

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

NOTICE OF RESPONSES TO DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD

On April 16, 2021, Kingwood Solar I LLC (“Kingwood Solar”) filed an Application for a Certificate of Environmental Compatibility and Public Need with the Ohio Power Siting Board (the “Board”). On May 17, 2021 and May 20, 2021, the Board’s Staff provided Kingwood Solar with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s responses, previously submitted to the Board’s Staff.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on June 2, 2021 to:

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**KINGWOOD SOLAR'S JUNE 1, 2021 RESPONSES
TO STAFF'S MAY 17 AND MAY 20 DATA REQUESTS**

1. *Haley and Aldrich delineated a total of 6 wetlands and 27 streams within the project area. What are the estimated totals of temporary and permanent impacts to streams and wetlands for construction of the Project? Please also provide a detailing of which streams and wetlands are to be impacted by project construction? (Example: Wetland MMD and Stream MM8 will be impacted via a culvert crossing, etc.)*

Six wetlands were identified. No wetland impact is proposed for the Project. A total of 27 stream segments were identified. Four of these reflect different segments of Clark Run as it traverses portions of the Project Area; the remaining 23 stream segments reflect portions of different streams that traverse portions of the Project Area. Therefore, 24 streams occur within the Project Area.

A total of 9 stream segments will be crossed by underground collection lines. All collector line impacts will be temporary impacts. Therefore, no permanent impacts to streams or wetlands are proposed.

Figure DR1-1 provides a map illustrating the location of delineated streams within the Project Area and locations where collector line impact is proposed. Table 1 provides additional detail regarding anticipated potential impact, conservatively assuming the use of open trench techniques, which will be confirmed based on final engineering design; where HDD or similar techniques will be used, stream impact would be eliminated. Note that individual stream impacts under 0.1 acre (as is the case for all locations where impacts could occur) do not require a pre-construction notification in order to qualify for coverage under the United States Army Corps of Engineers Nationwide Permit 57. At the state level, stream impacts are also assessed in individual locations, with impacts less than 500 linear feet (as is the case for all locations where impacts could occur) not requiring a permit from Ohio EPA.

Table 1. Collector Line Stream Segment Impacts

Stream Segment	Stream Type	Potential Impact (if open trench)			Comments
		Linear Feet	Square Feet	Acres	
MM1	Perennial (Clark Run)	70	490	0.01	Perennial stream crossings are likely to use HDD or similar techniques
MM4	Intermittent	70	420	0.01	HDD or similar techniques may be appropriate to avoid need for tree clearing if an appropriate gap is not able to be identified.
MM6	Intermittent	70	350	0.01	Technique will depend on specific location of crossing; portions of this feature are culverted.

Stream Segment	Stream Type	Potential Impact (if open trench)			Comments
		Linear Feet	Square Feet	Acres	
MM17	Ephemeral	70	140	0.003	HDD or similar techniques may be appropriate to avoid need for tree clearing if an appropriate gap is not able to be identified.
MM18	Perennial (Clark Run)	70	1,400	0.03	Perennial stream crossings are likely to use HDD or similar techniques
MM19	Intermittent	70	700	0.02	HDD or similar techniques may be used due to bedrock substrate in some portions of this feature.
MM20	Intermittent	70	700	0.02	HDD or similar techniques could be used, depending on specific location, due to presence of old stacked stone dam.
MM22	Intermittent	70	140	0.003	Open trenching likely to be least-impact method for this seep area.
MM23	Intermittent	70	700	0.02	Installation technique selected for this channel along the Grinnell Road shoulder may be influenced by road proximity.

2. Please explain whether all stream and wetland collection line crossings would be done via HDD or through some other method? And how many crossings in total are anticipated?

It is envisioned that the crossings of Clark Run (MM1 and MM18) would use HDD or similar boring techniques. The remaining 7 stream crossings may be installed via open trenching if water is not present, avoidance of tree clearing is not a factor, and/or field conditions support this method. Otherwise, HDD or similar boring techniques would be used.

3. What standards were used in conducting the ambient noise determination?

The ambient noise determination completed for the Project used standard methods based on acoustical engineering principles and generally followed ANSI/ASA S1.13-2020. The sound level meters met the requirements of ANSI/ASA S1.4-2014/Part 1 for a Class 1 sound level meter. The equipment is calibrated annually as well as field calibrated immediately prior to use. As noted in the Application, three monitoring locations collected data over a period of nine days. Outlier sounds were removed from the L_{eq} data collected at Location 3, which is located proximate to a residential gun range. The L_{eq} values provided are exponential averages (sometimes called energy averages) rather than the arithmetic mean; this is the typical industry methodology for establishing L_{dn} values. Selection of the appropriate location for each residence was on the basis of the most proximate geography.

4. Please provide a table showing L_{eq} , $L90$, $L50$, and $L10$ for each monitoring locations including day/night levels, day levels and night levels.

The requested information is provided in the table below. As shown, the day-night average sound level (L_{dn}) includes a 10-dB penalty to nighttime hours, as addressed in U.S. EPA's 1974 *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, and as aligned with a methodology used by many federal agencies.

Kingwood Solar - Summary of Ambient Noise Measurements

Location	Day				Night				Day/Night
	Leq	L10	L50	L90	Leq	L10	L50	L90	Ldn
Loc. 1	51	50	40	36	46	41	34	31	54
Loc. 2	49	43	36	33	42	36	31	28	50
Loc. 3	42	41	36	33	37	34	31	29	45

Notes:

Daytime defined as 7:00 AM - 10:00 PM, Nighttime defined as 10:00 PM - 7:00 AM.

Leq calculated for the entire daytime and nighttime periods from 1-hr Leqs, respectively.

Statistics (L10, L50, L90) presented are the average of the 1-hr statistics measured during the daytime and nighttime period, respectively.

Day-night average sound level (Ldn) calculated includes a 10 dB penalty to nighttime hours.

5. *For the sound operation model, what model distribution transformer, inverter bank, substation transformer, and tracker motor were used?*

Although final equipment selection is not yet complete, Kingwood Solar used the following models for studies related to specifications of certain equipment included in the Project, e.g., visual impact, noise assessments. These equipment models are not atypical in the supplier industry and specifications of any alternative equipment procured for Kingwood Solar is expected to be largely consistent with these models.

- Distribution Transformer & Inverter: Sungrow SG3425/3600UD-MV
- Substation Transformer: Prolec GE
- Tracker Motor: Array Technologies HZ v3

6. *What is the current status of the Applicant's cultural resources investigation? Provide a projected schedule for final field work, completion of consultant's reports to SHPO and anticipated final coordination with SHPO. Also, please forward correspondence from SHPO to Staff as you receive it.*

Field work has been completed for the historic architecture report and preparation of the report is underway. We expect that a limited number of resources in the immediate Project Area may be recommended for visual screening as a result of this review. We anticipate submittal of the report to the SHPO in June.

Field work is nearing completion for the archaeological survey, although delays associated with field interference by members of the public and agricultural practices have been experienced. Field work is expected to be completed in early June with a report submitted to the SHPO in late June or early July. To date, no finds have warranted a recommendation of avoidance.

The SHPO is currently utilizing its full 30-day review period for report review, so we would expect final coordination by the end of July or early August 2021.

7. *Please provide more information on the Applicant's review of drain tile in the project area.*

Kingwood Solar has begun talking with participating landowners to collect drain tile maps and locational data that may be available. Additionally, Greene County Soil & Water Conservation District has been contacted requesting what maps or data it may have with reference to drain tile on the Project Site and surrounding areas.

8. *The Application, pages 2,3,5/136, says the Project output is 175 MW, but page 2/39 of the PJM System Impact Study for AD1-140, says 200 MW Output and 102 MW for Capacity. However, page 3/39 says the Customer Request was for 175 MW and 95.8 MW of Capacity. Page 10/39 says the Summer Peak Analysis-2021 was done for 200 MW, 102 MW capacity, and page 12/39 says the Winter Peak Analysis-2021 was done at 175 MW, 95.8 MW Capacity. Please confirm the output ability of the facility and explain why PJM has used 200 MW in their Summer Peak analysis.*

Kingwood Solar is proposed at a capacity of 175 MW. The project was originally submitted to PJM in 2018 with a study capacity of 200 MW. As allowed by their tariff, however, the project was reduced to 175MW prior to the start of the System Impact Study. The Summer Peak Analysis was conducted during Feasibility Study prior to the reduction, which is referenced on Page 10 in the System Impact Study Report. Page 12 of the System Impact Study Report confirms that capacity was reduced to 175MW in the Winter Peak Analysis and 175 MW capacity is referenced throughout the rest of the report.

9. *The 'Contribution to Previously Identified Overloads', Page 10/17 of the PJM Feasibility Study for AD1-140, shows Two contingency overloads, but page 11/39 of the PJM System Impact Study shows 'None' for the same 'Contribution to previously Identified Overloads' for both the Summer Peak Analysis-2021 and the Winter Peak Analysis-2021. Please explain the discrepancy between the findings of the Feasibility Study and the System Impact Study. Will the Facility need to include any upgrades, or will there be special considerations for the operation to avoid any Overloads?*

The AD1-140 Feasibility Study was conducted at 200 MW capacity, where the System Impact Study was conducted at 175 MW capacity. With this reduction, the understanding is that AD1-140 no longer contributes to the 'Previously Identified Overloads' referenced in the Feasibility Study. The Applicant is still awaiting the finalized Facilities Study from PJM, which will identify any network upgrades or overloads to which AD1-140 would contribute.

10. *Section (4) on Page 19 of the application states, "The Project and its study area were then subjected to an evaluation in accordance with minimum siting criteria." Please describe the evaluation the project and study area were subjected to. The section also states, "More detailed assessments to review characteristics of the Project Area were undertaken at that time." Please describe what these detailed assessments consisted of.*

The Project study area was subject to an evaluation of solar irradiance, proximity of suitable electrical infrastructure, site accessibility, land ownership and tax parcel contiguity, existing land use, and environmental constraints based on available desktop resource mapping. Once lease agreements were pursued and acquired, more detailed assessments were undertaken including electrical engineering studies of transmission capacity, minimum acreage requirements for desired Project capacity, desktop assessments of environmental and ecological critical issues, as well as many of those evaluations reflected within the Application, like formal consultation with ODNR and USFWS, wetland and stream delineations, geotechnical investigations, noise evaluations, visual impact assessment, and proximity to other major infrastructure, such as airports or industrial facilities.

11. *Section (4) on Page 19 of the application does not include a description of the project area selected for evaluation. Please provide a written description of the project area.*

The Project Area was selected through a process that lasted from 2017 to 2021, when the Project Area was finalized. The original project study area is described in Section (1) on page 17 of the application as being areas within Greene County with consideration of existing electric transmission system infrastructure and general land use. A more detailed description of the final Project Area is as follows: The Project Area is located entirely within Greene County, Ohio, and is generally bounded to the north by Clifton Road (Route 27), just over two miles south of Yellow Springs. Its eastern boundary is generally defined by N. Main Street (Route 72). To the south, the easternmost parcels are located on the outskirts of Cedarville, while the westernmost parcels are north of Wilberforce-Clifton Road (Route 94). The westernmost parcels are approximately 2.5 miles from Xenia. A latitude/longitude approximating the center of the Project Area is 39° 46' 03.04"N/83° 51' 38.04"W.

- 12. The electronic version of Figure 04-1 filed in the PUCO docketing information system is difficult to read. Please provide a clean and easy to read version of Figure 04-1.***

A revised copy of Figure 04-1 is attached. As shown, the Project Area is located in the southwestern portion of Ohio, which receives the most direct solar resources within the state.

- 13. Figure 04-2 does not show setbacks from residences, property lines, utility corridors, and public rights-of-way, and any other constraints of the site design. Please provide a map that provides a constraint map showing setbacks from residences, property lines, utility corridors, and public rights-of-way, and any other constraints of the site design.***

Figure DR1-13 illustrates the constraints considered for the Project layout. This map is intended to show the maximum extent of potential solar array areas while avoiding existing public rights-of-way and existing easements (utility corridors), with a minimum setback from abutting property lines of 25 feet.

- 14. How many comments and questions were received during the public informational meeting held for the project? Please provide a list of the comments and questions received and the responses provided.***

More than 160 questions and comments were received during the public information meeting held on March 30th. Questions were submitted using the 'chat' function of the Zoom virtual meeting platform, therefore many of the questions received were repeated or generally similar to others. More than sixty minutes were spent answering over 55 of the questions asked in the second half of the public information meeting, a recording of which can be found at the link below.

URL: <https://www.youtube.com/watch?v=bTtA5czEh-s>

- 15. Please provide the following information for the 138 kV gen-tie line referenced on page 1 of the Application:***

16. Tower designs, pole structures, conductor size and number per phase, and insulator arrangement.

17. Base and foundation design.

18. Cable type and size, where underground.

19. Other major equipment or special structures.

Kingwood Solar has not yet received its final Facilities Study Report from PJM, which in conjunction with the Construction Services Agreement will specify the required gen-tie facilities

in greater detail. The specific design process is expected to take place between January-April 2022. Please see Exhibit DR1-15 for a typical 138kV gen-tie pole structure.

- 20. Please update Figure 03-3 (Project Layout) and other relevant facility mapping to reflect the proposed location of the gen-tie line referenced on page 1 of the Application and provide associated shapefiles.**

An updated Figure 03-3 is attached. The associated shapefiles will be provided separately to OPSB Staff.

