DICKINSON WRIGHT PLLC

150 E. GAY STREET, 24TH FLOOR
COLUMBUS, OH 43215-3192
TELEPHONE: (614) 591-5461
FACSIMILE: (844) 670-6009
http://www.dickinsonwright.com

CHRISTINE M.T. PIRIK
CPirik@dickinsonwright.com

June 15, 2021

Ms. Tanowa Troupe, Secretary
Ohio Power Siting Board
Docketing Division
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3797

Re: Application
Case No. 21-277-EL-BGN
In the Matter of the Application of Border Basin I, LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Solar-Powered Electric Generation Facility in Hancock County, Ohio.

Dear Ms. Troupe:

Accompanying this letter is an application by Border Basin I, LLC ("Applicant") for a Certificate of Environmental Compatibility and Public Need to Construct a Solar-Powered Electric Generation Facility in Hancock County, Ohio. The original application was electronically filed, and the required number of copies both in hard copy and electronic have been provided to the Docketing Division.

Along with this filing, we also provided the Docketing Division copies of the redacted portions of the Application Narrative, and have filed a Motion for Protective Order and Memorandum in Support, requesting protective treatment of the confidential information contained therein.

The Applicant notes that the only information presented in the preapplication notification letter filed on April 26, 2021, that has change is the number of acres covered by the Project Area. As shown in the Application, the Project Area will be approximately 1,378 acres. All other information in the preapplication notification letter remains unchanged.

In accordance with O.A.C. Rule 4906-2-04, we make the following declarations:

Name of the Applicant:

Border Basin I, LLC
(Galehead Development, LLC)
200 Portland St. 5th Floor
Boston, MA 02114

Name and location of the facility:

Border Basin I, LLC
Cass Township
Hancock County, Ohio

Name of authorized representative:

Christine M.T. Pirik
Dickinson Wright PLLC
150 East Gay Street, Suite 2400
Columbus, Ohio, 43215
(614) 591-5461
cpirik@dickinsonwright.com

Notarized Statement:

See attached Affidavit of Matthew Marino
Chief Executive Office, Galehead Development, LLC

Respectfully submitted,

/s/ *Christine M.T. Pirik*
Christine M.T. Pirik (0029759)
(Counsel of Record)
Terrence O'Donnell (0074213)
Matthew C. McDonnell (0090164)
Dickinson Wright PLLC
150 East Gay Street, Suite 2400
Columbus, Ohio 43215
Phone: (614) 591-5461
Email: cpirik@dickinsonwright.com
todonnell@dickinsonwright.com
mmcdonnell@dickinsonwright.com
(*Counsel agrees to receive service by email*.)

Attorneys for Border Basin I, LLC

Enclosures

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BEFORE THE
OHIO POWER SITING BOARD

In the Matter of the Application of Border Basin I, LLC for a Certificate of Environmental Compatibility and Public Need to Construct a Solar-Powered Electric Generation Facility in Hancock County, Ohio.	))))	Case No: 21-277-EL-BGN

AFFIDAVIT OF CHIEF EXECUTIVE OFFICER OF GALEHEAD DEVELOPMENT, LLC

STATE OF MASSACHUSETTS :
: ss
COUNTY OF Suffolk :

I, Matthew Marino, being duly sworn and cautioned, state that I am over 18 years of age and competent to testify to the matters stated in this affidavit and further state the following based on my personal knowledge:

1. I am the Chief Executive Officer of Galehead Development, LLC ("Galehead"), which wholly owns and manages Border Basin I, LLC.

2. Border Basin I, LLC's Application for a Certificate to Construct a Solar-Powered Electric Generation Facility in Hancock County, Ohio was prepared and reviewed by Galehead employees that are the primary individuals in charge of the development of the Border Basin project and on whom I reasonably rely as Border Basin subject matter experts.

3. To the best of my knowledge, information, and belief, the information and materials contained in the above-referenced Application are true and accurate.

4. To the best of my knowledge, information, and belief, the above-referenced Application is complete.

Matthew Marino
Chief Executive Officer
Galehead Development, LLC

Sworn to before and signed in my presence this 14 day of June 2021.

Karie E. Judge
Notary Public

4823-2750-5646 v1 [96702-1]

Karie E. Judge
NOTARY PUBLIC
Commonwealth of
Massachusetts
My Commission Expires
1/20/2028

Application to the Ohio Power Siting Board for a Certificate of Environmental Compatibility and Public Need for Border Basin I, LLC

Case Number: 21-277-EL-BGN

June 2021

Prepared for:

Border Basin I, LLC

Prepared by:

Stantec Consulting Services, Inc.

APPLICATION TO THE OHIO POWER SITING BOARD FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR BORDER BASIN I, LLC

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U Drainage Tile Assessment

Abbreviations and Acronyms

AC	alternating current
AEP	American Electric Power
ANSI	American National Standards Institute
APE	Area of Potential Effect
Applicant	Border Basin I, LLC
bgs	below ground surface
BMP	best management practice
Certificate	Certificate of Environmental Compatibility and Public Need
CR	County Road
CWA	Clean Water Act
dBA	A-weighted decibels
DC	direct current
EMF	electromagnetic field
EPC	engineering, procurement, and construction
FAA	Federal Aviation Administration
Frac Out Plan	HDD Construction Inadvertent Return Control Plan
Galehead	Galehead Development, LLC
HDD	Horizontal directional drilling
HHEI	Headwater Habitat Evaluation Index
IEEE	Institute of Electrical and Electronics Engineers
IPaC	Information for Planning and Consultation
JEDI	Jobs and Economic Development Impact Model
kV	kilovolt
kWAC	kilowatt alternating current
L_{eq}	equivalent sound level
MET	meteorological
mG	milliguass
Modules	solar panels
mph	miles per hour
MV	medium voltage
MVA	mega volt ampere

MW	megawatt
NAAQS	National Ambient Air Quality Standards
NEC	National Electrical Code
NESC	National Electrical Safety Code
NPDES	National Pollutant Discharge Elimination System
NREL	U.S. Department of Energy, National Renewable Energy Laboratory
NRHP	National Register of Historic Places
OAC	Ohio Administrative Code
ODNR	Ohio Department of Natural Resources
ODOT	Ohio Department of Transportation
OEPA	Ohio Environmental Protection Agency
O&M	operations and maintenance
OPSB	Ohio Power Siting Board
ORAM	Ohio Rapid Assessment Method for Wetlands
PILOT	payment in lieu of taxes
PIM	Public Information Meeting
PJM	PJM Interconnection, LLC
POI	point of interconnection
Project	Border Basin I Project
PV	photovoltaic
QHEI	Qualitative Habitat Evaluation Index
SHPO	State Historic Preservation Office
SPCC	Spill Prevention, Control, and Countermeasure
SWPPP	Stormwater Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TR	Township Road
UL	Underwriters Laboratories
USACE	U.S. Army Corps of Engineers
USEIA	U.S. Energy Information Administration
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOUS	Waters of the U.S.

4906-4-01 PURPOSE AND SCOPE

(A) GENERAL

This application is intended to satisfy the requirements of the Ohio Administrative Code (OAC) Chapter 4906-4 for issuance by the Ohio Power Siting Board (OPSB) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the Border Basin Solar Project (Project) as submitted by Border Basin I, LLC (Applicant).

(B) WAIVERS

The Applicant is not requesting any waivers at this time.

4906-4-02 PROJECT SUMMARY AND APPLICANT INFORMATION

(A) PROJECT SUMMARY AND APPLICANT INFORMATION

The Project, located in Cass Township in Hancock County, Ohio, is a utility-scale solar-powered electric generation facility that will have a nameplate capacity of 120 megawatts (MW) alternating current (AC) and approximately 150 MW direct current (DC). The Project will be constructed and operated by the Applicant, a wholly owned subsidiary of Galehead Development, LLC (Galehead) and will operate for a period of 30 years.

(1) General Purpose of the Facility

The purpose of the Project is to provide 120 MWac/150 MWdc (referred to herein as 120 MW) of safe, reliable, and cost-effective, clean, and renewable energy to the PJM Interconnection, LLC (PJM) transmission grid. The Project will diversify the region's electrical generation mix and along with its interconnection and transmission upgrades contribute to a more robust electrical grid. Electricity generatio nfrom the Project will use virtually no fuels or water and emit zero air emissions. The Project is consistent with Ohio's legislative desire for driving economic benefits, jobs, and the infrastructure investment from the clean energy industry, and will provide energy projects in high demand from utilities and large load customers located in Ohio.

(2) General Location, Size, and Operating Characteristics of the Proposed Facility

The Project is located in Cass Township in Hancock County, Ohio, between the City of Findlay to the southwest and the Village of Arcadia to the northeast. The Project will be located entirely on privately owned parcels and the Project has secured long-term leases with area landowners. The Project Area is roughly bounded by Ohio State Route 12 to the south, by Hancock County Road (CR) 18 to the west, by Hancock CR 109 to the north, and by Cass Township Road (TR) 247 to the east. A few smaller County/Township routes bisect the Project Area, including Hancock CR 216, Marion TR 238, Cass TR 215, and Cass TR 143. The Project Area is approximately 1,378 acres of private land.

The Applicant is proposing to permit the entirety of the Project Area. Based on the current Project design, the Facility, which is composed of all components and infrastructure necessary for solar energy generation, will occupy approximately 966 acres of the 1,378 acre Project Area. The Applicant has made considerable effort to depict the Facility layout in its final form to the extent possible at this stage of development. However, the exact placement of the Facility or Facility components is subject to change prior to construction. Any adjustments in the Project's design will be within the Project Area represented in this application.

The Project will have a generating capacity of 120 MW and will consist of photovoltaic (PV) solar panels (modules) mounted on a racking system, inverters, collector lines, a substation, and internal access roads, all of which is encompassed by security fencing. Driveways located outside of the security fencing will allow access to the public roadways. The modules are mounted on a rack that rotates throughout the day to maximize the solar energy captured and electric generation of the array. Electricity generated by groups of modules are collected and sent to inverters located throughout the array to convert the electricity from DC to AC. Collector lines, a series of medium voltage (MV; 34.5 kilovolt [kV]) lines will transfer the electricity from the inverters to a collector substation and a Project substation. Electricity will be delivered from the Project substation to the point of interconnection (POI), a transmission line that is part of the regional PJM transmission grid. A detailed description of each Project component can be found in Section 4906-4-03(B) in this application.

(3) Suitability of the Site for the Proposed Facility

The Applicant has determined the Project Area to be suitable for utility-scale solar facility development based on the following factors: strong solar energy resource; proximity of adequate electrical interconnection; willing landowners; site accessibility; compatible land use; limited environmental

constraints and minimal direct impacts to the host community. A detailed description of the Project Area's suitability and the Facility siting process is included in Section 4906-4-04(B) of this application.

(4) Project Schedule

The Applicant has been developing the Project since mid-2018. Development began with interconnection studies and applications into PJM and conversations with local landowners. Since the first quarter of 2019, environmental, cultural, sound, engineering, and geotechnical studies have been completed. Community outreach has been ongoing throughout the development of the Project. In accordance with OAC Rule 4906-3-03, the Applicant held a virtual Public Information Meeting (PIM) on May 13, 2021. The PIM presentation was made available on the Project website. Project construction is expected to begin as early as the fourth quarter of 2022, with commercial operations beginning as early as the fourth quarter of 2023. Additional information regarding the Project schedule can be found in Section 4906-4-03(C) of this application.

(B) FUTURE PLANS FOR ADDITIONAL GENERATION UNITS OR FACILITIES IN THE REGION

(1) Description of any plans for future additions of electric power generation units

The Applicant is seeking an OPSB Certificate to construct a 120 MW solar energy project located within the Project Area specified in this application. There are no plans to add additional electric power generation units to this Project at this time.

(2) Description of the Applicant's history, affiliate relationships and current operations

Border Basin I, LLC, the Applicant, is a wholly owned subsidiary of Galehead. Galehead was founded in 2016 and manages renewable development operations in 30 states across the U.S. Galehead has originated and manages more than 5 gigawatts of greenfield land sites and renewable projects that are currently under joint development or under contract with their Downstream Partners. Galehead's founders have over 30 years of experience in the power industry and Fortune 500 management. The team includes 25+ full-time professionals and is based in Boston, MA, with credentials including advanced degrees in Business, Law, Geology, GIS, and Electrical Engineering.

4906-4-03 PROJECT DESCRIPTION IN DETAIL AND PROJECT SCHEDULE IN DETAIL

(A) DESCRIPTION OF THE PROJECT AREA'S GEOGRAPHY, TOPOGRAPHY, POPULATION CENTERS, MAJOR INDUSTRIES, AND LANDMARKS

(1) Project Area Map

Figure 3-1 shows the geographic features of the proposed Project Area, at a scale of 1:24,000, as well as those features within a 2-mile radius. The proposed features specifically include:

(a) The proposed Facility;
(b) Population centers and administrative boundaries;
(c) Transportation routes and gas and electric transmission corridors;
(d) Named rivers, streams, lakes, and reservoirs; and
(e) Major institutions, parks, cemeteries, and recreational areas.

The Facility layout depicted in Figure 3-1, and all subsequent figures, represents the current module, civil and electrical design for the Project. The Applicant made considerable effort to depict the layout in its final form to the extent possible at this stage of development. Exact placement of the Facility is subject to change prior to construction including, but not limited to, specific road locations, module configurations, inverter locations, and laydown staging areas. All infrastructure will remain within the limits of the Project Area represented and the modules will remain as represented in Section 4906-4-03(B)(1)(a) of this application. Final civil and electrical engineering of the Project will depend on various considerations including site refinement through identification of additional constraints like final engineering, procurement, and construction (EPC) contractor input, and labor plans.

The Project Area has been studied for all environmental, engineering, and visual impacts. Any final adjustments to the location of the Facility will not cause additional impacts beyond what is discussed in this application. The final location of the Facility will be provided to OPSB no later than 30 days prior to the start of construction.

(2) Project Area, in acres, of all Owned and Leased Properties

The Project Area consists of approximately 1,378 acres of private land secured under long term lease agreements with the current landowners. The Facility, which includes all Project infrastructure and proposed areas of ground disturbance, will occupy approximately 966 acres within the Project Area. The additional land in the Project Area was secured to allow flexibility for the Project design to be optimized. Project infrastructure may not be constructed on all the parcels.

(B) DESCRIPTION OF THE GENERATION FACILITY

The Project is a 120 MW solar generation facility connecting into the PJM regional grid by way of the existing Ebersole to Fostoria Central #2 138 kV transmission line. Solar modules convert sunlight into DC electricity, which is then converted to AC electricity by inverters, which are located throughout the Facility. Transformers, located close to the substation, step up the AC electricity to a higher voltage which allows the electricity to transfer to the substation and then dispense throughout the regional power grid, operated by PJM.

Project components include PV solar modules mounted on tracked racking systems that follow the sun. The racks are supported by steel posts and pilings. Electrical components of the Facility also include: junction boxes, combiner boxes, inverters, high voltage transformers, DC and AC electrical collection systems, and a Project substation. Additionally, the Facility will include meteorological (MET) towers, internal access roads, and a perimeter fence. Project components are discussed in more detail in Section 4906-4-03(B)(1) in the application and are depicted in the Preliminary Site Plan included as Exhibit A.

During construction, temporary staging areas will be used to stage construction equipment and Facility equipment. One primary laydown area, no more than 5 acres in size, will be used for the main office parking, laydown, staging, etc. during construction. Additional, smaller, approximately 1 acre laydown areas will be utilized within each individual fenced in block of modules. Each laydown area will be graveled. This gravel area will be restored per the Project's Decommissioning Plan (see Exhibit B) so that the area can be returned to agricultural production at the end of the life of the Project, unless the landowner requests that the gravel be left in place. Both staging areas and laydown yards are used to assist with efficient construction. Construction of the Project will also include temporary construction management trailers and stormwater management features.

Access roads will be constructed throughout the Facility to allow for operations and maintenance (O&M) access. Approximately 100,000 linear feet of perimeter access road will be constructed for the Project. Access roads will be no more than 26 feet wide. Access roads will be constructed with gravel, the depth of which will be determined as part of final engineering.

The Facility will be secured with approximately 96,500 linear feet of perimeter fence. All Project fencing will be compliant with National Electric Code (NEC) and National Electric Safety Code (NESC) and is currently planned to be six-foot chain-link fencing and include some of areas of vegetative screening.

PV solar modules will be mounted on a tracked system, oriented in rows running north to south. Tracked equipment will allow for the modules to tilt toward the sun and capture more sunlight. The make and model of the trackers to be used for the Project have not been finalized, but the Applicant is currently considering the NexTracker Gemini, which is a single axis low profile tracker. Other similar trackers currently under consideration include: NexTracker Horizon, ATI DuraTrack, or FTC Voyager. The trackers are located close to the ground to minimize viewshed impacts. The trackers tilt the panels to the east in the morning and follow the sun throughout the day to maximize the amount of energy produced, rotating approximately +/- 60 degrees. The trackers will be supported by approximately 19,936 steel posts that will be installed using a pile-driving machine. The trackers have a height of approximately 8.5 feet above the ground. With the modules attached to the tracker and the modules tilted to their maximum angle, the total height of the structure will be no more than 15 feet above the ground. The modules will be connected electrically by DC cabling, that can either be buried in a trench or hung over the racking system. The DC cables gather at the end of racking systems to combiner boxes which are connected to cables routing to an inverter.

