI	Environmental systems research institute
EVH	Extra high voltage
EPC	Engineering, Procurement, and Construction
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FTE	full-time equivalent
GCB	Gas circuit breaker
GWh	Gigawatt hour
gen-tie	electric generation-tie
HDD	horizontal directional drilling
IEE	Institute of Electrical Engineers
IEEE	Institute of Electrical and Electronics Engineers
IPaC	Information for Planning and Construction
IR	Inadvertent return
ISA	Interconnection Service Agreement
JEDI	Jobs and Economic Development Impact
kVa	Kilo-volt-amperes
kWp	Kilowatt power
Leq	equivalent sound level

LOD	Limit of disturbance
LT	Long-term monitoring point
ML	Monitoring location
mph	miles per hour
MPT	Main power transformer
MVA	Mega volt amp
MW	Megawatt
NAAQS	National Ambient Air Quality Standards
NCT	Notice Criteria Tool
NEC	National Electric Code
NESC	National Electric Safety Code
NLEB	Northern long-eared bat
NPDES	National Pollutant Discharge Elimination System
NPS	Nation Park Service
NPV	Net present value
NREL	National Renewable Energy Laboratory
NRHP	National Register of Historic Places
NWP	Nationwide Permit
O&M	operations and maintenance
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
ODSA	Ohio Development Services Agency
OEG	Obstruction Evaluation Group
Ohio EPA	Ohio Environmental Protection Agency
OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method
ORC	Ohio Revised Code
OSHA	Occupational Safety and Health Administration
Pa	Pascal
PEM	palustrine emergent
PFO	palustrine forested
PILOT	payment in lieu of taxes
PJM	PJM Interconnection, LLC
POI	point of interconnection
Project	Union Solar, 325-MW solar energy facility
Project Area	Project development area
PSS	palustrine scrub-shrub
PV	Photovoltaic
RPWs	Relatively permanent waters
RQD	Rock quality designation
RUMA	Road Use Maintenance Agreement
SCADA	system control and data acquisition

SGHAT	Solar Glare Hazard Analysis Tool
SHPO	State Historic Preservation Office
SIS	System impact study
SPCC	Spill prevention control and countermeasures
SR	State Route
Study Area	Area around and including the Project Area
SWPPP	Storm Water Pollution Prevention Plan
T	Test pit
T&E	Threatened and Endangered
TNC	The Nature Conservancy
UL	Underwriter Laboratories
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VP	View Point
WOTUS	Waters of the US

4906-4-01 Purpose and Scope

(A) GENERAL

This Application is intended to satisfy the requirements of the Ohio Administrative Code (OAC) Rule 4906-4 for issuance by the Ohio Power Siting Board (OPSB) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the Union Solar Project (Project) proposed and submitted by AEUG Union Solar LLC (AUS).

(B) WAIVERS

AUS is not requesting any waivers at this time.

4906-4-02 Project Summary and Applicant Information

(A) SUMMARY OF THE PROPOSED PROJECT

AUS is proposing to construct and operate the Project located in Washington and York Townships, Union County, Ohio. The Project involves the construction of a 325 megawatt (MW) alternating current (AC) solar facility that will produce and transport electricity to American Electric Power's (AEP) Southwest Lima to Marysville Gun Run 345 kV Line.

(1) General Purpose of the Project

The Project will help meet electricity demand in the region, particularly in light of the recent and planned retirements of existing coal-fired generating assets located in Ohio and throughout the PJM Interconnection, LLC (PJM) system. The Project will utilize Ohio's natural topographic and open land to deliver clean, cost-effective, and renewable energy to the existing electricity grid to meet the needs of Ohio's electric customers. The general purpose of the Project is to provide 325 MW of clean, cost-effective, renewable energy to the transmission grid operated by AEP.

(2) Project Description

The Project will be located within approximately 3,355 acres of private land in Union County (Project Area), predominantly on existing farmland (Figure 02-1). Areas of wooded vegetation, local roadways, and residential development also occur throughout the Project Area. AUS has 100 percent site control for the Project within the Project Area, which includes approximately 96 percent participating landowners through agreements and some property that will be purchased and owned by AUS. Further information is presented in Section 4906-4-06(F).

AUS is active in communicating with the entire community, including non-participating landowners.

The Project's PJM interconnect application specifies a total electricity generation of up to 325 MW. The Project is anticipated to consist of up to 885,790 solar panels. Several different solar panel models are being considered for use in this project and anticipated to be used for the Project.

Underground electrical collector lines at 34.5 kV will be used to transmit generated electricity from the various solar panel arrays to the Project substation (Figure 02-2). From there, an approximate 200-foot 345-kV gen-tie line will transmit the Project's power to the point of interconnection (POI) and switchyard adjacent to the substation. The gen-tie line is part of this Application, but the switchyard and POI will be certificated through a separate application to the OPSB.

The Project is expected to operate with an annual capacity factor of approximately 25 percent, generating a total of 714.4 gigawatt-hours (GWh) of electricity each year.

Additional details for the Project are provided in Section 4906-4-03(B)(2) of this Application.

(3) Site Suitability

The Project site selection process, as it affirms site suitability, is described in greater detail in Section 4906-4-04. As outlined in that section, AUS identified this region of northwestern Ohio as one where not only do planned shutdowns of existing coal-fired capacity create a need for power, but where the solar resource to support a commercial energy facility is sufficient.

The general location of the Project was selected based on consideration of a range of key characteristics that are required for a successful solar energy facility. Once the general location was selected, additional scrutiny of a range of issues was undertaken with the Project Area and surrounding area (combined to form a Study Area) prior to initiating the engineering and environmental activities necessary for completion of the OPSB Application.

Key characteristics of the proposed Project Area that makes it suitable for Project development are outlined in Table 02-1.

**TABLE 02-1
PROJECT AREA CHARACTERISTICS**

Key Attribute	Project Area Characteristics
Solar Resource Suitability	Initial screening and on-site measurements confirmed that the Project Area has an adequate solar availability.
Access to Transmission	The existing 345-kV electric transmission system within the Project Area provides adequate access both from a physical standpoint and in terms of its ability to accept the Project's power.
Land Lease Participants	Union Solar has obtained land lease agreements from sufficient participating landowners to support the Project.
Community Receptivity	Local and state stakeholders have been engaged, and participating landowners have entered into agreements.
Site Accessibility	The Project Area is served by an existing network of public roads.
Appropriate Geotechnical Conditions	Significant geological constraints for Project construction are not anticipated.
Limited Residential Density	The Project Area has a population density that allows for adequate Project space for consideration of issues such as setbacks and sound levels.
Compatible Land Use	The Project Area is predominantly agricultural land; this use can be continued with the Project in place.
Limited Sensitive Environmental Resources	The Project is not expected to result in significant adverse impacts to ecological resources.

(4) Project Schedule

The Project schedule is based on the submission of this Application in December 2020, the issuance of the OPSB Certificate before December 2021, and the commencement of construction in the first quarter of 2022. Commercial operation is planned for the fourth quarter of 2023.

Any delay in the issuance of the OPSB certificate would have a significant negative commercial impact on the Project's planned operations.

(B) ADDITIONAL INFORMATION

(1) Description of Future Plans/Plans for Future Additions

No additional generating units are planned within the Project Area in direct association with this Project; generation output will be limited to 325 MW. The PJM filing included the possibility of battery energy storage systems (BESS); however, BESS is not included in this Application and would require a separate application to the OPSB. AUS will be open to considering acquiring leases with additional landowners and could consider an additional project in the future. Should this be the case, a new application would be filed with the OPSB, as applicable.

(2) Applicant Information

AUS is a limited liability company and a wholly owned subsidiary of AEUG. AUS is an independent renewable energy and infrastructure company based in Chicago, Illinois. AEUG currently owns and/or operates approximately 10 solar and wind projects across the United States generating approximately 1 gigawatt of clean energy. AUS plans to both construct and operate the Project.

4906-4-03 Project Description and Schedule

(A) DETAILED DESCRIPTION OF THE PROJECT AREA

The Project will be situated in a rural agricultural area of Union County, Ohio that is relatively flat and open area. The village of Byhalia is the nearest population center and is surrounded by the Project Area. Three state routes (SR 739, SR-31, and SR 47) are located in the vicinity of the Project Area as well as County and one Township Road. Additional description details are presented below.

(1) Project Map

The topographic and geographic features within the proposed Project Area, including a 2-mile radius, are shown on Figure 03-1, at a scale of 1:24,000. The Project map includes the following features:

- Proposed facility;
- Population centers and administrative boundaries;
- Transportation routes and gas and electric transmission corridors;
- Named rivers, streams, lakes, and reservoirs; and
- Major institutions, parks, and recreational areas.

The Project layout shown on Figure 03-1 portrays the current preliminary site design; however, the design is subject to change as a result of final engineering. Final engineering and design and in turn the final component layout will depend on exact manufacturers specifications of the make and model of the equipment selected for the Project. However, the final layout will be within the Project Area that was screened for environmental, cultural, engineering, and visual

impacts and is presented on Figure 3-1, subject to minor adjustments that may occur as a result of final engineering. Final adjustments to the site layout will not exceed the impacts discussed in this Application. The final site layout will be provided to the OPSB no later than 30 days prior to commencing construction activities.

(2) Project Area

The Project will encompass approximately 3,355 acres of private land secured through agreements with landowners. The proposed footprint will include 54 parcels of land with 24 individual landowners. These land parcels are depicted in the preliminary site plan presented in Appendix A. Not all of the Project area landowners will have infrastructure on their property; additional land was secured in order to provide AUS with options while designing the Project layout.

Table 03-1 presents the estimated area of disturbance for various Project components, based upon AUS's experience in the construction and operation of other solar energy facilities and based on the facility design. These assumptions, which reflect average values that may sometimes be slightly more and sometimes slightly less, form the basis of impact assessments presented in the Application.

**TABLE 03-1
PROJECT IMPACT ASSUMPTIONS**

Project Components	Typical Area of Vegetation Clearing	Area of Total Soil Disturbance (temporary plus permanent)	Area of Permanent Disturbance (development areas/structures)
Solar Cell Array Area	Minimum of 40-feet around perimeter of array	40-feet around perimeter of array	20-feet around perimeter of array
Access Roads (per linear foot of road)	40-foot wide	40-foot wide	20-foot wide

Project Components	Typical Area of Vegetation Clearing	Area of Total Soil Disturbance (temporary plus permanent)	Area of Permanent Disturbance (development areas/structures)
Electrical Collection System (per linear foot of cable)	20-foot wide	20-foot wide	None**
O&M Building and Storage Yard (temp laydown)	~5 acres	~5 acres	~5 acres
Laydown Areas (16 areas, vary in size)	~22 acres	~22 acres	None

(B) PROPOSED PROJECT DESCRIPTION

The Project consists of a solar power generation facility that will convert sunlight into electricity which will be exported through a 345 kV transmission line that traverses the Project Area. The solar panel array areas will include PV solar panels, direct current (DC) collector lines, inverters, and AC collection lines. The AC collections lines will transmit the power back to the switchyard/substation for distribution. The switchyard/substation area will include transformers, metering, gen-tie, and switchgear. An operation and maintenance (O&M) building and storage building will be constructed in the vicinity of the switchyard/substation which will be used for Project support and operation and maintenance of the facility and solar components.

(1) Project Details

The Project consists of two power block types and area designated at Block A and Block B. Block A includes one solar array area (Block A-1) and Block B includes 16 solar array areas consisting of 62 blocks (Block B-1 through B-62). Each Block will contain panel racking and tracking systems and associated solar panels and be supported by two inverters and a transformer.

(a) Equipment Specifications

Panel Racking/Tracking

The solar panels will be secured to racking that will be placed between the post support system. The Project has not selected a manufacturer for the racking and associated tracking system but is evaluating the following four manufacturers that provide racking and tracking systems:

- Array Technologies, DuraTrack® HZ v3
- Nextracker, HX Horizon
- STInorland, STI-H250™ Dual-Row Single-Axis Tracker
- Gamechanger Solar, Genius Tracker™

Appendix B-1 presents specification data sheets for the models that are currently being considered.

Solar Modules

AUS is evaluating various solar panel manufactures and models for use on this Project.

Panels that are part of that evaluation include:

- First Solar, First Solar Series 6™, 420-450 Watt;
- LONGi, LR4-72HBD, 425-455 Watt;
- LONGi, LR5-72HBD, 520-540 Watt;
- Eagle Modules, Eagle 78TR G4b, 445-465 Watt;
- Vertex, TSM-DEG18MC.20(II), 485-505 Watt;
- Canadian Solar, BiHiKu, 420-445 Watt;
- JA Solar, JAM72D20, 435-460 Watt; and
- JA Solar, JAM72D30, 505-525 Watt.

Appendix B-2 presents specification data sheets for the above models which can be considered representative of the panels that will be selected for the Project.

A total of approximately 885,790 solar panels are expected for the Project with an annual capacity factor of approximately 25.09% with an annual generation of 714.4 GWh. The net capacity will be 325 MW that will be delivered to the grid. The heat rate is not applicable because this is a solar facility.

Inverters

Power stations associated with the solar panel arrays include photovoltaic (PV) inverters to convert the DC into AC from the various solar array areas. The Project is currently considering using a Sungrow SG3150/2500U-MV which has a peak power of 3502.4 kilowatt power (kWp) and nominal power of 3,150.0 kilo-volt-amperes (kVA) for Block A-1. This system has an integrated transformer. The Block B locations are expected to utilize two Ingecon Sun 3600TL C600 inverters which will produce a peak power of 6,508.1 kWp and a nominal power of 5,862.0 kVA from each Block. Block B is expected to utilize 124 inverters.

(b) Wind Farm Turbine Size

Not applicable to this Project.

(c) Fuel Quantity and Quality

Not applicable to this Project

(d) Pollution Emissions and Estimated Quantities

This is a clean energy project and will not produce any pollutant emissions.

(e) Water Volume Requirement, Source, Treatment, and Discharge

During construction some water may be necessary for dust suppression and for non-potable water supplies but will be hauled in as needed. The facility will not require water for operation; however, a water supply well will be necessary to service the O&M building that will be located near the substation. This water will be used for potable and non-potable water uses. The only wastewater expected to be generated during operation of the Project is from restrooms and cleaning and maintenance activities. Wastewater will be discharged to a septic system that will be installed in the vicinity of the O&M building.

(2) Description of Construction Method and Project Components

The general sequence of the project construction includes securing the land required for the Project, preparation of a Stormwater Pollution Prevention Plan (SWPPP), installing erosion and sediment controls and access entrances, preparing laydown areas, clearing land (Project anticipates minimal clearing), grading (Project anticipates minimal grading), installation of construction trailers and resources, and obtaining temporary power. Specific details are presented below:

(a) Solar Panels

Steel posts will be driven or drilled into the subsoil materials to provide the infrastructure to secure the racking system and the solar panels. The depth of the posts will depend on the soil conditions and the selected installation method and type but will likely range in depth from 7 to 15 feet below the ground surface. Depending on the clearances that will be required, the posts will typically be 3 to 4 feet above the ground surface. Once the posts have been advanced and secured into the ground, the racking, solar panels, and interconnection wiring will be installed by hand. As

mentioned above, AUS is evaluating solar manufacturers for the Project so the size of the panels is unknown at this time; however, in general the panels will be between 6.5 and 7.5 feet in height and 3.5 to 4 feet in width. The solar panel system will be approximately 8.5 feet above the ground surface.

(b) Storage Facilities

While the Project is under construction, fuel used by the construction equipment will be stored within appropriate containment in the laydown, O&M building, and storage yard areas. Solar cells generate electricity without the use of fuel or water, and without generating waste. As such, the Project does not include any significant facilities for fuel, waste, water, or other storage, although the O&M building will store maintenance fluids used in solar panel maintenance.