- 21. Referencing page 48 of the Application and the FAA determinations of no hazard received for this project, please fill out the attached MS Excel spreadsheet entitled Airspace Inquiry Log.**

Please see the attached MS Excel spreadsheet provided by OPSB Staff, with details populated by Kingwood Solar.

- 22. Please fully explain what financial assurance mechanism Kingwood Solar I, LLC will employ, and when the funds will be available to perform decommissioning activities. Staff would recommend that the decommissioning funds be posted in the form of a performance bond where the company is the Principal, the insurance company is the Surety, and the Ohio Power Siting Board is the Oblige.**

Within 1 year of Project operation commencement, Kingwood Solar is committed to providing and maintaining a performance guarantee to landowners in the form of a bond, letter of credit, or other form of financial security acceptable to landowners in their reasonable discretion, in order to secure the obligation of Kingwood Solar to decommission the Project and restore the property(s). The amount of financial security will be an estimate developed and signed by an Ohio Professional Engineer and is intended to account for the salvage value of the Project facilities to be removed.

- 23. What is the estimated total cost to decommission Kingwood Solar Farm excluding the salvage value of the solar equipment?**

Although it is difficult to accurately predict the decommissioning cost of a Solar Project that has yet to be built, Kingwood Solar has calculated this estimate to be between \$6-10 Million.

- 24. What is the estimated salvage value estimate of the solar equipment?**

In year 1 the salvage value of the solar equipment can be estimated at more than \$75 Million. Estimated salvage value of the solar equipment is much harder to predict in the out years based on improvements to PV recycling industry supply chain, fluctuating market conditions and value of each component. Kingwood Solar has calculated the estimated end-of-life salvage value of the Project equipment to be between \$5-8 Million.

- 25. Please explain how often the decommissioning costs will be re-evaluated.**

Decommissioning estimates, provided by an Ohio Professional Engineer as stated, will be updated every 5 years.

- 26. Please confirm/explain that all the equipment will be removed within 6 months as referenced on page 36 of the Application. Does the Kingwood Solar anticipate any decommissioning activities would extend beyond 6 months, if so please explain?**

It is expected that, pending seasonality and unexpected weather conditions, the majority of project equipment can be removed in the first six months including panels, racking, inverters and electrical collection lines. Once project equipment is removed from the site, restoration work is expected to continue for up to another six months including fencing removal, roadway gravel removal, and soil decompaction, where roads, substation, and/or inverters were placed.

- 27. Staff understands that the decommissioning costs will be developed by a professional engineer within one year of the commercial operations date. Staff would recommend that the Applicant retain an independent, registered professional engineer, licensed to practice engineering in the state of Ohio to periodically estimate the total cost of decommissioning facility, salvage value, and appropriateness of any contingency percentage. Please indicate the Applicant's understanding and commitment to provide this to Staff and indicate when this would be provided.**

Kingwood Solar understands Staff's recommendation, and as stated above intends to have the cost estimates developed by an Ohio Licensed Professional Engineer every 5 years. This information can be shared with OPSB Staff upon request throughout the project's operational life.

- 28. Is the gen-tie line within one hundred feet of an occupied residence or institution? If yes, please provide the calculated electric and magnetic field strength levels at one meter above ground, under the conductors and at the edge of the right-of-way for (i) Winter normal conductor rating, (ii) Emergency line loading, and (iii) Normal maximum loading.**

No, the nearest residence currently measures more than 400 feet from the gen-tie line as shown in the updated Figure 03-3.

- 29. Referring to Figure 08-2 (Water Wells and Water Protection Areas) in the Application, how many water wells are within the project area?**

According to information available from ODNR mapping, a total of six water wells are located within or quite close to the Project Area (and conservatively counted as within). Two of these wells are indicated by ODNR as domestic wells, while the use of the others is not specified. It is possible that additional wells not mapped by ODNR exist within or proximate to the Project Area and/or that those wells mapped by ODNR may no longer be present or in-use. Coordination with individual landowners will occur prior to Project construction to confirm specific well presence and location and determine best management practices to avoid and minimize impacts.

- 30. What is the distance between the solar farm equipment and nearest water well within the project area?**

According to information available from ODNR mapping, three of the water wells are indicated directly within the area where solar facility equipment is proposed. As noted above, it is possible that these wells are not currently present or that additional wells exist that are not mapped by ODNR. Coordination with individual landowners will occur prior to construction to confirm specific well presence and locations, and to determine whether use of any wells present will be retained by the current user. This coordination will be reflected in final design and layout, with adjustments either to the layout or the well to be made accordingly. Impacts to water wells

associated with non-participating properties will be avoided, and appropriate coordination to either appropriately abandon or protect wells on participating properties will occur.

31. *Please explain what possible avoidance, minimization, and/or mitigation measures Kingwood Solar I, LLC will employ during construction for water well locations in the project area.*

Kingwood Solar will work with landowners within the Project Area to request information regarding specific location and other details available regarding groundwater wells prior to construction. For active drinking water wells located greater than 100 feet from the Project Area, no special measures are planned other than the implementation of Best Management Practices in accordance with Ohio EPA's Construction General Permit. Spill prevention measures will also be implemented, as discussed below. For construction efforts that are closer than 100 feet from an active drinking water well, Kingwood Solar will offer to obtain pre-construction well test data for standard priority pollutants and will offer to retest the water quality from the well within 6 months of completion of construction. As for all issues potentially related to construction, the Complaint Resolution Process will be available to those who believe their well has been affected by the Project. Kingwood Solar will make every effort to satisfactorily resolve all such issues brought forward.

32. *Referencing page 62 of the Application, please explain what spill prevention practices will be implemented during construction and operation.*

During construction, equipment fueling will occur in designated areas that incorporate containment for any fuel or chemical storage. Although significant volumes of materials with contamination potential are not anticipated, a formal Spill Prevention, Control, and Countermeasure (SPCC) Plan will be prepared and implemented if aboveground oil storage capacity will exceed the 1,320-gallon threshold. Even absent the need for a formal plan, construction equipment will carry sorbent materials intended for use if an unintended release were to occur so that prompt removal and, as appropriate, reporting can occur. Construction workers will be trained to take care with material with the potential for release and will receive training on emergency procedures to ensure prompt and efficient response in the event of an accidental release to the environment.

Once the Project is operational, lubricants within the transformer areas and fuel used in mowers would represent the primary risks of potential release. Transformer areas will have integrated containment, and mowers will be refueled with care in areas where spills can be readily contained, if necessary.

33. *Do the trackers under consideration have a stow mode?*

Yes, both racking models in consideration have a stow mode, for both wind protection and night-time setting, as indicated in the specifications provided in Appendix I of the Application.

34. *Will the emergency Response Plan for the project referenced on page 51 of the Application be provided to OPSB Staff prior to the preconstruction conference?*

The Applicant is willing to provide an emergency Response Plan prior to the preconstruction conference.

35. *Please provide the current draft emergency action plan or an example emergency response plan.*

Kingwood Solar is in the process of drafting a preliminary Emergency Response Plan, based on information specific to emergency response providers in Greene County and local jurisdictions. This ERP will be provided to Staff prior to the preconstruction conference.

36. Referencing the anticipated cleaning of the solar panels with water from page 45 of the Application, how often would these be cleaned on an annual basis?

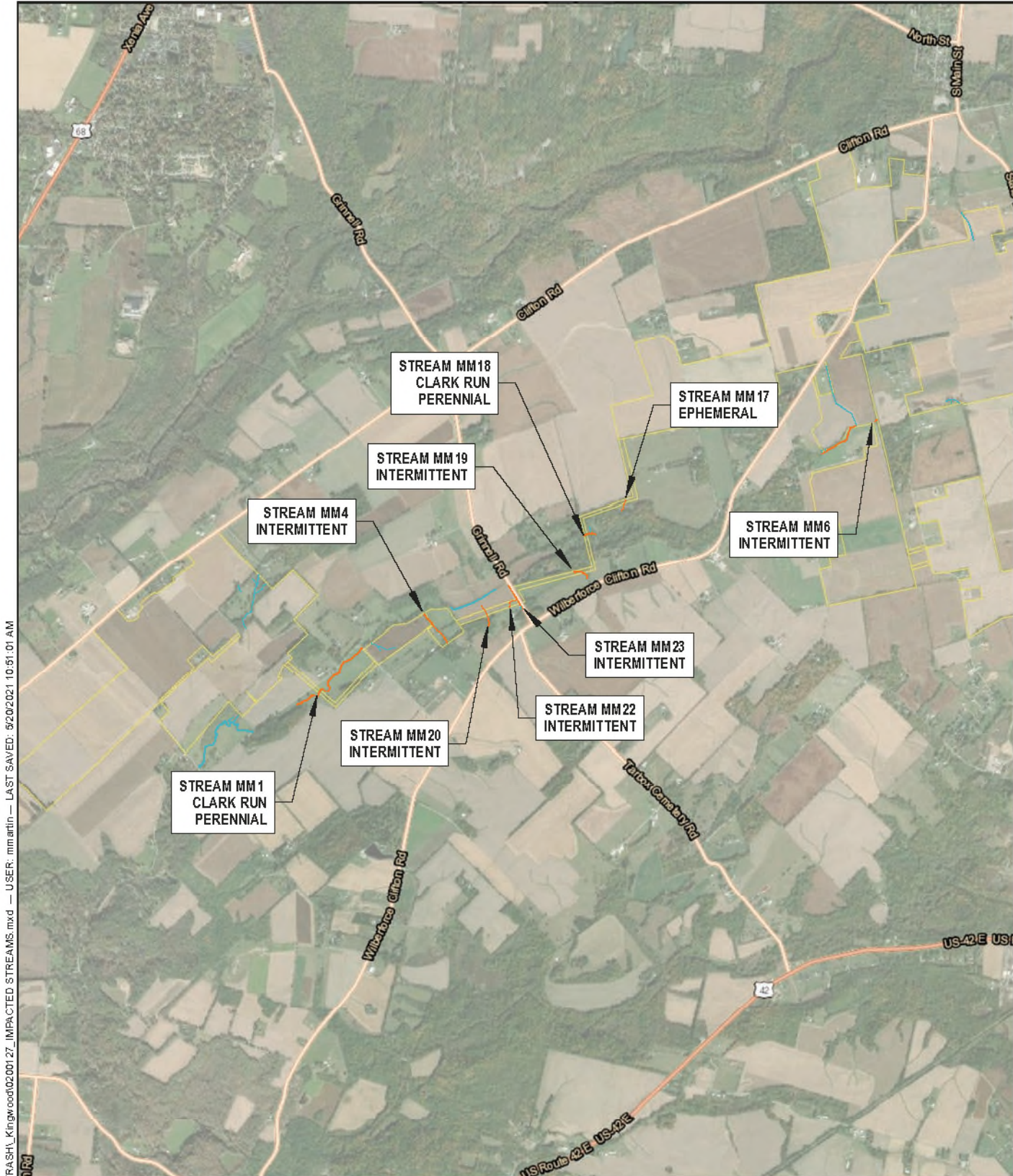
Kingwood Solar is expected to require panel cleaning between 1-2 times per year. This frequency will be assessed in better precision throughout the first year of operations, in accordance with local weather conditions, dust control, and facility production.

37. What is the approximate volume of water that would be required to clean the solar farm?

Kingwood Solar is expected to use an annual average of approximately 775 gallons per day (gal/day) for routine cleaning.

38. In the GIS data submitted, the facility components were submitted as one single shapefile layer, and we are not able to distinguish what is what. Please resubmit the facility components as individual layers.

Adjusted shapefiles of the facility components will be provided separately to OPSB Staff.



GIS FILE PATH: C:\Users\mmartin\Desktop\TRA_SHL_Kingwood\0200127_IMPACTED STREAMS.mxd — USER: mmartin — LAST SAVED: 9/20/2021 10:51:01 AM

- UNIMPACTED STREAM
- STREAM WITH PROPOSED COLLECTION LINE CROSSING
- STUDY AREA

NOTES
 1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
 2. BASE MAP SOURCE: ESRI

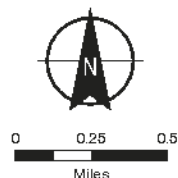
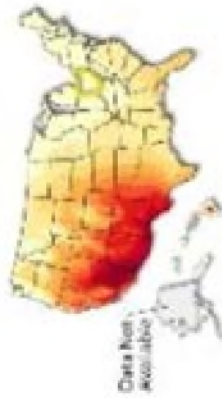


Figure DR1-1
 Project Area Delineated Stream Segments

Kingwood Solar
 Greene County, Ohio

Direct Normal Solar Resource of Ohio



41° Fifty-state Resource Range (kWh/m²/Day)



Ohio Resource Range

6.2	4.3	3.9	3.6	3.5
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This data provides annual average daily total solar resource averaged over surface cells of 0.038 degrees in both latitude and longitude, or, nominally, 4 km in size. The insolation values represent the resource available to concentrating systems and were created using the PATMOS-X algorithms for cloud identification and properties, the MMAC radiative transfer model for clear sky calculations, and the SANNI model for cloud sky calculations. The data are averaged from hourly model output over 8 years (2005-2012).



