

Viewshed Analysis Report

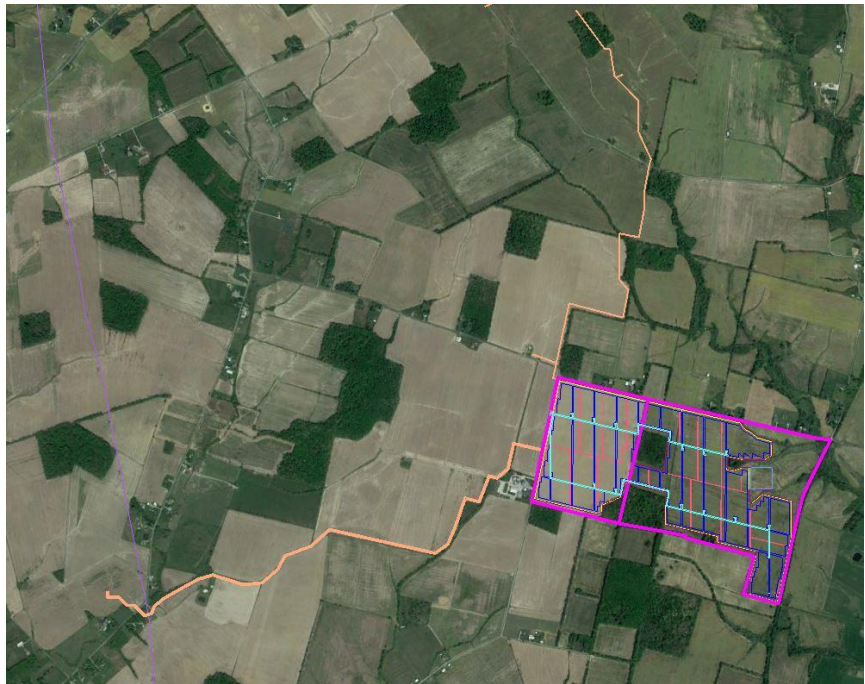
New Market Solar II

Clay and Whiteoak Townships

Highland County, Ohio

August 2020

Terracon Project No. 49187638A



Prepared For:

Hecate Energy Highland 2, LLC
Chicago, Illinois

Prepared By:

Terracon Consultants, Inc.
Lawrenceville, Georgia

Ohio Power Siting Board Application
New Market Solar Farm
Hecate Energy Highland 4 LLC and
Hecate Energy Highland 2, LLC
Exhibit J: Viewshed Analysis Report New
Market Solar II

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Viewshed Analysis Report

New Market Solar II ■ Clay and Whiteoak Townships, Ohio
August 2020 ■ Terracon Project No. 49187638A



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1.0 PROJECT SUMMARY

Hecate Energy Highland 2, LLC is proposing to construct the New Market Solar II (Project) near Buford, Ohio, which is located approximately 30 miles east of Cincinnati. The Project is proposed to be constructed within approximately 292 acres of private land located in Highland County, Ohio. Terracon Consultants, Inc. (Terracon), on behalf of Hecate Energy Highland 2, LLC has completed a viewshed analysis report for the proposed Project. The viewshed analysis was conducted per the Ohio Power Siting Board (OPSB) to fulfill the requirements of Ohio Admin. Code 4906-4-08(D) (4).

The study was completed to document the potential visual impact of the proposed project within areas of visibility as well as on aesthetic resources that include any formally adopted land and water recreation areas, recreational trails, scenic rivers, scenic routes or byways, and registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance within five miles of the project area.

2.0 SITE DESCRIPTION

The Project comprises approximately 292 acres of land most of which consists of agricultural land (Project Area). The proposed photovoltaic (PV) solar energy project will have a proposed generation capacity of 35 megawatts (MW). The project includes the development of PV panels and supporting steel frames. Terracon understands plans also include the development of some access roads and a small substation.