(c) Processing Facilities

Solar panels generate electricity without the use of fuel or water, and without generating waste; therefore, no associated processing facilities are proposed.

(d) Water Supply and Discharge

The O&M building will be similar to a small business office and will use potable water anticipated to be supplied by a local groundwater well. Sanitary wastes will be discharged using a septic system. No other Project components will use measurable quantities of water or wastewater. There will be no discharge of wastewater to surface water bodies.

(e) Associated Electric Transmission Lines

The switchyard and substation will be installed adjacent to the 345 kV transmission line that crosses through the Project Area. All of the collector lines from the various panels will be buried underground and brought directly to the switchyard and substation. The substation will

monitor the electrical output and step the power up to 345 kV before entering the switchyard. The power will be transmitted to the AEP-operated transmission line through the switchyard through an approximate 200-foot gen-tie line.

(f) Electric Collection Lines

Two types of collector lines will be used: DC collector lines and AC collector lines. The DC lines will be located within the various solar array areas and will be used to transmit the DC power generated by the solar panels back to the solar array inverters. These DC lines operate at 1,500 V. Once the electricity is converted into AC and stepped up through the transformer, it will be sent as AC through the collector lines back to the substation. AUS anticipates utilizing sixteen 34.5 kV AC collector lines totaling approximately 277,150 feet in length. Each of the collector lines will be buried at a depth of 4-feet below the ground surface.

(g) Substation, Switchyard and Transformer

A substation and switchyard will be constructed to convert the power generated from the solar panel arrays to the required voltage for interconnection with the transmission line. An approximately 3.7-acre area was selected based on its proximity to the transmission line and is in the central portion of the Project Area (see Figure 03-1). The substation will be situated to have two parallel bays. Each bay will have a 34.5 kV collection system bus equipped with 34.5 kV breakers, one for each of the collector lines entering each bus. Bus 1 will have eight feeders connected to Main Power Transformer (MPT) 1 rated 34.5-345 kV and 240 mega Volt-Amperes (MVA), while Bus 2 will have six feeders connected to MPT 2 rated 34.5-345kV and 180 MVA. Each MPT then connects to the extra high voltage (EHV) Bus through its own 345 kilovolt (kV) gas circuit breaker (GCB) and motorized disconnect (MOD) switch. A 345kV transmission “gen-

tie” line will deliver power from the EHV Bus to the POI substation; the line will attach to the EHV Bus through a MOD switch. Metering equipment measuring the total plant output will be located the line entrance. The substation will be secured with protective fencing and designed in accordance with applicable codes/standards including Institute of Electrical and Electronics Engineers (IEEE) C2, the National Electrical Safety Code (NESC).

(h) Meteorological Towers

No meteorological towers will be installed for this facility.

(i) Roads

As shown in the Site Layout plans, the facility includes approximately 3,355 acres of land that is divided by several Ohio State highways, county roads, and township roads. The Project will select access road locations that allow for access to and from the various solar array areas off of county and township roads. These access locations will initially be used as construction entrances and then will be converted into permeant access roads to provide access to the solar array areas for maintenance activities. The access roads within the solar arrays will typically go around the perimeter of the array areas and will also include several internal access roads to allow access to the interior areas of the arrays. The driveways will be gravel improved access roads that will have entrance aprons in accordance with the state, county, and township requirement. Access gates will be located at each entrance to secure the area from public access.

(j) Construction Laydown Areas

One main construction laydown area will be constructed in the vicinity of the substation/switchyard and O&M building, within the Project Area. This area will have a separate access entrances and will be protected by chain-link fences and gated to prevent public access.

The construction laydown area will have Project trailers that will have a temporary electrical dropline to provide power and lighting to the construction laydown area. This area will be used for employee parking, construction engineering, construction support, health and safety, and project management. This area will be maintained throughout the construction of the Project. Once the construction activities have been completed, the laydown area will be reclaimed by removal of all the temporary construction infrastructure, gravel area, and temporary entrance.

Several other temporary unimproved construction laydown areas may be used during the construction activities. These areas will likely be in proposed solar array areas that are to be developed and will likely not have lighting and security fencing. If lighting is required, portable lighting units would be utilized. These areas would likely not be graveled and would take advantage of the existing construction access entrances. Because these areas will be in proposed development areas, they will not need to be restored.

(k) Security and O&M Building

During construction, the main construction laydown area will be surrounded by chain-link fencing and a gated entrance. This area will have security lighting and 24-hour security personnel. Security of active construction areas and temporary lay-down areas will include a variety of things that will depend on the specific area. These items may include installation of temporary construction fencing, access swing gates, security personnel, security cameras, etc. The O&M Building will be located near the substation and switchyard. The building will be a single-story slab-on-grade steel framed structure that will be approximately 170 x 65 feet. A paved parking area will be located on the northwest side of the building with an access entrance off of Treaty

Line Road. The building will have office space, restrooms, break room/kitchen, storage, and maintenance bays.

(1) Other Pertinent Installations

No other installations are anticipated for this Project.

(3) Description of New Transmission Facilities

A new POI will be required to interconnect the Project to the regional transmission grid. System interconnection studies have been completed, and a draft Interconnection Agreement has been negotiated with PJM for 325 MW. This reflects a POI at the new substation. In order to provide the electricity generated by the Project to the POI, the Project will step up voltage from 34.5 kV to 345 kV so it can be delivered to the POI via the approximate 200-foot Project gen-tie line.

(4) Map of Project Site

Figure 03-2 ‘Project Site Layout’ presents the proposed solar facilities, including the surrounding roadways and property lines at a scale of 1:12,000. This figure also includes the following features:

- Aerial photograph;
- The proposed Project layout, including all components listed in paragraph (B)(2) of this rule;
- Road names; and
- Property lines.

(C) DETAILED PROJECT SCHEDULE

(1) Schedule

The Project Schedule is presented in Appendix C in a Gantt Format and is summarized below.

(a) Acquisition of land and land rights

As described in Section 4906-4-02, the Project will be constructed on private land through leases and easements, with a small portion being purchased for the O&M facility and the substation and switchyard. Section 4906-4-06 of the Application details the property owners and parcels that are participating in the Project.

(b) Wildlife, environmental, and cultural survey/studies

Several studies have been completed in support of this Application and area presented in detail in Sections 4906-4-06 through 4906-4-08. Some of the studies are ongoing. Completed and in progress studies include:

- Critical issues analysis (CIA)
- Desktop cultural resource review
- Archaeological Phase I Study (in progress)
- Visual Resource Assessment
- Glint and Glare Analysis
- Hydrology Assessment
- Noise Evaluation

- Threatened and Endangered Species Screening
- Aquatic Resource Survey
- Culvert and Bridge Survey
- Geotechnical Engineering Report

(c) Receipt of grid interconnection studies

An interconnection Feasibility Study was completed in January 2020 and the System Impact Study (SIS) was completed in August 2020. Facilities Studies are planned to be completed in April of 2021, and the Interconnect Service Agreement (ISA) is planned to be signed in June of 2021.

(d) Preparation of Application

The preparation of the Application began in August 2020.

(e) Submittal of the Application for certificate

The Application will be submitted on or before December 31, 2020.

(f) Issuance of Certificate

AUS anticipates that the OPSB will issue a Certificate in August 2021.

(g) Preparation of the final design

AUS has prepared the preliminary design and layout of the Project and anticipates that Final Design will begin in the fourth quarter of 2021 and be completed in the first quarter of 2022.

(h) Construction of the facility

Construction of the Project is expected to begin in the first quarter of 2022 and be completed by the end of the third quarter of 2023.

(i) Placement of the facility into service

The Project is expected to commence commercial operation in the fourth quarter of 2023.

(2) Construction Sequence

The engineering and construction will be carried out by an engineering, procurement, and construction (EPC) contractor. The engineering phase will happen before the start of site activities. Once the necessary permits are in place and the pre-construction conference has been completed with the OPSB, the construction phase will begin. Some civil works including access roads and temporary lay down areas will be executed first. Temporary lay down areas will be used for storage of some pieces of equipment during construction, although it will be generally preferred to distribute the parts and pieces of the trackers and the PV modules directly to a location close to their final installation position. These temporary lay down areas will typically be within solar array areas and will be unimproved and used as temporary storage for the equipment during installation. The main lay down area will be in the vicinity of the substation and O&M building and will be approximately 5-acres in size. This main lay down area will also host the temporary construction offices and associated facilities (restrooms etc). Erosion protection measures will also be undertaken in accordance with a site-specific construction SWPPP in accordance with the construction stormwater general permit (Ohio EPA, 2018). Other civil activities will occur afterwards such as fencing, vegetation removal, and grading. Grading will be avoided or minimal except as required for the substation. From that point, construction will progress in parallel in two

phases. The first phase includes the substation and associated infrastructure, including the nearby O&M and storage buildings. The second phase includes the PV field, including the single axis trackers, PV Modules, inverters and collection system.

It is anticipated that the single axis trackers will only require grading in a few areas, given the site topography. Driving piles with or without predrilling is the anticipated foundation technique. Once the tracker piles are installed mechanical assembly of the trackers will begin followed by the installation of the PV modules on the assembled trackers. The collection system will interconnect between the different inverters and with the substation. The trenches of this collection system will generally run in parallel with internal gravel roads that will provide access to all the inverters, substation, and the O&M and storage buildings. Foundation, mechanical assembly and collection system works will be carried out in parallel in different fronts throughout the site.

Once the substation is complete, it will be energized and connected through a very short (approximately 200 foot) tie-in line to the existing 345 kV network. After the substation is fully commissioned and operational, the inverters and then the trackers will be commissioned until the entire facility is in service.

Once construction work on a determined area or the entire facility is complete temporary lay down areas will be restored and reseeded/revegetated in accordance with the site SWPPP.

(3) Delays

Any delay in the issuance of the OPSB Certificate would have a significant negative commercial impact on the Project's planned operations.

4906-4-04 Project Area Selection and Site Design

(A) SITE SELECTION PROCESS

(1) Description of Study Area

The region within which the Project is located was initially selected as a focus area due to a combination of need for additional electricity in PJM and the generally flat topography which is advantageous to solar development. Within Ohio and the surrounding region, current and future closures of several thousand megawatts of aging coal-fired generating facilities have created the need for that generation capacity to be replaced. Some natural gas-fired power plants are being built and considered to help offset this loss in megawatts but will require the use of fossil fuels and supporting infrastructure. The addition of renewable sources of energy helps to contribute to the need to replace this energy loss.

Selection of a study area was also informed through consideration of the existing electric transmission system and the general land use character, as a solar energy facility needs the ability to interconnect with the bulk power transmission system as well as land area upon which to install large solar arrays. With significant transmission infrastructure located throughout the area, and existing land use characterized by agricultural properties with substantial open spaces, a study area focused on Union County was confirmed.

(2) Maps of Evaluated Study Area

AEUG is evaluating potential sites throughout the United States and has targeted Ohio as a favorable location for a solar project. This area was screened and selected based on availability of landowner agreements, consideration of natural resources, and accessibility to the power grid. This location was selected as a favorable location based on the screening results and the siting criteria presented below. Figure 04-1 presents the Study Area of the Project where various

investigations and studies were conducted for determining constraints and the facility layout to avoid impacts. The layout of the solar facility within the Study Area is defined as the Project Area. No alternate sites in Ohio are presently being considered.

(3) Siting Criteria

Careful site evaluation was undertaken to determine suitability for the proposed Project. In addition to the need for new power generation, AUS considered the following criteria in selecting and evaluating the Study Area and ultimately the Project Area:

- Proximity of robust electrical interconnection;
- Willing land participants and host communities;
- Site accessibility;
- Appropriate topographic conditions;
- Appropriate geotechnical conditions;
- Compatible land use; and
- Limited environmental constraints.

(4) Process for Identifying the Proposed Site

AUS teamed with Tenaska, Inc. (Tenaska), the initial developer of the Project, who began the development process in the area based on positive attributes for siting a solar project. A Queue Position with PJM had been obtained by Tenaska, which was a positive factor in AUS selecting this area and Project for further development.

(5) Factors in Selecting the Proposed Site

The evaluation of the Study Area in accordance with AUS's siting criteria identified that the Project was extremely suitable for its intended purpose, as further outlined below:

- Proximity of robust electrical interconnection – Existing transmission infrastructure extends through the central portion of the Study Area. Based upon the Project Facilities Study conducted by PJM and AEP, this infrastructure was determined to have the

capacity to accept a 325-MW injection of electricity at a reasonable cost and with minimal upgrades needed.

- Willing land participants and host communities – AUS acquired land agreements with owners of contiguous and proximate parcels and has subsequently engaged in additional communication to affirm the willingness of the land participants and community to host the Project. As described in Section 4906-4-06(F), the Project has conducted two public meetings, outreach dinners, and will continue to interact with the public throughout the Project.
- Site accessibility – The Project Area is served by a network of public roads that will facilitate construction deliveries as well as O&M activities. Located approximately 13 miles north-northwest of Columbus, Ohio, and approximately 35 miles northwest of Marysville, Ohio, the Project Area is traversed by three State highways, including SR 31, which generally traverses north-south through the Project Area, SR 47, which generally traverses east-west through the Project Area, and SR 739, which also generally traverses east-west through the Project Area.
- Appropriate topographic conditions – The Study Area has relatively level land that will not require extensive grading and will allow for easy access and layout of solar arrays. In addition, more solar cells can typically be situated in areas of relatively low topographic relief.
- Appropriate geotechnical conditions – Based upon mapped resource data and limited information provided by the original developer, AUS determined that significant geotechnical constraints to the Project are not expected.
- Compatible land use – The Project Area and surrounding communities have a low population density compared to statewide estimates. Areas with limited residential development generally have more available space for siting solar arrays once constraints such as setbacks are accommodated. The Project Area is predominantly rural agricultural use, which is compatible with solar energy facilities.
- Limited environmental constraints – AUS conducted a CIA to determine if the Project Area and the surrounding area would be suitable for a solar project without having

significant impacts to the community, the environment, wildlife, and cultural resources. Based on the findings of the CIA, the Project Area was found to be suitable for further evaluation and investigation. Potential impacts that were identified in the CIA could be avoided with development of the Project.

(B) PROJECT LAYOUT DESIGN

With the results of the evaluation described above confirming the Project Area as favorable for the Project, AUS continued with more detailed environmental and other studies, as well as Project engineering design, to support the Application for the Project.

(1) Constraint Map

Figure 04-2 provides constraint mapping that includes items identified in studies and investigations that were prepared to support this Application. Additional information obtained from aquatic resource studies which identified streams and wetlands within the Project Area were used in consideration of the facility layout to eliminate or minimize impacts to these resources. Due to some of these constraints, several iterations of the facility layout were completed.

(2) Project Layout Criteria

As illustrated in Figure 04-2, known features on the Project Area and in the surrounding area were considered when designing the Project layout, as well as other key factors. Elements considered in the Project layout included: possible solar panel models and vendors; landowner considerations; avoidance of existing infrastructure; wetland and stream constraints; special-status species considerations; agricultural constraints; noise constraints; and other land use constraints. Numerous iterations of the Project layout were considered to optimize the layout as presented in the Application. The layout process is further discussed below.

- Solar vendor and model – Various solar panels are being considered for this Project.

The solar facility may ultimately contain panels provided by multiple manufacturers

and selection will depend on specific field requirements, location of the panels, specifications required, expected weather conditions, and expected O&M considerations.