This map was produced by the National Renewable Energy Laboratory for the U.S. Department of Energy. Nicholas Gilroy, April 4, 2017

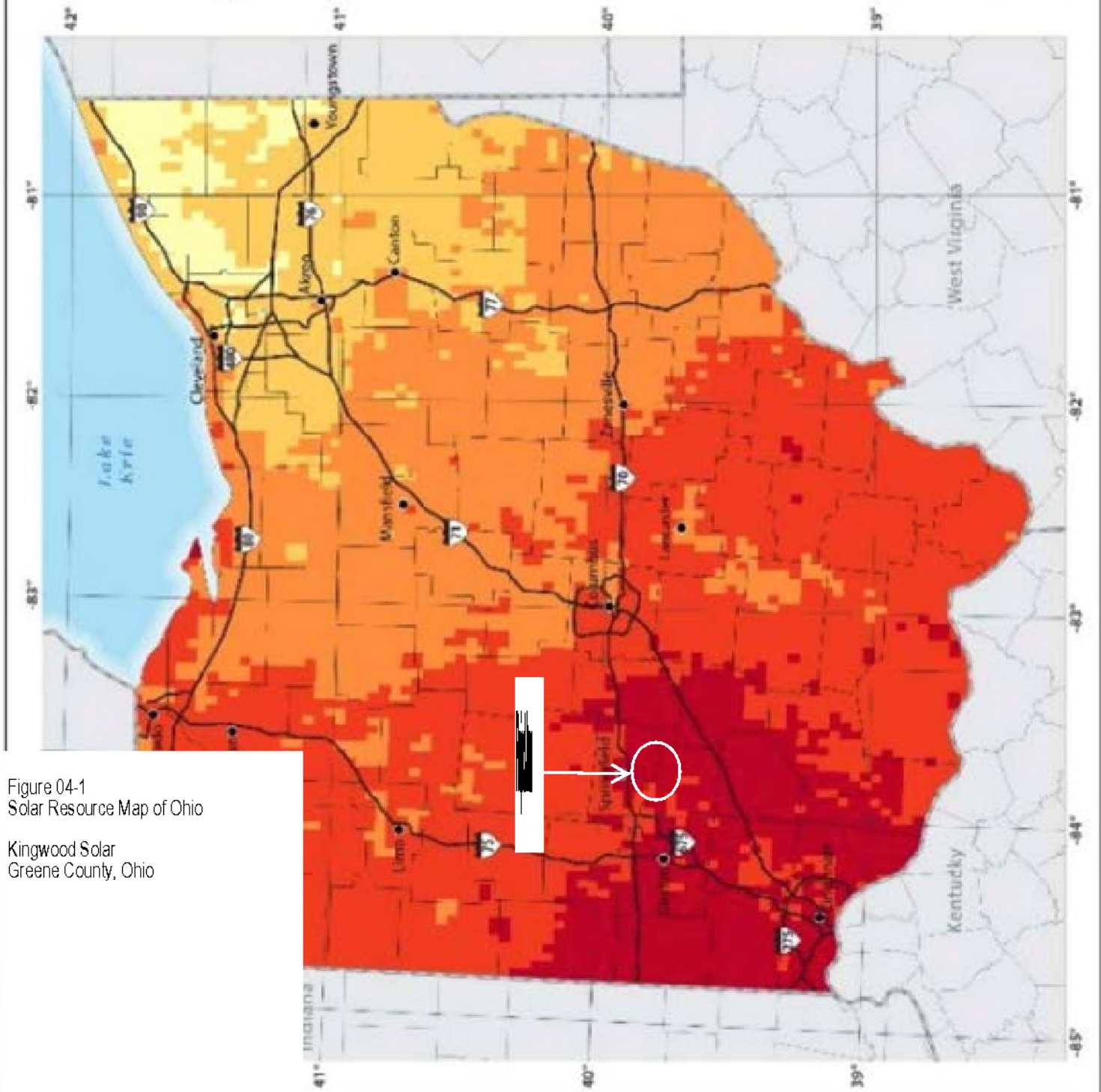
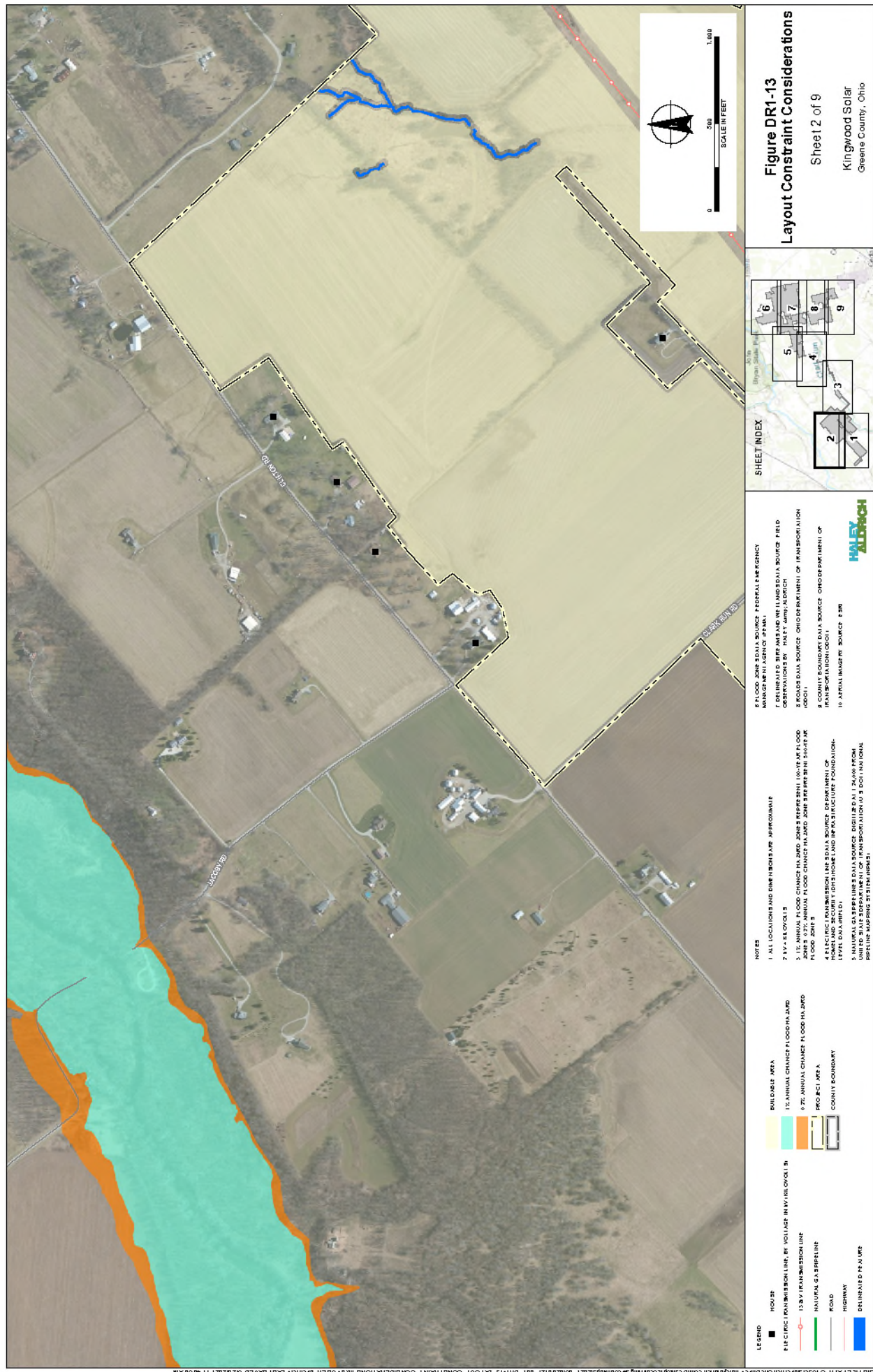
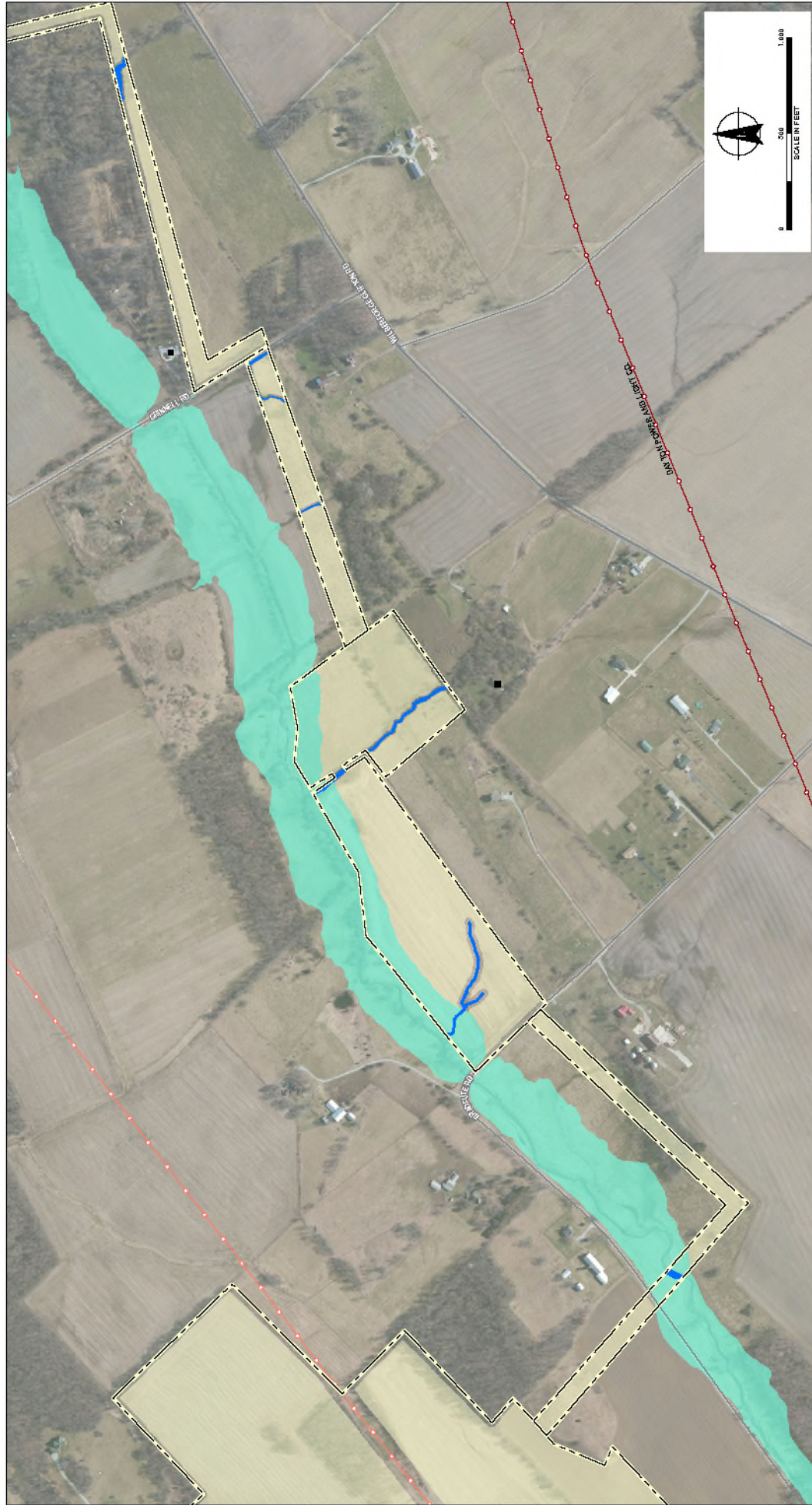


Figure 04-1
Solar Resource Map of Ohio

Kingwood Solar
Greene County, Ohio





LEGEND

- HOV 3P
- ELECTRIC TRANSMISSION LINE, 345 KV
- 1% ANNUAL CHANCE FLOOD HAZARD
- 100-YEAR FLOOD LINE
- NATURAL GAS PIPELINE
- ROAD
- HIGHWAY
- DELIMITED FEATURE
- BUILDABLE AREA
- 1% ANNUAL CHANCE FLOOD HAZARD
- 100-YEAR FLOOD LINE
- PROJ. B.C. AREA
- COUNTY BOUNDARY