Approximately 54 inverters will be installed to convert the 1,500-volt DC energy collection system to AC power. Approximately 65,000 linear feet of below ground AC collection line will be installed for the Project. The depth of the installed AC cables will be determined during final engineering. The AC collection system will be comprised of MV cable that will transfer electricity to the Project substation. In the event that the final location of the Facility cannot accommodate underground AC collection lines for an environmental or siting reason, the Applicant will utilize a limited length of AC overhead collection lines.

The Project substation will have one 140 megavolt ampere (MVA) transformer and all necessary equipment to step up incoming MV electricity to the high voltage electricity necessary to interconnect to the existing transmission line owned and operated by American Electric Power (AEP).

All Project equipment will be compliant with applicable Underwriters Laboratories (UL), Institute of Electrical and Electronics Engineers (IEEE), NEC, NESC, and American National Standards Institute (ANSI) listings.

(1) Description of the Generation Equipment

Generation equipment included as part of the Facility consists of PV solar modules that will convert sunlight directly to electricity. Bi-facial modules are being considered for this Project that will convert both direct sunlight and reflected sunlight to electrical power. The remaining Project generation equipment either transmits, converts, or transforms electricity generated by the solar modules, including inverters, an AC and DC collection system, and a Project substation.

(a) Type, Number of Units, Estimated Net Demonstrated Capacity, Heat Rate, Annual Capacity Factor, and Hours of Annual Generation

The site design for the Project anticipates utilizing 550 watt, monocrystalline modules from a Tier 1 supplier. One potential model being considered is Trina Solar (Model TSM-DEG19C.20). If an alternative model or manufacturer is selected it will be comparable and is not expected to increase potential impacts. Trina is a Tier 1 module supplier. It is estimated that approximately 299,040 modules will be utilized to generate the 120-MW nameplate capacity of the Project. The modules are approximately 3.5 feet wide by 7.8 feet tall and are approximately 1.4 inches deep. The manufacturer's specifications for the Trina Solar modules under consideration are provided in Exhibit C. If an alternate module is selected, the Applicant will provide a copy of the manufacturer's specifications to the OPSB at least 30 days prior to construction.

The Applicant has selected inverters made by SMA (Sunny Central 2500-EV-US) for the Project. If an alternative model or manufacturer is selected it will be comparable to the anticipated inverters and is not expected to increase potential impacts. Manufacturer specifications for the SMA Sunny Central inverters are included in Exhibit C. If an alternate inverter is selected, the Applicant will provide a copy of the manufacturer's specifications to the OPSB at least 30 days prior to construction.

The NexTracker Gemini tracker is expected to be used for the Project, although the NexTracker Horizon, ATI DuraTrack, or FTC Voyager models are also under consideration (manufacturer specifications are provided in Exhibit C). Once the tracker is selected, the Applicant will provide a copy of the manufacturer's specifications to the OPSB at least 30 days prior to construction.

The annual net capacity factor for the Project is estimated to be 23.1% and the hours of generation are approximately 242,857 MW hours. The heat rate is not applicable to a solar facility.

(b) For Wind Farms, Turbine Size

This section is not applicable for solar facilities.

(c) Fuel Quantity and Quality

Fuel quantity and quality are not applicable for solar facilities.

(d) Pollutant Emissions and Estimated Quantities

Electricity generation from solar facilities, such as the Project, generates electricity without producing pollutant emissions. Therefore, this section is not applicable to solar facilities.

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

The Project, due to its generation type, does not require any cooling water during operation and, therefore, will not need to treat or discharge water. As part of the O&M of the Project, panels may require occasional cleaning. Water needed for cleaning can be obtained on-site or may be brought in from off site.

(2) Construction Method, Site Preparation and Reclamation Method, Materials, Color and Texture of Surfaces, and Dimensions of Facility Components

The Project construction begins by securing the area and constructing laydown and assembly areas. Installation of stormwater and erosion controls are a top priority as minor clearing of vegetation from the existing cropland and grading begin. The Project will install temporary power and access roads. Further detail on each component is provided below.

(a) Electric power generation plant

Solar modules are installed on steel posts that are approximately 6 inches by 7 inches (15.2 by 17.8 centimeters). Posts are typically 10 to 15 feet (3.0 to 4.6 meters) long and are driven down approximately 6 feet (1.8 meters) below grade. Posts will be primarily installed by pile drivers. The Project, in its current form, will require installing approximately 19,936 posts. Steel frame racking mechanisms support the modules, connecting the modules to the posts. The racking system will be delivered by forklifts from the

staging areas to their final locations. Racking mechanisms will be installed primarily by hand. Modules are bolted to the frame and secured.

(b) Fuel, waste, water, and other storage facilities

The Project will not require any fuel storage during operations. During construction, diesel fuel for construction vehicles and equipment will be stored in appropriate containment in the laydown yard locations, away from streams or wetlands.

Onsite solid waste generated during construction and operations will be collected and contained in waste containers and disposed of in a timely manner.

(c) Fuel, waste, water, and other processing facilities

There will be no fuel, waste, water or other processing facilities associated with the Project.

(d) Water supply, effluent, and sewage lines

As currently proposed, there is no onsite O&M building planned so there would be no need for water supply, effluent, or sewage lines for the Project.

(e) Associated electric transmission and distribution lines and gas pipelines.

The Project will directly interconnect from the Project substation to the Ebersole to Fostoria Central #2 138kV line that runs through the Project area via the AEP interconnection substation that connects to the greater PJM grid. No new gas pipelines will be needed for the Project.

(f) Electric collection lines

AC and DC collector lines will be installed during construction. The DC collection lines will be buried or will be hung over the racking systems using a messenger cable system which feeds from the module string harnesses to the load break disconnect switches. Underground DC feeders (1,500 volt) will connect the load break disconnect switches to the inverters.

The 34.5 kV AC collection lines connect the inverters to the collector substation and Project substation. The final number and loading of circuits will be determined by electrical and equipment parameters, in coordination with the utility. AC collection lines will be installed underground and would be plowed or trenched into place. Overhead lines will be avoided, however in the rare occasion that they need to be

used, they will be installed with self-supporting or guyed poles at some locations. Horizontal directional drilling (HDD) will be used when necessary to install collection lines. Approximately 65,000 linear feet of AC collection lines will be installed.

(g) Substations, switching substations, and transformers

The Project's preliminary design includes one Project substation and one collector substation. The Project substation will connect to the Ebersole to Fostoria Central #2 138kV line that runs through the Project area which will connect to the AEP interconnection substation. The Project substation will have one 140 MVA transformer and all necessary equipment to step up incoming MV electricity to the high voltage electricity necessary to interconnect to the existing POI transmission line owned and operated by AEP. The location of the Project substation and collector substation is depicted on all Facility mapping.

Each collection feeder will contain one 34.5 kV collection system bus with an individual 34.5 kV feeder breaker. Disconnect switches will be applied according to industry practices at all breakers. A common control enclosure will be installed on site which will house the data acquisition equipment, supervisory control, communication and protection equipment necessary to safely operate the substation. The Project substation will be approximately 275 feet by 425 feet, or approximately 2.7 acres. The collector substation will be approximately 30 feet by 20 feet. The substations will be fenced with chain-link fence and three-strand barbed wire and protected according to the NESC.

(h) Temporary and permanent meteorological towers

The Project, once operational, will include between two and four MET towers. Towers will be up to 15 feet tall on an H-frame or tubular structure. The MET stations consist of a pyranometer to measure the solar irradiance, an anemometer to measure wind speed and direction and a thermometer. The final locations of the MET stations will be determined during the final site design.

(i) Transportation facilities, access roads, and crane paths

Approximately 100,000 linear feet of gravel access road will be constructed for the Project to facilitate movement around the site during O&M. The access roads will be no more than 26 feet wide and are anticipated to be composed of gravel.

There are no crane paths as part of the Project as installation of Facility equipment does not require large cranes. A larger crane may be necessary for construction of the Project substation, however given the

location of the substation within the Facility and proximity to the existing roadway, a dedicated crane path is not anticipated.

(j) Construction laydown areas

Graveled construction laydown areas will be created during construction of the Project. The laydown areas will be restored to grassland or agricultural land following construction.

(k) Security, operations, and maintenance facilities or buildings

The Facility will be enclosed by approximately 96,500 linear feet of fencing, which is currently planned to be standard chain-link fencing with three strands of barbed wire to secure the Project during operation. The fencing will have a height of no more than 7 feet.

(l) Other pertinent installations

There are no additional pertinent installations related to the Project.

(3) New Electric Transmission Line

No new electric transmission lines will be needed as part of the Project. The Project substation will connect to the Ebersole to Fostoria Central #2 138kV line that runs through the Project area which will connect to the AEP interconnection substation.

(4) Project Area Aerial Map

Figure 3-2 depicts the proposed Facility and its nearby roads and property lines at a scale of at least 1:12,000 and includes the following features:

(a) An aerial photograph;
(b) The proposed Facility, including all components listed in paragraph (B)(2) of this rule;
(c) Road names; and
(d) Property lines.

References

(C) PROJECT SCHEDULE

(1) Project Schedule in Gantt Format

The Project Schedule is provided in Figure 3-3 and includes the following milestones:

(a) Acquisition of land and land rights

The Applicant began development efforts in mid-2018, starting outreach to private landowners about the potential for executing long-term land leases for the Project. The Applicant has secured all land within the Project Area under a lease option. No additional acreage is anticipated to be necessary.

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

Wildlife, environmental, and cultural surveys/studies began in the third quarter of 2019 and have continued through the second quarter of 2021. The results of these studies are incorporated into the application and discussed in greater detail in Sections 4906-4-06, -07, and -08 of this application.

(c) Receipt of grid interconnection studies and other critical path milestones for project construction

Interconnection studies for the Project began in the fourth quarter of 2018 and are continuing through the second quarter of 2022 when the Facilities Study is expected.

(d) Preparation of the application

Development of the application commenced in the second quarter of 2021 and has been ongoing since then.

(e) Submittal of the application for certificate

The application will be submitted in the second quarter of 2021.

(f) Issuance of the certificate

The Applicant anticipates that the Certificate will be issued late in first quarter of 2022 or early in the second quarter of 2022.

(g) Preparation of the final design

The Applicant anticipates that preparation of the final design will commence in the second quarter of 2022 and be completed during the fourth quarter of 2022.

(h) Construction of the facility

Construction of the Facility is expected to commence as soon as the fourth quarter of 2022 and be completed as soon as the fourth quarter of 2023.

(i) Placement of the facility in service

The Applicant anticipates that the Project will be in service as early as the fourth quarter of 2023.

(2) Proposed Construction Sequence

An EPC contractor will be retained by the Applicant prior to the start of construction to manage the construction and delivery process for the Applicant. The EPC contractor will work with the Applicant to finalize the site design and ensure that all applicable permits and approvals have been obtained for the Project before construction commences. Construction of the Project will begin with mobilization of construction staff and equipment to the site to begin clearing of the Project site, installation of the erosion and sediment control measures, followed by any necessary grading and smoothing of the ground. The construction laydown areas will be prepared, followed by construction of the access roads. Facility equipment including the trackers, modules, collection system, and inverters will be installed on a rolling basis across the site. As portions of the site are complete, the temporary laydown areas will be restored and stabilized per the Vegetation Management Plan (Exhibit D). Electrical equipment will be commissioned in order to allow the Facility to be placed in service. Once construction across the entire site is complete, all temporary features like the construction trailer, remaining laydown areas, etc. will be removed.

After the Facility is fully constructed, access roads will be dressed to ensure their stability during the life of the Project and final grading of the site to restore the natural contours will be completed as well as seeding of all disturbed areas.

References

(3) Impact of Critical Delays on the In-Service Date

Delays to the in-service date of the Project could have deleterious effects to the Project and could affect financing, equipment procurement, seasonal construction windows, etc. The potential financial impact of a delayed in-service date is discussed in Section 4906-4-06(D) of this application.

4906-4-04 PROJECT AREA SELECTION AND SITE DESIGN

(A) SELECTION OF THE PROJECT AREA

(1) Description of the Study Area or Geographic Boundaries of the Area Considered for Development and Rationale for Selection

The Project is located in Cass Township in Hancock County, Ohio, between the City of Findlay to the southwest and the Village of Arcadia to the northeast. The Applicant used many criteria when proposing the location of this Project, including: strong land fundamentals and compatible land use; existing transmission interconnection infrastructure; an industrial base with high electricity demand; interested landowners; a natural buffer with the Norfolk Southern Railroad on the southern boundary; limited environmental constraints; and established regulatory and tax process. The area for development has been continuously refined from the early stages of development through the pre-application stage as identification of environmental features, existing infrastructure, equipment, and Project efficiency were incorporated into the Facility design.

(2) Map of the Study Area and General Sites Evaluated

The map of the Project Area is provided as Figure 3-2. The Applicant evaluated the Project Area and other parcels within the vicinity of the current Project Area in Hancock County to determine if the site was suitable for solar development.

(3) Qualitative and Quantitative Siting Criteria Utilized

As described, the Applicant used many criteria when proposing the location of this Project: strong land fundamentals and compatible land use; existing transmission interconnection infrastructure; interested landowners; a natural buffer with the Norfolk Southern Railroad on the southern boundary; and limited environmental constraints. The Project area is currently flat, open agricultural land conducive to a solar energy facility with a landowner interested in leasing land for the Project. Transmission interconnection for

the Project is accommodated by the existing Ebersole to Fostoria Central #2 138 kV transmission line which is less than 0.25 mile from the Project substation, eliminating the need for long gen-tie lines or expensive interconnection upgrades. Further, the presence of existing substations and transmission lines in close proximity to the Project means that the Project substation and infrastructure will be similar in nature to facilities that are already present on the landscape. The Norfolk Southern Railroad along the southern boundary of the Project Area serves as a physical and visual buffer for the Project. The Project Area has been disturbed from agricultural practices and provides few natural environmental constraints.

(4) Description of the Process and how the Siting Criteria were Utilized

The siting process begins by identifying, then analyzing, transmission access points. The Applicant reviews transmission capacity, access, cost and geographic location. Once a POI is chosen, the area around the point is analyzed to ensure the natural environment fits with solar development. Agricultural land, which is already disturbed and plowed, is often an ideal choice because it provides flat ground which will not be further disturbed by a solar project. The Applicant then begins to look at sensitive environmental features on specific parcels as landowner support and interest increases. Sensitive species or habitat are identified early, along with any existing infrastructure already built that would constrain development. When land control is obtained on target parcels and risks are properly assessed, the Applicant begins speaking with local community officials and stakeholders about the project. In addition, at this time a project will also complete on-site environmental surveys and begin marketing the Project for an offtake agreement with a private commercial or public utility company.

(5) Description of the Project Area(s) Selected for Evaluation

Through independent third-party study and the PJM interconnection process, the Ebersole to Fostoria Central #2 138 kV transmission line was identified as a viable interconnection point for the Project. The interconnection decision narrowed the Applicant's land focus area. Environmental features, habitat and geotechnical features were then assessed, first by desktop analysis and then by on-site evaluation. Ultimately, the transmission area focus, environmental assessments, landowner interest and community feedback created what is now the Project Area.

(B) DESIGNING THE FACILITY LAYOUT

(1) Constraint Map

Figure 4-1 presents a map of the Project Area with the environmental, residential, and infrastructure setbacks and other constraints.

(2) Criteria Used to Determine the Facility Layout and Site Design

The location of the Facility within the Project Area was designed based on many constraints identified through desktop and field environmental, engineering, and resource surveys. Table 4-1 provides a summary of all the resources avoided and the associated setbacks accommodated as part of the Facility layout. The buffer distances listed are the minimum implemented for each resource and in most instances the actual distance to Project infrastructure exceeds what is listed. While residences are setback 150 feet from solar modules, for residences within 300 feet of solar modules, the Applicant is working with landowners on mitigation options.

Table 4-1 Border Basin Solar Project Constraints and Buffers

Constraint	Buffer
Cemetery	50 feet
Existing transmission line	100 feet
Railroad	Avoidance
Roads	40 feet
Parcel boundary	25 feet
Residences	150 feet
Wetlands	Avoidance

(3) Description of Number and Type of Comments Received

The formal PIM for the OPSB Certificate process was completed virtually on May 13, 2021. During the virtual PIM, approximately 55 attendees joined through the web link and approximately 25 joined by phone. Questions could be asked over the phone or in a chat feature. The Applicant provided an overview of the Project for approximately the first hour of the PIM and then live questions were answered by the Applicant and the OPSB representative for the remaining approximately one hour. The questions and answers were transcribed. The full set of questions and answers are provided in Exhibit E. The presentation material was made available on the Project website following the PIM and the Frequently Asked Questions were updated to reflect the questions posed by the community during the PIM. The

frequently asked questions can be found here: https://www.borderbasin.com/faq. The Applicant has continued to use the online contact form, email address, and phone number to address any additional questions or take comments.