- Landowner considerations – Landowner agreements took into consideration avoiding site features of importance to the individual landowners and allowing for efficient continued use of the surrounding land. Additionally, field reconnaissance identified appropriate factors, including separation distances and access to lands that will continue to be farmed.
- Wetland and stream constraints – Impact to wetlands and streams have been avoided by the layout or through the use of HDD.
- Special-status species considerations – Locations of state- and federal-listed species, as well as nesting birds, were avoided to the greatest extent practicable.
- Agricultural constraints – Agriculture is the dominant land use within the Project Area. A goal of the Project is to be able to integrate the solar arrays within the agricultural area so as not to restrict continued agricultural use surrounding the Project. This may also include innovative methods for vegetation management through livestock grazing within the solar array areas.
- Noise constraints – Anticipated operational noise will be minimal, but some areas will generate low levels of noise. These areas will be located away from residents and nearby non-participating residences.
- Glint and Glare constraints – Anticipated effects associated with glint and glare were considered in the placement of solar arrays and how the units would be operated.
- Other land use constraints – In addition to the issues discussed above, other land use factors considered in developing the Project layout included: minimizing the need for tree clearing; avoiding impacts to existing aviation facilities; consideration of participating and non-participating landowners, and comments and concerns that may be brought to the attention of the Project.

(3) Comments Received

A description of the public information program for this Project is provided in subsection 4906-4-06(F)(1) below. Comments on the Project were received during virtual and call-in Public Information Meetings on October 6 and December 10, 2020. At the October meeting, over 44 individuals/families registered to attend the virtual meeting, and AUS estimates more than 30 of the individuals/families that registered attended the meeting. An additional 12 individuals/families attended that did not previously register for a total of 42 attendees. The number of individuals/families that participated in the call-in meeting is unknown; however, some of the anticipated attendees that registered for the virtual meeting that did not attend may have attended the call-in meeting. A total of 31 individuals/families attended the December 10, 2020 virtual meeting and an estimated 14 in the audio meeting. Information presented during the virtual meeting is presented in Appendix D.

Due to the nature of the virtual and call-in meetings, no formal written comments were received; however, attendees were invited to present questions during the presentation and during a question-and-answer session at the conclusion of the presentation. All of the questions and comments were addressed during the question-and-answer time. Many questions were also addressed during the call-in meeting. The types of questions asked during the meetings included:

- The distance of the panels from the grassline/field.
- Setback from homes
- Impact on property values
- How are panels mounted
- Restoration practices upon completion (decommissioning)

- Length of construction period and expected disruption
- Project communication methods and consistency
- Location of the O&M Building and substation
- Anticipated date of OPSB board vote
- Where will the power be used? Locally?
- Local tax implications and PILOT
- Long term health impacts and existing studies
- Screening considerations

AUS will continue to coordinate with local residents and officials throughout all phases of the Project, as further described in subsection 4906-4-06(F)(1) below. AUS will also implement the Complaint Resolution Program provided in Appendix E during construction and operation of the Project.

4906-4-05 Electric Grid Interconnection

(A) INTERCONNECTION TO THE REGIONAL ELECTRIC POWER SYSTEM

PJM is the Regional Transmission Operator that coordinates the movement of wholesale electricity throughout 13 states and the District of Columbia in the Midwest and Mid-Atlantic, including Ohio. AUS will be connecting the Project to the Marysville-Gun Run 345kV line, which is part of the PJM grid. The Marysville-Gun Run 345kV line is owned by AEP.

To accommodate the interconnection on the Marysville-Gun Run 345kV circuit, a new three circuit breaker 345kV switching station will be constructed. This switching station will be physically configured in a breaker and half bus arrangement to be operated as a ring-bus. Installation of associated protection and control equipment, 345kV line risers, SCADA, and 345kV revenue metering will also be required.

(B) INTERCONNECTION REQUEST

(1) Generation Interconnection Request Information

A transmission filing under Tenaska Wind Holdings, LLC, a subsidiary of Tenaska, was submitted for a queue position with the PJM that will utilize one queue position for a total of 425 MW. On January 17, 2020, Tenaska received the Feasibility Study Report and SIS Agreement with a PJM assigned queue number of AF1-227. A copy of the Feasibility Study is presented in Appendix F. The SIS was completed for queue number AF1-227 and issued to AUS, who partnered with Tenaska for this Project. The SIS recognizes a total Project capacity of 425 MW, with 325 MW in the form of PV and 100 MW in the form of Battery Energy Storage System (BESS). BESS is not included in the Project. If future BESS is planned, a separate application will be submitted to the OPSB. A total of 295 MW will be recognized as capacity to PJM, 195 MW of which are applied to the PV output. Based on the findings of the SIS, the estimated cost

for the interconnection will be \$19,822,000. The Facilities Study for queue number AF1-227 is currently being developed, and there are no anticipated significant changes. The completed studies (Feasibility Study and SIS) are presented in Appendix F. The Facilities Study is planned to be completed in April 2021, and the ISA is planned to be signed in June 2021. The expected commercial operation date (COD) for this project is the end of 2023. Information on the generation interconnection request can be found at <https://www.pjm.com/planning/services-requests/interconnection-queues.aspx> and searching by the Queue/OASIS ID (i.e.AF1-227).

(2) System Studies on Generation Interconnection Request

The Project queue position (AF1-227) completed the Feasibility Study on January 18, 2020, and the SIS was completed on August 30, 2020. The Facilities Study is still pending and expected to be completed in April 2021. The ISA will be signed after completion of the Facilities Study.

4906-4-06 Economic Impact and Public Interaction

(A) OWNERSHIP

AUS will develop, construct, own, and operate the proposed Project and has land agreement options for the various parcels in the Project Area that will be executed prior to construction of the Project. AUS will own all the equipment, structures, and on-site improvements associated with the Project, except for the direct connection and transmission system upgrade work performed by AEP as identified in the SIS. The workspace and temporary use areas identified for use during construction (totaling approximately 2,050 acres) will be used under landowner agreements but restored and returned to the existing landowners once construction is complete. AUS has obtained all necessary land rights for the Project, including the gen-tie line. The gen-tie line property is parcel 38-00020090.000 and will not be within 100-feet of an occupied structure. No other property is anticipated to be required for the Project.

(B) CAPITAL AND INTANGIBLE COSTS

(1) Estimated Capital and Intangible Costs

Table 06-1 summarizes the estimated and capital and intangible costs for the Project. AUS estimates that the Project will cost approximately \$[REDACTED] million to develop. Of this \$[REDACTED] million, \$[REDACTED] million is expected for capital costs and \$[REDACTED] million for other intangible Project costs including public outreach and community relations, permitting, development costs, and project overhead and oversight.

TABLE 06-1
ESTIMATED CAPITAL AND INTANGIBLE COSTS

Description	Cost (\$1,000)
Construction Materials and Equipment	██████
Construction Labor	██████
Construction - Other	██████
Total Estimated Capital	██████
Annual Operating/Maintenance Labor	██████
Operating/Maintenance Materials	██████
Local Property Tax Payments	██████
Total Annual Intangible	██████

(2) Capital Cost Comparison

Installed project costs compiled by the United States Department of Energy (DOE) National Renewable Energy Laboratory (NREL) in November 2018 (NREL, 2018) indicate that the capital costs of the Project are consistent with recent industry trends. The NREL data show that capacity-weighted average installed costs in 2018 averaged roughly \$1,130 per kW DC. This represents a decrease of approximately 80 percent from the average cost of installed projects reflected for 2010 with an apparent leveling off between 2017 and 2018. The estimated cost for the Project is estimated to be \$██████ per kW DC, which is slightly lower than the NREL calculated costs in 2018. AUS has no other projects under construction in Ohio and in the surrounding region to provide for a similar facility comparison.

(3) Present Worth and Annualized Capital Costs for Alternates

No Project configuration alternates are presently being considered and, thus, no comparison can be developed. Additionally, the Project costs will be incurred over a 12 to 18-

month period of time; therefore, the present value and the annualized capital costs will be within the cost estimates above.

(C) OPERATION AND MAINTENANCE EXPENSES

(1) Estimated Annual Operation and Maintenance Expenses

AUS estimates that the fixed and variable annual O&M expense for the Project will be approximately \$ [REDACTED] million for the initial two years of operation. These costs do not include tax and lease payments. It is anticipated that costs will decrease to \$ [REDACTED] million per year (not including taxes, leases, or inflation considerations) after the first two years of operation.

(2) Operation and Maintenance Expenses Comparison

After the initial two years of operation, the annual O&M costs are estimated to be approximately \$ [REDACTED] per kW DC per year. Based on NREL 2018 study, the O&M costs for a PV solar system with tracking would be \$14 per kW DC per year in 2018 and \$10.40 per kW DC per year excluding the cost for inverter replacement. These cost estimates do not include ancillary costs including taxes, leases, and inflationary estimates. AUS has no other projects under construction in Ohio and in the surrounding region to provide for a similar facility comparison.

(3) Present Worth and Annualized Operation and Maintenance Expenses for Alternates

Excluding taxes, lease payments, and inflation, the net present value (NPV) of the O&M costs over 30 years was calculated to be \$ [REDACTED] million. This calculation assumed an 8% discount rate and a 2% escalation over the Project lifespan. The annualized O&M is estimated to be \$ [REDACTED] million. AUS is not considering any alternate O&M regime or Project technology configurations at this time.

(D) COST OF DELAYS

A delay in Project schedule during the permitting process would have the potential to increase costs both in association with the time value of money and with potential increased equipment costs associated with delayed ordering. If the delay were to occur during construction, the cost would include lost construction days and costs associated with idle crews and equipment.

Any delay in the issuance of the OPSB certificate and in the construction, schedule would have a significant negative commercial impact on the Project's planned operations. A delay in the in-service date is estimated to have an NPV loss of \$ [REDACTED] per month.

(E) ECONOMIC IMPACT

The proposed Project is expected to generate local and statewide economic benefits. The following sections provide an overview of potential construction- and operation-related economic impacts including estimated payroll, employment, tax revenues, and regional economic benefits. These estimates were developed using Project-specific information and the NREL's Jobs and Economic Development Impact (JEDI)-PV Model (PV12.23.16). Economic impacts and the JEDI Model are discussed further in the economic impact study prepared for this Project presented in Appendix G.

(1) Estimated Construction and Operation Payroll

During the construction period, which was expected for the purposes of economic study to take approximately one year, the total payroll is expected to be approximately \$68 million. If the construction period is shorter or longer, the estimated payroll amount will fluctuate accordingly.

On-site O&M labor is expected to be approximately \$ [REDACTED] million annually over a 30-year life expectancy. These payroll earnings are annual estimates that will continue for the life of the Project. Estimated construction and operation payroll are discussed in more detail in Appendix G.

(2) Estimated Construction and Operation Employment

Jobs for the Project are divided into two categories: part-time construction jobs and long-term operational jobs. The project will utilize local, regional, and State of Ohio employees to the greatest extent possible; however, due to the type of development project, specialists may have to be brought in for various aspects of the Project. Due to the relatively short construction duration of the Project, it is expected that construction workers coming into the area will not have a significant impact on the housing market. Construction workers from outside of the region will be temporarily housed during construction activities and will return home once the construction is completed.

The JEDI Model analysis indicates that construction of the Project is estimated to result in on-site employment of 794 full-time equivalent (FTE) positions that will be filled by Ohio residents, including 321 in Union County. Of the 794 total jobs, 497 will include on-site laborers, and the model predicts that 254 of those will be from within Union County. The results of the JEDI Model indicate that the Project's operation will result in 27.8 FTE positions who are expected to be within the local area, including 14.7 O&M positions. The model also indicates an additional 16.7 FTE positions from the State of Ohio. These non-FTE positions include direct, indirect, and induced jobs that are created from this Project.

(3) Estimated Increase in Local Revenue

Clean energy projects, including solar projects, in the State of Ohio can be exempted from tangible personal property and real property tax payments if they meet certain conditions under the Ohio Development Services Agency (ODSA, 2020) program "Qualified Energy Project Tax Exemption." AUS anticipates that it will meet the conditions of this program and make annual payments in lieu of taxes (PILOT) in accordance with Ohio Revised Code (ORC) 5727.75. Under

this scenario, annual PILOT payments are determined based on the size of the Project and the share of the construction workforce normally residing in the State of Ohio.

Conditions of the ODSA program include approval from the Union County Board of Commissioners which may either adopt a resolution approving the application submitted to the ODSA or pass a resolution declaring the County an alternative energy zone (AEZ). Under ORC 5727.75, county commissioners may also require an additional service payment, with a combined service and PILOT payment not to exceed \$9,000 per MW.

AUS is currently in discussions with the Union County Board of Commissioners regarding the PILOT agreement and program. The agreement is expected to be finalized after submission of this Application. Thus, AUS anticipates that it will make payments in lieu of real and personal property taxes in accordance with the applicable statute (ORC 5727.75) and an anticipated Union County Board of Commissioners' resolution with the Project estimated to generate \$2.925 million in PILOT and related service payments during its first year of operation, and each year thereafter.

(4) Estimated Economic Impact

Construction and operation of the proposed Project will have a substantial positive effect on local commercial and industrial activities. A large share of the overall construction cost is the purchase and transportation of the equipment (solar panels, racking, support structure, wire) to the Project site and include materials, labor, development and shipping costs. The economic impacts can be broken down into three distinct types and include direct impacts, indirect impacts, and induced impacts. The direct impacts include site preparation and installation labor, engineering and design, permitting, and other professional services. Direct impacts will also continue through operation with O&M personnel. The indirect impacts include the purchase of equipment and materials including the solar panels, the inverters, transformers, racking and tracking systems,

cables, and other related infrastructure. The indirect impacts would continue through operation to a lesser extent through purchase of replacement equipment and O&M supplies. The induced impacts include local spending by employees working directly or indirectly to the Project. These three impact types are considered in the generation of the JEDI-PV Model for the Project. As shown in Appendix G, two separate JEDI-PV Models were run, one specific to impacts to Union County and the other for impacts to the State of Ohio.

The results of this analysis are presented in Appendix G and are summarized as follows:

- Project construction will result in on-site employment of 497 FTE positions, including an estimated 254 FTE from Union County.
- Construction of the Project will also support employment, income, and output elsewhere in the state, with PV panel and supply chain impacts expected to support 45 jobs in Union County and 146 jobs in Ohio. Induced impacts expected to support an additional 22 jobs in Union County and 151 in Ohio. Overall, construction of the Project is expected to support 794 total jobs and result in approximately \$35.3 million in total output to Union County, with total economic output of approximately \$102.6 million.
- Once operational, the Project will employ a total of approximately 15 workers, all of whom will reside in Ohio. Project O&M will also support employment, earnings, and output elsewhere in the state, with local revenue and supply chain and induced impacts expected to support approximately 28 FTE jobs in Union County and 44 FTE jobs in Ohio. Overall, annual operation of the Project is expected to support approximately \$3.2 million in long term output to Union County, with total long-term output of approximately \$6.80 million to the State. These annual average impacts are expected to occur over the life of Project operation.

(F) RESPONSIBILITY TO THE PUBLIC

(1) Public Information Program

The Project has been in development since 2019. Since that time, AUS representatives have met with local government and the general public to present information on the Project, to gather support for the Project, and to obtain comments and suggestions that have been considered for the design and ultimate construction of the Project. In addition to the participating landowners and surrounding landowners, the Project has also engaged with the following local entities and organizations:

- Union County Commissioners:
- North Union Local School District:
- Washington Township Trustee
- York Township Trustees
- The Ohio State University Extension
- Ohio State Representative
- Union County Chamber of Commerce

Given limitations on travel and gatherings driven by the ongoing public health crisis, AUS developed a public engagement campaign, designed to allow for maximum outreach while following public health guidelines. The public engagement campaign included:

- A “contactless” drive-through barbecue dinner and Virtual Informational Meeting/Event for participating landowners and their neighbors on October 1, 2020;
- Launch of a Project website at www.unionsolarfarm.com with Facebook ads targeted at Union County residents offering to answer questions about the Project and a Project e-mail address (unioncountysolar@acciona.com);
- An interview published in the *Marysville Journal-Tribune* introducing the Project and AUS, which ran on October 2, 2020, in advance of the first Public Information Meeting;

- Virtual and call-in Public Information Meetings on October 6 and December 10, 2020;
- Posting of a recording of the Public Information Meetings on the Project website; and
- A series of one-on-one phone calls with concerned citizens to answer questions about the Project.