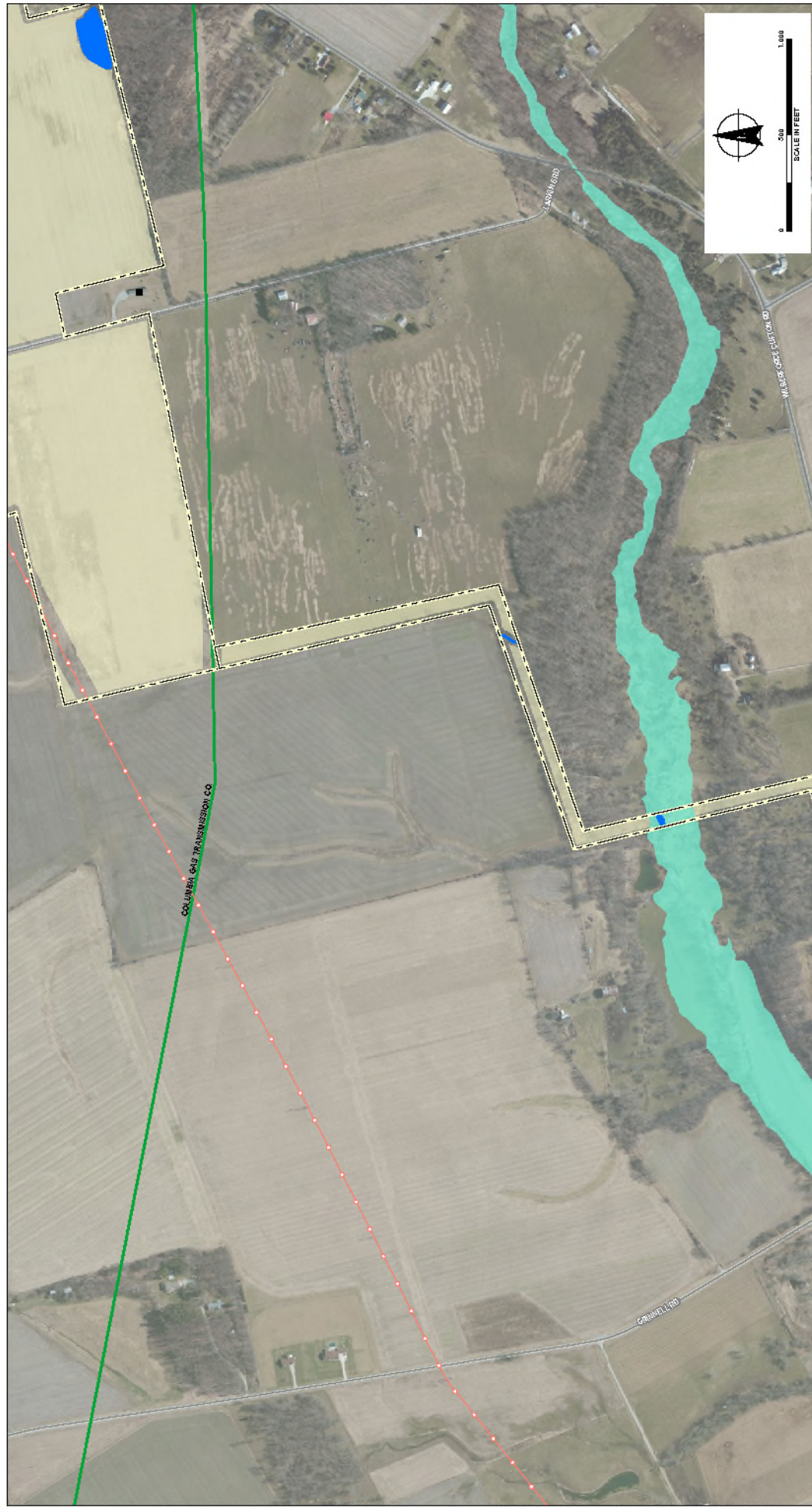
NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. 1% ANNUAL CHANCE FLOOD HAZARD
3. 1% ANNUAL CHANCE FLOOD HAZARD
4. ELECTRIC TRANSMISSION LINE 345 KV SOURCE: DEPARTMENT OF TRANSPORTATION (DOT)
5. NATURAL GAS PIPELINE 30" SOURCE: DOT
6. ROAD DATA SOURCE: DOT
7. COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (DOT)
8. COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (DOT)
9. COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (DOT)
10. AERIAL IMAGE DATA SOURCE: ESRI

HALEY ALDRICH

Figure DR1-13
Layout Constraint Considerations
Sheet 3 of 9
Kingwood Solar
Greene County, Ohio

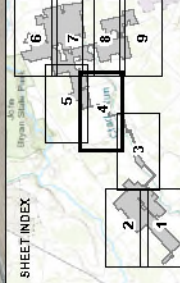
SHEET INDEX



**Figure DR1-13
Layout Constraint Considerations**

Sheet 4 of 9

Kingwood Solar
Greene County, Ohio



8. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY
MANAGEMENT AGENCY (FEMA)
9. DELINEATED STREAMS AND WETLANDS DATA SOURCE: FIELD
OBSERVATIONS BY NADP JAWP/USFWS
10. RIVERS DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION
(ODOT)
11. COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF
TRANSPORTATION (ODOT)
12. AERIAL IMAGE DATA SOURCE: ESRI

HALEY
ALDRICH

NOTES
1. ALL LOC.
2. 3V + R
3. 1% MGR
4. 1% MGR
5. 1% MGR
6. 1% MGR
7. 1% MGR
8. 1% MGR
9. 1% MGR
10. 1% MGR
11. 1% MGR
12. 1% MGR
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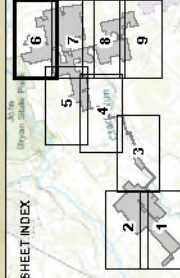




Figure DR1-13
Layout Constraint Considerations

Sheet 6 of 9

Kingwood Solar
Greene County, Ohio



9 FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY
MANAGEMENT AGENCY (FEMA)
10 CONTINENTAL SHEET MAPS AND WATER BODIES DATA SOURCE: FIELD
OBSERVATIONS BY "NATL. AERIAL SURVEY"
11 ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION
(ODOT)
12 COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF
TRANSPORTATION (ODOT)
13 AERIAL IMAGERY SOURCE: ESRI

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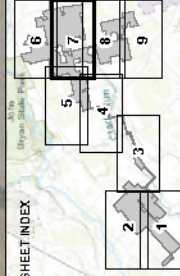
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Figure DR1-13
Layout Constraint Considerations

Sheet 7 of 9

Kingwood Solar
Greene County, Ohio



8 FOOD SOURCE FEDERAL EMERGENCY
MANAGEMENT AGENCY (FEMA)
9 DELINQUENT BEHAVIOR AND WELFARE SOURCE FIELD
OBSERVATION BY POLICE AGENCY
10 POLICE SOURCE OFFICE OF DEPARTMENT OF INVESTIGATION
(DOJ)
11 COUNTY SOURCE SOURCE OFFICE OF DEPARTMENT OF
INVESTIGATION (DOJ)
12 AGENCY SOURCE FBI

HALEY
ALDRICH

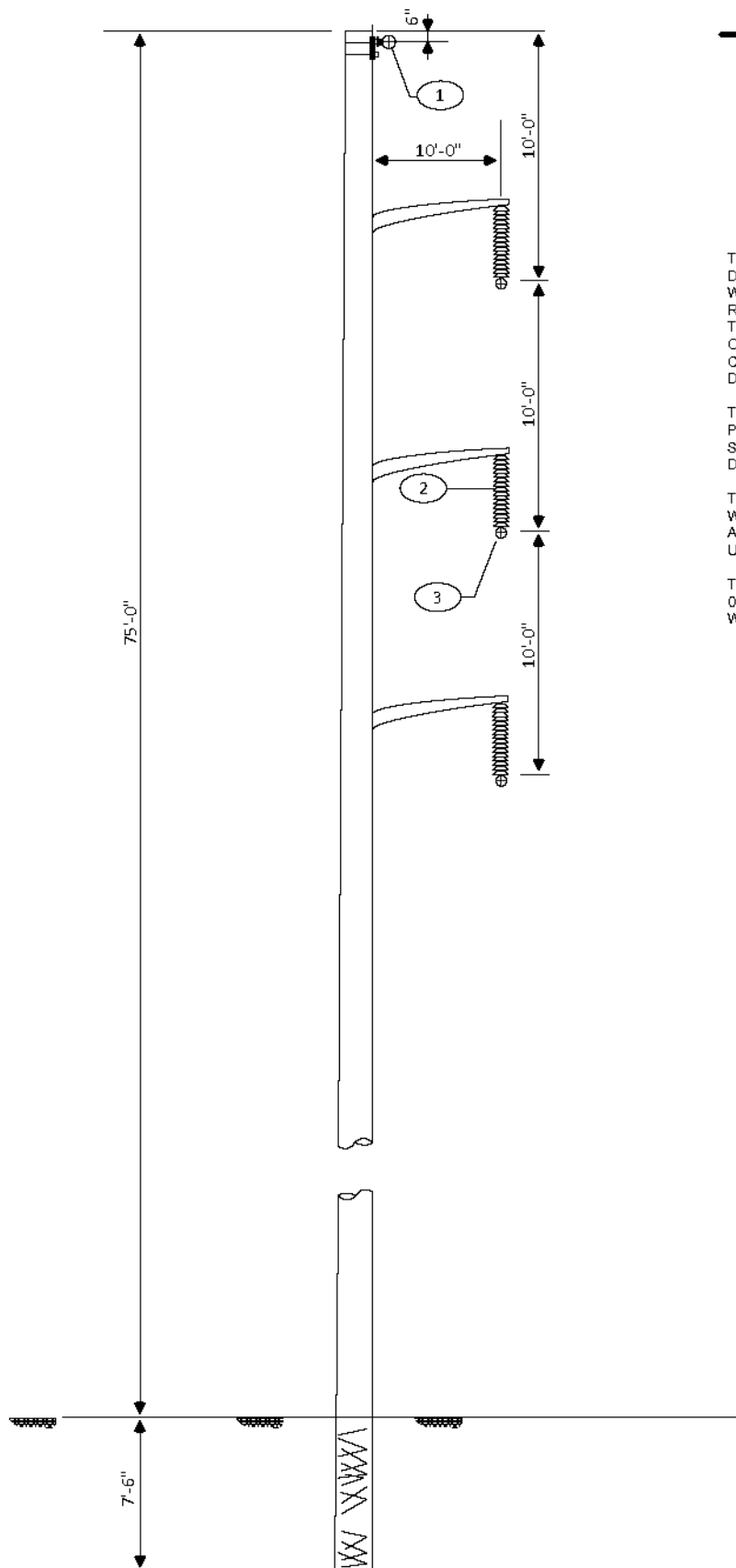
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LEGEND

- HOUSE
- ELECTRIC TRANSMISSION LINE 25' VOLTAGE
- 12 ANNUAL CHANGE FLOOD HAZARD
- PROJECT AREA
- 12.5' TRANSMISSION LINE
- NATURAL GAS PIPELINE
- COUNTY BOUNDARY
- BOUNDARY DATA

HIGHWAY
 DELINEATED FEATURES





NOTES

- 1 SHIELD WIRE
- 2 INSULATOR
- 3 PHASE CONDUCTORS

THE 138 KV GEN-TIE LINE SHALL BE DESIGNED AND BUILT IN ACCORDANCE WITH NESC (IEEE C2) AND ANY SPECIFIC REQUIREMENTS ESTABUSHED BY UTILITY, TRANSPORTATION AND LOCAL ORDINANCES LINE CROSSINGS AND CLEARANCES SHALL BE CONFIRMED DURING THE DETAILED DESIGN PHASE.

THE QUANTTTIES AND HEIGHT OF THE POLES SHOWN ON THIS DRAWING ARE SUBJECT TO CONFIRMATION DURING DETAILED FIELD SURVEY AND DESIGN.

THE MAXIMUM MID-SPAN LINE SAG WILL BE CALCULATED AND SET AT THE AMBIENT TEMPERATURE OF 130 DEG F UNDER MAXIMUM LOAD CONDITION.

THE GROUND (SHIELD) WIRE SHALL BE 0.75-INCH OPTICAL GROUND WIRE (OPGW).

138kV STEEL POLE TYPE - 75'

Detail Description			Job No.
			Plan name
			Date
			Scale
			Sketch



Updated Figure 03-3
Project Layout

Sheet 3 of 3

Kingwood Solar
Greene County, Ohio

HALEY



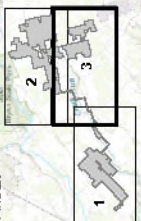
NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. 11V - 110V OUTS
3. ELECTRIC TRANSMISSION LINES DATA SOURCE: DEPARTMENT OF HOMELAND SECURITY (GRS) HOMELAND INFRASTRUCTURE FOUNDATIONAL LEVEL DATA (HIFLD)
4. PARCEL BOUNDARY DATA SOURCE: GREENE COUNTY
5. FLOOD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGE SOURCE: ESRI

LEGEND

- POTENTIAL SOLAR ARRAY
- POTENTIAL TRANSFORMER PAD
- POTENTIAL COLLECTION LINE
- POTENTIAL GRAVEL ROAD
- SUBSTATION
- 132 KV TRANSMISSION LINE
- 34KV TRANSMISSION LINE
- ROAD
- HIGHWAY
- PROJECT AREA
- PARCEL BOUNDARY
- PROJECT PARCEL

SHEET INDEX



OHIO POWER SITING BOARD PROJECT

OPSB Project Name: Kingwood Solar I LLC

Airspace Case Study Numbers

OPSB Certificate Number#

21-0117-EL-BGN

Issued / Expires:

State ASN
(If Issued)

Federal ASN

Status

Structure

Duration

Associated City

State

Latitude

Longitude

Site
Elevation

AGL

2021-AGL-35-OE
2021-AGL-36-OE
2021-AGL-37-OE
2021-AGL-38-OE

Determined
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This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

6/3/2021 7:58:31 AM

in

Case No(s). 21-0117-EL-BGN

Summary: Notice Notice of Responses to Data Requests from the Staff of the Ohio Power
Siting Board electronically filed by Mr. Michael J. Settineri on behalf of Kingwood Solar I LLC

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**NOTICE OF RESPONSES TO SECOND SET OF DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD**

On June 1, 2021 and June 3, 2021, Staff of the Ohio Power Siting Board (the “Board”) provided Kingwood Solar I LLC (“Kingwood Solar”) with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s responses, previously submitted to the Board’s Staff.