The Project Area and surrounding area primarily consists of agricultural fields, small forested areas, sparse residential development and an overhead utility easement. The area is relatively flat with areas of gently undulating topography. The nearest communities are Buford located approximately two and a half miles to the west and Mowrystown located approximately two and three-quarter miles to the southeast of the Project boundaries. The Project Area and vicinity are typical of southwest Ohio with predominately agricultural land and rural residential development.

3.0 VIEWSHED METHODOLOGY

The viewshed analysis included a review of potential visibility within a 5-mile radius from the Project boundaries. Light Detection and Ranging (LiDAR) data was used to develop a visibility map within the 5-mile radius (Figure 1). A component height of eight feet was used for the proposed solar panels. The LiDAR mapping indicated that it would be unlikely that the project would be visible outside of a 2-mile radius. The LiDAR maps additionally display some small areas outside of the 2-mile radius with limited visibility. It is unlikely that the Project will be visible from these locations; however, these areas were also considered for visual impacts and no scenic resources were identified in these areas. Additionally, aerial maps and topographic maps were reviewed and a field study was conducted to further determine the visibility of the Project. Terracon completed photo simulations representative of the view adjacent to the Project boundaries (figures 3 and 4).

4.0 AESTHETIC RESOURCE INVENTORY

The viewshed analysis included a review of aesthetic resources within the 5-mile radius from the Project boundaries that could be visually impacted. Aesthetic resources considered were defined by the OPSB as resources that include any formally adopted land and water recreation areas, recreational trails, scenic rivers, scenic routes or byways, and registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance within five miles of the project area. The inventory of aesthetic resources are summarized in the subsections below as well as any potential for viewshed impact to the resource category.

File review was conducted using resources available from the Ohio State Historic Preservation Office (SHPO) Online Mapping System. The database included review of the Ohio Archaeological Inventory, the Ohio Historic Inventory, National Register of Historic Places (NRHP) files, the Historic Bridge Inventory, previous cultural resource surveys and information on cemeteries maintained by the Ohio Genealogical Society. Recreational areas were drawn from resources provided by the United States Fish and Wildlife Service (USFWS), Ohio Department of Natural Resources (ODNR), United States Forest Service (USFS), National Park Services (NPS), Bureau of Land Management (BLM), and local municipality research (Clay and Whiteoak Townships; Cities of Buford, Sardinia, and Mowrystown; and Highland and Brown Counties). A map depicting all resources within 5-miles is included as Figure 2, and an additional map depicting all resources within 2-miles is provided as Figure 3.

4.1 National Register of Historic Places (NRHP) listed or eligible Properties

Two NRHP-listed properties were identified within 5 miles of the Project boundaries. The nearest of the NRHP-listed properties is located approximately 3.2-miles northwest of the Project. The proposed project will not be visible from any NRHP-listed properties. No viewshed impacts are anticipated for NRHP listed or eligible properties.

4.2 National Historic Landmarks (NHL)

No previously recorded NHL properties are located within 5 miles of the Project boundaries. No viewshed impacts are anticipated for NHL properties.

4.3 Historic Bridge Inventory

No bridges listed in the Ohio Historic Bridge Inventory are located within the 5 miles of the Project boundaries. No viewshed impacts are anticipated for Ohio Historic Bridge Inventory properties.

4.4 Ohio Historic Inventory (OHI)

59 historic structures within the OHI are located within the 5 miles of the Project boundaries. Historic structures in the OHI have not been formally evaluated for listing in the NRHP. The nearest of the OHI historic structures are located approximately 3 miles west of the Project in the town of Buford. The Project will not be visible from any OHI historic structures. No viewshed impacts are anticipated for OHI structures.

4.5 Ohio Archaeological Inventory Sites

The Ohio Archaeological Inventory (OAI) recorded 34 archaeological sites within 5 miles of the project boundaries. As these sites are generally below ground, visual impacts are not a concern for these types of resources. No viewshed impacts are anticipated for OAI archeological sites.