4906-4-05 ELECTRIC GRID INTERCONNECTION

(A) CONNECTION TO THE REGIONAL ELECTRIC GRID

The Project intends to interconnect to the regional electric grid via the AEP Ebersole to Fostoria Central #2 138 kV transmission line. The existing AEP Ebersole to Fostoria Central #2 138 kV transmission line is part of the PJM grid which serves as the Regional Transmission Operator. PJM coordinates the movement of wholesale electricity throughout 13 states and the District of Columbia in the Midwest and Mid-Atlantic, including Ohio.

(B) INFORMATION ON INTERCONNECTION OF THE FACILITY TO THE REGIONAL ELECTRIC POWER GRID

(1) Generation Interconnection Request Information

The Applicant submitted an interconnection request to PJM on September 24, 2018 and was assigned the Queue Number AE1-146 for injection of 120 MW of electricity to the grid. The website for the Project interconnection request is: https://pjm.com/planning/services-requests/interconnection-queues.

(2) System Studies on Generation Interconnection Request

The Feasibility Study for the Project was received on June 20, 2019 and the subsequent System Impact Study Report from PJM was received on December 6, 2019. A Revised System Impact Study Report from PJM was received on May 3, 2021. An Interconnection Service Agreement will be negotiated upon completion of the Facilities Study (anticipated the second quarter of 2022) and is anticipated to be executed in third quarter of 2022. Copies of both the Feasibility Study and the Revised System Impact Study are provided in Exhibit F. The Feasibility Study determined that the following will be necessary to accommodate the interconnection of the Project at the Ebersole to Fostoria Central #2 transmission line: (1) the construction of a new three (3) circuit breaker 138 kV switching station physically configured in a breaker and a half bus but operated as a ring bus and installation of associated protection and control

equipment, 138 kV risers, and SCADA; (2) transmission line cut-in at the Ebersole to Fostoria Central #2 transmission line; (3) 138 kV revenue metering; and (4) upgraded line protection at the Ebersole and Fostoria Central substations. The costs for these upgrades were estimated to total $7,750,000, which would be paid for by the Applicant. The System Impact Study confirmed the expansions specified in the Feasibility Study and updated the anticipated total interconnection costs for the Project of $7,750,000.

4906-4-06 ECONOMIC IMPACT AND PUBLIC INTERACTION

(A) CURRENT AND PROPOSED OWNERSHIP OF THE PROPOSED FACILITY

The Project will be owned and operated by Border Basin I, LLC. Border Basin I, LLC will secure a power purchase agreement to contract for the electricity produced by the Project.

The parcels comprising the Project Area are all secured with landowner(s) options to lease held by the Applicant; however, this does not change the ownership of the properties. The complete list of parcels within the Project Area is provided in Table 6-1, along with the parcel acreage, the acreage within the Project Area, and the acreage within the Facility. The larger overall Project Area boundary reflects a more generalized boundary, therefore, the individual parcel acreages do not total the overall 1,378 acres that are described in the application as the Project Area.

Table 6-1 Border Basin Solar Project Participating Landowners

Parcel Number	Owner	Status	Parcel Size (Acres)	Acreage within Project Area	Acreage within Facility
130000028020	Boes Family Limited Prtnship	Lease Option	80	80	60
130000028100	Boes Family Limited Prtnship	Lease Option	94	94	90
130000028460	Boes Family Limited Prtnship	Lease Option	43	43	33
130000028470	Boes Family Limited Prtnship	Lease Option	27	27	17

Table 6-1 Border Basin Solar Project Participating Landowners

Parcel Number	Owner	Status	Parcel Size (Acres)	Acreage within Project Area	Acreage within Facility
130000028480	Boes Family Limited Prtnship	Lease Option	20	20	17
130000028570	Boes Linda L, Boes Cecil N Jr	Lease Option	36	36	35
130001006844	Boes Family Limited Prtnship	Lease Option	104	104	86
130001014013	Boes Family Limited Prtnship	Lease Option	192	192	153
130001019515	Boes Family Limited Prtnship	Lease Option	92	92	82
130001020722	Boes Family Limited Prtnship	Lease Option	68	68	49
130001020775	Boes Family Limited Prtnship	Lease Option	73	73	0
130001029770	Boes Family Limited Prtnship	Lease Option	152	152	124
150000031730	Boes Family Limited Prtnship	Lease Option	35	35	30
150000031900	Boes Family Limited Prtnship	Lease Option	45	45	19
150000031930	Boes Family Limited Prtnship	Lease Option	53	53	19
150000032380	Boes Family Limited Prtnship	Lease Option	37	37	34
150000032401	Boes Family Limited Prtnship	Lease Option	81	81	65
150000032460	Boes Family Limited Prtnship	Lease Option	60	60	48
150001021303	Boes Linda L, Boes Cecil N Jr	Lease Option	10	10	0
150001021304	Boes Family Limited Prtnship	Lease Option	5	5	0
150001026498	Boes Family Limited Prtnship	Lease Option	30	30	4
150001031799	Boes Family Limited Prtnshp	Lease Option	45	45	0

Table 6-1 Border Basin Solar Project Participating Landowners

Parcel Number	Owner	Status	Parcel Size (Acres)	Acreage within Project Area	Acreage within Facility
TOTAL			1,379	1,379	966

Note: Due to rounding, acres for each parcel do not sum to the totals provided

(B) CAPITAL AND INTANGIBLE COSTS

(1) Estimates of Capital and Intangible Costs for the Various Alternatives

Based on experience constructing solar energy facilities in the U.S., the Applicant estimates that the capital costs for the Project will total approximately $[redacted] Of this total, it is estimated that construction costs will total approximately $[redacted] for materials and labor, while other costs associated with intangible costs like permitting, business overhead, and other costs are estimated to total $[redacted]

Alternative project areas were not evaluated, as explained in Section 4906-4-04, prior to conducting the detailed cost analyses so no capital and intangible cost estimates are provided.

(2) Cost Comparison with Similar Facilities

Based on the expected range of construction costs, the Project's current estimated cost is approximately $[redacted]/kilowatt AC (kWAC). This range of costs is consistent with costs for other solar facilities in the Midwest and with others developed by Galehead Development. The U.S. Energy Information Administration (USEIA) provides cost data for solar energy facilities installed during 2018, which is the most recent year available. Installed costs for solar across the U.S. are estimated at $1,848/kWAC, although this estimate includes projects of varying sizes, technologies, and location (USEIA 2020). Costs for this Project are much less than that average.

(3) Present value and Annualized Cost for Capital Costs

Capital costs will be incurred through construction, which is anticipated to begin as early as the fourth quarter of 2022. Because of the short timeline to the Project's start of construction and COD, the present value and annualized capital costs will be similar to the costs presented above.

Alternative project areas were not evaluated, so no additional present value or annualized cost estimates for capital costs are provided.

(C) OPERATION AND MAINTENANCE EXPENSES

(1) Estimated Annual Operation and Maintenance Expenses

The annual O&M costs for the Project are estimated to be approximately $[redacted] per year. Over the first two years of the Project, the O&M costs will total approximately $[redacted]

(2) Operation and Maintenance Cost Comparison

Using the estimated annual O&M costs for the Project, the Project's cost per kilowatt per year (kWAC/year) is approximately $[redacted] kWAC/year. When comparing the Project's O&M cost to publicly available data provided by the U.S. Department of Energy, National Renewable Energy Laboratory (NREL), the annual O&M cost for utility-scale, fixed-tilt PV solar was approximately $9.10 per kWAC/year and $10.40 per kWAC/year when using tracking systems of installed solar energy. These annual costs are based on data from Projects constructed across the U.S. during the first quarter of 2018 (NREL 2018). These costs exclude inverter replacements. Based on this national average, the Project is within the national average cost for annual O&M costs.

(3) Present value and Annualized Expenditures for Operating and Maintenance Costs

The present value of the total annual O&M costs over the life of the Project, assuming annual costs of approximately $[redacted] is approximately $[redacted] This assumes a 9% discount rate and a 2% escalation rate over the 30-year life of the Project.

(D) ESTIMATED COST FOR A DELAY

Project delays that result in a late in-service date can have substantial financial costs as Project financing, equipment availability, and power purchase agreement milestones can be negatively affected. In addition to the financial penalties, delay of the Project would also result in a delay of the economic benefits of the Project to the community, counties, townships, and school districts.

(E) ECONOMIC IMPACT OF THE PROJECT

Construction and operation of a solar energy facility has the potential to create both short- and long-term jobs and economic benefits to the local community as well as the state overall. The purchase of materials and equipment, as well as employment of construction workers, will create demand for local business through the duration of construction, generating revenue within the regional economy. Long-term O&M of the solar facility will continue to generate economic benefits through the employment of O&M staff, contracted maintenance services, purchase of replacement parts and maintenance activities, and through the payment in lieu of taxes (PILOT) payments to local jurisdictions through the lifetime of the Project or other tax structure.

The Jobs and Economic Development Impact Model (JEDI) PV model (PV12.23.16), developed by NREL, was utilized to quantify the number of jobs and overall economic benefits from construction and operation of the Project. The complete Economic and Fiscal Impact Assessment Report is provided in Exhibit G. The model parameters were updated to reflect the Applicant's calculated installed system cost and annual O&M costs, as well as with recent publicly available labor costs, industry-wide information on PV solar equipment, construction, and operational costs. The standard JEDI model assesses potential impacts at the state level, using corresponding state-level multipliers derived from IMPLAN. The analysis for this Project uses an updated version of the model that was developed using 2019 IMPLAN data for Ohio (the most recent data available) and the JEDI PV Model's User Add-in Location feature. Using Project-specific inputs, the updated model was used to estimate impacts at the state level for Ohio.

JEDI-PV is an input-output model that uses state-specific data to predict employment, income, and economic output of solar facilities based on the anticipated wattage of a project. The model is based on the assumption that expenditures in an industry usually result in demands for goods and services in other industries. The direct expenditures from purchases like aggregate, fencing, etc. can create indirect impacts to the entire supply chain, such as employment created in supplemental industries like those producing and transporting the solar modules from the manufacturers. Induced impacts result from the increase in construction workers and indirect employees' income and household spending in the region. An example of this induced impact is at local restaurants which need to hire additional staff to accommodate construction laborers spending their wages on meals.

In this analysis, impacts are based on additional spending infused into an economy due to construction expenditures. The expenditures are new dollars spent in the economy because of construction only and

exclude the cost of land and the purchase of solar modules, which are likely to be purchased outside the affected area.

(1) Annual Total and Present value of Construction and Operation Payroll

The JEDI model predicts that construction of the Project will result in a payroll of approximately $16.3 million during the 12 to 18-month construction window. The payroll includes on-site labor and related services. Construction payroll costs will be incurred through construction, which is anticipated to begin as early as the fourth quarter of 2022. Because of the short timeline to the Project's start of construction and COD, the present value and annualized capital costs will be similar to the costs presented above.

During the 30-year operational life of the Project, payroll related to operations is expected to total approximately $300,000 annually. The present value of the total payroll from operations, assuming a 9% discount rate and 2% escalation rate is approximately $2.9 million.

(2) Construction and Operation Employment and Estimates

Construction and operation of the Project will result in on-site jobs and related services, in addition to jobs created from supply chain impacts and induced impacts. Galehead Development's experience constructing solar energy facilities estimates that approximately 236 jobs will be created during construction onsite and with related services. Additionally, up to five jobs will be created onsite during the O&M stage.

The Applicant intends to utilize local labor whenever possible with a goal of 80% of construction jobs to be Ohio-domiciled workers in accordance with the PILOT. Many positions can be filled utilizing local labor, such as equipment operators, truck drivers, laborers, and electricians. There will be some specialized skilled positions required for construction of the Project that may require workers from outside of the region with solar energy facility construction experience. The exact distribution of local and non-regional workers cannot be estimated at this stage of the Project.

It is anticipated that the local housing market and community infrastructure would not be impacted during construction of the Project as most of the construction positions will be filled by laborers from the region and for those construction workers not from the region, they would only temporarily relocate to the area during the limited construction period.

(3) Estimated County, Township, and Municipal Tax Revenue

The Applicant anticipates entering into a PILOT in Hancock County, whereby real property and tangible personal property taxes will be based on a fixed payment to be made based on the nameplate capacity of the Project. Benefits of the PILOT include a consistent annual payment, not subject to depreciation. PILOT payments for the Project are estimated to be between approximately $840,000 and $1.08 million annually and between approximately $25.2 million and $32.4 million throughout the life of the Project.

(4) Estimated Economic Impact of the Proposed Facility on Local Commercial and Industrial Activities

In addition to the jobs and corresponding salaries created from construction and then operation and maintenance of the Project, the economic impact on local, state, and national economies are significant. As described, there are direct, indirect, and induced multiplier effects as a result of construction and operation of the Project. The JEDI model predicts that approximately 94 additional jobs could be created within the supply chain and induced job markets during construction, in addition to the 236 direct construction jobs stated above. During operations JEDI predicts that approximately 12 supply chain and induced jobs could be created from O&M activities, in addition to the five direct on-site jobs.

Based on direct, indirect, and induced jobs for the Project and associated multiplier effects during construction, the JEDI model predicts that the Project will have an economic output of approximately $32 million. During the O&M phase of the Project, the total annual economic benefit would be approximately $2.5 million. The assumptions used to generate these job and economic impacts are detailed in the Economic and Fiscal Impact Assessment Report provided in Exhibit G.

(F) PUBLIC RESPONSIBILITY

(1) Public Interaction

The Project has been under development since mid-2018. Over the course of development, Project representatives have met with multiple landowners and residents to discuss the Project. Representatives for the Applicant have held meetings with local stakeholders and the general public to provide information regarding the Project. A virtual PIM was held by the Applicant on May 13, 2021. A recorded video of the PIM was also posted to the Project website for members of the public who could not join the meeting.

The Applicant created a Project website to engage the public, provide Project information, answer questions, and solicit feedback from the local community. The website hosts a recording of the OPSB PIM

presentation, Frequently Asked Questions, and an email address where the public can submit questions and receive answers to questions.

No less than seven days prior to commencing construction, the Applicant will mail a copy of the Project's Complaint Resolution Plan to all affected property owners and tenants via first class mail in order to notify them of the start of construction and to outline several avenues for registering complaints about the Project during both the construction and operational phase. A copy of the Complaint Resolution Plan and the notification letter are included in Exhibit H. While the final contact details will be worked out closer to construction, the Applicant will establish a 24 hour a day, seven day a week "hot line" for emergency and complaint notices and will also provide directions for filing online complaints or providing written complaints. The Complaint Resolution Plan will also outline the process that the Applicant will use for logging the complaints, investigating the compliant, and remedying the complaint, if possible. The Applicant intends to submit quarterly (January, April, July, and October) complaint summary reports to the OPSB annually for the first five years of operation.

(2) Insurance

Liability insurance will be maintained at all times during development, construction, and operation of the Project. The Applicant, a wholly owned subsidiary of Border Basin I, LLC, a Massachusetts limited liability company (Galehead Development), has general liability and excess liability policies on the development phase of the Project.

All solar modules will be installed on property which will be leased by the Applicant. Terms of the leases include requirements for the Applicant to pay annual rent; to pay for all tax-related payments resulting from the solar installation; and to remove the solar modules upon termination of the land agreement. In addition, the terms of the leases require the Applicant to provide insurance for all Project components and to indemnify the landowner and other third parties from liability claims resulting from any gross negligence, willful misconduct, or breach of the lease agreement by the Applicant or its agents during construction and operation of the Project. The Applicant will carry insurance during development, construction, operation, and decommissioning that will ensure proper indemnification for the landowner and other third parties and for the interests of the Applicant. A Certificate of Liability Insurance is provided as Exhibit I.

(3) Road and Bridge Impacts

Tetra Tech completed a field observation of existing Hancock County and local township culverts and bridges along roadways in or directly adjacent to the Project Area. The intent of the inspections was to document the condition of the culverts with emphasis on the portion of pipe below roadways to identify clearly visible deficiencies in structures across roads anticipated to be subjected to increased roadway traffic; however, no structural or comprehensive evaluations have been performed. The roads assessed included CR 18, 212, 216 and 236 and TR 109, 212, 213, 215, 238 and 247. Of the 89 culverts inspected, 74 were observed to be in good condition, one in poor condition, one in fair condition, and 13 were in an unknown condition due to obstructions preventing detailed inspection of the culvert interiors. The two culverts in poor or fair condition should be repaired, replaced, protected, slip lined, or closely monitored during construction activities, as they are more susceptible to damage from increased traffic during construction of the Project. The findings of Tetra Tech's Culvert & Bridge Inventory Report are provided in Exhibit J.

Pavement damage to roads is not expected to be extensive, but a small amount can be anticipated, especially near construction entrances on roads that are currently in compromised condition. The Applicant will work with Hancock County and Cass Township to execute a Road Use Agreement, for which this baseline report will be a starting point. The agreement will provide that any updates, repairs and transportation routes are completed in coordination with the local entities and up to their standards of repair.