Respectfully submitted,

/s/ Michael J. Settineri
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Nathaniel B. Morse (0099768)
VORYS, SATER, SEYMOUR AND PEASE LLP
52 East Gay Street
P.O. Box 1008
Columbus, Ohio 43216-1008
(614) 464-5462
(614) 719-5146 (fax)
mjsettineri@vorys.com
nbmorse@vorys.com

Attorneys for Kingwood Solar I LLC

CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on June 9, 2021 to:

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Werner L. Margard
Attorneys for Ohio Power Siting Board Staff

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Werner.margard@ohioattorneygeneral.gov

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/s/ Michael J. Settineri
Michael J. Settineri

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of Kingwood Solar I LLC for a Certificate of Environmental Compatibility and Public Need))))	Case No. 21-0117-EL-BGN
--	------------------	--------------------------------

**KINGWOOD SOLAR'S JUNE 8, 2021 RESPONSES
TO STAFF'S JUNE 1 AND JUNE 3 DATA REQUESTS**

1. *Figure 8-11 currently only delineates schools and residences. Amend Figure 8-11 to include the following structures depicted as points on the map, as per 4906-4-08(C)(1)(a): "...commercial centers or buildings, industrial buildings and installations,...hospitals, churches, civic buildings, and other occupied places".*

A revised version of Figure 08-11 is attached that provides points on the maps for the requested features.

2. *Provide a more detailed "explanation of how such estimate was calculated" for the land use impact areas in section 4906-4-08(C)(1)(c).*

The estimated areas were calculated based on the layout shown in Figure 03-3 and Appendix A, using an overlay of the layout on existing aerial imagery. As depicted on the layout, a width of 20 feet was assumed for access roads and a width of 70 feet was assumed for temporary impact associated with installation of the collection lines, although actual impacts for each may be smaller. For the solar panels, the estimated impact was generally assumed to be the entire area within the woven -wire agricultural fence proposed around each array area (rather than simply the array areas), in recognition that the fenced Project area would curtail active agricultural land uses for the Project's operational life. Although active agricultural uses would be reduced in those areas, many areas within the fence line will continue to be vegetated, including with pollinator-friendly species. Small areas of impact to "infrastructure" are likely to be overstated due to scaling; Project features would not be located within active utility rights-of-way except for limited locations where collection lines may need to cross such features.

3. *Provide a more detailed plan or approach to the commitment made in section 4906-4-08(C)(4)(c)(iii) & (v) and 4906-4-08(C)(4)(d) as quoted here: "The Project Should not have a significant effect on the surrounding municipalities, as local employees will be hired to the extent possible." and "Local employees will be hired, to the extent possible. Hiring of non-residents will only occur when residents with the required skills are not available or competitive." and "The Project will also have positive impacts on the local economy, offering opportunity for the use of local goods and services. Furthermore, jobs and economic opportunities while retaining existing opportunities."*

By seeking full-time employees that already reside in the area, Kingwood Solar is not expected to have a significant effect on municipalities, meaning limited required relocation and increases to the local population and municipal school services.

Kingwood Solar, as indicated in Appendix D - Economic Impact Study, has the potential to create significant direct and indirect economic output through goods and services consumed by the 300 +/- construction workers, as well as direct increases in permanent annual labor income during operations. This economic activity may help to support existing, and/or drive additional job and economic growth of service providers directly and indirectly impacted by Kingwood Solar construction and operation.

- 4. In reference to the above question, please define what a “local employee” and “resident” means. Please specify what distance in relation to the project area counts as “local” or “resident”.***

These terms are intended to be relatively interchangeable referencing workers who would not require relocation or temporary accommodations if hired to work on the Kingwood Solar Project. Depending on the type of work scope and duration of employment, these workers may reside outside of Greene County. However, a “local” or “resident” employee is not expected to reside outside of the State of Ohio and would reside in relative proximity to the Project Area.

5. *In section 4906-4-08(C)(4)(e), population density is denoted in “person per acre”. Please provide population density in people per square mile. Please also provide alternative of Table 08-10 in this people per square mile notation as well.*

Population density on a per-square-mile basis is reflected in Revised Table 08-10.

**REVISED TABLE 08-10
POPULATION DENSITY**

Populated Place	(Estimated) 2019 Population	Total Land Area (sq. mile)	2019 Population Density (pp/sq. mile¹)
Cedarville Township	5,925	39.2	151.2
Miami Township	5,083	27.5	184.8
New Jasper Township	2,867	21.4	134.0
Xenia Township	6,402	43.6	146.8
Green Township (Clark County)	2,686	35.6	75.5
Mad River Township (Clark County)	10,830	33.5	323.3
City of Fairborn	33,876	14.6	2,320.3
City of Xenia	26,947	13.0	2,072.9
Village of Cedarville	4,320	1.3	3,323.1
Village of Clifton	147	0.2	735.0
Village of Yellow Springs	3,744	2.7	1,386.7
Wilberforce CDP	2,271	3.1	732.6

As noted, the average local population density is 445.9 people per square mile, with the highest densities located within the Village of Cedarville and City of Fairborn and the lowest densities located within Green Township (Clark County) and New Jasper Township.

6. *The USFWS, in the coordination letter provided in the Exhibit N, does not provide a date of receipt, but does state that the project may result in indirect adverse effects to Indiana bats, even if tree clearing is conducted during the winter season. The USFWS recommends a summer survey be conducted to determine presence/absence of Indiana bats at the project site (between June 1 and August 15). Has this survey been conducted? If yes, have the results been shared with the UWFWS and has a response been received? If not, please detail your plan for avoiding impacts to the Indiana bat based off of USFWS’ recommendations. Also, in Exhibit N, a second coordination letter is provided from the USFWS, dated March 24, 2021, in which the recommendation for conducting these surveys is eliminated. If this letter was updated from the previous letter, please*

provide proof of the date on which it was coordinated so Staff can verify the recommendation for presence/absence surveys for the Indiana bat are not warranted.

Appendix N of the Application provides the following communication between Project representatives and the USFWS:

- 4/27/2020 letter from Lynn Gresock to the USFWS requesting initial review consultation
- 5/4/2020 response email from USFWS (attached to this data response for clarity, as the date was separated from the response in the Application), where the potential for summer surveys was noted
- 5/5/2021 email consultation providing details of proposed tree clearing to the USFWS and requesting feedback as to whether seasonal clearing restrictions would be sufficient without the need for summer surveys
- 5/24/21 email response from USFWS confirming that seasonal clearing will be sufficient for the Project as proposed (also attached to this data response)

7. *Portions of the project will occur in a 100-year floodplain. Will a floodplain permit be necessary for this project? If so, where are you in the process of obtaining the permit?*

As noted in Section 4906-4-08(A)(4)(e), no solar panels are proposed in areas of mapped floodplain. The only Project-related features proposed in mapped floodplain areas are underground electrical collection lines, which will not increase the potential for flooding. In accordance with Section 101.03.9 of the Greene County Flood Damage Reduction Resolution, major utility facilities permitted by the Ohio Power Siting Board under Section 4906 of the Ohio Revised Code are exempt from the requirement to file a floodplain development permit.

8. *The application states that the planned project fencing would be of a chain-link type construction. Other projects have stated that National Electrical Safety Code (Article 110) and the National Electric Code (Article 110.31 Enclosure of Electrical Installations) shows that utilization of a 'Deer Fence' fence is acceptable. The openings in such a woven metal fencing can be potentially bigger than traditional chain link and can also incorporate various ground tunnel attachments to reportedly aid in the small animal crossings like turtles, coyotes, etc. Further, other projects have proposed wooden rail-type fences. Is the Applicant willing to commit to incorporating an alternate fence that aids in resolving wildlife access/crossing and viewshed concerns for the project? If not, please explain, quantify and qualify any rationale for not employing fencing that is less aesthetically intrusive and more wildlife friendly.*

The Application states that the Project plans the use of woven-wire fencing consistent with or similar to that described above and with the agricultural character of the Project Area. The only area where a more traditional chain-link fence may be required would be around the Utility Switchyard; this will be known once final PJM studies are completed.

9. *What is the proposed total length of access roads?*

Access roads within the Project Area total approximately 60,000 linear feet, or 11.3 miles.

10. What is the proposed total length of collection lines?

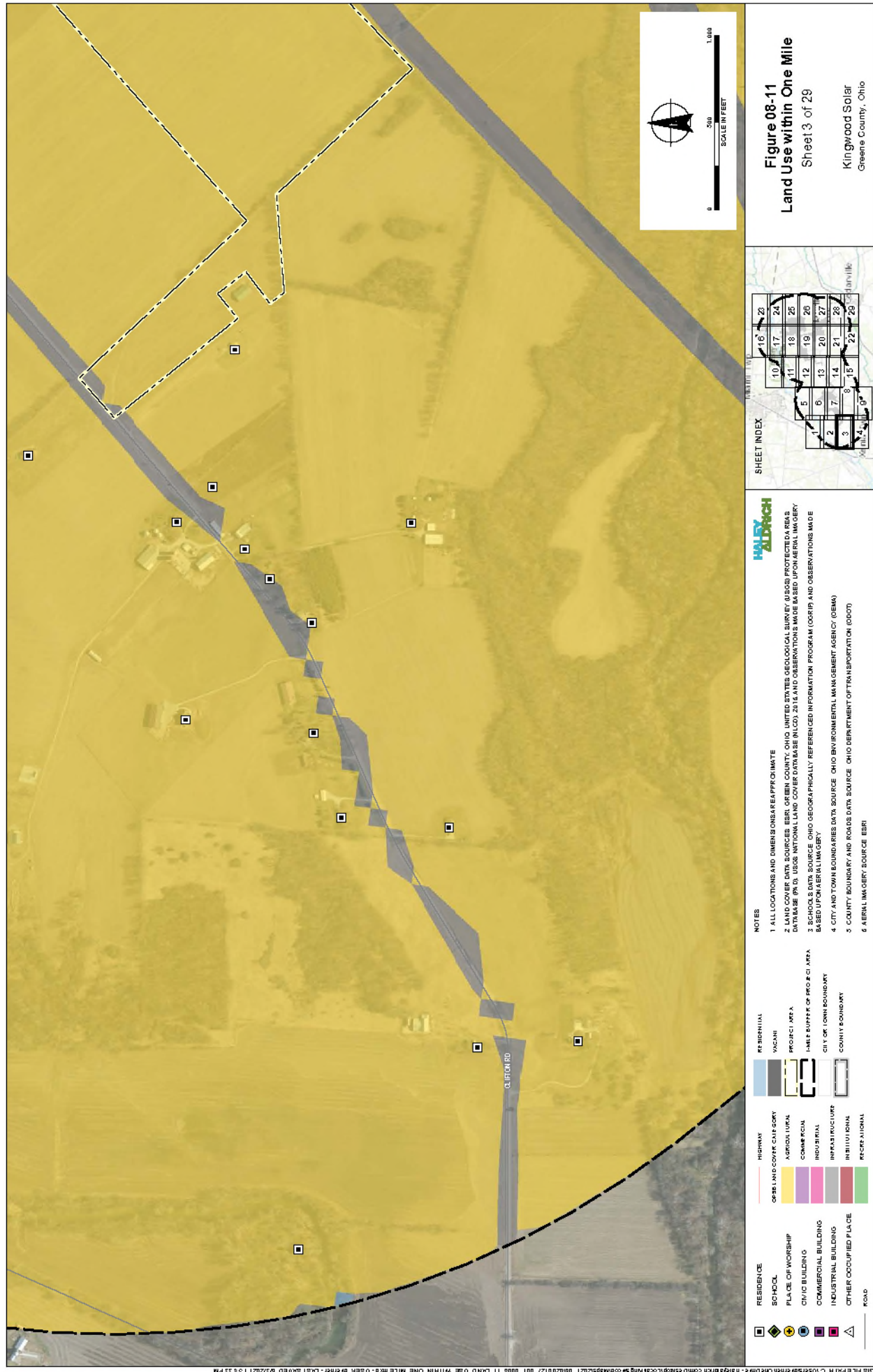
Collection lines, including those both inside and outside of panel array areas, are expected to total approximately 30,000 linear feet, or 5.7 miles; approximately 17,000 linear feet, or 3.2 miles, inside the array areas and approximately 13,000 linear feet, or 2.5 miles, outside the array areas.