4.6 Genealogical Society Cemeteries

Based on the SHPO Online Mapping System, 55 Ohio Genealogical Society (OGS) cemeteries are recorded within 5 miles of the project boundaries. None of the OGS cemeteries have been formally determined to be eligible for listing in the NRHP. Two cemeteries are mapped near the project boundaries (Unnamed Cemetery #3 – 5367 and DUNN-ROBERTS #1 – 5351); however, the unnamed cemetery is listed as not having a positively confirmed location within SHPO's database and the mapped location does not appear to be accurate. Based on a field reconnaissance and aerial photograph review of the mapped areas, no cemetery features were observed. Based on a visual reconnaissance and aerial review of adjacent properties, cemeteries were not observed. Viewshed impacts are not anticipated for OGS cemeteries. If a cemetery is identified within the viewshed during any point of the development process, consultation will occur with the landowner of the cemetery parcel and/or the SHPO, as determined appropriate, to ensure minimization and mitigation of impacts to the cemetery as part of project development.

4.7 National Scenic Trails

No National Scenic Trails designated by the National Park Service are located within the 5 miles of the Project boundaries. No viewshed impacts are anticipated for National Scenic Trails.

4.8 National and State Wildlife Management Areas

No United States Fish and Wildlife Service National Wildlife Refuges or Ohio Department of Natural Resources Wildlife Management Areas are located within the 5 miles of the Project boundaries. No viewshed impacts are anticipated for National State and Wildlife Management Areas.

4.9 Recreation Areas/Trails

The Clay Township Community Park is the only recreation area located within a 5 mile radius of the Project boundaries. The Clay Township Community Park is located in the community of Buford at the now closed Buford Elementary School. The Project will not be visible from this property. No viewshed impacts are anticipated for recreational areas and trails.

4.10 Cities/Towns

Three designated communities were identified within 5 miles of the Project boundaries. These communities are Buford (Approx. 2.5-mile SW), Mowrystown (Approx. 2.75-miles SE), and Sardinia (Approx. 4.25-miles S). The Project will not be visible from any of these communities. No viewshed impacts are anticipated for cities and towns.