(4) Transportation Permits

The Hancock County Engineer is responsible for maintaining CR 18, 212, 216 and 236 while the Cass Township Board of Township Trustees is responsible for TR 109, 212, 213, 215, 238 and 247. All required permits will be obtained from the applicable entities at least 30 days prior to the start of construction. Driveway permits for Project access roads connecting to county and township roads will be obtained from the Hancock County's Engineer Office. No special hauling permits are anticipated for the Project with the exception of an overweight permit that will be required for delivery of the substation transformers.

All necessary traffic controls will be implemented in accordance with Ohio Department of Transportation (ODOT) standards and specifications.

(5) Decommissioning

At the end of the life of the Project, expected to be 30 years, the Applicant will decommission the Project. The process by which the Applicant will decommission the Project is provided in the Preliminary Decommissioning Plan prepared by Tetra Tech for the Project and included in Exhibit B. All aboveground features and buried structures will be removed to a depth 36 inches below the ground surface and disposed of offsite for recycling, reuse, or disposal at licensed and approved facilities. The only materials that may be left in place at the Facility are access roads or laydown yards, if requested by landowners, and substation, interconnection facilities, and similar utility facilities that are not owned by the Applicant. Project restoration efforts will return the land to its original topography. Restoration shall include returning the soil to its pre-development state, including decompaction of soil, to allow any prior agricultural use to resume if the landowner so chooses.

Decommissioning costs for the Project, based on the final site design and selected equipment, will be recalculated prior to commencing construction. The Applicant will provide a copy of the Decommissioning Plan to the OPSB Staff at least 30 days prior to the pre-construction meeting. Decommissioning costs will be reevaluated after the first 10 years of facility use and every subsequent five years until the facility is ready for decommissioning. If the decommissioning cost exceeds the salvage value of the solar components and therefore, the Net Decommissioning Cost is a positive value, then the Applicant will post decommissioning funds in the form of a performance bond. The Applicant will be listed as the Principal, the insurance company as the Surety, and the OPSB as the Obligee.

4906-4-07 COMPLIANCE WITH AIR, WATER, SOLID WASTE, AND AVIATION REGULATIONS

(A) REGULATION CONTEXT

All federal, state, and local regulations for air and water pollution, solid and hazardous wastes, and aviation will be followed during the construction and operation of the Project.

(B) AIR QUALITY REGULATIONS

(1) Preconstruction Air Quality and Permits

(a) Ambient Air Quality of the Proposed Project Area

Under the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) sets National Ambient Air Quality Standards (NAAQS) for six common air pollutants (also known as criteria air pollutants): particulate matter <10 µm and <2.5 µm (PM_{10} and $PM_{2.5}$), sulfur dioxide (SO_2), carbon monoxide (CO), nitrogen oxide (NO_2) and ozone (O_3) (USEPA 2016). The USEPA also administers the Regional Haze Program, the purpose of which is to improve visibility in 156 national parks and wilderness areas. No areas in the state of Ohio are protected by the Regional Haze Program as listed under 40 CFR § 51.300 (OEPA 2015).

The Ohio Environmental Protection Agency (OEPA) Division of Air Pollution Control monitors criteria air pollutants at 135 monitoring sites within the state of Ohio. In order to characterize the air quality within the Project Area, data from the closest available monitoring sites were reviewed in the OEPA's most recent Annual Air Quality Report (OEPA 2019a). Table 7-1 provides mean and maximum measurements of criteria air pollutants at the closest available OEPA monitoring site to the Project Area, including the City of Lima in Allen County (approximately 37 miles from the Project Area), the City of Columbus in Franklin County (approximately 73 miles from the Project Area), and the City of Bowling Green in Wood County (approximately 19 miles from the Project Area) (OEPA 2019a). The most recent documented levels of all six criteria air pollutants nearest to the Project Area are below the limits established within the NAAQS and are therefore classified as "in attainment".

Table 7-1 Criteria Pollutant Measurements at Monitoring Sites Nearest to the Project

Pollutant	Closest Monitoring Site ID	City/ County, State	Averaging Period	NAAQS Standard[1]	Mean	Highest Maximum Reading
PM_{10}	39-049-0024	Columbus/Franklin	24-hour	150 µg/m^3	21.9	49
$PM_{2.5}$*	39-003-0009	Lima/Allen	24-hour	35 µg/m^3	4.97	18.6
SO_2	39-003-0009	Lima/Allen	1-hour	75 ppb	0.04	1.0
CO	39-049-0038	Columbus/ Franklin	8-hour	9 ppm	NR	1.1
			1-hour	35 ppm	NR	2.0
NO_2	39-049-0038	Columbus/ Franklin	1-hour	100 ppb	10.28	49.0
O_3**	39-173-0003	Bowling	8-hour	0.070 ppm	0.065***	0.069

		Green/Wood				

[1]USEPA 2016
* Violation only occurs when the 98th percentile, averaged over 3 years exceeds the standard.
**Violation only occurs when the annual 4th highest daily maximum 8-hour concentration averaged over three years exceeds the standard.
***Annual 4th highest daily maximum 8-hour concentration averaged over three years.

Source: OEPA 2019a.
Key:
µg/m^3 = micrograms per cubic meter
ppb = Parts per billion
ppm = Parts per million.
NR = Not Reported

(b) Air Pollution Control Equipment for the Proposed Facility

There are no air pollutant emissions associated with the operation of the Project. Therefore, no air pollution control equipment for the Project is necessary.

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

No emissions are associated with the operation of the Project. Therefore, there are no federal or state air quality standards and limitations that are applicable to the Project.

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

There are no air pollutants associated with the operation of the Project. Therefore, no permits to install and operate air pollution sources are necessary.

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

There are no air pollutants associated with the operation of the Project. Therefore, the location of air monitoring stations and other pollution point source locations are not provided.

(f) Compliance with Permits and Standards

No air pollutant emissions are associated with the operation of the Project. Therefore, there are no permits or standards required for Project compliance.

References

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

Engine exhaust and fugitive dust generation resulting in small amounts of particulate emissions are expected from the operation of heavy construction equipment and travel of vehicles on unpaved roads during construction. Such situations will be temporary and limited to active areas of construction and therefore will not significantly impact air quality.

Fugitive dust emissions during site preparation and construction will be mitigated using best management practices, including using water to wet down bare soil surfaces if conditions warrant it. This method will be implemented during periods of high heat and when the soil is dry enough that it will not reach saturation during normal travel.

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

(a) Ambient Air Quality Monitoring Plans

There are no air pollutants associated with the operation of the Project. Therefore, no air quality monitoring plan is necessary.

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

There are no emissions associated with the operation of the Project, therefore, a map of the estimated concentrations in excess of the USEPA “Significant Emission Rates” is not necessary.

(c) Air Pollution Control Equipment Failure

There are no air pollutant emissions associated with the operation of the Project. Therefore, no air pollution control equipment is necessary, and there is no potential for equipment failure.

(C) WATER QUALITY

(1) Preconstruction Water Permits

(a) List of Water Permits

Any large construction project that disturbs more than 1 acre of land is required to obtain an Ohio National Pollutant Discharge Elimination System (NPDES) construction storm water general permit, OEPA Permit No. OHC000005. The Applicant will obtain the permit prior to the start of Project construction.

The Project as currently designed has avoided all impacts to wetlands, however there are currently six locations where Project infrastructure crosses streams within the Facility. The final site design will be revised to reduce the number of stream crossings necessary. If final site design does result in stream impacts, necessary permits will be acquired prior to Project construction. If stream impacts are anticipated, the following permits would be obtained, depending on the jurisdictional status of the stream feature:

- A United States Army Corps of Engineers (USACE) permit under Section 404 of the Clean Water Act (CWA) for disturbances to waters of the United States.
- An OEPA Water Quality Certification under Section 401 of the CWA.
- An OEPA Isolated Wetland/Ephemeral Stream Permit under Section 6111.021 and 6111.03 (J) of the Ohio Revised Code.

(b) Map of Water Monitoring and Gauging Stations

There is no point source water discharge from the Facility; therefore, no map of water monitoring and gauging stations is provided.

(c) Monitoring and Gauging Station Information

There is no point source water discharge from the Facility; therefore, no monitoring and gauging station information is provided.

(d) Existing Water Quality of the Receiving Stream

No point source water discharge into streams or waterbodies is associated with the Facility; therefore, there will be no receiving streams and no water quality information is provided for those streams.

(e) Water Discharge Permit Application Data

There is no point source water discharge from the Facility; therefore, no data for a water discharge permit is provided.

(2) Water During Construction of the Facility

(a) Map of Water Monitoring and Gauging Stations

There is no point source water discharge from the Facility; therefore, no mapping of U.S. Geological Survey (USGS) or OEPA monitoring and gauging stations is provided.

(b) Estimated Aquatic Discharges

Point source aquatic discharges to streams or wetlands will not occur during construction of the Project. To minimize the potential for accidental spills during construction, a Spill Prevention, Control, and Countermeasure (SPCC) Plan will be developed to manage the storage of hazardous materials on site, which consists solely of diesel fuel for construction trucks and equipment. The SPCC Plan will describe the proper methods to contain and mitigate a spill, and the agencies to notify, in the rare event that a spill occurs. The Applicant will implement the measures described in the SPCC Plan and monitor for aquatic discharges during construction.

The Applicant will implement a Storm Water Pollution Prevention Plan (SWPPP) during construction of the Project. Through this process the Applicant will implement best management practices (BMPs) to reduce erosion and sedimentation. By implementing the SWPPP, which includes required monitoring and maintenance of the BMPs to ensure their effectiveness over the construction period, it guarantees that Project related construction activities will not negatively impact water resources, including surface and groundwater. If there is any runoff to neighboring properties created by the Project that causes any negative impacts, the Applicant would need to correct any issues and can be fined for violations.

(c) Mitigation Plans

To protect water quality during construction, the Applicant designed the Facility to avoid placement of infrastructure in all wetlands identified within the Project Area and limited impacts to streams. In addition to avoiding direct impacts to wetlands, there are no point source aquatic discharges anticipated during the Project's construction, and any non-point source storm water impacts would only be temporary. While aquatic discharges are not anticipated, the Applicant is still taking measures to ensure water quality protection is consistent with applicable federal and state requirements, including development of a SWPPP, SPCC Plan, and a HDD Inadvertent Release Contingency Plan (Frac-out Plan; Exhibit K). The SWPPP and SPCC Plan will be provided to the OPSB no later than 30 days prior to construction. The preliminary Frac-out Plan is attached as Exhibit K to this application, and the final Frac-out plan will be provided to OPSB once final design of the Facility is determined, and no later than 30 days prior to construction.

The SPCC Plan is required by the USEPA and details methods to prevent the potential release of hazardous substances during construction of the Project. The only hazardous materials expected to be stored onsite are diesel fuel for construction trucks and equipment. The SPCC Plan will also describe the

proper methods to address the spill and agencies to notify should any inadvertent spills occur during construction. Hazardous materials stored on site during construction will be stored in accordance with the SPCC Plan to prevent spills. In the unlikely event that a spill does occur during construction and inadvertently reaches a waterway, it is expected to be of minimal quantity and duration as there are not large volumes of hazardous materials stored onsite during construction.

The SWPPP is required by OEPA as part of the NPDES Construction Storm Water General Permit Number OHC000005. The SWPPP will detail the use of sediment and erosion control measures and BMPs during construction, including measures to prevent excess storm water runoff. Storm water at the construction site will be managed through implementation of the SWPPP and permitted through the NPDES Construction Storm Water General Permit, OEPA Permit Number OHC000005.

During construction, direct impacts to wetlands within the Project Area have been avoided and appropriate erosion and sediment control measures (e.g., silt fences or straw bale dikes or other storm water control measures) will be used to limit the impact of storm water flow to surface waters. Further, the construction corridors and any clearing of vegetation in or near these features will be minimized to reduce potential impacts. The SWPPP, once it is developed, will outline these measures in more detail.

In addition to controlling surface water runoff, the SWPPP BMPs will also minimize groundwater impacts from the Project. Groundwater was observed in two out of 18 geotechnical soil test boring explorations conducted by Wood Environment & Infrastructure Solutions, Inc. as part of the geotechnical investigations for the Project. The borings were completed to a depth of 15.5 feet and the groundwater at the two locations were encountered from 4 to 5.5 feet below ground surface (bgs) at one boring and 0-1.5 and 8-10 feet bgs at the other location (see Exhibit L). If shallow groundwater is encountered during excavation, it may be pumped out and discharged into a designated upland area (approved by the landowner) to temporarily retain the water until it can infiltrate back into the ground. The SWPPP will include specific details relating to the pumping of groundwater from an excavation area. The Applicant will use temporary sediment traps or the controlled release of water over vegetated upland areas during construction to intercept and manage runoff from any dewatering activities that are necessary. This method will allow sediment to settle out of the water.

No HDDs are included as part of the current Facility layout, however if the final Facility layout requires use of an HDD the HDDs will be conducted in adherence to federal, state, and local codes and will include a

Frac-out Plan like that included as Exhibit K. The Frac-out Plan will be implemented should an inadvertent drilling fluid release occur during the HDD crossings as part of construction. All erosion and sedimentation controls included in the SWPPP will be installed and inspected by a qualified environmental inspector prior to any drilling operations. Before any HDD construction activity on the Project, a site-specific Frac-out Plan will be prepared by the HDD contractor. Then, prior to drilling, a site-specific meeting will be completed by the Applicant, the EPC contractor, and the HDD contractor. The HDD contractor will use continuous pressure monitoring devices at the drill head to monitor during drilling and all work will be stopped if unanticipated pressure fluctuation occurs. Soil sampling and core drilling will occur to determine the subsurface conditions at all HDD locations and a site reconnaissance will be completed to identify any locations where the potential for an inadvertent release may occur. If any locations are identified, then containment equipment and supplies will be stored nearby to facilitate a quick response if a frac-out occurs. During boring efforts an inspector will be designated to monitor for any signs of an inadvertent release.

Post-construction runoff control will be implemented with BMPs, as required, in order to ensure that the Project does not generate more storm water runoff than existed during pre-construction conditions. The vegetation planted under the solar panels, coupled with the spacing of the trackers and gaps in between the solar modules creates a pervious surface that allows storm water to infiltrate back into the ground rather than creating sheet flow as can occur from impervious surfaces like paved roads or parking lots. As an additional measure to ensure operational storm water does not create excess runoff, the Applicant will implement storm water management methods as specified in the OEPA Guidance on Post-Construction Storm Water Controls for Solar Panel Arrays to ensure that storm water runoff is minimized during operation of the Project.

The above-described mitigation measures will ensure avoidance or minimization of impacts to groundwater, surface waters, and wetlands during the construction of the Project to the maximum extent practicable.

(d) Changes in Flow Patterns and Erosion

The current Project design avoids any impacts to wetlands and minimizes the potential for flow pattern changes and erosion. Implementation of the BMPs and mitigation measures described in the SWPPP is expected to prevent any significant changes in flow patterns in the Project Area.

The majority of the Project is located on relatively flat agricultural land, requiring little clearing and grading during construction, which minimizes the potential for erosion. Drain tile locations have been located where possible and avoided in the site design in order to limit potential impacts to existing onsite drainage. If drain tiles are inadvertently damaged during construction, the Applicant will work with the landowner to repair the drain tiles and implement measures to prevent water flow to adjacent landowners' properties. The affected landowner may agree to not having the damaged drain tile repaired only if the drain tile system of adjacent landowners remain unaffected by the non-repair of the landowner's drain tile system. The BMPs described in the SWPPP and implemented during construction would also serve to control water flow and erosion if a drain tile were to be damaged.

(e) Equipment Proposed for Control of Effluents

No point source water effluent is associated with construction of the Project; therefore, no equipment is necessary for the control of effluent discharge.

(3) Water During Operation of the Facility

(a) Map of Water Monitoring and Gauging Stations

There is no point source water discharge from operation of the Facility; therefore, no water monitoring and gauging station information is provided.

(b) Water Pollution Control Equipment and Treatment Processes

There is no point source water discharge associated with operation of the Facility; therefore, there is no water pollution control equipment or treatment processes needed for operation of the Project.

(c) Schedule for Receipt of NPDES Permit

There is no point source water discharge associated with the operation of the Project; therefore, no NPDES permits will be necessary for operations. While there is no NPDES permit needed for operation of the Project, the applicant will still implement OEPA Guidance on Post-Construction Storm Water Controls for Solar Panel Arrays to minimize storm water runoff during operation of the Project, as described above for the construction phase.

(d) Flow Diagram for Water and Water-borne Wastes

No water or water-borne waste discharge is associated with the Project; therefore, a flow diagram is not provided.

(e) Water Conservation Practices

The only water used during operation of the Project will be for limited cleaning of the solar modules. Due to the temperate climate of the Project, it is anticipated that rain is sufficient to keep the solar modules clean. However, if cleaning of the modules is necessary, the Applicant will work with O&M staff to arrange for a water truck to provide water for the cleaning effort. It is anticipated that approximately 1 gallon of water would be needed per module for cleaning. There is no on-site O&M facility planned for the Project so there will be no regular on-site use of water during operations so water conservation practices will not be necessary.