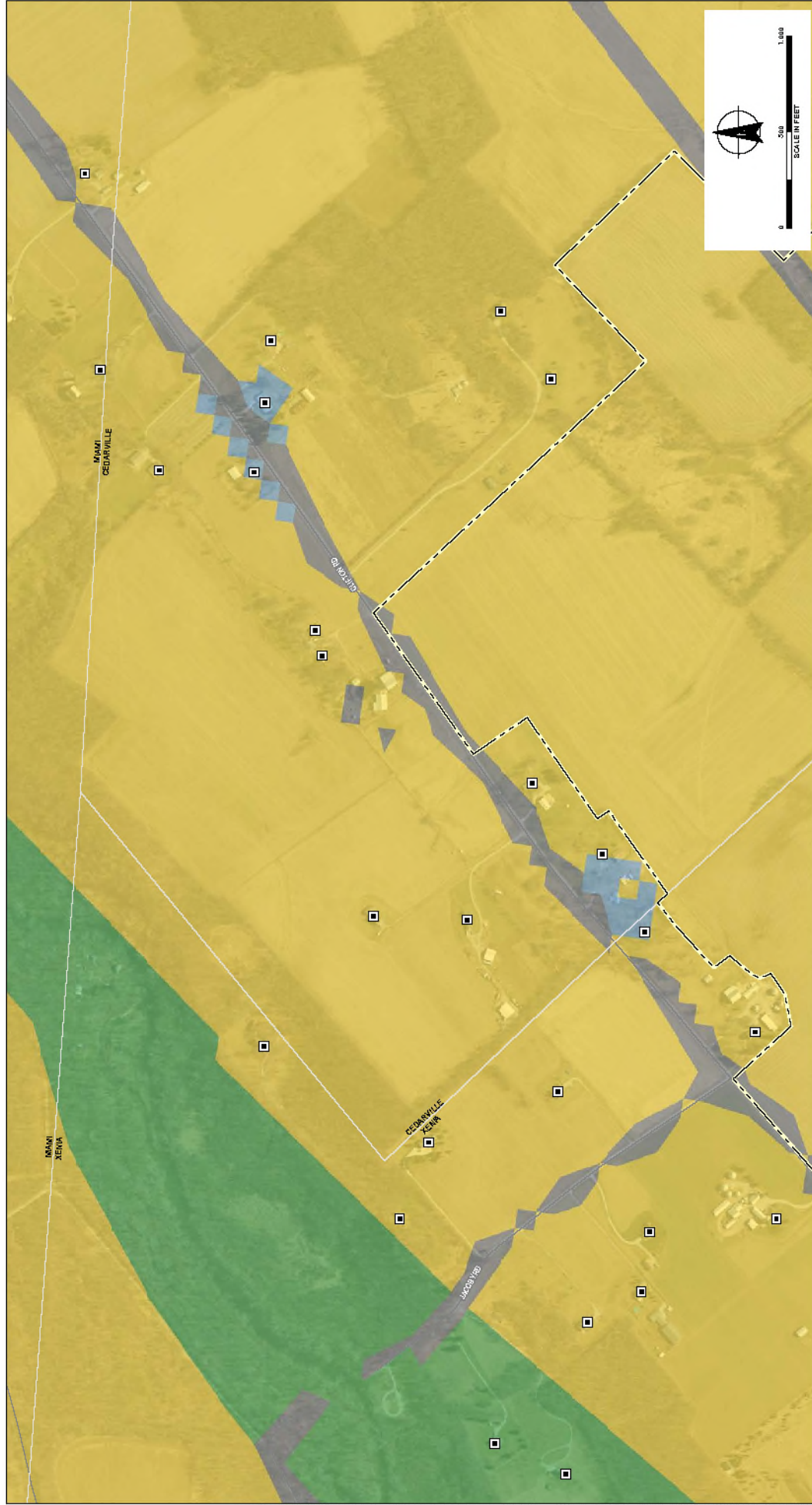
11. Please provide an estimate in cubic yards of the amount of solid waste that would be produced during construction.

Kingwood Solar, at 175 MW system capacity, is expected to generate approximately 6,825 cubic yards of solid waste during construction.

12. Please provide a buffer layer(s), in the form of shapefiles or .KMZ, of any setbacks applied to the project.

A shapefile package outlining the buffers around identified constraints is attached. In responding to this question, an error was identified on Figure DR1-13, which was provided with the responses to Data Request Set 1. A revised version of this figure is attached correctly illustrating a consistent 25-foot setback from the Project Area boundary. The shapefiles were also revised accordingly.





RESIDENCE

- SCHOOL
- PLACE OF WORSHIP
- CIVIC BUILDING
- COMMERCIAL BUILDING
- INDUSTRIAL BUILDING
- OTHER OCCUPIED PLACE

ROAD

- HIGHWAY
- OTHER LAND COVER
- WATER
- AGRICULTURAL
- COMMERCE
- INDUSTRIAL
- INFRASTRUCTURE
- INSTITUTIONAL
- RECREATIONAL

RESIDENTIAL

- VACANT
- PROJECT AREA
- 1-MILE BUFFER OF PROJECT AREA
- CITY OR TOWN BOUNDARY
- COUNTY BOUNDARY

NOTES

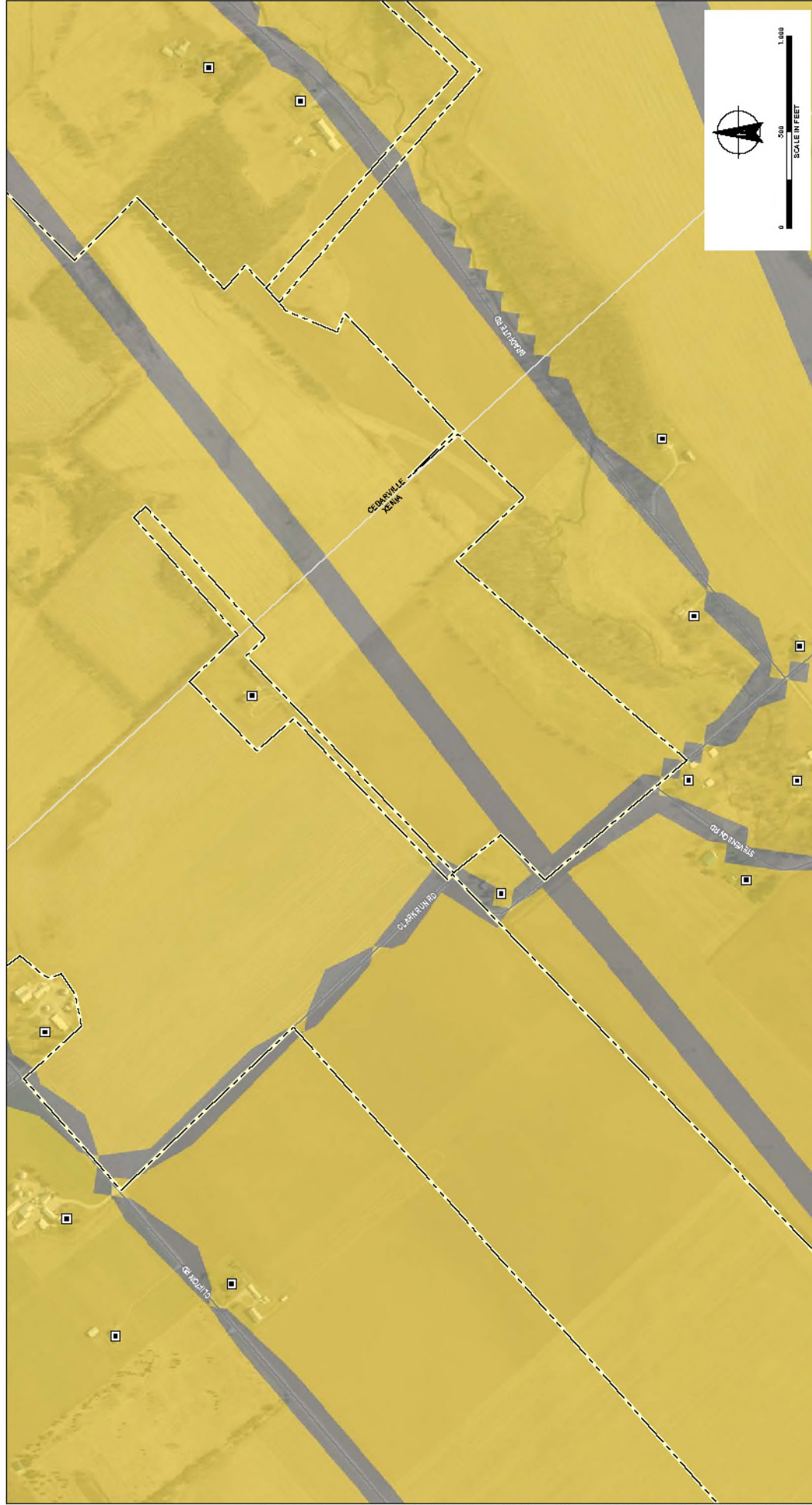
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3. SCHOOLS DATA SOURCES: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (CORIP) AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY
4. CITY AND TOWN BOUNDARIES DATA SOURCE: OHIO ENVIRONMENTAL MANAGEMENT AGENCY (EMA)
5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: ESRI

HALEY ALDRICH

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Figure 08-11
Land Use within One Mile
Sheet 6 of 29
Kingwood Solar
Greene County, Ohio



RESIDENCE

SCHOOL

PLACE OF WORSHIP

CIVIC BUILDING

COMMERCIAL BUILDING

INDUSTRIAL BUILDING

OTHER OCCUPIED PLACE

ROAD

RESIDENTIAL

VACANT

PROJECT AREA

HAZARD SUPPLY OF PROPOSED AREA

CITY OR TOWN BOUNDARY

COUNTY BOUNDARY

OTHER LAND COVER CATEGORY

AGRICULTURAL

COMMERCE

INDUSTRIAL

INFRASTRUCTURE

INSTITUTIONAL

RECREATIONAL

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

2. LAND COVER DATA SOURCES: EERI, GREEN COUNTY, OHIO, UNITED STATES GEOLOGICAL SURVEY (USGS) PROTECTED AREAS DATABASE (P.A.D.), USGS NATIONAL LAND COVER DATABASE (NLCD) 2011 AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY BASED UPON AERIAL IMAGERY

3. SCHOOLS DATA SOURCES: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (CORIP) AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY

4. CITY AND TOWN BOUNDARIES DATA SOURCE: OHIO ENVIRONMENTAL MANAGEMENT AGENCY (OEMA)

5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)

6. AERIAL IMAGERY SOURCE: EERI

HALEY ALDRICH

Figure 08-11

Land Use within One Mile

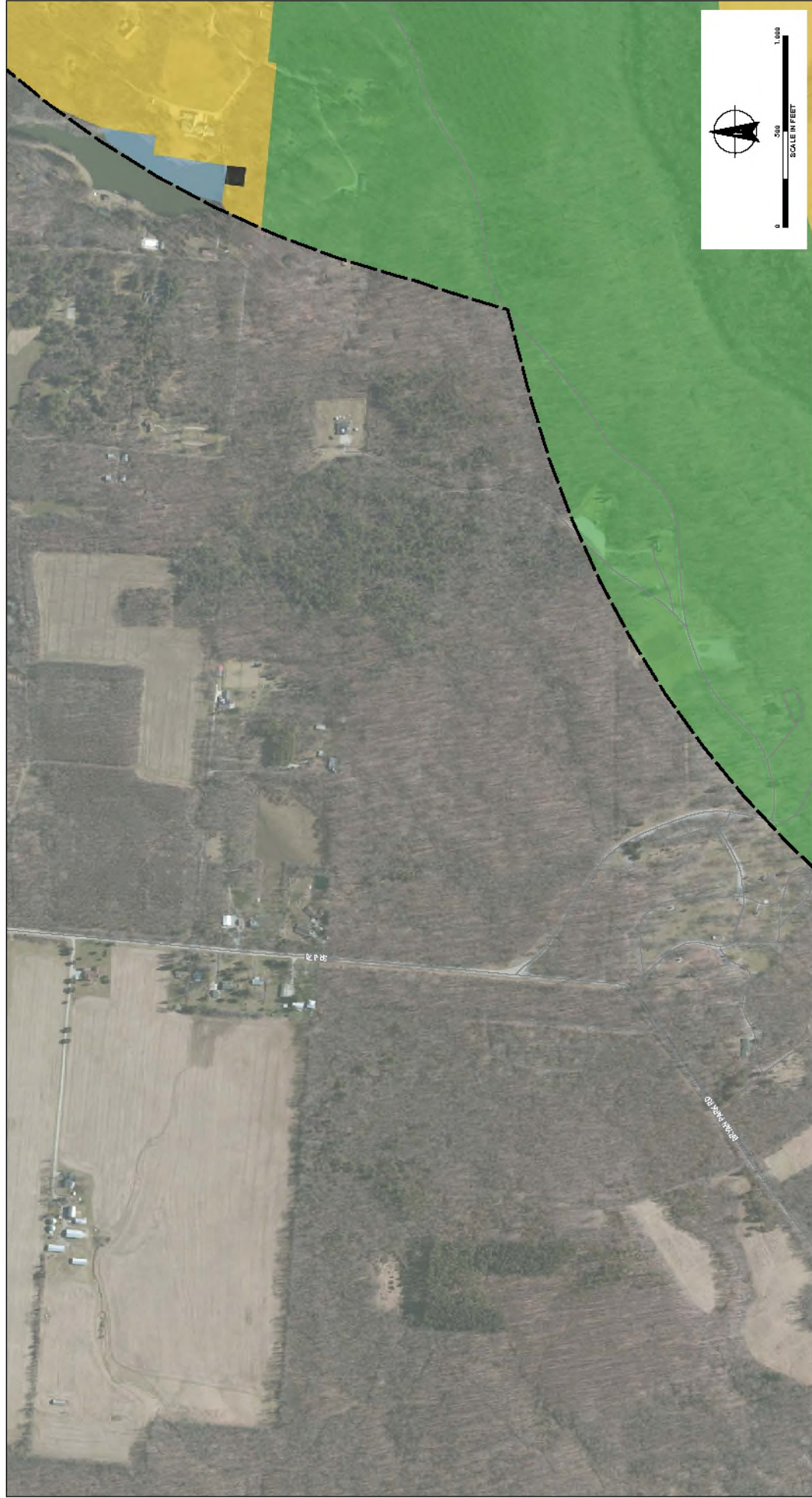
Sheet 7 of 29

Kingwood Solar

Greene County, Ohio

SHEET INDEX

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RESIDENCE

- SCHOOL
- PLACE OF WORSHIP
- CIVIC BUILDING
- COMMERCIAL BUILDING
- INDUSTRIAL BUILDING
- OTHER OCCUPIED PLACE

ROAD

- HIGHWAY
- OTHER LAND COVER
- WATER
- AGRICULTURAL
- COMMERCE
- INDUSTRIAL
- INFRASTRUCTURE
- INSTITUTIONAL
- RECREATIONAL