5.0 VISUAL IMPACT

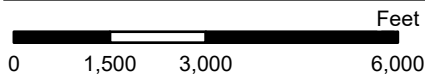
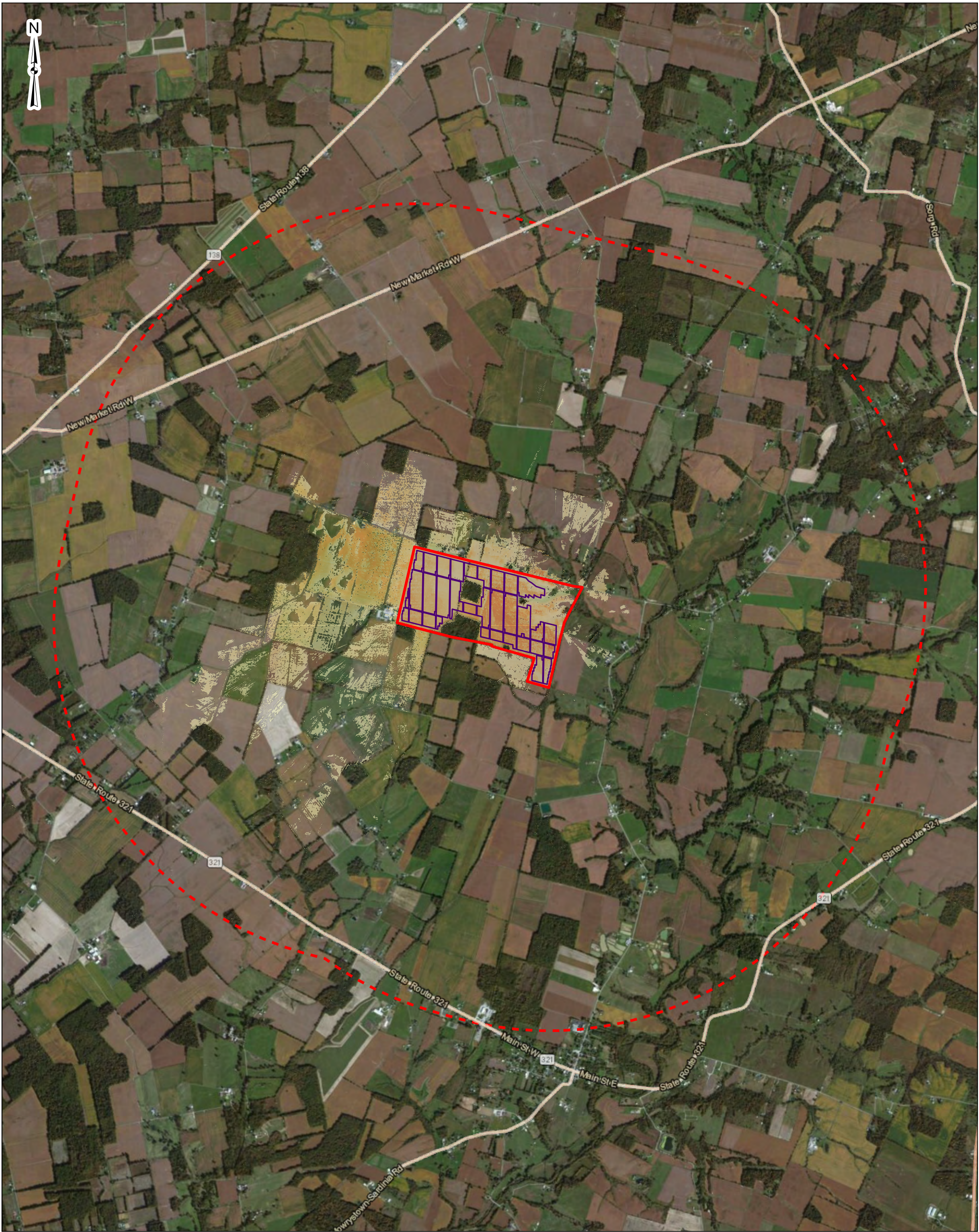
The viewshed analysis identified that the Project will have some areas of visibility within a two-mile radius from the Project boundaries. Even within the two-mile radius, the Project's visibility will be limited. The Project will predominately be visible from the adjacent properties and roads that bisect the Project Area. These roads include Stringtown Road (CR 60), Fender Road (CR 146), Edwards Road (CR 56), and Gath Road (CR 2). These are small residential routes with limited traffic. Due to the sparsely populated and rural setting of the Project, visual impact to adjacent properties is limited. The properties that will be most visually impacted will be adjacent roads and properties without existing vegetative screening. According to LiDAR data, the area that will be most visually impacted will be on the western boundary of the project area terminating at Stringtown Road (CR 60). The adjacent land includes a farm and agricultural land. The visually impacted area extends approximately 0.6 miles west along Edwards Road (CR 56). This area lacks any existing or proposed vegetative buffer and the proposed project will be visible to traffic driving east on Edwards Road (CR 56).

Terracon reviewed a 5-mile radius for resources that include any formally adopted land and water recreation areas, recreational trails, scenic rivers, scenic routes or byways, and registered landmarks of historic, religious, archaeological, scenic, natural, or other cultural significance. Based on an evaluation of the mapped locations of these resources, an evaluation of LiDAR data for 2-miles and 5-miles of the project area, and a visual reconnaissance of the viewshed areas, no visual impacts are anticipated for any of the designated scenic resources evaluated within 5-miles of the project.

Photo simulations were conducted from nearby properties surrounding the site as well as the above-mentioned roadways. The Project, as anticipated, has the most visual impact from non-vegetated areas along adjacent/bisecting roadways and properties. None of the areas of visibility contain any designated scenic resources.