A Public Information Meeting was held on October 6, 2020, from 5:30 to 7:00 p.m. For people who did not have access to the internet or were unable to attend virtually, a second call-in meeting was held on the same day from 7:30 to 9:00 p.m. AUS posted a public notice in the *Marysville Journal-Tribune* prior to the meeting. A presentation was given by the Project team during the online meeting and individuals were able to ask questions, which were addressed by the Project team. Copies of the online presentation were made available to the public, if requested, and provided on the Project web site. See Appendix D for information presented during the virtual meeting.

A second virtual Public Information meeting was held on December 10, 2020 from 5:30 to 6:30 p.m., followed by a call-in meeting from 7:30 to 8:30 p.m. AUS posted a public notice in the *Marysville Journal-Tribune* prior to the meeting. This presentation is also included in Appendix D.

During construction of the Project, AUS will maintain Project updates via postings on its website. AUS's planned public interaction will continue with mailing letters and Project boundary maps to residents, tenants, and elected officials.

The procedures outlined in the Complaint Resolution Program (See Appendix E) will be implemented during the construction of the Project. Notification to affected parties regarding the Complaint Resolution Program will be provided at least seven days prior to the start of construction by mail. All complaints will be responded to in a timely manner, with information sought to

identify and address the root cause, as appropriate. Once the Project is operational, the Complaint Resolution Program will be updated accordingly and will continue to be used. A local Project representative will be available for residents to learn more about the Project, ask questions, voice concerns, and sign documents, as needed. This person will be available by phone or e-mail.

(2) Liability Compensation Plans

AUS will carry significant amounts of liability insurance throughout the Project life. The Project will be covered under AUS liability insurance programs for general commercial liability insurance and automobile liability insurance during the construction, operation and decommissioning of the Project. The minimum limits of the insurance policy will include \$1,000,000 per occurrence and \$2,000,000 in general aggregate.

(3) Impact to Roads and Bridges

AUS expects to enter into a road use maintenance agreement (RUMA) with Union County for roads that will be utilized during construction of the Project to the extent those entities are willing to enter into such an agreement. If a RUMA cannot be entered into with some or all of those public entities, then AUS will obtain the necessary permits to allow for any overweight and oversize loads. The Project will use three state highways (State Route (SR) 739, SR 47, and SR 31). These roads are maintained by the Ohio Department of Transportation (ODOT) and are constructed to handle the traffic expected for construction of this Project. The following county roads (CR) are expected to be used during construction of the Project:

- CR-307 – Miller Road;
- CR-308 – Phelps Road;
- CR-309 – Fleckinger Road;
- CR-311 – Treaty Line Road;

- CR-339 – Turner Road; and
- CR-346 – Wellwood Road.

A preliminary study has been completed to locate, identify, and document the conditions of bridges and culverts along the routes that are anticipated to be used during construction of the Project. A copy of the study is presented in Appendix H. In general, the majority of the culverts along the proposed travel routes appear to be in good condition; however, some may require upgrades or maintenance to provide proper drainage. The bridges are inspected and maintained by Union County and, according to the Union County Engineer, are all in good condition. The Project does not expect to have any impact to roads and bridges on the County Roads.

Although the Project is not expected to have a significant impact to the public road, prior to construction, the selected roadways will be video documented to establish existing conditions. A second video will be made after construction for review with County authorities or other applicable jurisdictions. Should there be any damage as a result of AUS's activities, AUS will return all roadways to their pre-construction condition, as will be documented in the RUMA and through any other applicable permitting processes if a RUMA cannot be achieved.

Once in operation, the permanent staff required to operate and maintain the Project is not expected to exceed 15 employees. This additional, minor volume on the existing transportation infrastructure is not expected to result in a noticeable impact.

(4) Transportation Permits

Prior to construction, the selected transportation provider will obtain all necessary permits from the ODOT, Union County, and any affected townships. It is anticipated that permits will be required for oversized loads, new permanent access points, temporary intersection and entrance improvements, and improving existing roadways. All upgrades that may be required to

accommodate construction vehicles will be identified as part of the final Traffic Management Plan. To the extent public roads are damaged in association with construction, AUS will restore the roadway to its original conditions, as will be specified in the RUMA or through the applicable permit conditions if a RUMA cannot be achieved.

A Special Hauling Permit is required for vehicles and/or loads that exceed the legal maximum dimensions or weights specified by the ODOT; each vehicle transporting such loads will be required to obtain an individual permit from each jurisdiction owning a road used for transport. The specifications of the Special Hauling Permit will depend on the characteristics of the vehicle, its cargo, and the duration of the delivery schedule.

In addition to coordination with transportation authorities for permits, AUS will consult about the need for any temporary or permanent road closures, lane closures, road access restrictions, and/or traffic control necessary during construction or operation of the Project. Public safety and minimization of impacts to the local residents are of paramount concern and are a special focus of Project planning and design.

All such issues will be addressed in greater detail in the final Transportation Management Plan that will be submitted to the OPSB prior to construction.

(5) Plan for Decommissioning

The Project is expected to be in place and providing efficient energy throughout its operating life, which is expected to be 30 years or longer with replacement or repowering.

A Decommissioning Plan is presented in Appendix I. Estimated costs for the decommissioning and updates based on final design of the Project will be submitted at least 30 days prior to the Project's preconstruction conference. The Decommissioning Plan will be updated

after 10 years of operation and every five years thereafter to include estimated decommissioning costs net of the value of the system, including salvage value and potential resale value. The net decommissioning costs, once above zero, will determine the amount of financial security which will be posted once the net decommissioning costs are above zero. If no decommissioning financial security is required as a condition of the Certificate, then AUS will provide such financial security it selects for the Project to or on behalf of Union County.

During decommissioning, equipment to be removed will be evaluated by a professional engineer to determine the extent to which individual components or materials can be recycled or reused in another location. Once all useful equipment and material is salvaged, other aboveground structures to be removed will be demolished and disposed of in accordance with federal and state law. Belowground features that are installed at depths of less than 36 inches will be removed, with any infrastructure at greater depths abandoned in place. Appropriate dust control and other measures will be utilized to protect air quality and minimize the potential for offsite impacts. At the time the Project is no longer planned for operation, AUS will work closely with individual landowners to remove the equipment no longer required. As may be requested by the landowner, certain features (roads, foundations, buildings, etc.) may remain in place to the extent allowable for safety or in compliance with other legal requirements.

During decommissioning activities, best management practices (BMPs) such as silt fencing or silt socks will be employed to prevent inadvertent erosion and sedimentation or impact to surface waters or wetlands. Once all equipment to be removed is no longer present, disturbed areas will be re-graded to approximate original grades, and soil stabilization measures suitable to the remaining features will be employed (e.g., seeding).

Should environmental impacts be anticipated from removal of Project features, appropriate state and/or federal approvals will be obtained prior to the impact for which approval would be required.

4906-4-07 Air, Water, Solid Waste, and Aviation Regulations

(A) COMPLIANCE WITH APPLICABLE REGULATIONS

The Project will be constructed and operated in compliance with all federal, state, and local regulations for air quality, water quality, solid and hazardous waste management, and aviation.

(B) AIR QUALITY

(1) Preconstruction

(a) Ambient Air Quality

Union County is in attainment for all criteria pollutants regulated by the U.S. Environmental Protection Agency (U.S. EPA) National Ambient Air Quality Standards (NAAQS; U.S.EPA 2020). Union County is not included in the Metropolitan Cincinnati Interstate Air Quality Control Region, which identifies areas regulated under the Regional Haze Program. No monitoring data is available for Union County. As such, ambient air quality for the Project Area has been characterized with data measured at the nearest monitoring stations to the Project Area for each pollutant. The most recent data available are from September 2020 and are presented along with the NAAQS standard for each pollutant in Table 07-1.

Table 07-1

AMBIENT AIR QUALITY MONITORING NEAR PROJECT AREA

Pollutant	Monitoring Site ID	City/County	Averaging Period	NAAQS Standard	Highest Measured
PM ₁₀	39-113-0038	Dayton/Montgomery	24-hour (µg/m ³)	150	29.9
PM _{2.5}	39-049-0005	Columbus/Franklin	24-hour (µg/m ³)	35	7.7
Sulfur Dioxide	39-049-0034	Columbus/Franklin	1-hour (ppb)	75	0
Carbon Monoxide	39-049-0005	Columbus/Franklin	1-hour (ppm)	35	0.3
Nitrogen Dioxide	39-049-0005	Columbus/Franklin	1-hour (ppb)	100	12
Ozone	39-049-0081	Columbus/Franklin	8-hour (ppm)	0.070	0.0042

Source: Ohio EPA 2020a

PM₁₀ = Particulate Matter ≤ 10µm

PM_{2.5} = Particulate Matter ≤ 2.5µm

µg/m³ = micrograms per cubic meter

ppb = parts per billion

ppm = parts per million

(b) Air Pollution Control Equipment for the Proposed Facility

No criteria pollutants or hazardous air pollutants are associated with operation of the Project. Therefore, no pollution control equipment is necessary.

(c) Applicable Federal and/or Ohio Air Quality Standards and Limitations

No criteria pollutants or hazardous air pollutants are associated with operation of the Project. A review of proposed elements of the Project and federal and Ohio air quality standards identified no New Source Performance Standards, National Emissions Standards for Hazardous Air Pollutants, Prevention of Significant Deterioration, Title V, Acid Rain Program, Regional Haze Program, or NO_x / SO₂ trading program standards or limitations applicable to the Project.

(d) Required Permits to Install and Operate Air Pollution Sources

No criteria pollutants or hazardous air pollutants are associated with operation of the Project. Therefore, no air quality permits are required for construction and operation of the Project.

(e) Air Monitoring Station Locations and Major Pollution Point Sources

No criteria pollutants or hazardous air pollutants are associated with operation of the Project. Therefore, air monitoring station locations and current or anticipated major pollution point sources are not provided.

(f) Compliance with Permits and Standards

As noted above, no New Source Performance Standards, National Emissions Standards for Hazardous Air Pollutants, Prevention of Significant Deterioration, Title V, Acid Rain Program, Regional Haze Program, or NO_x / SO₂ trading program standards or limitations are applicable to the Project.

No emissions reporting under federal greenhouse gas reporting rules at 40 CFR 98, Subpart DD is anticipated.

(2) Plans for Emissions and Fugitive Dust Control During Construction

Operation of heavy equipment and vehicles during construction will produce some particulate emissions from engine exhaust and fugitive dust generation during construction activities. Such activities will be temporary and limited to active construction areas.

BMPs including water application to control dust and Project-related vehicle speed limits will be employed to control and prevent fugitive dust emissions.

(3) Air Quality for the Operation of the Proposed Facility

(a) Ambient Air Quality Monitoring Plans

No criteria pollutants or hazardous air pollutants are associated with operation of the Project. Therefore, an air quality monitoring plan is not necessary for the Project.

(b) Map of Estimated Concentrations in Excess of Significant Emission Rates

No criteria pollutants or hazardous air pollutants are associated with operation of the Project, therefore, a map of estimated concentrations in excess of U.S. EPA “Significant Emission Rates” is unnecessary.

(c) Air Pollution Control Equipment Failure

No criteria pollutants or hazardous air pollutants are associated with operation of the Project. Therefore, air pollution control equipment is not included in the Project design, and there is no potential for air pollution control equipment failure.

(C) WATER QUALITY

(1) Preconstruction

(a) Required Permits

Construction projects that disturb more than 1 acre of soil require Ohio National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit, OEPA Permit No. OHC000005. The Project will disturb more than 1 acre of soil and is eligible for coverage under the OEPA Permit No. OHC000005; therefore, AUS will submit a Notice of Intent to be covered under OEPA Permit No. OHC000005 along with a SWPPP prior to construction of the Project.

Prior to construction, the Applicant must evaluate whether the Project may require the following additional water quality permits, depending on the final Project layout; however, the Project plans to avoid all impacts to onsite wetlands and streams.

- A USACE permit under Section 404 of the Clean Water Act (CWA) for impacts/disturbance to waters of the United States (WOTUS) if the Project proposes impacts to on-site wetlands and/or streams.
- An OEPA Water Quality Certification under Section 401 of the CWA if the Project proposes impacts to on-site wetlands and/or streams.

- An OEPA Isolated Wetland Permit if the Project proposes impacts to on-site, non-jurisdictional wetlands.

(b) Location of Survey Data Sources

No water monitoring or gauging station data is provided because no water discharges are proposed for this Project.

(c) Description of Data Sampling Stations and Reporting Procedures

No sampling stations or subsequent reporting is necessary because there are no water discharges proposed for this Project.

(d) Water Quality of Receiving Stream

No water discharges are proposed for this Project, so there will not be a need to evaluate water quality on any receiving streams.

(e) Water Discharge Permit Information

The Project is not proposing any water discharges, therefore there will not be a need for a water discharge permit or any associated data.

(2) Construction

(a) Location of Monitoring Equipment

No water monitoring or gauging station information is provided because no bodies of water are likely to be affected by the Project nor are any water discharges are proposed for this Project.

(b) Aquatic Discharges

Aquatic discharges are not anticipated during construction activities, and the EPC Contractor will implement BMPs identified in the SWPPP to prevent aquatic discharges during construction. If a spill should occur, the Construction Spill Prevention, Control, and Countermeasures (SPCC) Plan prepared in accordance with 40 CFR 112 and implemented by the

EPC contractor will discuss the proper approach to containing and mitigating the spill and will also provide contact information in order to report the spill to the appropriate agencies.

(c) Mitigation Plans

In accordance with current federal and Ohio regulations, a SWPPP and Construction SPCC Plan will be developed to ensure that surface water quality is protected.

The SWPPP evaluates and determines specific erosion and sediment control measures and BMPs to be implemented during construction to prevent excess pollution due to stormwater runoff. Increases in stormwater discharges as a result of construction activities will be documented in the SWPPP and permitted as part of the OEPA Permit No. OHC000005. The BMPs will be monitored and maintained through construction. In addition, vegetation buffers will be maintained between the Project limit of disturbance (LOD) and surface water features.

(d) Changes in Flow Patterns and Erosion

The BMPs and mitigation measures proposed to control stormwater and erosion will ensure that flow patterns within the Project Area will not be significantly changed from preconstruction conditions. Steep slopes, which accelerate runoff during a precipitation event, have also been avoided. The majority of the Project will occur within agricultural land so tree clearing, and grading will be minimal, and erosion and sedimentation that may occur within the Project will be controlled by implementing the appropriate BMPs.

(e) Description of Monitoring Equipment

No water monitoring or gauging station information is provided because no bodies of water are likely to be affected by the Project nor are any water discharges are proposed for this Project

(3) Operation

(a) Location of Monitoring Equipment

No water monitoring or gauging station information is provided because no bodies of water are likely to be affected by the Project nor are any water discharges are proposed for this Project.

(b) Water Pollution Control Equipment and Treatment Process

No water pollution control equipment or treatment processes are planned for the Project.

(c) Issuance of Required Permits

The Project does not need an NPDES permit for operation.

(d) Quantitative Flow Diagram

A quantitative flow diagram is not provided because no flow discharge is anticipated from the Project site.

(e) Water Conservation

Minimal amounts of water will be used to clean solar modules when necessary. The O&M building will also have a water source for use by the on-site staff. Given the minimal volume of water anticipated to be used in association with the Project, water conservation practices are not proposed at this time.

(D) SOLID WASTE

(1) Preconstruction

(a) Nature and Amount of Debris and Solid Waste

Because the Project will primarily avoid identified constraints including existing structures and forested areas, solid waste generated during the preconstruction phase is minimized. Limited amounts of woody vegetation debris may be generated during the preconstruction clearing and grubbing activities described in OAC 4906-04-03(B)(2).