RESIDENTIAL

- VACANT
- PROJECT AREA
- LAND BUFFER OF PROJECT AREA
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NOTES

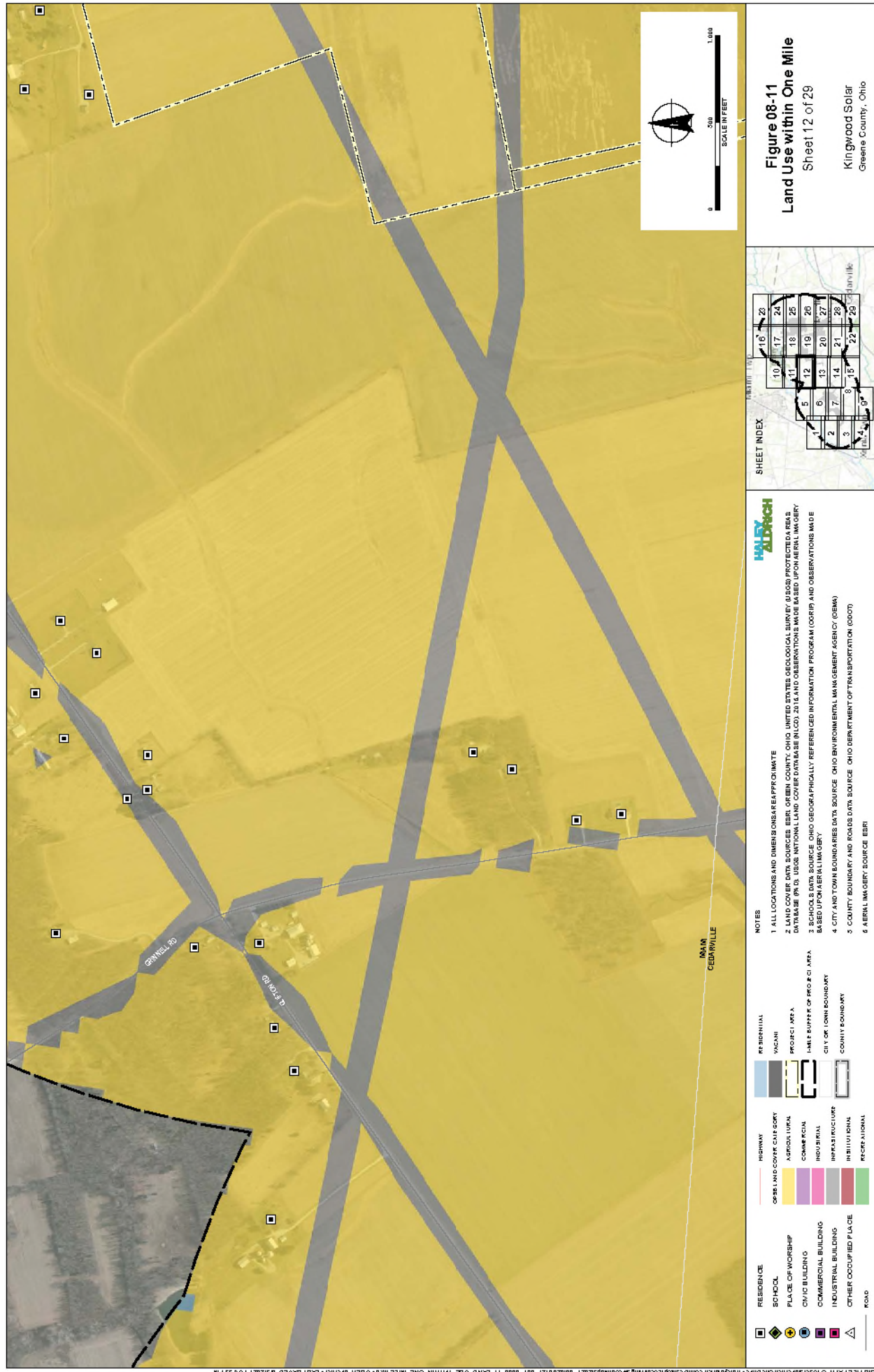
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. LAND COVER DATA SOURCES: ESRI, UNITED STATES GEOLOGICAL SURVEY (USGS) PROTECTED AREAS DATABASE (PAD), USGS NATIONAL LAND COVER DATABASE (NLCD) 2011 LAND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY BASED UPON AERIAL IMAGERY
3. SCHOOLS DATA SOURCES: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (CORIP) AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY
4. CITY AND TOWN BOUNDARIES DATA SOURCE: OHIO ENVIRONMENTAL MANAGEMENT AGENCY (OEMA)
5. COUNTY BOUNDARY AND ROADS DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: ESRI

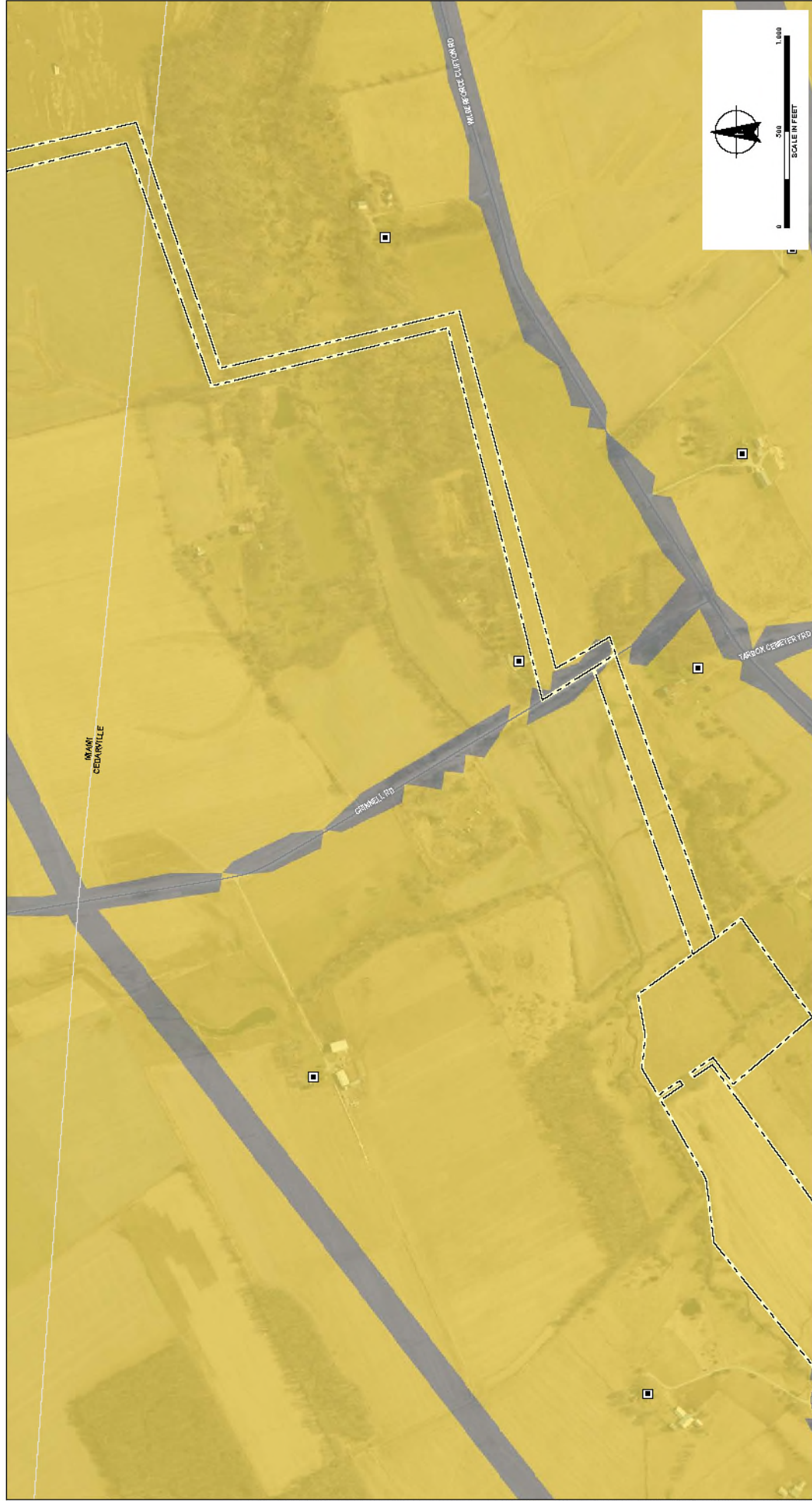
HALEY ALDRICH

Figure 08-11
Land Use within One Mile
Sheet 10 of 29
Kingwood Solar
Greene County, Ohio

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LEGEND

RESIDENCE

- SCHOOL
- PLACE OF WORSHIP
- CIVIC BUILDING
- COMMERCIAL BUILDING
- INDUSTRIAL BUILDING
- OTHER OCCUPIED PLACE

ROAD

- HIGHWAY
- OTHER LAND COVER
- AGRICULTURAL
- COMMERCE
- INDUSTRIAL
- INFRASTRUCTURE
- INSTITUTIONAL
- RECREATIONAL

RESIDENTIAL

- VACANT
- PROJECT AREA
- LAND SUPPLY OF PROJECT AREA
- CITY OR TOWN BOUNDARY
- COUNTY BOUNDARY

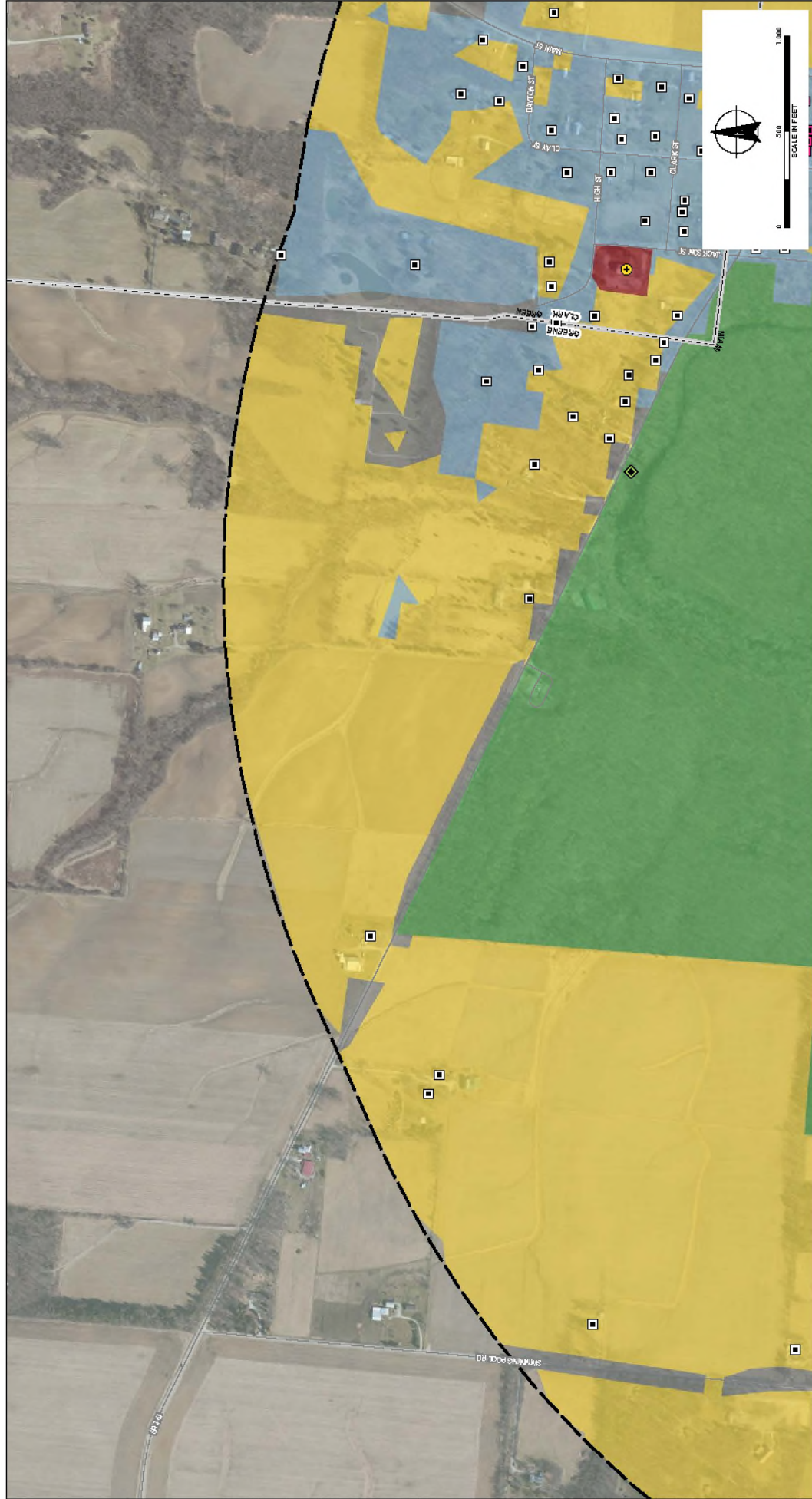
NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. LAND COVER DATA SOURCES: EERI, GREEN COUNTY, OHIO, UNITED STATES GEOLOGICAL SURVEY (USGS) PROTECTED AREAS DATABASE (PAID), USGS NATIONAL LAND COVER DATABASE (NLCD) 2014, AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY BASED UPON AERIAL IMAGERY
3. SCHOOLS DATA SOURCES: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (CORIP) AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY
4. CITY AND TOWN BOUNDARIES DATA SOURCE: OHIO ENVIRONMENTAL MANAGEMENT AGENCY (OEMA)
5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: EERI