(D) SOLID WASTE

(1) Preconstruction Solid Waste

(a) Nature and Amount of Debris and Solid Waste

No existing structures will be removed during the construction of the Project. The pre-construction site clearing and grubbing activities (described in Section 4906-4-03(B)(2) of this application) may produce small amounts of woody vegetation debris.

(b) Plans to Deal with Waste

Woody vegetation debris generated by the pre-construction site clearing and grubbing activities will be chipped and either used or composted within the Project Area. If this is not feasible, a private contractor will be hired to properly dispose of the debris at an authorized solid waste disposal facility.

(2) Solid Waste During Construction

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

The Project will generate minimal non-hazardous solid waste during construction activities. This waste will consist primarily of plastic, wood, cardboard, metal packing/packaging materials, construction scrap, and general refuse. Based on past project construction experience, the Applicant estimates that approximately 10,822 cubic yards of waste will be generated from construction of the Project.

(b) Storage and Disposal of Waste

Any solid waste generated at the Project's construction sites and other work areas will be collected and disposed of in dumpsters located at the construction laydown areas. Dumpsters will be placed at

construction office trailers, restrooms, and parking areas during construction. A private contractor will be hired to empty the dumpsters and dispose of the waste at an authorized solid waste disposal facility as needed.

(3) Solid Waste During Operation

(a) Amount, nature, and composition of Solid Waste Generated During Operation

Operation of the Project will generate small amounts of non-hazardous waste such as cardboard, plastic packaging, etc. as part of standard O&M efforts. The waste will be recycled or disposed of properly by the contracted O&M staff. Because there is no O&M building, the waste generated will be collected at the time of maintenance and hauled offsite to be disposed of or recycled.

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

(4) Waste Permits

No licenses or permits for the generation, storage, treatment, transportation, and/or disposal of waste will be required for the operation of the Project.

(E) AVIATION

(1) Aviation Facilities

There are two privately owned airports located within 5 miles of Project. Rutter Airport is located in Arcadia, Ohio, approximately 1.5 miles east of the Project Area (Figure 7-1) while Tatham's Airport is located five miles southwest of the Project Area.

(2) FAA Filing Status

Tetra Tech completed a glare analysis study to evaluate potential Project impacts to residents and activities in the vicinity of the Project. The analysis predicted no impacts of glare from the Project to aviation, roads, railroads, and nearby residents. The Federal Aviation Administration (FAA) Notice Criteria Tool indicated that the Project did not need to be filed with the FAA. The glare analysis report and FAA Notice Criteria Tool reports are provided in Exhibit M.

4906-4-08 HEALTH AND SAFETY, LAND USE AND ECOLOGICAL INFORMATION

(A) HEALTH AND SAFETY

The Applicant has developed the Project to be in compliance with all applicable health and safety regulations as specified in OAC Rule 4906-4-08(A).

(1) Safety and Reliability of Equipment

(a) Major Public Safety Equipment

Solar energy facilities are safe and do not pose safety or health risks to the community. However, to prevent unauthorized site entry and unsafe activities, the Applicant will implement measures to ensure the Facility is secure and does not pose a safety risk to the public during construction and operation. There are no air emissions from the Project and no point source water discharge from the Project. The minimal amount of electromagnetic fields (EMFs) generated by the Project is comparable to the EMF generated by home appliances, which has not been shown to result in negative health impacts. The average individual in the U.S. is exposed to approximately 1 milliguass (mG; measurement of magnetic field strength) daily, with exposure within approximately three feet of a household refrigerator registering approximately 6 mG and 50 mG from a microwave. A study completed in Massachusetts at a solar PV facility found that magnetic fields were highest near the inverters and were measured at 0.5 mG or less and generally were less than the background levels of 0.2 mG at distances of 150 feet from the inverters (MDER, MDEP, and MCEC 2015). As part of the final site layout, the nearest non-participating residence will be more than 150 feet from the nearest solar module, and even further from the nearest inverter, negating any EMF exposure to residents.

The Applicant will only utilize Tier 1 equipment suppliers and will require solar panels to pass Toxicity Characteristic Leaching Procedure (TCLP) testing regulated by the USEPA to ensure they are not hazardous to people or the environment. To pass the TCLP test, a solar panel, when broken into pieces, must not leach harmful amounts of any hazardous materials at levels defined by the USEPA to ensure it is safe for people and the environment. The Applicant requires the panels to have passed the TCLP testing as part of equipment supplier contract obligations. Solar panels that pass the TCLP and can be used for the Project are therefore non-hazardous under federal law and could be disposed of in regular landfills just like household garbage.

(b) Equipment Reliability

The solar panels are constructed to achieve long-term field durability to withstand harsh environmental conditions for the 30 year life of the Project. The solar arrays will meet all UL, IEEE, NEC, NESC and ANSI listings. The electrical system design will be certified by a licensed professional engineer. Regular inspections of all equipment components will be completed to ensure that all equipment is safe and operating properly.

(c) Generation Equipment Manufacturer's Safety Standards

The Applicant utilizes Tier 1 equipment suppliers and requires solar panels to pass USEPA TCLP toxicity testing. The glass that encases the solar arrays is tempered glass that is designed and tested to withstand hail, the effects of panel aging, and are resistant to breakage. Solar panels are mostly glass, aluminum, silicon, and semi-conducting material, with more than 80% of the panel composed of glass and aluminum. Because the solar panels pass the toxicity testing, they are determined to be non-hazardous by the USEPA and can be disposed of in regular landfills just like household garbage. All Project equipment is expected to meet all UL, IEE, NEC, NESC and ANSI listings.

Once the EPC contractor is selected and engineering plans are finalized based on procured equipment, the Applicant will provide the manufacturer’s safety manuals to the OPSB prior to the start of construction.

(d) Measures to Restrict Public Access

Perimeter fencing will be constructed that complies with NESC listings around the substation. The fencing around the substation and exterior of the Facility will likely consist of chain link fence with three strands of barbed wire. Gates will be placed at entrance points to control access for O&M workers.

(e) Fire Protection, Safety, and Medical Emergency Plan(s)

The Applicant will prepare an Emergency Response Plan for the Project so that on-site staff and first responders are able to navigate potential emergencies at the site. Equipment will be available to construction and maintenance personnel, who have undergone training to deal with emergency situations that could occur at the Facility. Local emergency responders will also be trained prior to commissioning of the Project on how to respond to any emergencies related to the Project. The Emergency Response Plan will be provided to the OPSB staff at least 30 days prior to the pre-construction meeting.

(2) Impact of Air Pollution Control Equipment Failure

No air pollutants are associated with the operation of the Project; therefore, no onsite air pollution control equipment will be necessary.

(3) Sound from Construction and Operation of the Facility

(a) Construction Sound Levels at the Nearest Property Boundary

Tetra Tech completed a sound assessment analysis that documents existing sound levels within the Project Area and models the predicted operational sound generated by the Project using International Organization for Standardization 9613-2 standard sound propagation modeling methods. This report is provided as Exhibit N in the application. In addition, Tetra Tech has utilized the Federal Highway Administration's Roadway Construction Noise methods and formulas to predict sound levels associated with the construction of the Project. The summary of predicted sound levels for the construction and O&M of the Project area are provided below.

(i) Blasting Activities

There are no blasting activities needed for construction or operation of the Project so there will be no sound impacts related to blasting.

(ii) Operation of Earth Moving Equipment

Earthmoving equipment anticipated to be used during construction of the Project includes excavators, tractors/loaders/backhoes, forklifts, dump trucks, scrapers, etc. The operation of this equipment could range in sound levels from 54 A-weighted decibels (dBA) to 91 dBA at distances of 50 feet. The sound resulting from these operations reflects the worst-case sound levels and will occur infrequently and over a short duration at each location. Such levels would not generally be considered acceptable on a permanent basis, but the sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated. The use of earth moving equipment will not be continuous over the site during the construction period and activities will be limited to the daytime hours between 7 a.m. to 7 p.m. when ambient sound levels are higher. Based on this temporary, daytime occurrence, in addition to the Project setbacks from residences and roadways, it is not expected that earth moving equipment used during construction of the Project will be significant.

(iii) Driving of Piles, Rock Breaking or Hammering, and Horizontal Directional Drilling

Installation of the trackers for the Project will be completed using pile-driving as previously described. The impact pile driver used to install the posts of the trackers will result in sound levels ranging from 53 dBA to 88 dBA at distances of 50 feet. The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated. The use of impact pile driver equipment will not be continuous over the site during the construction period and activities will be limited to the daytime hours between 7 a.m. to 7 p.m. when ambient sound levels are higher. Based on this temporary daytime occurrence and the Project setbacks from residences and roadways, it is not expected that impact pile driving used during construction of the Project will be significant.

(iv) Erection of Structures

Cranes, forklifts, and flatbed trucks are the only equipment that is anticipated for use when installing the solar modules onto the trackers. Predicted maximum sound levels from this equipment are expected to range from 53 dBA to 88 dBA at distances of 50 feet. The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated. The use of mobile cranes and flatbed trucks will not be continuous over the site during the construction period and activities will be limited to the daytime hours between 7 a.m. to 7 p.m. when ambient sound levels are higher. Based on this temporary daytime occurrence and the Project setbacks from residences and roadways, it is not expected that equipment used to erect structures during construction of the Project will be significant.

(v) Truck Traffic

The use of dump trucks and flatbed trucks and the predicted sound levels within the Facility during construction are outlined in the sections above. The sound generated by this equipment will be short-term in nature and reflects the maximum sound levels anticipated. Equipment use will not be continuous over the site during the construction period and activities will be limited to the daytime hours between 7 a.m. to 7 p.m. when ambient sound levels are higher. Based on this temporary daytime occurrence and the Project setbacks from residences and roadways, it is not expected that truck traffic during construction of the Project will be significant.

(vi) Installation of Equipment

Installation of equipment for the Project will primarily be related to the use of mobile cranes and flatbed trucks as detailed in the erection of structures activities detailed above. The use of mobile cranes and flatbed trucks will not be continuous over the site during the construction period and activities will be

limited to the daytime hours between 7 a.m. to 7 p.m. when ambient sound levels are higher. Based on this temporary daytime occurrence and the Project setbacks from residences and roadways, it is not expected that installation of equipment during construction of the Project will be significant.

(b) Operational Sound Levels at the Nearest Property Boundary

Tetra Tech completed a field-based survey to document baseline sound levels within the Project Area and then used sound modeling software, based on the proposed Project equipment, to predict sound levels resulting from operation of the Project.

Tetra Tech completed baseline sound monitoring at five locations across the Project Area from December 10 – 11, 2019. Monitoring points chosen were near the proposed solar array in areas where residences were determined to potentially be most affected by the operation, while providing observations across the entire array. Figure 1 in Exhibit N provides the Project components relative to the monitoring site locations. Baseline sound levels (equivalent sound level [L_{eq}]) during the daytime within the Project Area ranged from 47 to 58 dBA. Nighttime L_{eq} sound levels ranged from 35 to 44 dBA.

For solar energy facilities there are no existing federal, state, or local sound regulations that would be applicable to the Project. However, the operational sound predicted for the Project was compared to the 5 dBA increase over baseline daytime sound levels that is used by OPSB to evaluate wind farms. Because the Project requires sun to generate electricity, the maximum sound levels for the Project generated by the inverters and substation, will be emitted during daylight hours so comparison to daytime sounds levels were used. Based on the sound profile information provided within the manufacturer's specifications for the inverters and substation transformers, the greatest increase in predicted operational sound levels over the ambient at a non-participating residence was 4 dBA as the ambient sound levels were 47 dBA at that residence and operational plus ambient sound levels were predicted to be 51 dBA. The residence is approximately 285 feet from the nearest module and 350 feet from the nearest inverter. This is below the daytime sound level thresholds, indicating operation of the Project would be below the 5 dBA over the daytime ambient threshold. Additionally, the Applicant indicated no noise producing equipment would operate at nighttime.

(i) Operational Sound from Generation Equipment

Tetra Tech modeled the sound output from the Project's 54 inverters consisting of one inverter and one step-up transformer, and an on-site substation transformer at the Project substation. The broadband L_{eq}

sound level produced by each inverter is assumed to be 97 dBA at one meter from the unit, based on manufacturer specifications. The sound specifications of the distribution transformer indicate a sound level of approximately 75 dBA at one meter. The sound specifications of the substation transformer indicate a sound level of approximately 107 dBA at one meter. Sound predictions assume that the transformers are operating under normal conditions. Sound modelling was completed assuming that all inverters and the transformer were operating simultaneously under conditions conducive to sound propagation (i.e., the worst-case sound levels associated with the Project). At all receptor locations using this worst-case scenario, sound levels are predicted to be below the nighttime limit. Additionally, the Applicant indicated no noise producing equipment would operate at nighttime.

(ii) Processing Equipment

There is no processing equipment associated with the Project, therefore no sound impacts from processing equipment are provided.

(iii) Associated Road Traffic

Road traffic associated with vehicles accessing the Facility during operations will not significantly contribute to road traffic sound as O&M on-site staffing will be very limited (approximately 5 people) and will not be noticeable considering the existing traffic in the Project Area.

(c) Sound-sensitive Areas within One Mile

There are 315 sensitive receptors identified within 1 mile of the Project Area. These receptors are depicted in Figure 8-1 and include 279 residences, one church, one cemetery, one civic building, and 33 commercial/industrial buildings. Based on the ambient sound levels documented within the Project Area and the modeled worst-case predicted sound levels, none of the sensitive receptors are expected to experience sound impacts during operation of the Project at sound levels above the 5 dBA increase over the average daytime L_{eq}. For the purpose of Tetra Tech's analysis, it was assumed that all equipment would operate consistently during the daytime, while the Applicant indicated no noise producing equipment would operate at nighttime.

(d) Mitigation of Sound Emissions During Construction and Operation

The Project is not anticipated to have any sound impacts at any nearby residences or sensitive receptors during operation of the Project; therefore, no sound mitigation is planned for operation of the Project. This has been achieved by the Applicant's site design efforts which include locating inverters within the interior

of the Project. To limit construction impact sound, construction activity will be limited to the hours of 7 a.m. to 7 p.m., or dusk if sunset occurs after 7 p.m.

Should construction or operational noise be a concern, residents can report a noise complaint through the Applicant's Complaint Resolution Plan, as outlined in Exhibit H. The Applicant will work with the resident to document and address the complaint.

(e) Preconstruction Background Sound Study

Tetra Tech completed a pre-construction background sound study to document the ambient sound levels within the Project Area. The results of the Study are provided in Exhibit N and discussed above in Section 4906-4-08(A)(3)(b).

(4) Water Impacts

Given the non-toxic nature of solar energy facilities and the low impact construction has on soil and groundwater features, there are no anticipated impacts to public or private water supplies.

(a) Impacts to Public and Private Water Supplies from Construction and Operation

OEPA groundwater well information was obtained for the Project Area and a one-mile radius; the locations of all groundwater wells are depicted in Figure 8-2 (ODNR 2021a). There are 119 water wells that occur within the one-mile radius of the Project Area and three water wells that occur within the Project Area. The Project proposes minimal excavation, and the installation of steel tracker posts are anticipated to be driven to a depth of approximately six feet below grade.

There are two water source protection areas located within the one-mile radius of the Project Area (OEPA 2021b). They include Sparks Commercial Tire and The Barn at Walnut Creek, and are depicted on Figure 8-2. The OEPA lists The Barn at Walnut Creek water source protection area as having a water source protection plan under the "Drinking Water Source Protection Plan Checklists" (OEPA 2020). Neither water source protection area is within the Project Area. Additionally, Figure 8-2 depicts the corridor management zone surface waters and source water protection area watersheds within 1-mile of the Project Area. The North Baltimore Village Corridor Management Zone abuts the Project Area. The Project Area is within the Bowling Green City, Campbell Soup Supply Company, Napoleon City, City of Findlay, Village of North Baltimore, and Village of Ottawa watershed areas. Corridor management zones associated with the City of Lima drinking water source protection area overlap with the Project Area.

Because the Project is not expected to require excavation for construction, and posts for the trackers will only be installed to a depth of approximately six feet, it is not expected that groundwater resources will be impacted. In addition, a SWPPP and SPCC Plan will be in place during construction to minimize and prevent the potential for discharge to surface waters. Given the distance to Sparks Commercial Tire and The Barn at Walnut Creek water source protection areas, it is not expected any construction activities for the Project will affect groundwater at these locations, however upon final Facility design, the Applicant will coordinate with OEPA's Division of Drinking and Groundwater to identify any potential notification requirements and additional measures that might need to be implemented during construction.

The Applicant will implement an SPCC Plan and SWPPP during construction of the Project. Through this process the Applicant will create BMPs to limit spills and reduce erosion and sedimentation. By implementing the SPCC Plan and SWPPP it minimizes any potential that Project related construction activities would impact water resources, including surface and groundwater.

(b) Impacts to Public and Private Water Supplies Due to Pollution Control Equipment Failures

No water pollutants are associated with the operation of the Project. Therefore, on-site water pollution control equipment is not necessary for the Project. The Project does not anticipate any impacts to public and private water supplies during the construction and operation of the Project.