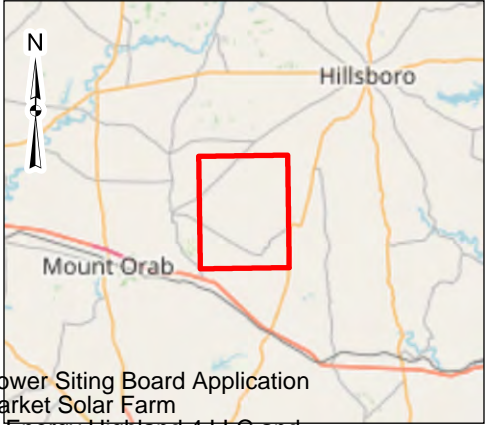
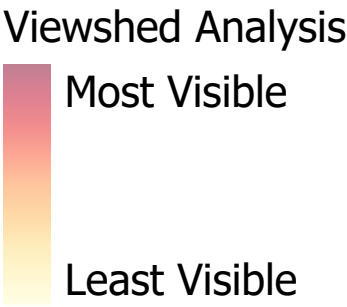
6.0 MITIGATION AND MINIMIZATION

No visual impacts are anticipated for any of the designated scenic resources evaluated within 5-miles of the project. If a previously unidentified scenic resource were to be identified within the viewshed during any point of the development process, consultation will occur with the landowner/managing entity of the parcel and/or the SHPO, as determined appropriate, to ensure minimization and mitigation of impacts to the resource during project design. The Applicant will make reasonable efforts to coordinate with landowners of adjacent properties regarding viewshed impacts or concerns, in order to limit visual impacts on neighboring properties in the line of sight.



DATA SOURCES:
ESRI WMS - OpenStreetMap, Imagery

- Panel Area
- Project Area
- 2 Miles from Project Area



Project No.:	49187638A
Date:	Jul 2020
Drawn By:	PNM
Reviewed By:	JRG

611 Lunken Park D

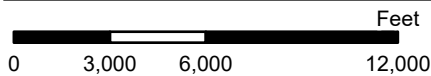
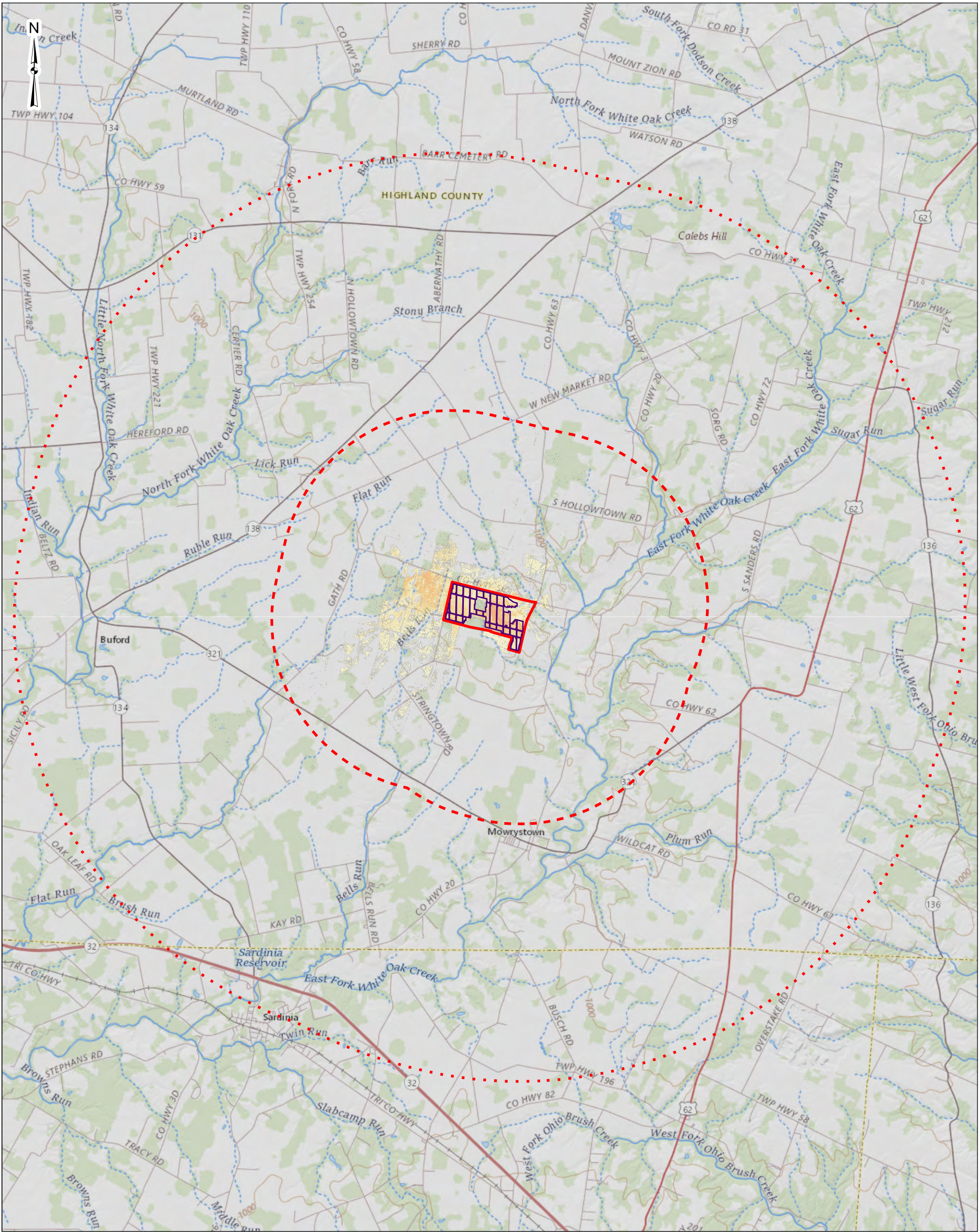
Cincinnati, OH 45226