Landowners will be given the opportunity to remove, re-purpose, or recycle existing materials such as fencing prior to construction activities, if applicable. If not removed by the landowner, such materials will be managed as solid waste.

(b) Waste Management Plan

Woody vegetation debris will be transported to a composting facility licensed or registered under OAC 3745-05 or chipped and used at the Project.

Other solid waste generated during the preconstruction phase will undergo waste characterization in accordance with OAC 3745-11-50. Hazardous waste and asbestos containing material (ACM) are not expected to be generated. After waste characterization, solid waste generated will be evaluated for recycling opportunities. Solid waste that is not recycled will be transported to a sanitary landfill or construction and demolition debris landfill, as appropriate. The Project will not engage in on-site treatment, disposal, or open burning of wastes.

(2) Construction

(a) Nature and Amount of Debris and Solid Waste Generated During Construction

Solid waste generated during construction of the Project will undergo waste characterization in accordance with OAC 3745-11-50. This solid waste is expected to consist of packaging materials including plastic, wood, metal, and cardboard materials, construction scrap, and general refuse in quantities generally associated with construction of solar projects. Hazardous waste is not anticipated to be generated. The Project estimates that construction activities will generate approximately 2,080 cubic yards of debris and solid waste.

Solar panels broken during shipment to the Project will be returned to the manufacturer under warranty provisions and are not expected to be managed as solid waste associated with construction of the Project.

(b) Waste Management Plan

Arrangements will be made with local waste management vendors to provide dumpsters and other waste management containers to be placed at the construction laydown yard, construction staging areas, and construction management areas for temporary storage of solid wastes. Recycling opportunities will be evaluated for specific types of solid wastes generated by construction activities, and solid wastes will be segregated to accommodate recycling, if applicable.

All solid waste will be collected in the waste management containers, and a sufficient number of containers will be available to manage the quantities generated. General refuse including food waste (putrescible waste) generated by construction employees at the laydown yard, construction staging areas, and construction management areas will be stored in a manner as not to cause a nuisance or health hazard or create a vector for pests. Arrangements for routine removal of general refuse will be made. Arrangements for on-call removal of other construction solid wastes will be made. The Project will not engage in on-site treatment, disposal, or open burning of wastes.

(3) Solid Waste During Operations

(a) Amount, Nature, and Composition of Solid Waste Generated During Operations

Solid waste generated during operation of the Project will undergo waste characterization in accordance with OAC 3745-11-50. Solid waste routinely generated by operations activities will

be limited to municipal solid waste generated at the O&M building and is estimated to be approximately 104 cubic yards per year.

Throughout the life of the Project, the following industrial solid waste will be generated:

Solid Waste Type	Waste Characterization	Disposition
Waste Solar Panels	Non-Hazardous Waste ⁽¹⁾	Recycled or disposal
Spent Lead-Acid Batteries ⁽²⁾	Reclaimed under OAC 3745-266-80 or Universal Waste	Recycled

(1) As verified through manufacturer data or independent Toxicity Characteristic Leaching Procedure testing.

(2) Lead-Acid batteries associated with substation controls may be replaced occasionally during the operational life of the Project.

(b) Storage, Treatment, Transport, and Disposal of Solid Waste

Municipal Solid Waste generated at the O&M Building will be stored in such a manner that it does not constitute a fire, health, or safety hazard or provide food or harborage for vectors and shall be contained so as not to result in spillage. Municipal Solid Waste containing food wastes shall be securely stored in covered or closed containers that are nonabsorbent, leakproof, durable, easily cleanable (if reusable), and designed for safe handling. Routine removal of Municipal Solid Waste will be contracted through a local waste management vendor for disposal at an appropriately permitted sanitary landfill.

Solar panels removed from the electric power generation system will be stored in storage containers prior to transport offsite for recycling or disposal. Recycling opportunities will be evaluated as the preferred final disposition.

All spent lead-acid batteries, when generated, will be recycled either by reclamation (i.e., recovery of lead values) or other recycling methods employed by universal waste management facilities. Spent lead-acid batteries, when generated, are expected to be transported offsite immediately upon replacement by a contractor. If on-site storage does occur, lead-acid batteries

will be stored in a manner protective of the environment. The Project will not engage in on-site treatment, disposal, or open burning of wastes.

(4) Waste Licenses and Permits

Waste management activities associated with the Project will not require acquisition of licenses or permits for storage, treatment, transportation, and/or disposal of solid waste.

(E) AVIATION

(1) Aviation Facilities

No public use airports, helicopter pads, or landing strips are located within a five-mile radius of the Project Area and no private use airports, helicopter pads, and landing strips or property within or adjacent to the Project Area (SkyVector 2020). The nearest airstrips include the Transportation Testing Center of Ohio, which is located over six and a half miles to the southwest and two private grass landing strips (Elliotts Landing Airport and Oakhaus Landing Airport). Elliotts is located approximately 4 miles to the north-northwest and Oakhaus is located approximately 3.7 miles to the south-southwest. All of the landing strips are privately owned. The location of the two facilities within 5-miles of the Project Area are shown on Figure 07-1.

(2) FAA Filing Status

A search of the farthest north, east, south, and west points of the Project Area and the center point using the Federal Aviation Administration (FAA) obstruction evaluation criteria tool was conducted. The search results indicated that the Project does not meet the criteria for filing with FAA (FAA 2020). The results of the FAA Notice Criteria Tool (NCT) indicate that the Project does not exceed the notice criteria; therefore, a formal filing under the FAA Obstruction Evaluation Group (OEG) is not warranted. The Project is not expected to cause any conflicts with air navigation or air traffic communications.

4906-4-08 Health and Safety, Land Use, and Ecological Information

(A) HEALTH AND SAFETY

Per OAC Rule 4906-4-08(A), the following subsections summarize AUS's acknowledgement and commitment to comply with health and safety guidelines and regulations.

(1) Equipment Safety

(a) Public Safety Equipment

Specific measures to protect the site from unauthorized site entry or unsafe practices will be implemented during Project construction and operation. Temporary orange construction fencing will be utilized during construction around equipment and storage yards, laydown areas, and other potential construction hazard areas. Signage will also be installed to warn the public of potential dangers and will provide 24-hour emergency numbers, operator contact information, and instructions for emergency personnel.

Prior to and during construction, AUS will coordinate with local emergency responders to discuss and evaluate proper rescue techniques and other items specific to the safety of on-site equipment. Training programs will be established to ensure that safety responders are prepared and educated in the event of a Project-specific emergency. On-site construction personnel will follow industry safety guidelines to avoid injury. The national Occupational Safety and Health Administration regulations cover safety issues associated with electricity, construction equipment operation, and other hazards that may be present during Project construction.

(b) Equipment Reliability

The selected solar module equipment will be designed to have a lifespan of approximately 30 to 35 years and will adhere to all Underwriter Laboratories (UL), Institute of Electrical and Engineers (IEE), National Electrical Code (NEC), NESC, and American National Standards

Institute (ANSI) listings. A professional engineer licensed in the state of Ohio will certify the electrical system design. AUS will ensure that inspections of all components are completed regularly to provide safe and reliable operation.

(c) Safety Manuals

The selected Project equipment will be compliant with applicable UL, IEEE, NEC, NESC, and ANSI standards. As described in Section 4906-4-03(B), the Project is evaluating several equipment options and those options may be considered representative of the final equipment that will be selected for the Project. Technical specifications for that representative equipment are referenced in Appendix B. Once equipment has been selected, the Project will provide OPSB with the manufacturer's safety standards. All Project equipment will be compliant with applicable listings. A Project specific safety manual will be prepared and available to all O&M employees. The plan will include all manufacture safety specifications, including handling and disposal. In addition, it will cover safety practices that are typical for these types of facilities, first aid, PPE, and coordination procedures with local emergency response personnel.

(d) Public Access

The Project Area will be surrounded by a chain link fence or similar type fence, with access through gates, to prohibit public access to the Project. Signage will also be clearly visible on the gates and fencing.

(e) Emergency Plans

AUS will meet with local and regional emergency response personnel and agencies to discuss the Project and to obtain input and feedback from those personnel. Information obtained from that meeting will be utilized in the preparation of a Project specific Emergency Response Plan. The Emergency Response Plan will include emergency response procedures, access points,

and communication guidelines in the event of an emergency. Construction, Operation, and Maintenance personnel will be trained and will be provided with the necessary equipment to deal with emergency situations that may arise. Specifically, the plan will include the location of emergency equipment and supplies, location and access to any required material safety information and emergency procedures, location of muster points, fire suppression kits, and spill kits. Safety equipment will be available at specific locations with the Project Area and will also be available in Project work vehicles. Further, local emergency responders will also be trained and educated on how to respond to an emergency, prior to commissioning the Project.

(2) Impact of Air Pollution Control Equipment Failures

As described in subsection 4906-4-07(B) above, air pollutants will not be associated with the operation of the proposed Project; therefore, on-site air pollution control equipment will not be required.

(3) Noise

An acoustic assessment was conducted for the Project. The assessment included the collection of background measurements at six monitoring locations (ML-1 through ML-6) and one long-term monitoring location (LT-1), selected to be representative of the surrounding potential receptors (resident occupied property line) near the Project Area to determine ambient daytime and nighttime noise values. The locations area summarized below:

- ML-1 – located along State Route 47 and approximately 256 feet west of the Project LOD
- ML-2 – located southeast of the substation and switchyard and approximately 185 feet east of the Project LOD
- ML-3 – located along State Route 739 and approximately 500 feet east of the Project LOD

- ML-4 – located along County Road 307 (Miller Road) and approximately 140 feet southwest of the Project LOD
- ML-5 – located along County Road 311 (Treaty Line Road) and approximately 250 feet north-northwest of the Project LOD
- ML-6 – located along County Road 346 (Wellwood Road) and approximately and approximately 215 feet west of the Project LOD.

Recordings were obtained from each monitoring location for a minimum of 30-minute duration, once during the daytime and once during the nighttime. The long-term monitoring station recorded during a continuous 24-hour period. This background information was used to establish a baseline for daytime and nighttime ambient noise and for comparison to modeled noise readings expected during operation of the Project. The results of the assessment are summarized below, and the full Acoustic Assessment Report is presented in Appendix J.

(a) Construction Noise

Construction noise for the Project was organized into work stages that included demolition, site preparation and grading, trenching and road construction, equipment installation, and commissioning. Based on typical noise levels for various equipment used for each work stage, modeling indicated that construction sound at the six monitoring locations would range from 70 to 89 A-weighted decibels (dBA). There may be times where the actual sound levels may be slightly higher or lower. Site construction work is anticipated to be during daylight hours and may be up to seven days a week.

During construction activities, there is a potential for short-term, unavoidable, noise impacts that could temporarily interfere with speech communication outdoors and indoors with

open windows. The Project will implement reasonable, industry-standard noise reduction measures to minimize noise during the construction activities. Based on the anticipated construction noise levels and infrequent loud construction activities, the temporary increase in noise during construction is a less than significant impact. The Project LOD was designed to be at least 50-feet from the property boundaries; therefore, the expected noise levels at the nearest property were evaluated at 50-feet, as the closest property boundary.

- (i) Blasting Activities: There will be no blasting activities associated with this Project.
- (ii) Operation of Earth Moving Equipment: During the first three phases of construction activity, various pieces of equipment will be utilized along with various numbers of equipment. The projected noise levels at 50 feet from construction activities ranged from 88 to 90 dBA. Monitoring location ML-1 had the highest noise levels of the MLs and ranged from 86 to 89 dBA. The other five locations (ML-2 through ML-6) ranged from 68 to 76 dBA, with ML-3 being the lowest at ranging from 68 to 70 dBA.
- (iii) Driving of Piles, Rock Breaking or Hammering, and Horizontal Directional Drill: There will be approximately 111,000 piles that will be driven to support the racks and solar panels. These piles will be driven to a depth between 8 and 10 feet below the ground surface. There is no expected rock breaking or hammering associated with this Project. Horizontal directional drilling (HDD) will be used to crossroads and aquatic resources for installation of the collector lines. The expected noise associated with these activities is expected to be around 86 dBA at 50 feet and ranges from 66 to 84 dBA at the monitoring locations, with ML-1 being the highest at 84 dBA.
- (iv) Erection of Structures: Based on the grouping of the phases, the noise levels for this activity will be similar to driving of piles and the HDD. The expected noise levels would be around 86

dBa at 50 feet and range from 66 to 84 at the monitoring locations, with ML-1 being the highest (84 dBA) and ML-3 being the lowest (66 dBA).

(v) Truck Traffic: Deliveries of equipment and materials will occur through the construction process but will be infrequent and would not produce any more noise than currently used on the roads with normal traffic and farm equipment. This type of truck traffic would be during daytime hours and is not anticipated to produce noise levels that would impact potential receptors.

(vi) Installation of Equipment: The installation of equipment will overlap with other Project activities. The noise levels during the equipment installation will vary from a high during full construction activities to lower levels when just installing the equipment. During full installation activities, the expected noise levels would be around 86 dBA at 50 feet and range from 66 to 84 at the monitoring locations, with ML-1 being the highest (84 dBA) and ML-3 being the lowest (66 dBA).

(b) Operational Noise

(i) Generating Equipment

During operation of the Project, there will be three main noise-producing equipment, including inverters, distribution transformers, and substation transformers with representative equipment broadband levels of 97, 75, and 99 dBA, respectively. The noise-producing equipment can operate both night and day; therefore, impacts at night were also considered. The Cadna-A® computer noise model was used to calculate the noise levels at various distances from the noise sources. The predicted noise levels were compared to the average daytime noise levels and to the average nighttime noise levels to determine whether the modeled sound from the Project was 5 dBA above the measured average background levels. Operational noise levels during the daytime at full operation were found to be less than 5 dBA above the ambient average daytime Leq at each

of the monitoring locations. The average daytime Leq of the six monitoring locations ranged from 44 dBA at ML-2 to 56 dBA at ML-5. For nighttime operation, modeling indicated that for the preliminary layout, 58 of the inverters should be turned off for noise levels at noise sensitive receptors to be less than 5 dBA above the nighttime average ambient Leq at each of the monitoring locations. The nighttime averages from the six monitoring locations ranged from 39 dBA at ML-5 to 48 dBA at ML-1. The Project is considering turning off certain inverters at night to meet the noise level threshold; however, other options may be evaluated and considered to meet the threshold including fitting inverters with acoustical hoods, louvers or silencers. The sound levels at the nearest non-participating receptor is modeled to be 4 dBA above the ambient average nighttime Leq. Based on the projected operation of the system during the daytime and the partial operation during the nighttime, the Project should not result in any adverse impacts to nearby receptors.

(ii) Processing Equipment

No processing equipment is associated with the Project.

(iii) Associated Road Traffic

Transportation noise during Project construction is addressed in Section 4906-4-08(3)(a). Once construction is complete, the Project will consist of limited operations personnel traveling to and from the O&M building and solar panel sites. Routine maintenance will occur on a quarterly basis for the solar panels and the substation; this will require one or two pick-up trucks. The operational activities will not significantly contribute to traffic and traffic noise on local roadways and are not expected to adversely impact participating or non-participating landowners.

(c) *Noise-Sensitive Areas*

385 residences and 3 churches are located within the 1-mile buffer surrounding the Project Area, and 3 residences are located within the Project Area but are more than 400 feet from the Project LOD (Figure 08-1). There are no schools located within the Project Area or within the 1-mile buffer.

Adverse sound impacts are not anticipated as part of the proposed Project because a majority of the sensitive receptors are outside the Project Area. In addition, with the adjustment to nighttime operation or other acceptable mitigative measure, the Project's maximum modelled sound levels are less than 5 dBA above the average nighttime Leq for the Project Area.. The acoustic study presented in Appendix J presents a modeled sound map to sensitive receptors within one mile from the Project Area.