(c) Aquifers, Water Wells, and Drinking Water

Figure 8-2 depicts two unconsolidated aquifers underlaying the Project Area, the Defiance End Moraine Aquifer and the Tiffin Ground Moraine Aquifer. Based on the data from OEPA related to groundwater wells, 119 water wells and two drinking water source protection areas are located within a one-mile radius of the Project Area. It is not expected that the Project will impact these water sources, however upon final Facility design, the Applicant will coordinate with OEPA's Division of Drinking and Groundwater to identify any potential notification requirements and additional measures that might need to be implemented during construction.

(d) Compliance with Drinking Water Source Protection Plans

The Project does not pose any compliance issues for the two water source protection areas found within a one-mile radius of the Project area, as described above. However, upon final Facility design, the Applicant will coordinate with OEPA's Division of Drinking and Groundwater to identify any potential notification requirements and additional measures that might need to be implemented during construction.

References

(e) Flood Potential and Mitigation

A small portion of the Project Area falls within a Federal Emergency Management Agency designated 100-year floodplain, as depicted in Figure 8-2. However, all Project infrastructure is located outside the 100-year floodplain areas. Tetra Tech completed a Hydrology and Flood Inundation Report (see Exhibit O) for the Project Area, modeling the peak flow rates and runoff volumes of pre-development conditions under a variety of storm types. The 100-year 24-hour flood depths and velocities associated with pre-development conditions were also modeled.

(5) Geological Features, Topographic Contours, and Wells

Figure 8-3 depicts the proposed Project, geological features within the proposed Project Area, and topographic contours. There are 160 permitted locations for potential oil and gas exploration within the Project Area, however little data is available regarding their status from the Ohio Department of Natural Resources (ODNR) Oil and Gas Well Database. To supplement the available ODNR database that was used to create Figure 8-3, the ODNR Oil and Gas Locator online web mapper was reviewed. The additional well information available on the web mapper indicated that none of the identified wells are actively producing. For active wells depicted within the Project Area, the well status is listed as “not drilled” for all of those wells. Many of the wells listed as inactive on the web mapper are noted as plugged and abandoned, while others are inactive and are only listed as historic production wells with no additional information. The Applicant continues efforts to further understand the condition of potential wells in the Project Area, and will provide updated information to OPSB as it becomes available.

(a) Site Geology Suitability

On behalf of the Applicant, Wood conducted a geotechnical investigation of the proposed Project Area. Wood’s geotechnical investigation report can be found in Exhibit L and is summarized below.

The geotechnical investigation included subsurface exploration, laboratory testing, and engineering analysis. Subsurface exploration consisted of 18 soil test borings completed March 30 – 31, 2021.

Based on Wood’s field exploration and laboratory testing, the site appears to be geotechnically suitable for PV solar development and a driven pile system appears to be the most appropriate foundation system for the solar modules and trackers. Wood did note some site design considerations to be aware of regarding soft and plow zone soils, silty soils, and potential soil corrosivity identified in the report.

References

(b) Site Soil Suitability

Wood's geotechnical investigation found soil conditions encountered at the site generally consisted of topsoil with organics encountered at depths ranging from 0.4 to 1.0 feet. The plow zone material consisted of medium stiff to hard, lean to fat clays, with trace to little organics that decreased with depth. These soils extended to the termination depth of each boring, which was 15 feet bgs; bedrock was not encountered at those depths. Based on Wood's geotechnical investigation, the site appears to have soils suitable for the proposed PV solar development.

(c) Test Borings

Wood conducted 18 soil test borings. All borings were completed in accordance with American Society for Testing and Materials standards and were analyzed at a qualified laboratory for moisture content, grain size distribution, Atterberg limits, standard proctor, thermal resistivity, and corrosion. Laboratory test results are shown on the boring logs included in Appendix A of Exhibit L.

(6) Wind Velocity

Wind velocity data from the Ohio State University College of Food, Agriculture and Environmental Science was reviewed to determine wind speeds in the Project Area. A summary of the data describing the average daily wind speeds recorded in 2020 is provided in Table 8-1, which includes data from the closest weather station to the Project Area, located in Custar, Ohio (OSU 2020).
Table 8-1 data indicates winds speeds on average are between 2 to 7.5 miles per hour (mph) consisting of 63% of the daily average wind speed within the Project Area. The Beaufort scale describes 2 to 7.5 mph wind speed to be a light to gentle breeze (NOAA 2021).

Final Project design will account for potential high wind velocity occurring within the Project Area. The solar panels are designed and tested to withstand hail and are constructed with tempered glass to resist breakage. The racking systems will be driven to a minimum depth of six feet below grade, and deeper in accordance with the recommendation based off the geotechnical investigation report, to ensure the solar arrays are stable during high wind events. In addition, the solar arrays have the ability to adjust their tilt to reduce wind loading on the panels during high wind events. If wind is detected to reach a certain speed by the anemometers placed throughout the site, the panels will be adjusted to a safe angle. The panels will return to the optimal angle for collection of solar rays once wind speeds have decreased to acceptable speeds.

Table 8-1 Daily Average Wind Speeds in Custar, Ohio in 2020

Average Daily Wind Speed (mph)	Number of Days	Percent of Total Days
0 to 0.5	2	0.6%
0.6 to 1	1	0.3%
1.1 to 1.5	2	0.6%
1.6 to 2	4	1.2%
2.1 to 2.5	10	2.9%
2.6 to 3	21	6.1%
3.1 to 3.5	24	6.9%
3.6 to 4	19	2.9%
4.1 to 4.5	19	2.9%
4.6 to 5	21	6.1%
5.1 to 5.5	20	2.9%
5.6 to 6	30	8.7%
6.1 to 6.5	27	7.8%
6.6 to 7	16	4.6%
7.1 to 7.5	11	3.2%
7.6 to 8	19	5.5%
8.1 to 8.5	14	4.0%
8.6 to 9	12	3.4%
9.1 to 9.5	5	1.4%
9.6 to 10	12	3.5%
10.1 to 10.5	10	2.9%
10.6 to 11	4	1.2%
11.1+	42	12.2%
Total	**345**	**100.0%**

Source: OSU 2020
mph = miles per hour

(7) Blade Shear

The Project is a solar facility, therefore there will be no potential impact from blade shear from the Project.

(8) Ice Throw

The Project is a solar facility, therefore there will be no potential impact from ice throw from the Project.

(9) Shadow Flicker

The Project is a solar facility, therefore there will be no potential impact from shadow flicker from the Project.

References

(10) Radio and TV Reception

The maximum height of the solar modules will only be 15 feet (4.6 meters) so interference with radio and TV reception is not anticipated given the low profile of the Facility. In addition, the Project will only generate very weak EMFs that dissipate rapidly over short distances. Therefore, interference with radio and TV reception is not anticipated from the Project.

(11) Radar Interference

The maximum height of the solar modules will only be 15 feet (4.6 meters) so interference with radar is not anticipated given the low profile of the Facility. In addition, the Project will only generate very weak EMFs that dissipate rapidly over short distances. Therefore, interference with military or civilian radar systems are not anticipated by the Project.

(12) Navigable Airspace Interference

There are two private airports within five miles of the Project Area that are registered with the FAA (see Figure 7-1). Given the distance to the airports, no interference is anticipated. The Applicant also used the FAA Notice Criteria Tool to determine whether the Project was required to be filed with the FAA; the tool indicated that the Project did not need to be filed with the FAA. The FAA Notice Criteria Tool output is contained in Exhibit M.

(13) Communication Interference

The maximum height of the solar modules will be 15 feet (4.6 meters) so interference with any microwave communication paths or systems is not anticipated given the low profile of the Facility. In addition, the Project will only generate very weak EMFs that dissipate rapidly over short distances. Therefore, interference with microwave communication paths or systems is not anticipated from the Project.

(B) ECOLOGICAL RESOURCES

(1) Ecological Resources in the Project Area

(a) Ecological Resources Map

Figure 8-4 is a map at 1:24,000 scale of the Project Area and a 0.5-mile radius from the Project Area and contains the following information:

(i) The proposed Facility and Project Area;

(ii) Undeveloped or abandoned land such as wood lots or vacant fields;

(iii) Wildlife areas, nature preserves, and other conservation areas;

(iv) Surface bodies of water, including wetlands, ditches, streams, lakes, reservoirs, and ponds; and

(v) Highly erodible soils and slopes of twelve percent or greater.

(b) Field Survey Map of Vegetation and Surface Waters

Figure 8-5 provides a map at scale of 1:12,000 of the area within 100 feet (30.5 meters) of the potential construction impact area of the Project and all field-delineated features, including vegetation types, wetlands, and streams.

Tetra Tech conducted a delineation of potential waters of the United States (WOUS), including wetlands, waterbodies, and potentially isolated wetlands within the Project Area totaling 1,378 acres. In conjunction with the delineation field surveys, habitat assessments were also conducted to determine the different habitat types found within the Project Area. Tetra Tech conducted field surveys on August 5 – 7, 2019 and results of the surveys are provided in the Biological Resources Technical Memo included in Exhibit P.

Table 8-2 provides a summary of the acreage of vegetative communities delineated within the Project Area. Habitat within the Project Area is predominately composed of cultivated agricultural croplands totaling 1,283.3 acres, which is approximately 93.1% of the Project Area. At the time of the survey a large portion of the fields were planted for hay while the remaining fields were left fallow or recently tilled. Vegetation present within in the fields generally consists of giant ragweed (*Ambrosia trifida*), chicory (*Cichorium intybus*), orchard grass (*Dactylis glomerata*), Queen Anne's lace (*Daucus carota*), teasel (*Dipsacus fullonum*), Timothy grass (*Phleum pratense*), English plantain (*Plantago lanceolata*), foxtail species (*Setaria* spp.), goldenrod (*Solidago* spp.), and red clover (*Trifolium pratense*).

Table 8-2 Habitat Types Identified Within the Border Basin Solar Project Area

Habitat Category	Acres	Land Use (%)
Agriculture	1,283.3	93.1%
Wetlands	29.4	2.1%
Mature Forest	29.3	2.1%
Shrubland	19.1	1.4%
Forest	10.3	0.7%
Treeline	6.4	0.5%
Total	**1,377.8**	**100.0%**

Note: Due to rounding individual categories do not sum to the total

Forest habitat was identified within the Project Area and totals 10.3 acres (0.7% of the Project Area). These fragmented forests are mid to late successional in age with dense canopies of mature trees. The overstory generally consists of red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), shagbark hickory (*Carya ovata*), cottonwood (*Populus deltoides*), and oaks (*Quercus* spp.). Understory species include paw paw (*Asimina triloba*), ash-leaf maple (*Acer negundo*), dogwoods (*Cornus* spp.), hawthorns (*Crataegus* spp.), green ash (*Fraxinus pennsylvanica*), spicebush (*Lindera benzoin*), Morrow's honeysuckle (*Loinicera morrowi*), American hornbeam (*Ostrya virginiana*), and slippery elm (*Ulmus rubra*). Herbaceous species are sparse and consist of various tree saplings and species such as white snakeroot (*Ageratina altissima*), harvest lice (*Agrimonia parviflora*), sedges (*Carex* spp.), Canadian clearweed (*Pilea pumila*), roundleaf greenbrier (*Smilax rotundifolia*), and Virginia jumpseed (*Persicaria virginiana*).

Mature forest habitat was identified within the Project Area and totals 29.3 acres (2.1% of the Project Area). These fragmented forests are mid to late successional in age with dense canopies of mature trees. The overstory generally consists of red maple, silver maple, shagbark hickory, cottonwood, and oaks. Understory species include paw paw, ash-leaf maple, dogwoods, hawthorns, green ash, spicebush, Morrow's honeysuckle, American hornbeam, and slippery elm. Herbaceous species are sparse and consist of various tree saplings and species such as white snakeroot, harvest lice, sedges, Canadian clearweed, roundleaf greenbrier, and Virginia jumpseed.

Wetland habitat was identified within the Project Area and totals 29.4 acres (2.1% of the Project Area). Within the Project Area, wetland habitat is typically composed of eastern cottonwood, honey locust (*Gleditsia triacanthos*), black walnut (*Juglans nigra*), red maple, and dogwoods. Herbaceous vegetation is dense and is typically made up of Allegheny blackberry, multiflora rose (*Rosa multiflora*), goldenrods, Fuller's teasel (*Dipsacus fullonum*), common milkweed (*Asclepias syriaca*), poison hemlock (*Conium maculatum*), orchard grass, common Timothy, and common yarrow (*Achillea millefolium*).

Shrubland habitat was identified within the Project Area and totals 19.1 acres (1.4% of the Project Area). Within the Project Area, shrubland habitat is typically composed of eastern cottonwood, honey locust, black walnut, red maple, and dogwoods. Herbaceous vegetation is dense and is typically made up of Allegheny blackberry, multiflora rose, goldenrods, Fuller's teasel (*Dipsacus fullonum*), common milkweed (*Asclepias syriaca*), poison hemlock, orchard grass, common Timothy, and common yarrow.

Treeline habitat was identified within the Project Area and totals 6.4 acres (0.5% of the Project Area). This area represents narrow rows of trees in between agricultural fields.

Twenty-three wetlands were delineated during the field surveys within the Project Area totaling approximately 29.4 acres. The majority (14) of the delineated wetlands were palustrine emergent wetlands, while eight were palustrine forested wetlands, and one was a combination of palustrine emergent and scrub shrub. Figure 8-5 depicts the locations of the delineated wetlands and streams within the Project Area. The function and values of these wetlands were assessed using Ohio Rapid Assessment Method for Wetlands (ORAM). The categorization of wetlands was conducted in accordance with OAC Rule 3745-1-54. The wetlands ranged in size from 0.01 acre to 10.09 acres and ORAM scores ranged from 13 to 58. Fifteen of the wetlands were associated with a stream and are likely USACE jurisdictional, while eight were considered isolated and would be potentially regulated by OEPA.

Four perennial streams were delineated within the Project Area. The functional assessment of the streams was completed using OEPA Headwater Habitat Evaluation Index (HHEI) and/or Qualitative Habitat Evaluation Index (QHEI) metrics. The classification of the streams (ephemeral, intermittent, or perennial) were determined per the definition in the 22250 Federal Register/Vol. 85, No. 77 (effective June 22, 2020). The four perennial streams are potentially WOUS and therefore likely USACE jurisdictional streams. All were determined to be of poor or very poor quality based on the HHEI/QHEI scores.

(c) Literature Survey of Plant and Animal Life

Tetra Tech completed a desktop analysis of threatened and endangered species located in Hancock County, Ohio using the ODNR Ohio State Listed Wildlife and Plant Species by County list (ODNR 2020a) and U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) (USFWS 2020) to determine if any federal or state-listed species might potentially be present within the Project Area.

The USFWS IPaC review identified three federally endangered species and one federally threatened species potentially occurring within the Project Area. In addition to the desktop review, consultation with USFWS was completed on December 12, 2019 (Exhibit Q), which only identified two federally listed species, the Indiana bat and the northern long-eared bat, as potentially occurring within the Project Area.

The ODNR County lists identified one state listed endangered and two state threatened species potentially occurring within the Project Area. Further correspondence with ODNR provided in a letter on December 2, 2019 confirmed that there were no records of state-listed threatened or endangered species within the Project Area or a 1-mile radius (Exhibit Q). While no records exist within the area, ODNR also noted that the Project is within the range of the Indiana and northern long-eared bat. Additionally, ODNR

indicated that the Project is in the range of clubshell, rayed bean, purple lilliput, pondhorn, and black sandshell mussels as well as the western banded killifish. Table 8-3 provides a summary of the species listed in the correspondence letters from USFWS and ODNR as potentially occurring within the Project Area.

Table 8-3 Potential Federal and State-Listed Threatened and Endangered Species Within or Near the Project Area

Common Name	Scientific Name	Status[1]	Habitat
Mussels			
Purple Lilliput	*Toxolasma lividus*	SE	Perennial streams with sand and gravel substrates
Clubshell	*Pleurobema clava*	FE/SE	Small to medium rivers in clean, coarse sand and gravel runs.
Black Sandshell	*Ligumia recta*	ST	Perennial streams with sand and gravel substrates
Rayed Bean	*Vilosa fabalis*	FE/SE	Streams with sand and gravel substrates
Pondhorn	*Uniomerus tetralasmus*	ST	Slow-moving, shallow water of sloughs, borrow pits, ponds, ditches, and meandering streams
Mammals			
Indiana Bat	*Myotis sodalis*	FE/SE	Forests and riparian corridors during summer roosting and foraging
Northern Long-eared Bat	*Myotis septentrionalis*	FT/SE	Forests and riparian corridors during summer roosting and foraging
Fish			
Western Banded Killifish	*Fundulus diaphanous menona*	SE	Streams with an abundance of rooted aquatic vegetation, clear waters, and clean sand/organic debris substrates that are free of silt

[1] FE- Federal Endangered; FT – Federal Threatened; SE – State Endangered; ST State Threatened
Sources: NatureServe Explorer 2021; ODNR 2021b

(d) Plant and Animal Field Survey Results

Tetra Tech conducted field surveys within the Project Area for potentially suitable habitat for threatened and endangered species, detailed in Exhibit P. The habitats identified during the field surveys were dominated by agricultural areas (1,285.9 ac; 93.1%), followed by wetlands (29.4 ac; 2.1%), mature forest (29.3 ac; 2.1%), and scrub-shrub habitats (19.1 ac; 1.4%). Field surveys observed potentially suitable

habitat for state-listed and federally listed threatened and endangered species within the Project Area within the forested areas, forested wetlands, and streams including the northern long-eared bat, Indiana bat, clubshell, rayed bean, purple lilliput, black sandshell, and pondhorn.