PH. (513) 321 581

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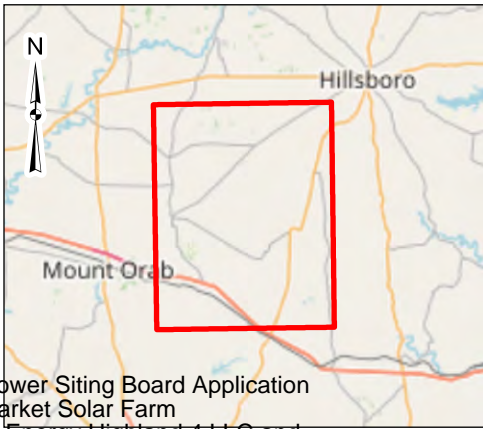
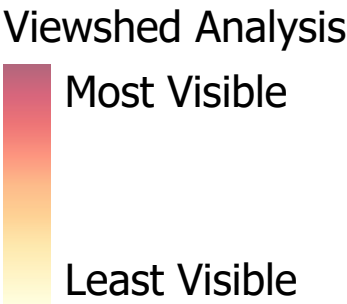
LiDAR Viewshed Analysis - 35MW
Highland Solar Clay Township, OH 45171

Exhibit
1



DATA SOURCES:
ESRI WMS - OpenStreetMap
USGS - Topographic Map

- Panel Area
- Project Area
- 2 Miles from Project Area
- 5 Miles from Project Area



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Reviewed By:	JRG

611 Lunken Park D

Cincinnati, OH 45226

PH. (513) 321 581

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LIDAR Viewshed Analysis - 35MW
Highland Solar Clay Township, OH 45171

Exhibit
2





This foregoing document was electronically filed with the Public Utilities

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Case No(s). 20-1288-EL-BGN

Summary: Exhibit Application Exhibit J (Part 4) electronically filed by Ms. Karen A. Winters on behalf of Hecate Energy Highland 4 LLC