(d) *Noise Mitigation Measures*

Construction noise is difficult to control because of the mobile nature of its sources and the flexibility of schedule inherent in most construction work. However, construction is also temporary in nature. In order to mitigate the possible effect of noise caused during the temporary construction period, the following steps will be taken:

- Maintain construction tools and equipment in good operating order according to manufacturers' specifications.
- Limit use of major excavating and earth moving machinery to the extent possible to daytime hours.
- To the extent practicable, schedule construction activity during daytime hours when higher sound levels are typically present and are found acceptable.

- Equip internal combustion engines used for any purpose on the job or related to the job with a properly operating muffler that is free from rust, holes, and leaks.
- For construction devices that utilize internal combustion engines, ensure the engine's housing doors are kept closed and install noise-insulating material mounted on the engine housing consistent with manufacturers' guidelines, if possible.
- Prior to the start of construction, implement the Complaint Resolution Plan, provided in Appendix E, to address any complaints received from residents.
- Notify the community prior to extended periods of activity that could be temporarily disruptive to the community.

By scheduling the construction effort to be as efficient as practicable, sound associated with construction activity will be minimized as the duration of the construction effort is minimized. Because of the temporary nature of the construction noise, no adverse long-term effects are anticipated.

During nighttime operation and based on the modeled inverter, the Project will turn off 58 inverters so that noise levels are less than 5 dBA above the average ambient nighttime Leq or utilize other mitigative technique such as the use of acoustical hoods, silencers and louvers to meet the noise level threshold.

(e) Existing Ambient Conditions

The Acoustic Assessment Report is included in Appendix J and includes the ambient noise study methodologies and results.

(4) Water

(a) *Construction and Operation Impacts*

AUS does not anticipate impacts to any public or private water supply due to the construction or operation of the Project. A desktop review of the ODNR groundwater well information (ODNR 2020) did not reveal any groundwater wells within the Project Area or a 1-mile buffer surrounding the Project Area. Further, no Surface Water Protection Areas or Surface Water Emergency Management Zones are located within the Project Area or the 1-mile buffer, and therefore, no impacts are proposed to these areas.

The SWPPP and SPCC Plans developed for the Project will provide protection to nearby water resources by minimizing and preventing a potential discharge to surface waters during construction activities. Though the risk of a discharge is low, there is a potential for a discharge event to occur (sediment or oil). In this event, it is anticipated that only minor increases to sedimentation and turbidity of nearby surface waters would occur over a short period of time. It is unlikely that a minor increase in turbidity would pose a serious threat to drinking water quality of the specific surface waters to which the discharge occurs.

(b) *Impact of Pollution Control Equipment Failure*

The Project will not involve water pollutants, so no water pollution control equipment is proposed. Furthermore, no impacts to public and private water supplies are anticipated.

(c) *Proximate Water Sources*

A desktop review of publicly available data shows that no groundwater drinking water source protection areas are located within 1 mile of the Project Area (Ohio EPA 2020c). The area is located within a surface water drinking water protection area (Ohio EPA 2020d). The surface water drinking water protection area is to protect surface water intakes of public water system

intakes. There are no public water intakes within a mile of the Project Area, and is presented on Figure 08-2. There are no public water supply wells within a mile of the Project Area, and local residents have individual water wells that supply potable water. There are no potable water wells within the Project LOD, but there are several wells near the boundary of the Project Area and a few shown in within the Project Area, but may be agricultural wells. Because there will be minimal land disturbance and grading activities and insignificant subsurface work activities, the Project is not expected to impact nearby water sources.

(d) Compliance with Water Source Protection Plans

There are no drinking water source protection areas or compliance concerns for these protection areas because the Project Area and 1-mile buffer will not affect these resources (Ohio EPA 2020c).

(e) Potential for Flooding

There are two Federal Emergency Management Agency (FEMA) designated 100-year floodplains (FEMA, 2020) within and adjacent to the Project Area. One is associated with Fulton Creek in the eastern portion of the Project Area, and the other is a small segment of Bokes Creek in the southwestern portion of the Project Area. The Project has been designed and configured to avoid impacts to the floodplains, including the portions that are within the Project Area. Based on the results of a hydrology study of the Project Area, 10 smaller drainage basins were evaluated to determine the calculated 100-year flood elevation using HEC-RAS analysis. A copy of the report is presented in Appendix K. Based on the analysis, there are a few areas that could be prone to flooding during a 100-year storm event. The potential for flooding in these areas can be mitigated through grading to bring the area above the calculated flood elevation, and construction practices will be implemented to minimize the potential for scour in the vicinity of the solar panel arrays.

Due to the low relief in this area, significant velocities of surface water flow are not expected to cause significant erosion within the Project Area.

(5) Geological Features

(a) Site Geology

The Project Area is in the Central Ohio Clayey Till plain subsection of the Till Plains physiographic section. The region is described in the Physiographic Regions of Ohio map produced by the ODNR (ODNR 1998) as characterized by well-defined moraines with intervening flat-lying ground moraine and intermorainal lake basins (Figure 08-3). This is a region with moderate relief. Most of the bedrock in the Project Area is mapped to be the Silurian-age Salina Undifferentiated Group, which is described by the USGS as laminated to thinly bedded dolomite, partly brecciate, with occasional thin beds and laminae of dark gray shale and anhydrite or gypsum. The east and northeast edges of the Project Area are mapped to be the Silurian-age Tymochtee Dolomite, which is described by the USGS (USGS 2020) as thin to massive bedded with brownish-black to gray shale laminae commonly found in the upper two-thirds and local brecciated zones in the lower one-third. Relatively shallow foundations (less than 15 feet) are used for most structures in the vicinity of the Project Area. Preliminary geotechnical reporting supports that the geology in the Project Area is suitable for the installation of the foundations necessary for components of the solar powered generating facility. Bedrock was not encountered in the geotechnical borings and test pits due to the glacial overburden thickness. Most soil inadequacies are considered to be minor and could be improved by light mechanical means of soil mixing, drying, or other methods of soil improvement. It is not expected that significant areas of the Project Area will have to be improved given the information provided in the preliminary geotechnical report (see Appendix L).

(b) Soils and Soil Suitability

A geotechnical evaluation was conducted for the Project. Review of the soil boring logs and summary indicated that there were generally four stratification units within the unconsolidated overburden. In general, the overburden was classified as glacial till and stratigraphically included 8 to 18 inches of topsoil, which was typically underlain by lean clay materials extending to depths of 23.5 feet but was not observed in all locations. In locations where the lean clay materials were not present, the topsoil was underlain by a fat clay, which was also typically found below the lean clay materials in other locations. The fat clay layer ranged in thickness from 1.5 to 10.5 feet. In locations where the borings were extended below 15 feet, the fat clay was found to be underlain by clayey and silty sands, which typically were found to contain groundwater. The full geotechnical report is presented in Appendix L.

Due to the relatively low relief across the Project Area, significant amounts of grading are not anticipated. The topsoil will remain in place over a majority of the Project Area, but the topsoil will be removed from the following areas:

- Access roads;
- Driveways;
- Parking areas;
- Inverter and transformer areas;
- O&M building;
- Substation and Switchyard; and
- Temporary construction laydown areas.

This list is not inclusive, but topsoil disturbance will be limited as much as possible. Stockpiled soils will be graded and seeded to reduce erosion. Once the construction activities have

been completed, the temporary laydown areas will be restored. Restoration activities will include removal of gravel and any infrastructure that has been installed. Once the materials have been removed, the topsoil will be spread across the area and graded to promote positive drainage similar to pre-construction conditions. If the area will not be farmed, it will be seeded in accordance with landowner lease agreements to reduce erosion.

As described above, the soils below the topsoil consist generally of clay-based materials that can be compacted as appropriate; however, over most of the Project Area, compaction of the underlying soils and re-compaction of excavated soils should be minimal. Compaction of the underlying soils and possible ground improvement will likely be required in the substation and switchyard area, control building, and O&M building and for other load bearing structures in addition to foundation design recommendations. The quality of soil compaction may be improved in soils described as fat clay by mechanical means of soil mixing or drying with other onsite fill soils. Compaction should be more easily achieved in soils that are less sensitive to moisture content, such as the lean clay and topsoil strata identified in most locations in the preliminary geotechnical report. In addition to minor soil improvement, foundation depths below the required frost line could be adjusted based on the findings of the geotechnical report to avoid potentially problematic soil zones at depth. Based on the preliminary geotechnical investigation, no significant ground improvements are expected to be required for the Project.

(c) Geotechnical Evaluation Plan

A preliminary geotechnical investigation report for the Project Area dated September 2020 is provided in Appendix L. A total of 38 geotechnical test borings and 132 test pit locations were identified from preliminary reports allowing for a good distribution over the proposed Project

Area. Test boring and test pit logs for all locations are located in the report. A general soil profile was described with four stratum thicknesses:

- 8-18 inches: topsoil;
- 7.5-22.4 feet: glacial till - lean clay, lean clay with gravel, silty clay;
- 1.5-10.5 feet glacial till – fat clay
- 1.2-10.0 feet glacial till – clayey sand, silty sand

Most of the test borings and pits were backfilled on the same day they were completed, with some borings being left open for observation of temporary piezometers. From 38 geotechnical test borings, 4 test borings indicated the presence of groundwater (B-12, B-34, B-35, B-36). From 132 excavated test pits, 2 test pits indicated the presence of groundwater (T-38 and T-118). Groundwater observations were made from 6.8 to 29.0 feet, and static groundwater observations were recorded from 10.6 to 24.4 feet. Bedrock was not identified in any of the test borings or excavations due to overburden thickness. Rock quality designation (RQD) was not quantified or reported during the preliminary geotechnical investigation.

(6) Potential for High Wind Conditions

The nearest weather station to the Project is located in Franklin County, Ohio which is southeast of the Project. Based on information downloaded for 2019 (The Ohio State University, 2019), nearly 70 percent (%) of the 353 monitored days had wind speeds at or below an average of 5 miles per hour (mph). The maximum recorded wind speed in 2019 was 21.2 mph. Table 08-1 presents a summary of the average daily wind speeds for 2019. Generally, solar panels are resistant to damage from windy conditions and based on specifications presented in Appendix B can take wind loads up to 2400 pascal (Pa) which equates to 130 mph. The racking and tracking

systems are rated from 105 to 140 mph winds (see Appendix B). The Project will be designed for wind speeds of 114 mph.

Table 08-1 Average Wind Speeds Franklin County, Ohio 2019

Average Daily Wind Speed (mph)	Number of Days	Percent of Total Days
0.0 to 1.5	16	4.5
1.6 to 2.0	7	2.0
2.1 to 2.5	21	5.9
2.6 to 3.0	33	9.3
3.1 to 3.5	56	15.9
3.6 to 4.0	42	11.9
4.1 to 4.5	40	11.3
4.6 to 5.0	32	9.1
5.1 to 5.5	25	7.1
5.6 to 6.0	22	6.2
6.1 to 6.5	21	5.9
6.6 to 7.0	6	1.7
7.1 to 7.5	13	3.7
7.6 to 8.0	5	1.4
8.1 to 8.5	4	1.1
8.6 to 9.0	3	0.8
9.1 to 9.5	3	0.8
9.6 to 10.0	1	0.3
10.1 to 10.5	1	0.3
10.6 to 11.0	2	0.6

(7) Potential Impact from Blade Shear

The Project will not have wind turbines; therefore, there will be no potential impacts from blade shear.

(8) Potential Impact from Ice Throw

The Project will not have wind turbines; therefore, there will be no potential impacts from ice throw.

(9) Potential Impact from Shadow Flicker

The Project will not have wind turbines; therefore, there will be no potential impacts from shadow flicker.

(10) Potential Impact to Radio and TV Reception

The maximum height of the solar panels will be approximately 8.5-feet and will not impact radio and tv reception service. Additionally, PV installations are considered low risk for electromagnetic interference.

(11) Potential Impact to Radar Systems

The maximum height of the solar panels will be approximately 8.5-feet and will not impact radar systems.

(12) Navigable Airspace Interference

The maximum height of the solar panels will be approximately 8.5-feet and will not impact airports or heliports. The nearest airport is over 4 miles away from the Project Area.

(13) Potential Impact to Microwave Communications

The maximum height of the solar panels will be approximately 8.5-feet and will not impact microwave communications.

(B) ECOLOGICAL RESOURCES

(1) Existing Ecological Resources

(a) Nearby Resources

Figure 08-4 “Ecological Communities” (1:24,000 scale) depicts the Project Area with a 0.5-mile radius surrounding the Project Area (Study Area). The Figure contains the following information:

- The proposed Facility and Project Area;
- Undeveloped or abandoned lands (vacant fields, wood lots, etc.);
- Wildlife areas, nature preserves, and other conservation areas;
- Bodies of water, including but not limited to, streams, drainage channels/ditches, wetlands, reservoirs, lakes, and ponds; and
- Highly erodible soils and slopes 12 percent and greater.

(b) Vegetation, Wetland and Surface Water Survey

An existing vegetation community evaluation was conducted as part of the Vegetation Management Plan (VMP) for the Property Area (Appendix M). This vegetation community evaluation was based on the Project LOD only which is 2,047 acres. Within the Project LOD, three main vegetation habitats were identified and include agricultural areas, immature forests, and scrub-shrub. Of these areas, most of the area is agricultural (98.2%) and the immature forest was 1.7% and <0.1% scrub shrub. The immature forested areas will be cleared for this Project.

A wetland and stream delineation and a threatened and endangered (T&E) species habitat assessment to characterize the vegetative communities within the Study Area and to delineate on-site wetlands, streams, and waterbodies in order to design the Project to avoid impacts to these resources. The data collected within the Study Area was used to develop the Project Area (which is within the Study Area) to avoid potential impacts. The field surveys were completed in June, July, August, September, and November 2020, encompassing approximately 3,770 acres. The results of the field survey are reflected in the Aquatic Resources Report dated December 2020 in Appendix N. Furthermore, Figure 08-5 (1:12,000 scale) provides a summary of the field-

delineated resources, including wetlands, streams, and ponds identified within 100 feet of the potential construction impact area of the Project.

A total of 90 wetlands, 89 waterbodies (including 17 dry ditches), and 2 ponds within the Study Area were delineated. Figure 8-2 also shows the locations of the streams identified during the field survey. Delineated wetlands were classified as follows:

- 71 wetlands classified as palustrine emergent (PEM);
- 4 wetlands classified as palustrine scrub-shrub (PSS);
- 8 wetlands classified as palustrine forested (PFO);
- 5 wetlands classified as a PFO/PEM complex;
- 1 wetland classified as a PSS/PEM complex; and
- 1 wetland classified as PFO/PSS/PEM.

The functions and values of the delineated wetlands were assessed using the Ohio Rapid Assessment Method (ORAM). The categorization of each delineated wetland was conducted by Tetra Tech in accordance with OAC Rule 3745-1-54. The Aquatic Resources Report in Appendix N provides a summary of the wetlands identified within the Study Area.

A total of 89 waterbodies were delineated during the field survey of the Study Area and categorized as follows:

- 5 waterbodies classified as Relatively Permanent Waters (RWs) with a perennial flow regime;
- 5 waterbodies classified as RPWs with an intermittent flow regime;
- 62 waterbodies classified as Non-RPWs with an ephemeral flow regime; and
- 17 waterbodies classified as dry ditches.

In addition to streams and ditches, two ponds were identified in the Study Area. One pond was a topographic (i.e., retention) pond, approximately 30 feet wide with shrub and herbaceous vegetation adjacent to it. The second pond was a landscaping pond approximately 200 feet wide, with observed uses of fishing and drainage for surrounding land. Herbaceous vegetation was surrounding it. Water was present in both features at the time of the survey. The Aquatic Resources Report in Appendix N provides a summary of the streams, ditches and ponds identified within the Study Area.