(e) Additional Ecological Studies

Early during the development process, the Applicant completed a site screening assessment for the Project to identify via a desktop assessment potential biological, environmental, and permitting constraints for development of a solar energy facility.

(2) Evaluation of Impacts to Ecological Resources During Construction

(a) Construction Impacts on Ecological Resources

The Project has been developed to minimize impacts to ecological resources and is not likely to have adverse effects on state or federally listed species due to the site design avoiding potentially suitable habitat and commitments to clearing any trees during the winter months (October 15 to March 31) when federally and state-listed Indiana and northern long-eared bats would not be present.

All infrastructure has been sited to avoid all wetlands identified within the Project Area. Streams that could potentially provide habitat for the federally listed endangered clubshell and rayed bean; state-listed endangered purple lilliput, and state-listed threatened black sandshell or pondhorn have been avoided the extent practicable. Rocky Ford and the unnamed tributaries to Rocky Ford that were delineated within the Project Area are not known to support mussel populations requiring surveys. However, upon final site design, if stream impacts are anticipated, the Applicant will coordinate with ODNR and if necessary complete mussel surveys in accordance with ODNR's Ohio Mussel Survey Protocol to ensure that construction of the Project will not impact federal and state-listed mussel species.

Forested woodlots that could provide suitable summer roosting habitat for the federally and state-listed Indiana bat and northern long-eared bat have been avoided when developing the site design to the maximum extent practical. For the limited areas where tree clearing is needed (approximately 0.9 acres), the trees will be cleared between October 1 and March 31 in order to avoid impacts to the protected bat species. Correspondence with ODNR and USFWS in Exhibit Q confirm that avoidance of in-water work and clearing of forested habitat during the winter months avoids impacts to the species.

Nearly all of the Facility will be located on land currently used for agriculture, which provides minimal habitat for wildlife and is not preferred habitat for any of the identified federal or state-listed T/E species.

References

(b) Mitigation Procedures for Construction Impacts

The Project design has been developed to minimize and avoid ecological resources to the extent possible. If impacts to ecological resources occur during construction, the Applicant will work to mitigate these impacts by restoration and stabilization of disturbed soils, implementation of an HDD Inadvertent Release Contingency Plan, delineation and marking of surface waters and wetlands to be avoided during construction, procedures for inspection and repair of erosion control measures, and methods to protect vegetation.

(i) Restoration and Stabilization of Disturbed Soils

The Applicant will develop a SWPPP to implement erosion and control methods for pre- and post-construction of the Project, meeting Ohio storm water standards (OEPA 2021a). Immediately after construction the disturbed areas will be seeded to stabilize the Project site. The Project will be considered stabilized when soil disturbance is finished and uniform perennial vegetation cover with a density of 70% has been achieved in all portions of the Project Area where ground disturbance occurred and there is no infrastructure. To the extent possible, the Applicant will implement the pollinator habitat recommendations provided by ODNR Division of Wildlife pertaining to the Ohio Pollinator Habitat Initiative.

(ii) Frac-out Contingency Plan

In necessary areas, the Project will conduct HDD installation of underground electrical cables to cross under roads, streams, and wetlands. An HDD Inadvertent Release Contingency Plan (Exhibit K) has been created for the Project if HDD crossings are needed during construction. The plan provides specific procedures and steps for preventing, monitoring, detecting, and controlling releases of drilling fluid during the construction of the HDD crossings for the Project.

Drilling fluid is easily contained by standard erosion and sedimentation control measures such as hay bales and silt fence installed and maintained around the perimeter of the entry and exit drill sites. Within the boundaries of the worksites, drilling fluid would be controlled using pits at the crossing entry and exit points and typical fluid handling equipment. The SWPPP will include all recommended and required BMPs at any proposed HDD sites for the Project.

(iii) Demarcation of Surface Waters and Wetlands

Wetlands, streams, and open water perimeters will be field marked via flagging prior to the start of any construction. Additional marking and protection measures will be implemented as part of the SWPPP to

prevent erosion and sedimentation into nearby waterbodies under OEPA's NPDES General Permit for Construction Activities.

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

The Applicant will prepare a SWPPP to be implemented during construction. The SWPPP will detail the type and location of erosion and sediment control BMPs to be implemented for the Project. Typical erosion control BMPs include silt fence, straw bales, check dams, and erosion control blankets among other methods, to help protect runoff during and after construction until exposed areas are permanently stabilized with vegetation.

(v) Methods to Protect Vegetation

The Project has been sited and designed to limit the disturbance area and minimize impacts to natural vegetative communities like forests and wetlands. Less than one acre of tree clearing is proposed for the Project and impacts to all wetlands have been avoided. Additional details regarding vegetative management during construction are presented in the Vegetation Management Plan (Exhibit D).

(vi) Disposing of Downed Trees, Brush, and Other Vegetation

The small amount of trees cleared for construction of the Project will be disposed of off-site by a certified waste disposal service.

(vii) Avoidance Measures for State and Federally Listed and Protected Species and Habitat

The Project has been developed to minimize impacts to ecological resources and is not anticipated to have any adverse effects on state or federally listed species as a result of careful site design. The need for clearing of trees has been minimized to less than one acre and will be completed outside of the active period for the Indiana bat and northern long-eared bat, minimizing impacts to those species. Additionally, there are no impacts to wetlands that could provide habitat for federal and state-listed aquatic species. Limited in-water work may be necessary in streams identified within the Project Area for construction of access roads, however these streams are not known to support federally or state-listed mussel species. Upon final site design, if stream impacts are anticipated, the Applicant will coordinate with ODNR and if necessary complete mussel surveys in accordance with ODNR's Ohio Mussel Survey Protocol to ensure that construction of the Project will not impact federal and state-listed mussel species.

References

(3) Evaluation of Impacts to Ecological Resources During Operation and Maintenance

(a) Evaluation of the Impact of Operation and Maintenance on Undeveloped Areas and Animals

Operation and maintenance activities for the Project include site visits for equipment monitoring, fixing faulty equipment, cleaning solar modules, standard test procedures, vegetative maintenance, and fencing maintenance. Transportation throughout the Facility will be on foot or light duty vehicle traveling along planted perennial vegetation and gravel access roads. Therefore, adverse impacts to undeveloped areas and animals are not anticipated for the Project.

(b) Procedures to Avoid, Minimize, and Mitigate Impacts of Operation and Maintenance

During operation and maintenance of the Project, no additional impacts to wetlands, streams or other natural areas are expected. Discharge of water or wastewater into streams or water bodies or the use of water for cooling or other activities is not anticipated for the Project. Therefore, the quality and quantity of surrounding water will not be altered during the Project's operation and maintenance. Additionally, during the operational phase of the Project, to the extent possible the Applicant will follow the pollinator habitat planting recommendations by ODNR Division of Wildlife pertaining to the Ohio Pollinator Habitat Initiative which will provide an ecological benefit to pollinator species.

(c) Post-construction Monitoring of Wildlife

Post-construction monitoring of wildlife is not anticipated as no adverse impacts to wildlife species are expected during construction or operation of the Facility.

(C) LAND USE AND COMMUNITY DEVELOPMENT

(1) Land Use in the Region and Potential Impacts of the Facility

(a) Land Use Map

Figure 8-6 is a 1:24,000 scale map depicting the following features within 1-mile of the Project Area:

(a) The proposed Project Area;

(b) Land use;

(c) Structures; and

(d) Incorporated areas and population centers.

(b) Structures Near the Facility

Tables 8-4 and 8-5 provide additional detail related to the proximity of identified structures to Project facilities, specifically:

(i) Structures within 1,500 feet (457.2 meters) of the generation equipment, the distance between the structure or property line and the equipment;
(ii) Structures within 250 feet (76.2 meters) of a collection line, access road, or other associated components, the distance between both the structure and the property line and the associated facility; and
(iii) Lease status of the property.

Eleven residences are found within 250 feet of Facility equipment, three of which are on leased property (Table 8-4).

Table 8-4 Structures Within 250 Feet of Project Facilities

Structure Type	Facility Equipment Type	Distance (Feet)	Lease Status
Residential - Home	Solar Array	160	Leased
Residential - Home	Solar Array	164	Not Leased
Residential - Home	Solar Array	179	Not Leased
Residential - Home	Solar Array	179	Not Leased
Residential - Home	Solar Array	194	Not Leased
Residential - Home	Solar Array	203	Not Leased
Residential - Home	Solar Array	206	Leased
Residential - Home	Solar Array	217	Not Leased
Residential - Home	Solar Array	218	Not Leased
Residential - Home	Solar Array	238	Not Leased
Residential - Home	Solar Array	244	Leased

There are 62 residences between 250 feet and 1,500 feet (475.2 meters) of Facility equipment (e.g., solar modules, inverters, or substations) as listed in Table 8-5.

Table 8-5 Structures Between 250 and 1,500 Feet of Project Facilities

Structure Type	Facility Equipment Type	Distance (Feet)	Lease Status
Residential - Home	Solar Array	258	Not Leased
Residential - Home	Solar Array	281	Not Leased
Residential - Home	Solar Array	283	Not Leased
Residential - Home	Solar Array	296	Not Leased
Residential - Home	Solar Array	321	Not Leased
Residential - Home	Solar Array	322	Not Leased
Residential - Home	Inverter	326	Not Leased
Residential - Home	Solar Array	352	Not Leased
Residential - Home	Substation	380	Not Leased
Residential - Home	Substation	390	Not Leased
Residential - Home	Solar Array	419	Not Leased
Residential - Home	Solar Array	435	Not Leased
Residential - Home	Solar Array	494	Not Leased
Residential - Home	Solar Array	531	Leased
Residential - Home	Solar Array	549	Not Leased
Residential - Home	Solar Array	553	Not Leased
Residential - Home	Substation	652	Not Leased
Residential - Home	Solar Array	684	Not Leased
Residential - Home	Solar Array	697	Not Leased
Residential - Home	Solar Array	758	Not Leased
Residential - Home	Substation	762	Not Leased
Residential - Home	Substation	765	Not Leased
Residential - Home	Solar Array	846	Not Leased
Residential - Home	Solar Array	848	Not Leased
Residential - Home	Solar Array	893	Not Leased
Residential - Home	Solar Array	901	Not Leased
Residential - Home	Substation	906	Not Leased
Residential - Home	Solar Array	908	Not Leased
Residential - Home	Solar Array	915	Not Leased
Residential - Home	Solar Array	940	Not Leased
Residential - Home	Solar Array	947	Not Leased
Residential - Home	Solar Array	960	Not Leased
Residential - Home	Solar Array	961	Not Leased
Residential - Home	Solar Array	968	Not Leased
Residential - Home	Solar Array	971	Not Leased
Residential - Home	Substation	1,031	Not Leased
Residential - Home	Solar Array	1,040	Not Leased

Structure Type	Facility Equipment Type	Distance (Feet)	Lease Status
Residential - Home	Solar Array	1,091	Not Leased
Residential - Home	Solar Array	1,095	Not Leased
Residential - Home	Solar Array	1,104	Not Leased
Residential - Home	Solar Array	1,114	Not Leased
Residential - Home	Solar Array	1,137	Not Leased
Residential - Home	Solar Array	1,148	Not Leased
Residential - Home	Solar Array	1,149	Not Leased
Residential - Home	Solar Array	1,156	Not Leased
Residential - Home	Solar Array	1,159	Not Leased
Residential - Home	Solar Array	1,181	Not Leased
Residential - Home	Solar Array	1,231	Not Leased
Residential - Home	Solar Array	1,301	Not Leased
Residential - Home	Solar Array	1,302	Not Leased
Residential - Home	Solar Array	1,305	Not Leased
Residential - Home	Solar Array	1,310	Not Leased
Residential - Home	Substation	1,312	Not Leased
Residential - Home	Substation	1,339	Not Leased
Residential - Home	Solar Array	1,345	Not Leased
Residential - Home	Solar Array	1,346	Not Leased
Residential - Home	Solar Array	1,353	Not Leased
Residential - Home	Solar Array	1,362	Not Leased
Residential - Home	Solar Array	1,366	Not Leased
Residential - Home	Solar Array	1,393	Not Leased
Residential - Home	Solar Array	1,486	Not Leased
Residential - Home	Substation	1,487	Not Leased

(c) Evaluation of the Land Use Impacts

Agricultural land comprises approximately 93% (1,283 acres) of the land use within the Project Area. Forest, mature forest, wetlands, shrubland, and treeline represent the remaining habitat types in the Project Area (see Table 8-2).

In calculating land use impacts, the Applicant assumes a conservative estimate and considers all disturbance as part of construction to be considered permanent impacts. Permanent impacts include all area inside the perimeter fence of the Facility and access roads outside the perimeter fence to the public roadway. The one exception in assuming all area within the security fence is disturbed are the areas delineated as wetlands, forest, mature forest, and treeline as the Applicant has sited all Project

infrastructure to avoid disturbance to these features with the exception of 0.9 acre of treeline. With the exception of the 0.9 acre of treeline, wetlands, forest, mature forest, and treeline will not be disturbed as part of construction or operation of the Project.

The final Project design impacts approximately 953 acres of agricultural land, 0.9 acres of treeline, permanently impacted by construction and operation of the Facility. Table 8-6 presents the permanent land use impacts anticipated for the Project.

Table 8-6 Project Land Use Impacts by Project Component

Project Component	Permanent Disturbance (acres)
Agriculture	
Solar Field[1]	953
Treeline	
Solar Field[1]	0.9

[1]Includes all Project infrastructure within the fence line including modules, access roads, inverter pads, construction laydown areas, substation, as well as access roads outside perimeter fence.

(d) Structures to be Removed or Relocated

No structures are proposed to be removed for the development of the Project.

(2) Wind Farm Map

The Project is a not a wind farm; therefore, this section is not applicable.

(3) Setback Waivers for Wind Farms

No setback waivers are applicable to this Project as it is not a wind farm.

(4) Land Use Plans

(a) Formally Adopted Plans for Future Use of the Project Area and Surrounding Lands

The Project Area is located entirely within Cass Township and is located on land currently zoned as agricultural. Development of the Project is consistent with Cass Township's zoning as the current agricultural land use can continue on portions of the Project Area outside of the security fence. Further, the land can resume the row-crop agriculture that it is currently being utilized for after decommissioning of the Project. Neither Cass Township nor Hancock County currently have comprehensive land use plans which would guide future use of the Project Area and surrounding areas. Further, there currently are no

zoning restrictions on agricultural zoned lands in Hancock County that would hinder the development of the Project.

The life of the Project is consistent with the long-term goals of the City of Findlay's Land Use Plan 2007, maintaining long-term agricultural use outside the city boundaries and upholding the goal of the City of Findlay to respect the rural character of the adjacent townships. The City of Findlay identifies agricultural land uses located primarily on the fringe of the city boundaries, where the Project Area is located. In addition to the agricultural land use, a small portion of the Project that runs along the Norfolk Southern railroad is located on land currently zoned as industrial by the City of Findlay. According to the Land Use Plan, these agricultural and industrial land uses are expected to remain unchanged in the future.

The Project is not likely to hinder development in adjacent areas or changes in land use proposed in the future as a solar energy facility can coexist with the current surrounding agriculture and industrial land, which are expected to continue to be the land uses throughout the life of the Project.

(b) Applicant's Plans for Concurrent or Secondary Uses of the Site

The Applicant does not propose any secondary uses for the Project Area.

(c) Impact on Regional Development

The Project is expected to directly benefit the local community, bringing between approximately $840,000 and $1.08 million annually to the community and between approximately $25.2 million and $32.4 million throughout the life of the Project through the associated PILOT program, as discussed in Section 4906-4-06(E) of this application. Arcadia and Van Buren School Districts, Cass Township, and Hancock County will benefit from the PILOT payments. In addition to the PILOT payments, construction and operation of the Project will provide direct, indirect, and induced economic benefits to the community as discussed in Section 4906-4-06(E)(4) of this application. The Project is not expected to negatively impact housing, the transportation system, or other public services and facilities.

(d) Compatibility with Current Regional Plans

As noted, there is no comprehensive plan developed for Hancock County or Cass Township. However, the Project is compatible with the current and anticipated land uses surrounding the Project Area. The proposed Project will not significantly impact schools, housing, and transportation in the Project Area, while increasing local tax revenues and contributing to the local economy. Following decommissioning, the Project can return to cultivated cropland. Solar-powered generation projects spur economic

development and investment from private commercial entities and regional investor-owned utilities. This investment creates an economic cycle bringing new jobs to the area and even greater investment into the local community. The combination of additional tax revenue and construction and operation jobs increases the economic opportunities for the local community.