(c) Desktop Habitat Assessment

In addition to delineating aquatic resources, surveyors documented general habitat boundaries and conditions, representative plant species, vegetation age class, and notable habitat features such as snags, large diameter trees or woody debris, and rock outcroppings. The habitat within the Study Area is dominated by agricultural areas (3,608.7 acres; approximately 95.7% of the Study Area) primarily comprised of corn and soybean fields. The following habitat types are also present: immature forests (113.1 acres; approximately 3.0% of the Study Area), mature forests (28.6 acres; approximately 0.8% of the Study Area), and scrub-shrub areas (20.6 acres; approximately 0.5% of the Study Area).

A desktop literature review and field surveys were conducted (see Appendix O for Habitat Assessment Report) to support an evaluation of the potential impacts from construction and operation of the Project on any protected species with potential to occur near or within the Study Area. Coordination was initiated with the regulating agencies and a protected species requests to the ODNR and to USFWS was prepared on May 4, 2020. The USFWS Information for Planning and Construction (IPaC) on-line screening tool was utilized on October 5, 2020, to determine whether any federally listed T&E species may potentially exist within the Project Area. The IPaC

screening results, the USFWS response letter (dated June 29, 2020), and the ODNR response letters (dated June 11, October 5, and December 10, 2020) indicated that the Project Area is within range of 7 federally-listed species and 17 species protected at the state level, with an additional species of concern at the state level. No federally designated critical habitats or other significant habitats were identified by USFWS. In addition to the species identified by USFWS, Table 08-2 below provides a list of protected species identified within range of the Project Area.

TABLE 08-2
Protected Species Identified Near the Project Area

Species	Scientific Name	Federal Status	State Status
<i>Mammals</i>			
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered
Northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	Threatened
<i>Birds</i>			
American bittern	<i>Botaurus lentiginosus</i>	NA	Endangered
Northern harrier	<i>Circus cyaneus</i>	NA	Endangered
King rail	<i>Rallus elegans</i>	NA	Endangered
Lark sparrow	<i>Chondestes grammacus</i>	NA	Endangered
Least bittern	<i>Ixobrychus exilis</i>	NA	Threatened
Loggerhead shrike	<i>Lanius ludovicianus</i>	NA	Endangered
<i>Fish</i>			
Western creek chubsucker	<i>Erimyzon claviformis</i>	NA	Species of concern
Scioto madtom	<i>Noturus trautmani</i>	Endangered	Endangered
Tippecanoe darter	<i>Etheostoma tippecanoe</i>	NA	Threatened
<i>Mussels/Clams</i>			
Snuffbox	<i>Epioblasma triquetra</i>	Endangered	Endangered
Clubshell	<i>Pleurobema clava</i>	Endangered	Endangered
Northern riffleshell	<i>Epioblasma torulosa rangiana</i>	Endangered	Endangered
Rayed bean	<i>Villosa fabalis</i>	Endangered	Endangered

Species	Scientific Name	Federal Status	State Status
Rabbitsfoot	<i>Quadrula cylindrica cylindrica</i>	Candidate	Endangered
Elephant-ear	<i>Elliptio crassidens</i>	n/a	Endangered
Pondhorn	<i>Unio merus tetralasmus</i>	n/a	Threatened

The ODNR response letter stated that one state species of concern, the Western creek chubsucker, has been documented within ODNR's search area, which included a 1-mile radius around the Study Area.

The USFWS indicated that the Study Area is within range of the federally endangered Indiana bat and the federally threatened northern lone-eared bat (NLEB). The ODNR Department of Wildlife (DOW) also highlighted the state-endangered Indiana bat in their letter. The USFWS and the ODNR DOW recommend mitigation measures to protect an incidental take of the Indiana bat and NLEB, including conserving suitable habitat within the Study Area. If trees must be cleared, the agencies require tree clearing to occur between October 1 and March 31 to avoid adverse effects to bats.

Additionally, the ODNR lists four state endangered and federally endangered mussel species, one state endangered and federal candidate mussel species, and one state endangered mussel species that occur within the range of the Project. The Project will not impact any streams and any required stream crossings will be conducted using HDD boring methods.

Further, the ODNR lists five state endangered birds, one state threatened bird, and one state endangered and federally endangered fish. Additional details regarding avoidance measures is included in the Habitat Assessment Report in Appendix O.

(d) Habitat Field Assessment

During the wetland and stream delineation field surveys, a habitat assessment was performed to determine whether suitable habitat for federally or state-listed T&E species exists within the Study Area. The Study Area is dominated by agricultural fields (95.7%) which do not possess characteristics of high-quality habitat for T&E species. The additional Study Area consists of open, maintained right-of-way, residential, and road habitats, all of which have been previously disturbed at regular or odd intervals (e.g., mowing, herbicide, plowing, disking, and planting). The approximately 113 acres of immature hardwood forest consists of early-successional forest areas that are primarily located between agricultural fields. The remaining approximately 29 acres of mature hardwood forest was found to contain trees that are larger than a foot in diameter at breast height. The majority of the 20 acres of scrub-shrub habitat has also been previously disturbed. Based on the findings within the Study Area, a Project area was defined to minimize the impacts to wooded resources.

(e) Additional Ecological Studies

No other ecological studies have been completed.

(2) Potential Construction Impact

(a) Ecological Resource Impact Evaluation

Construction activities associated with the Project will not likely result in significant impacts to ecological resources that may potentially occur within Union County and the Project Area. This result is due to comprehensive siting efforts to avoid impacting water resources and suitable habitat areas, or construction activities occurring outside of critical periods.

AUS performed an extensive siting process in order to avoid impacts to wetlands, streams, and other regulated waterbodies. Impacts to wetlands and waterbodies will be avoided by the solar

panel arrays and associated structures. AUS assumes that wetland and waterbody impact permits will not be required from the USACE or OEPA. Avoiding impacts to wetlands and waterbodies will also avoid impacts to aquatic species identified during the desktop evaluation and field studies performed for the Project, as described in subsection 4906-4-08(B)(1)(c) above.

The Project will require clearing 37.6 acres of woodland during construction activities. Due to the small amount of tree clearing compared to the overall Project area and the fact that the forested habitat does not provide critical or limiting habitat for sensitive species, the impact on wildlife within the Project Area is almost negligible. As an added precaution, tree clearing activities will occur outside of the summer roosting season for the Indiana bat and NLEB species. AUS will minimize the removal of woody vegetation, whenever possible, and trees and brush will be manually pruned or trimmed rather than removing them from the Project Area.

The remainder of the Project will be constructed within agricultural and previously disturbed areas which provide little or no beneficial habitat for wildlife.

(b) Mitigation

AUS has focused on avoiding and minimizing impacts to on-site water and ecological resources. Any unavoidable impacts will require mitigation efforts including minimizing disturbance to soils, developing an inadvertent return plan, delineating and marking surface waters and wetlands, preparing inspection and repair procedures associated with erosion control measures, and protecting vegetation near the Project.

(i) Restoration and Stabilization of Disturbed Soils

Temporarily disturbed soils will be restored upon the completion of construction activities, graded to original contours, and prepared for reseeded. In order to ensure the long-term

performance of the permanent access roads, AUS will address them as appropriate. Erosion control methods, during and after construction, will be designed and installed in accordance with the required Construction Stormwater General Permit as well as the contours of the land.

Immediately following the completion of construction activities, permanent stabilization seeding will be implemented. Areas disturbed during construction will be reseeded with a low-growth, native seed mix under the solar arrays, and a pollinator-friendly seed mix will be used in select open areas outside of the array and within the fence line surround the Project, in conjunction with the recommendations provided in the ODNR response letter dated June 11, 2020.

Once all soil disturbance activities have been completed and 70% of the site is covered uniformly with perennial vegetative cover, the Project is considered permanently stabilized. Seed, straw, and/or matting used within the Project Area must conform to Ohio EPA stormwater standards. After construction is complete, disturbed agricultural areas will be seeded with a temporary crop cover that will be discussed and agreed upon with the landowner. Natural areas will be seeded with appropriate seed mixtures that minimize erosion and promote revegetation. The VMP in Appendix M provides additional detail on managing vegetation for the Project.

(ii) HDD Inadvertent Return Contingency Plan

An HDD Inadvertent Return (IR) Contingency Plan has been developed in the event that the Project requires the use of HDD to install cables under roads, wetlands, and/or streams. AUS will notify landowners prior to drilling activities and monitor water well quality if an HDD is proposed within 100 feet of a residence or private water well. If an IR occurs within a wetland or stream, AUS will notify the OEPA, Office of Emergency Response via the 24-Hour Emergency

Spill Hotline and prepare a monitoring report documenting the spill location, estimated volume of the spill, and cleanup efforts. The IR Contingency Plan is provided in Appendix P.

(iii) Demarcation of Wetlands and Surface Waters

Prior to construction, all wetlands and surface water features within 50 feet of the Project LOD will be cleared, buffers will be established as added protection in addition to erosion and sediment control measures, and physical barriers such as orange construction fencing will be used. A SWPPP in accordance with the Construction Stormwater General Permit will be developed for the Project that will detail the location of sensitive areas and appropriate BMPs that will be put in place to prevent migration of erosion and sediment into these sensitive resources. Additionally, areas disturbed during construction will be restored to preconstruction conditions as soon as possible in order to further minimize the impacts associated with construction.

(iv) Procedures for Inspection and Repair of Erosion Control BMPs

The Project SWPPP will designate specific erosion and sediment control BMPs depending on site topography and on-site resources. Structural erosion control devices such as straw bales, berms, and check dams will be used to divert flows from exposed soils, temporarily control surface flow, and limit sediment from migrating offsite. Compost filter sock or silt fence will be installed upon completion of each phase of construction to effectively maintain sediment in highly erosive areas (e.g., clearing and grubbing, excavation, grading, embankment).

Erosion and sediment control BMPs will be inspected regularly during the Project construction and specific inspection schedules and forms will be prepared. The BMPs will be inspected after every storm event. If any damage or sediment buildup is observed, the BMP will be repaired or replaced.

(v) Vegetation Protection Methods

Habitat studies were conducted within a defined Study Area. Based on the findings and the Projects desire to reduce impacts to sensitive habitats the Project layout and LOD was adjusted several times to minimize the impacts and focus development to disturbed agricultural fields. Based on the proposed facility layout, over 98% of the Project LOD is within these disturbed agricultural fields and approximately 37.6 acres of clearing of immature woodland will be required. The habitat survey conducted for the Project did not identify any sensitive vegetative communities or plant types; therefore, no specific vegetation protection methods are proposed. Please refer to Appendix M for additional details regarding vegetation management during construction activities.

(vi) Vegetation Disposal

Downed trees, brush piles, and other vegetation removed during construction will be segregated, stockpiled, and hauled offsite by a waste disposal service.

(vii) Avoidance Measures for Federal and State Listed Species and Habitat

With previously disturbed habitat areas totaling 2,010 acres of the approximately 2,050-acre area within the LOD, AUS has plans to concentrate disturbance within habitats that are prone to anthropogenic manipulation, generally resulting in minor and discountable impacts to other more natural and intact habitats. The Project is located primarily within agricultural fields and previously disturbed areas, which minimizes the potential effect to federal and state listed T&E species and their critical habitat. Tree-clearing associated with the Project will be completed outside the summer bat roosting season to avoid potential impacts to the Indiana and NLEB.

(3) Potential Operation and Maintenance Impact

(a) Ecological Resource Impact Evaluation

AUS does not anticipate adverse impacts to ecological resources during operation and maintenance, which includes site visits for firmware updates, fixing defective equipment, cleaning solar modules, standard test procedures, and security patrol. Maintenance will be performed using a light-duty vehicle. Proposed gravel access roads will be built to provide access between the solar arrays.

(b) Mitigation

Impacts to ecological resources are not anticipated once operations are underway and site restoration activities are complete. Further, operations will not involve the discharge of water or wastewater into streams or waterbodies and will not require the use of water for cooling or other activities. For these reasons, impacts to wetlands, surface waters, and groundwater will be negligible. Grasses and invasive plants within the LOD will be maintained by mowing and herbicide applications, as needed. The VMP dated December 2020 is provided in Appendix M and has additional details regarding vegetation management during operations and maintenance activities.

(c) Post-Construction Monitoring of Wildlife Impacts

Adverse impacts to wildlife species are not anticipated during operations, therefore post-construction monitoring of wildlife species is not proposed.

(C) LAND USE AND COMMUNITY DEVELOPMENT

(1) Land Use

(a) Land Use Mapping

Figure 08-6 is a 1:24,000 scale map showing the following features within 1 mile of the Project Area:

- The proposed facility;
- Land use;
- Structures; and
- Incorporated areas and population centers.

(b) Existing Structures

Appendix Q presents a summary of the structures that are within 1,500 feet of the Project's generation equipment, the distance from the generation equipment, and lease status of the property where the structure is located. In addition, structures within 250 feet of collection lines are included.

In summary, there are 171 structures within 1,500 feet of generation equipment, including solar modules, inverters, substations, etc., and 43 structures within 250 feet of a collection line.

(c) Land Use Impacts

The land use within the Project Area is dominated by agricultural lands, which is comparable to the overall land use of Union County, Ohio. Approximately 95.7% of the Project Area is classified as agricultural lands and approximately 4.3% of the Project Area consists of old field, forests, streams, and surface water.

AUS conservatively classified land use impacts as permanent impacts, except for areas outside the Project fence line, such as laydown yards. Permanent impacts include areas within the fence line such as the solar field (solar array, collection systems, inverter pads, access roads, O&M associated buildings, and the area between these features). Additionally, the Project substation (overhead gen-tie lines and transformers) and the collection system outside of the perimeter fence line are also considered permanent impacts. The Project collection system will be below ground from the solar array inverters/transformers to the substation. Once within the substation, they will connect to an aboveground electrical bus.

The Project will impact approximately 2,010 acres of agricultural land and 37 acres of immature woodland associated with construction activities and include laydown yards located within of the Project fence line. Table 08-4 summarizes the proposed temporary and permanent impacts to specific land use types for each Project component.

TABLE 08-4
LAND USE IMPACTS

Project Component	Total Disturbance (acres)	Temporary Disturbance (acres)	Permanent Disturbance (acres)
Agricultural			
Solar Field ¹	~2009	--	~2009
Project Substation ²	~4	--	~4
Collection System ³	~12	~12	--
Laydown Yards ⁴	22.42	22.42	0

¹ Features within the perimeter fence including the solar array, collection system, inverter pads, access roads, O&M buildings, and all area between these features. Excludes temporary laydown areas.

² Overhead gen-tie lines and transformers

³ Collection system located outside the perimeter fence

⁴ Temporary laydown yards inside the perimeter fence that will be restored once in operation.

(d) Structures to be Removed or Relocated

The design and layout of the solar panel arrays, collector lines, and supporting infrastructure will require the removal of one open sided shed. No other structures will be removed or relocation. Existing structures on participating properties have been excluded from the LOD.

(2) Project Design

(a) Distance from Turbine Base to Property Line

The Project will not have wind turbines; therefore, this section is not applicable.

(b) Distance from Blade to Property Line

The Project will not have wind turbines; therefore, this section is not applicable.

(c) Distance from Easements

The Project will not have wind turbines; therefore, this section is not applicable.

(3) Setback Waivers

(a) Content of Waiver

No setback waivers are required as part of this Project.

(b) Required Signature

No setback waivers are required as part of this Project.

(c) Recordation of Waiver

No setback waivers are required as part of this Project.

(4) Land Use Plans

(a) Formally Adopted Plans for Future Use

The Project Area does not include lands with formally designated future uses other than the Project.

(b) Applicant Plans for Concurrent or Secondary Use of the Site

AUS has no concurrent or secondary uses of the site planned at this time.