(e) Current Population Counts and 10-year Population Projections

The population in Hancock County from the 2010 U.S. Census was 74,782. The most recent estimated population for Hancock County in 2019 was 75,783, an annual percentage increase of 1.3% (Ohio Office of Research 2020a). Using the average annual rate change since the 2010 U.S. Census, the population for Hancock County is expected to be approximately 76,768 in 2030.

Populated places within five miles of the Project Area include the City of Findlay, Cass Township, and the Villages of Arcadia, Van Buren, Bairdstown, and Bloomdale. The current and projected 10-year populations for these communities are provided in Table 8-7 (Ohio Office of Research 2020b).

Table 8-7 Current Population Counts and 10-year Projections of Surrounding Populated Places within a 5-mile Radius of the Project Area

Populated Place	2010 Population	2019 Population	2030 Estimate	Annual Percent Change
City of Findlay	41,186	41,225	41,225	0.0%
Cass Township	994	1,003	1,014	+0.1%
Village of Arcadia	599	588	575	-0.2%
Village of Van Buren	324	500	837	+4.8%
Village of Bairdstown	130	134	138	+0.3%
Village of Bloomdale	678	683	691	+0.1%

Source: Ohio Office of Research 2020b

(D) CULTURAL AND ARCHAEOLOGICAL RESOURCES

(1) Recreation Areas and Registered Landmarks

Figure 8-7 depicts all recreation areas and registered landmarks of cultural significance within a 10-mile radius of the Project Area.

(2) Impacts on Registered Landmarks

Kramb Consulting, LLC conducted a Literature Review of the Project Area (see Exhibit R). To identify these known resources, Kramb Consulting, LLC reviewed cultural resource GIS data obtained from the National Park Service's website for National Register of Historic Places (NRHP) and National Historic Landmark listings, as well as known archaeological sites, historic aboveground structures, cemeteries, and survey data information from the Ohio Online Mapping System, which is maintained by the State Historic Preservation Office (SHPO). The literature review search revealed no architectural locations had been previously listed on or determined eligible for the NRHP within the Project area or the study area that extends approximately 2,000 feet beyond the Facility boundary. In addition to the literature review, a Phase I History/Architecture Survey and Phase I Archaeological Survey were completed to assess the cultural resources in the Project Area and surrounding vicinity and assess the Project's potential impact on these resources.

The history/architecture reconnaissance survey for the Project was completed by Kramb Consulting, LLC on May 24, 2020 to identify above-ground cultural resources more than 50 years old, within an area of potential effect (APE) that extends approximately 2,000 feet beyond the Facility. The report providing the methodology and survey results for the history/architecture survey is provided in Exhibit R. During the field investigations, 106 new architectural locations were identified within the APE. Of the 106 structures inventoried, 47 contained buildings over 50 years of age. Of the 47 architectural locations with buildings over 50 years of age, there were two which were unable to be evaluated for NRHP eligibility. Of the 45 architectural locations evaluated for NRHP eligibility, four are recommended eligible for the NRHP. In addition, it was recommended to avoid a cemetery that was identified and not recommended eligible for the NRHP. There are no historical districts recommended eligible for the NRHP. The architectural history report was submitted to SHPO for concurrence on May 21, 2021. The SHPO response will be provided to OPSB once received by the Applicant.

A Phase I Archaeological survey was completed by Tetra Tech in April 2020 (see Exhibit S). Surveys were completed in areas with the potential for ground disturbance to occur and totaled approximately 967 acres (Study Area). A predictive model, identifying high, medium, and low sensitive zones was used to guide surveys and was approved by SHPO for implementation for the Project. These investigations resulted in the identification of 25 new archaeological sites, composed of 11 prehistoric period sites, nine historic period sites, and five sites with prehistoric and historic period components. A light scatter of prehistoric lithic material was present across much of the Project Area, as evidenced by the recordation of 97 isolated prehistoric finds. Of the 25 sites identified, 17 sites exhibited limited research potential and are

therefore recommended not eligible for listing in the NRHP. Based on the survey results, eight sites exhibited the potential to contain significant information and were recommended for avoidance or Phase II significance evaluations. The Applicant was able to redesign the site layout to avoid all eight sites and will place fencing around these sites during construction to protect the resources. Tetra Tech submitted the archaeological report to SHPO for concurrence on May 21, 2021. The SHPO response will be provided to OPSB once received by the Applicant.

(3) Impacts on Recreational Areas

Recreational areas within 10 miles of the Project Area were identified using publicly available GIS data sources which are depicted in Figure 8-7. Fifty-six recreational areas were identified. Van Buren State Park, the only state park within the 10-mile radius of the Project Area, is located approximately 2.3 miles northwest of the Project Area. The biggest waterbody identified was the Findlay Reservoir, located approximately 3.8 miles south of the Project Area. There are no national parks, national forests, national wildlife refuges, or national natural landmarks located within the 10-mile radius of the Project Area. Based on the distance from the Project Area, it is not expected that the Project will have any effects on recreational areas.

(4) Visual Impact

(a) Visibility and Viewshed Analysis

A viewshed analysis was conducted by Tetra Tech using GIS software to determine locations within 10 miles of the Facility that could potentially have views of the Project. Tetra Tech created a digital elevation model based on available topographical data and assuming the maximum height of Facility components (solar modules) would be 15 feet, which is the maximum height of the solar modules under consideration by the Applicant for the Project. A Visual Impact Assessment Report is provided as Exhibit T that describes the methods and assumptions used for the viewshed analysis in more detail. A graphical representation of the results of the viewshed analysis is provided in Figure 2 of Exhibit T and is shaded to show the ranges of visibility of the Project, from full view to partial views. However, as a result of factors such as vegetation, structures, atmospheric conditions, and distance decay associated with the declining visibility of 15-foot-tall solar modules over long distances, it is unlikely that the Project would actually be visible at those distances. To better reflect the actual visibility of the Project, a second viewshed model was completed that reflects the existing vegetation on the landscape using USGS LANDFIRE vegetation and height data. The resulting viewshed mapping including vegetation is provided in Figure 3 of Exhibit T.

References

(b) Existing Landscape and Scenic Quality

The Project Area is located in unincorporated areas of Hancock County, encompassing land predominately in active agricultural use with pockets of residential development dispersed with commercial and industrial sites. The topography in the area is relatively flat. Agricultural lands surround the Project Area, with some areas of vegetation in the form of small, scattered woodlots or more narrow strips of fencerow or natural stream vegetation. Scattered rural residences are located in the vicinity, but primarily contained in the cities of Findlay and Fostoria and villages of Arcadia, Bairdstown, Bloomdale, Cygnet, Jerry City, North Baltimore, Van Buren, Vanlue, and West Milgrove surrounding the Project Area.

As previously discussed, there are no regional or local Comprehensive Plans available for Hancock County or Cass Township. The only available plan in the vicinity of the Project Area is the City of Findlay's Land Use Plan 2007, which includes the long-term goals of maintaining long-term agricultural use outside the city boundaries and respecting the rural character of the adjacent townships.

There are no officially designated wild, scenic, or recreational rivers near the Project Area, or within 10 miles (ODNR 2020b). There is one scenic byway designated by ODOT within 10 miles of the Project Area, Old Mill Stream, as shown on Figure 8-7. However, due to the flat topography, intervening vegetation, and distance from the Facility, the Project is unlikely to be visible from this scenic byway.

(c) Landscape Alterations and Impacts

The proposed Project would introduce 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 and strips of trees and shrubs. Visual impacts would vary depending on several factors, such as the distance of the viewer from the Project and whether views toward the Project are unobstructed or screened by vegetation, terrain, or development. The views can be vastly different from one location to another, and the visual effect is greatly diminished as distance between the viewer and the Project increases. Viewers in close proximity to the Project may have unobstructed or partially screened views and include adjacent rural residences and travelers along the local roads and highways. It is anticipated that views of the Project from surrounding places (e.g., cities of Findlay and Fostoria) would generally be screened by vegetation and structures associated with development. Roadways and rural residential development located outside of built communities would have limited views towards the Project given the relatively flat terrain. Portions 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, or in moderate to strong contrast as a co-dominant/dominate feature in the landscape setting. The difference in visual

effects from viewpoints greater than 0.1 mile, as demonstrated in the photosimulations provided in Exhibit T, from the Project, illustrates that the visual effect is greatly decreased with distance between the viewer and the Project. Visual impacts are largely localized and would be most apparent to those living, working, or traveling in areas within close proximity to the Project Area.

(d) Visual Impacts to Cultural and Archaeological Resources

As stated previously, the Applicant submitted the history/architecture and archaeological reports to SHPO for concurrence on May 21, 2021. The history/architecture report concluded that three properties recommended eligible or potentially eligible for the NRHP may have views of the Project and screening should be implemented to reduce visibility of the Project to mitigate any potential impacts. The Applicant will continue to coordinate with the SHPO to develop a screening plan to mitigate for any potential impacts. The archaeological report concluded that all identified archaeological sites have been sufficiently avoided by the site design so that no impacts to these resources are anticipated to occur. SHPO concurrence is expected to be received in June 2021. The Applicant will provide copies of the SHPO concurrence to OPSB upon receipt.

(e) Photographic Simulations

A review of potential visual resources within 10 miles of the Project Area included, but was not limited to, recreation areas, local community resources (e.g., schools, libraries, places of worship), and other scenic resources. After review of these potential sensitive resources, Tetra Tech identified 16 representative viewpoints for investigation in the field. These points represent locations around the Project where viewers could notice a change in the existing landscaping setting due to the presence of Project facilities, including key travel-ways, areas with residential properties, and local parks and attractions. In addition to visiting each of these locations in the field, five visual simulations were developed for representative viewpoints for use in the visual assessment. The location of the 16 viewpoints, of which five were chosen to proceed with simulations for, were visited in the field and can be seen in Figure 5 in Exhibit T. Representative viewpoints were chosen less than 1 mile from the Project Area because the viewshed analysis and site visit indicated limited or no visibility from most distant locations.

Tetra Tech conducted a field visit on May 13, 2021 and captured digital photographs from each of the 16 identified viewpoints.

The photographs from the representative viewpoints were used to generate a photo-realistic simulation of the Project in order to compare the existing and proposed conditions. The simulations generated for the Project at the representative viewpoints are shown in Appendix A of Exhibit T.

References

(f) Visual Impact Minimization

Photographic simulations were completed to provide representative views from the locations surrounding the Project Area with the greatest potential for visibility. As can be seen from these simulations, the Project is likely to be visible in the immediate vicinity from locations where vegetation does not screen the views. However, the difference in visual effects from viewpoints greater than 0.1 mile from the Project Area illustrates that visual effect is greatly decreased with distance between the viewer and the Project. Visual impacts are largely localized and would be most apparent to those living, working, or traveling in areas within close proximity to the Project Area.

Only limited areas within the Study Area would have views of the Project, and a limited number of homes are located within those areas. Existing vegetation between the solar arrays and the residences would be left in place, to the extent practicable, to help screen the Project and reduce visual impacts from the adjacent homes. Potential mitigation measures, in the form of vegetative screening, could be offered to obstruct or soften views of the Project, where appropriate. Screening in multiple locations throughout the Project Area is proposed as mitigation for potential impacts to historic structures. The location of the screenings are anticipated to be located around the two properties that were recommended eligible or potentially eligible for the NRHP and are anticipated to have views of the Project, as well as the cemetery identified in proximity to the Project. In order to minimize visual impacts from lighting associated with Project construction and operation, a lighting plan will be developed prior to construction and provided to OPSB at least 30 days prior to the pre-construction meeting.

(E) AGRICULTURAL DISTRICTS AND IMPACTS TO AGRICULTURAL LAND

(1) Mapping of Agricultural Land

Figure 8-8 depicts all agricultural land within the Project Area, all of which are cultivated lands. Communication by Stantec with the Hancock County Auditor, on June 7, 2021, identified 20 parcels within the Project Area that are enrolled in the Agricultural District Program. The Agricultural District Program parcels total 1,331.8 acres of the Project Area and the Facility will be located on 848.2 acres of that total.

(2) Agricultural Information

(a) Acreage Impacted

Agricultural land use dedicated to hay cultivation comprises 93.1% of the Project Area, totaling 1,283.3 acres. During operation of the Project, approximately 952.7 acres of agricultural land, will be taken out of

production in order to accommodate the Project facilities. This acreage represents approximately 0.4% of the land currently used for farming in Hancock County (Ohio Office of Research 2020a). Of the agricultural land utilized for the Facility, approximately 848.2 acres are currently enrolled in the Agricultural District Program.

(b) Evaluation of the Impact of Construction, Operation, and Maintenance of the Proposed Facility

(i) Field Operations

Agricultural field operations related to cultivated land will stop once construction of the Project begins. This will impact approximately 952.7 acres of agricultural land within the Facility area.

After the Project is decommissioned, the Project can be returned to cultivated land. Construction of the Project on cultivated land allows the soil to “rest” during the life of the Project. The land use practices of operation of the Project result in reduced soil erosion and fewer chemicals and fertilizers that need to be utilized as compared to the current farming practices.

(ii) Irrigation

Current crops and cultivation practices within the Project Area do not utilize irrigation. Therefore, the Project will have no impact to irrigation during the construction, operation, and maintenance.

(iii) Field drainage systems

Tetra Tech conducted a desktop analysis to determine potential drainage tile locations within the Project Area in order to minimize the potential for Project infrastructure to damage the drain tile that is in place. Multiple years of historic aerial imagery of the Project Area was reviewed looking for drainage patterns that typically match the effects of drainage tiles. Additionally, when available, information on drain tile locations was provided by the landowners within the Project Area. Based off this analysis, Figure 8-8 depicts the approximate location of potential drainage tiles found within the Project Area. Exhibit U provides greater detail on the methods used to identify potential drainage tile locations.

The site design has been developed to avoid placement of solar module racks where installation of the posts via pile driving could damage drain tiles and result in saturated soils or areas of ponding onsite. However, the desktop assessment of drain tile locations is approximate, and construction of the Project could result in damage to drain tiles that were not previously mapped. If during construction drain tiles are damaged, the Applicant will have in place a procedure to document the location and notification process to ensure that a contractor is engaged to repair the damaged drainage tiles as part of construction and

site restoration efforts. The stormwater and erosion controls in place for the Project during construction will also serve to mitigate any offsite water flow that may result from broken drain tiles. During operations the Applicant will monitor site conditions looking for indications of damaged drain tile, such as saturated soils, ponding, etc. Upon identification of a potentially damaged drain tile, the Applicant will work with the landowner and the contractor to complete the necessary repairs to the drain tile.

(iv) Structures used for Agricultural Operations

The Project proposes no impacts to agricultural related structures during construction, operation, or maintenance of the Project.

(v) Viability as Agricultural District Land

The Project Area includes 20 parcels enrolled as Agricultural District land (Figure 8-8) that will be impacted during construction, operation, and maintenance of the Project. These 20 parcels will not be eligible for the program during the operation of the Project. However, after decommissioning the Project, the parcels are able to re-enroll in the program.

(c) Avoidance and Mitigation Procedures During Construction, Operation, and Maintenance to Reduce Impacts to Agricultural Land, Structures, and Practices

Every effort has been made by the Applicant to reduce the Facility area in order to reduce the amount of agricultural land being removed from cropland production during the operation of the Project. Current crop cultivation within the Facility area will cease once construction of the Project starts; however, areas used for cultivated cropland within the Project Area but outside of the security fence can continue to be used for cultivation.

(i) Avoidance or Minimization of Damage to Field Tile Drainage Systems and Soils

Tetra Tech conducted a desktop analysis to determine potential drainage tile locations within the Project Area. Historic aerial imagery of the Project Area was assessed to determine drainage patterns that typically match the effects of drainage tiles. Using this analysis, Figure 8-8 depicts the approximate location of potential drainage tiles found within the Project Area. The Applicant incorporated the drain tile data gathered from the desktop analysis to site the Project infrastructure to avoid damages to field drainage tile where possible in developing the Project design.

(ii) Timely repair of Damaged Field Tile Systems

Any damage to drainage tiles as a result of construction of the Project will be repaired in a timely manner by the Applicant. The Applicant will retain a contractor specializing in agricultural drainage tile repair to fix damaged drain tile.

(iii) Segregation of Excavated Topsoil Decompaction and Restoration of Topsoil

Construction of the Project will include clearing and limited grading of the topsoil as part of the installation of the Project infrastructure. The site design will be constructed using an approach that minimizes the amount of grading onsite. Topsoil will be segregated onsite and decompacted prior to spreading over the areas to be restored. Immediately after construction, the disturbed areas will be seeded to stabilize the site. The Applicant will utilize a seed mix that will provide habitat to pollinators and other wildlife. Perennial vegetation will promote soil health, decompaction and restoration during operation of the Project.

4906-4-09 REGULATIONS ASSOCIATED WITH WIND FARMS

The Project is not a wind farm; therefore, these regulations are not applicable.

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APPLICATION TO THE OHIO POWER SITING BOARD FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR BORDER BASIN I, LLC

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Summary: Application 1 of 25 (Cover, Affidavit, and Narrative) electronically filed by Christine M.T. Pirik on behalf of Border Basin I, LLC