(c) Impact to Regional Development

The Project is expected to have a positive impact on regional development by increasing local tax revenues and contributing to the local economy, as discussed in Section 4906-4-06(C) of this Application and in Appendix G, the Economic Impact Report. Another benefit of the Project is a significant increase in funding to schools. The Project is not expected to significantly impact residential housing development, transportation system development, or other public services or facilities.

(d) Compatibility with Current Regional Plans

Union County – Marysville, Ohio Economic Development Partnership is an organization focused on economic development throughout the County. In 2014, a Union County Economic Development Strategy was developed (Union County, 2014). In addition to developing a strategy and framework for collaboration throughout the County, the focus is on five targeted industries. These industries include agriculture, manufacturing, research and development, corporate services, and targeted retail. In 2018, the partnership formally adopted the 33 Smart Mobility Corridor Economic Development Strategy (Port Authority, 2018). This update to the 2014 plan has specific goals to strengthen Union County’s business case with the connected vehicle and automated vehicle industry. One of the Quality of Life Tactics in the plan calls for a “number of effective energy reduction and green initiatives within the county.” The addition of the Project not only brings this green initiative with innovative clean energy to the region; it is also providing much needed power to support the planned economic development.

(e) Demographic Characteristics

The U.S. Census count for Union County, Ohio estimated the population to be approximately 58,988 people in July 2019. The nearest population center is West Richwood which had an estimated 2,424 people living in the town in 2018. Union County’s 10-year projected population is 64,830 people. Richwood’s population growth rate over the last decade was 1.09%, and so the 10-year population estimate considering the continued grow rate of 1.09% is approximately 2,642 (Ohio Office of Research 2020).

(D) CULTURAL AND ARCHAEOLOGICAL RESOURCES

(1) Cultural Resource and Recreational Area Mapping

The recreation areas and registered landmarks of historic, religious, archaeological, scenic, natural, or other culturally significant areas within a 10-mile radius of the Project Area are shown on Figure 08-7.

(2) Estimated Impacts on Cultural Resources or Landmarks

A review of the registered landmarks of historic, religious, archaeological, scenic, natural, or other culturally significant areas was conducted within an area encompassing 104,532 acres that surrounds and subsumes the Project Area (collectively, the Cultural Study Area). During the desktop review of the Cultural Study Area, referenced digital, geospatial data was obtained from the National Park Service's website for the National Register of Historic Places (NRHP) and the National Historic Landmark Listings. Further, Ohio Online Mapping System, managed by the State Historic Preservation Office (SHPO), was reviewed to compile a list of any known archaeological sites, historic aboveground structures, cemeteries, and associated survey data.

The desktop review resulted in a list of 59 recorded archaeological resources within the Cultural Study Area. No aboveground historic resources or cemeteries were recorded within the Project Area, but 83 aboveground historic resources and 32 cemeteries were recorded within the Cultural Study Area. Based on the initial findings, SHPO requested that a Predictive Model be prepared for the Project in a letter dated June 2, 2020. A Predictive Model was developed and submitted to SHPO on August 5, 2020. A response letter was received on September 2, 2020 which requested 10% of the area to be sampled and evaluated to test the results of the Predictive Model. Field teams conducted testing of approximately 12% of the area identified in the Predictive Model and a revised Predictive Model was submitted to the SHPO in December 2020. AUS

received a letter from SHPO on December 18, 2020 approving the Predictive Model. The testing program for the remaining 88% of the area is expected to be completed in December 2020. AUS will continue to work with SHPO regarding the findings of the sampling program. Copies of the SHPO letters and updated Predictive Model area presented in Appendix R.

Based on the findings of the cultural resource surveys, AUS may make adjustments to the Project layout to avoid impacts to cultural resource, if identified.

(3) Recreational Areas

The Project Area is located in a predominantly agricultural area. Key aesthetic resources within a 10-mile radius include:

- Falcon Memorial Park is the closest local park to the Project Area and is approximately 0.18 mile north of the Project Area;
- Veterans Park is located approximately 2.75 miles west of the Project Area;
- Liberty Township Park is located approximately 5.1 miles south of the Project Area;
- Richwood Lake Park is located approximately 7.5 miles east of the Project Area;
- Zane Caverns Park is located 7.6 miles southwest of the Project Area;
- Big Darby Headwaters Nature Preserve, owned by The Nature Conservancy (TNC), is located 7.5 miles southwest of the Project Area;
- Scioto River is located 6.6 miles north and 7.8 miles northeast of the Project Area;
- Big Darby Creek is located 7.8 miles southwest of the Project Area; and
- Big Darby Plains Scenic Byway is located at the southern edge of the Study Area.

Based on desktop review of publicly-available information from the National Park Service (NPS), ODOT, TNC 2020, environmental systems research institute (ESRI), York Township Zoning, Washington Township Zoning), none of the communities or townships with potential

visibility of the Project within the Study Area possess any plans, policies, or regulations related to or restricting potential facility effects on the existing landscape or its visual quality.

(4) Visual Impacts

(a) Project Visibility

A viewshed analysis was conducted by a professional experienced with developing visual impact assessments. The purpose of the assessment is to consider the key aesthetic resources located within a 10-mile radius of the Project Area that may be sensitive to changes in the landscape. The viewshed analysis was based on the spatial extent of the solar panels and the assumed maximum 8.5-foot height. The viewshed analysis was performed using Esri ArcGIS software with a 1-meter digital elevation model to represent the terrain within the Project Area. This bare-earth modeling approach would be considered a worst-case scenario because obstructions and vegetation were not taken into account but would diminish visibility under actual field conditions. Based on review of the area, five representative viewpoints were selected to represent the high levels of viewer sensitivity and potential for impact to visual resources. Due to the low topographic relief of the area, less than 25 percent of the solar panels would be viewed (assuming bare earth) within approximately 2 miles of the Project Area. In the northeast portion of the Project Area, 50 to 75 percent of the panels would potentially be visible. The solar panels in the southwest portion of the Project Area would be theoretically visible, but the area is highly vegetated, and actual views are unlikely. Due to the low topographic relief and trees, even though sparse, it is unlikely that the Project would be visible beyond 2 miles. The project will be visible to adjacent residents and travelers but will have little visibility within a short distance from the Project Area. The Visual Impact Analysis for the Project dated December 2020 is provided in Appendix S along with resumes of the preparers.

A glint and glare study was conducted for the Project to evaluate the potential for glint and glare impacts to residents and travelers on roads through the area. The glint and glare study is presented in Appendix T. The study utilized the Solar Glare Hazard Analysis Tool (SGHAT) to evaluate the points of view from an average first and second floor building and typical vehicle and commercial truck heights above the ground surface. Based on the findings of the analysis, there would be no glint and glare issues to residential structures or vehicular traffic when the resting angle of the solar panels is at 5 degrees or 10 degrees. The Project will maintain resting angles between 5 or 10 degrees in the solar panels to avoid glint and glare issues. A copy of the glint and glare analysis is presented in Appendix T.

(b) Existing Landscape

The Project Area and surrounding area are primarily used for agricultural purposes. The agricultural fields are separated by local roads and highways and some areas of vegetation in the form of small scattered woodlots or more narrow strips of fencerow or natural stream vegetation. The Project Area has a low topographic relief and is relatively flat. Residential homes and agricultural structures are located near or adjacent to roadways through the Project Area. The small community of Byhalia is located outside of the Project Area; however, segments of the Project Area are near the community. Residents and travelers through this area mostly see agricultural fields in a rural residential setting.

As stated above, none of the communities or townships with potential visibility of the Project within the Study Area possess any plans, policies, or regulations related to or restricting potential facility effects on the existing landscape or its visual quality.

(c) Landscape Alterations

Based on the visual impact analysis, some of the solar panel arrays will be visible within 2 miles of the Project Area; however, the analysis did not take into account visual obstructions that will limit the visual impact. The low profile of the solar panel arrays in this low topographic relief area will have little to no landscape alterations and would be similar to visual obstruction when the fields are in full-growth corn. Therefore, the impact to the scenic quality is expected to be minimal.

(d) Visual Impacts

The proposed Project would have a minor visual impact to the surrounding area. The visual impacts would include low vertical, geometric elements that are gray in color into a relatively flat terrain landscape dominated by agricultural lands with strips of green grasses and patches of trees and shrubs. These visual impacts would vary depending on the distance of the viewer from the Project Area and whether views toward the Project are unobstructed or screened by vegetation, terrain, or development. Due to the size and extent of the Project Area, the visual impacts will be vastly different from one location to another and will be greatly decreased with distance between the viewer and the Project Area. Viewers in proximity to the Project Area and traveling on the local roadways may have unobstructed or partially screened views. These viewers would have limited views of the Project due to the low topographic relief. It is anticipated that residents in Byhalia would have limited visual impacts due to the Project Area being screened by vegetation and other residential and agricultural structures.

Falcon Memorial Park is location just north of Byhalia, Ohio and is within visible distance of the Project Area. The park is located approximately 1,250 feet northeast of the Project. Some trees will be cleared for the project installation giving the viewer a more open look at the horizon.

The solar panels will likely be visible along the edge of the horizon but will not cause an obstructed view because of the distance from the Project Area.

Veterans Park is located in West Mansfield, Ohio, approximately 2.75 miles to the west of the Project. Based on the bare earth viewshed analysis <25% of the Project could be visible from the Park. Due to the distance from the Project Area and the obstructions between the park and the Project Area, the Project is not expected to have a visual impact to the park.

Zane Caverns Park is located approximately 7.6 miles west-southwest of the Project Area. This park is on a higher elevation and based on the viewshed analysis a portion of the 50% to 75% of the Project could be visible assuming a bare earth. Due to the distance from the Project Area and the obstructions between the park and the Project Area, the Project is not expected to have a visual impact to the park.

Liberty Township Park is located approximately 5.1 miles south-southeast of the Project Area. According to the bare earth viewshed analysis, this park is unlikely to be able to view the Project.

The Big Darby Headwaters Nature Preserve is located approximately 7.5 miles south-southwest of the Project Area. According to the bare earth viewshed analysis, this preserve is unlikely to be able to view the Project.

Richwood Lake Park is located approximately 7.5 miles east of the Project Area. According to the bare earth viewshed analysis, this park is unlikely to be able to view the Project.

Scioto River is located 6.6 miles north and 7.8 miles northeast of the Project Area. According to the bare earth viewshed analysis, this park is unlikely to be able to view the Project.

Big Darby Creek is located 7.8 miles southwest of the Project Area. According to the bare earth viewshed analysis, this park is unlikely to be able to view the Project.

Big Darby Plains Scenic Byway is located at the southern edge of the Study Area approximately 9.8 miles from the Project Area. According to the bare earth viewshed analysis, this park is unlikely to be able to view the Project.

(e) Photographic Simulations

Four locations or visual points (VP) were selected for illustrating visual simulations (VP-2, VP-8, VP-15, and VP-17) as a general representation of views from various angles toward the Project once it has been constructed. A fifth VP (Falcon Memorial Park-VP-6)) was selected since it was identified as a potential scenic quality resource. The purpose of the visual simulations is to evaluate the level of contrast to measure the degree of observed physical change by the viewer. These differences are determined include form, line, color, texture, scale and changes in the landscape between the existing conditions and once the project is constructed.

The photographic simulations are presented in Appendix S and include current views from each location and a simulated view. Based on visual simulations, portion of the Project that would be visible would be seen in the context of existing development and landscape modifications and would appear as either in weak contrast to (see simulations VP-02, VP-06, and VP-15 in Appendix S) or in moderate contrast as a co-dominant feature in (see simulations VP-08 and VP-17 in Appendix S) the landscape setting.

(f) Proposed Mitigation Measures

The solar arrays have been located with a minimum 200-foot setback from participating and non-participating landowners to minimize visual impacts. If needed, vegetative barriers may

be implemented to further minimize the visual impacts. Except for occasional emergency maintenance needs where temporary emergency lighting will be used, there will not be any required lighting in the solar arrays. The substation, switchyard, and O&M building will have night lighting. The exterior night lighting on the building will be LED fixtures that are shielded downward. The lighting will be controlled by lighting contactors from photoelectric cells and motion detectors with a test/override bypass switch.

(E) AGRICULTURAL DISTRICTS

(1) Agricultural Land Mapping

Figure 08-8 summarizes the extent of agricultural land within the Project Area. Six parcels of land were identified as agricultural district lands and are shown on Figure 08-8. The agricultural areas within the Project Area are predominately used for cultivation. There are no other known agricultural district lands or Concentrated Animal Feeding Operations (CAFO) located within the Project Area (Ohio EPA 2020b).

(2) Potential Impact to Agricultural Land

(a) Acreage Impacted

The majority of the land use type within the Project Area is agricultural land primarily comprised of corn and soybean fields. To accomplish the Project goals, approximately 2009 acres of agricultural land will be converted to allow for construction and operation of the solar modules, inverter pads, underground and overhead collection systems, substation, gen-tie lines, access roads, O&M building, and perimeter fencing. There are no known agricultural district lands within the Project Property.

(b) Impact of Project Activities

(i) Field Operations

The Project LOD will occupy approximately 2,047 acres of land, with approximately 2,010 being currently used for agricultural purposes. Once construction of the Project begins, the agricultural use of the land will no longer be viable. Once the Project life has been expended and the facility has been decommissioned, the land could return back to agricultural uses.

(ii) Irrigation

No irrigation systems are currently in use in the agricultural fields within the Project Area.

(iii) Field Drainage System

A field drainage tile study was conducted to determine the approximate location of field drainage tiles within the Project Area and is presented in Appendix U. Based on the review of historic aerial photographs and discussions with the landowners, apparent drainage tile areas can be observed within the Project Area. The final design of the Project will consider the field tile locations and will attempt to avoid impacts. If impacts cannot be avoided or are inadvertently encountered in the field, relocation or restoration measures may be necessary.

(iv) Structure used for Agricultural Operations

One open sided shed structure will be removed on the eastern portion of the Project. This wood framed structure is open in the front and the sides and roof are covered with corrugated metal siding, with several missing panels. The structure does not appear to be in use. No other structures will be removed for the Project.

(v) Viability as Agricultural District Land

There are no known agricultural district lands withing the Project Area and the agricultural areas within the Project Area will not be eligible for an agricultural district land. Once the Project

is decommissioned, the land could be returned to agricultural use and potentially eligible for agricultural district land.

(c) Agricultural Mitigation Practices

Field Drain Tiles: Design considerations will incorporate this information so that field drain tiles can be avoided. During construction, efforts will be made to locate the field drainage tiles during the layout of the support beams. Adjustments may be made to prevent impact to the field drainage tiles. If a main field drainage tile cannot be avoided, the tile will be moved prior to installation of the support beam so that it is still operational. Collector lines may cross or encounter field drainage tiles. Efforts will be made to identify the location of the field drainage tiles prior to construction so that AUS is prepared to repair and replace any damaged tiles. During operation and maintenance of the solar arrays, there is no expected impact to the field drainage tile system since most of the Project is above the ground surface, and maintenance activities will mostly include vehicle traffic.

Topsoil: Most of the topsoil within the Project Area will be left in place. AUS expects a minimal amount of grading on this Project. The topsoil within the footprint of the access roads, parking area, O&M building, storage building, and substation/switchyard area will be removed prior to development and stockpiled on the property from where it was removed, unless directed otherwise by the landowner. The stockpiled topsoil will be spread out as much as possible and will be seeded to reduce erosion. Upon completion of the Project and in accordance with the Decommissioning Plan (see Appendix I), the impacted areas will be restored. The gravel and infrastructure will be removed, and the stockpiled topsoil will be replaced, graded to approximate pre-construction conditions, and seeded.

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Summary: Application Application Cover Letter, Officer Affidavit, and Redacted Application electronically filed by Mr. Michael J. Settineri on behalf of AEUG Union Solar, LLC