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Figure 08-11
Land Use within One Mile
Sheet 13 of 29
Kingwood Solar
Greene County, Ohio



HALEY
ALDRICH

NOTES

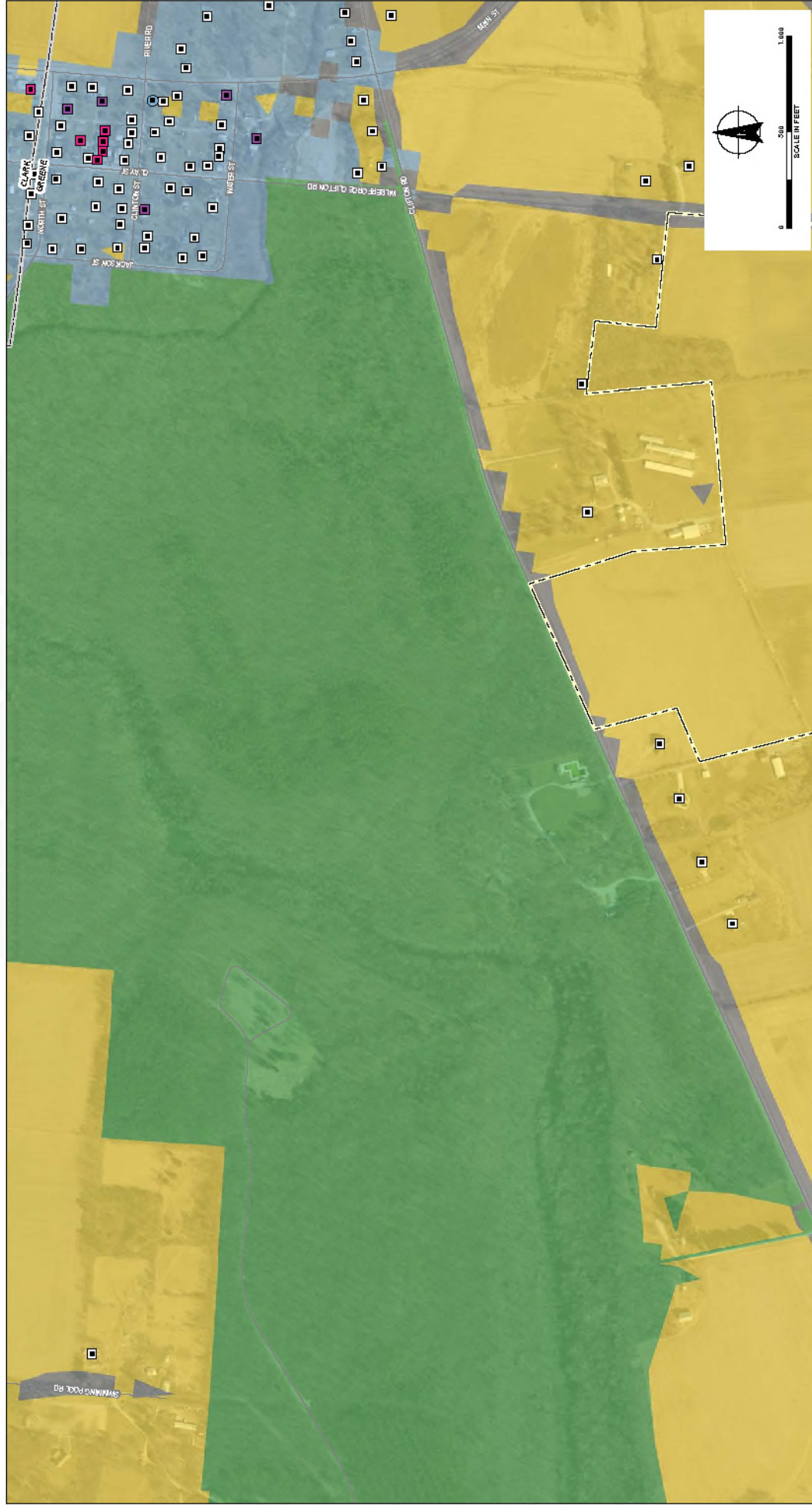
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
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3. SCHOOLS DATA SOURCES: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (CORIP) AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY
4. CITY AND TOWN BOUNDARIES DATA SOURCE: OHIO ENVIRONMENTAL MANAGEMENT AGENCY (OEMA)
5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: EERI



Figure 08-11
Land Use within One Mile
Sheet 16 of 29

Kingwood Solar
Greene County, Ohio





RESIDENCE

SCHOOL

PLACE OF WORSHIP

CIVIC BUILDING

COMMERCIAL BUILDING

INDUSTRIAL BUILDING

OTHER OCCUPIED PLACE

ROAD

OPEN LAND COVER CATEGORY

AGRICULTURAL

COMMERCE

INDUSTRIAL

INFRASTRUCTURE

INSTITUTIONAL

RECREATIONAL

RESIDENTIAL

VACANT

PROJECT AREA

1/2 MILE BUFFER OF PROJECT AREA

CITY OR TOWN BOUNDARY

COUNTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE

2. LAND COVER DATA SOURCES: EERI, GREEN COUNTY, OHIO; UNITED STATES GEOLOGICAL SURVEY (USGS) PROTECTED AREAS DATA BASE (PAID); USGS NATIONAL LAND COVER DATABASE (NLCD) 2014; LAND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY BASED UPON AERIAL IMAGERY

3. SCHOOLS DATA SOURCES: OHIO GEOGRAPHICALLY REFERENCED INFORMATION PROGRAM (CORIP) AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY

4. CITY AND TOWN BOUNDARIES DATA SOURCE: OHIO ENVIRONMENTAL MANAGEMENT AGENCY (OEMA)

5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)

6. AERIAL IMAGERY SOURCE: EERI

HALEY ALDRICH

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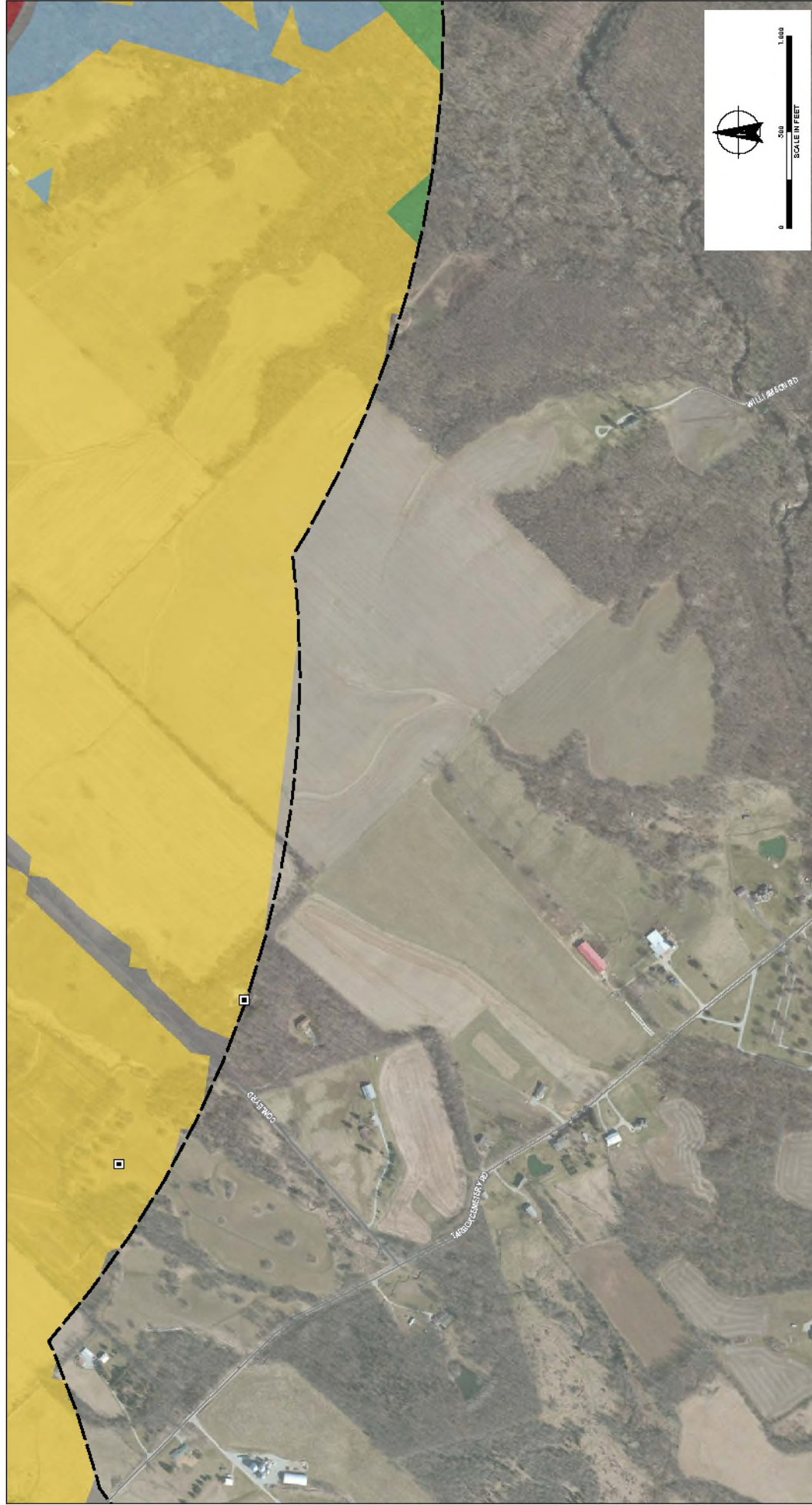
Figure 08-11

Land Use within One Mile

Sheet 17 of 29

Kingwood Solar

Greene County, Ohio



LEGEND

RESIDENCE

- SCHOOL
- PLACE OF WORSHIP
- CIVIC BUILDING
- COMMERCIAL BUILDING
- INDUSTRIAL BUILDING
- OTHER OCCUPIED PLACE

OTHER LAND COVER CATEGORY

- AGRICULTURAL
- COMMERICAL
- INDUSTRIAL
- INFRASTRUCTURE
- INSTITUTIONAL
- RECREATIONAL

ROAD

- HIGHWAY
- OTHER LAND COVER CATEGORY

RESIDENTIAL

- VACANT
- PROJECT AREA
- INHERITANCE OF PROJECT AREA
- CITY OR TOWN BOUNDARY
- COUNTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. LAND COVER DATA SOURCES: ESRI, UNITED STATES GEOLOGICAL SURVEY (USGS) PROTECTED AREAS DATA BASE, P.D. 1998, NATIONAL LAND COVER DATABASE (NLCD) 2011, LAND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY
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5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: ESRI

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Figure 08-11

Land Use within One Mile

Sheet 22 of 29

Kingwood Solar

Greene County, Ohio



HALEY ALDRICH

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. LAND COVER DATA SOURCES: ESRI, GREEN COUNTY, OHIO, UNITED STATES GEOLOGICAL SURVEY (USGS) PROTECTED AREAS DATABASE (PAID), USGS NATIONAL LAND COVER DATABASE (NLCD) 2011, AND OBSERVATIONS MADE BASED UPON AERIAL IMAGERY BASED UPON AERIAL IMAGERY
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5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: ESRI

LEGEND

	RESIDENTIAL		HIGHWAY
	SCHOOL		OPEN LAND COVER CATEGORY
	PLACE OF WORSHIP		AGRICULTURAL
	CIVIC BUILDING		COMMERCIAL
	COMMERCIAL BUILDING		INDUSTRIAL
	INDUSTRIAL BUILDING		INFRASTRUCTURE
	OTHER OCCUPIED PLACE		INSTITUTIONAL
			RECREATIONAL
			ROAD

RESIDENTIAL

- VACANT
- PROJECT AREA
- HAIR BUFF OF PROJECT AREA
- CITY OR TOWN BOUNDARY
- COUNTY BOUNDARY

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Figure 08-11
Land Use within One Mile
Sheet 23 of 29
Kingwood Solar
Greene County, Ohio

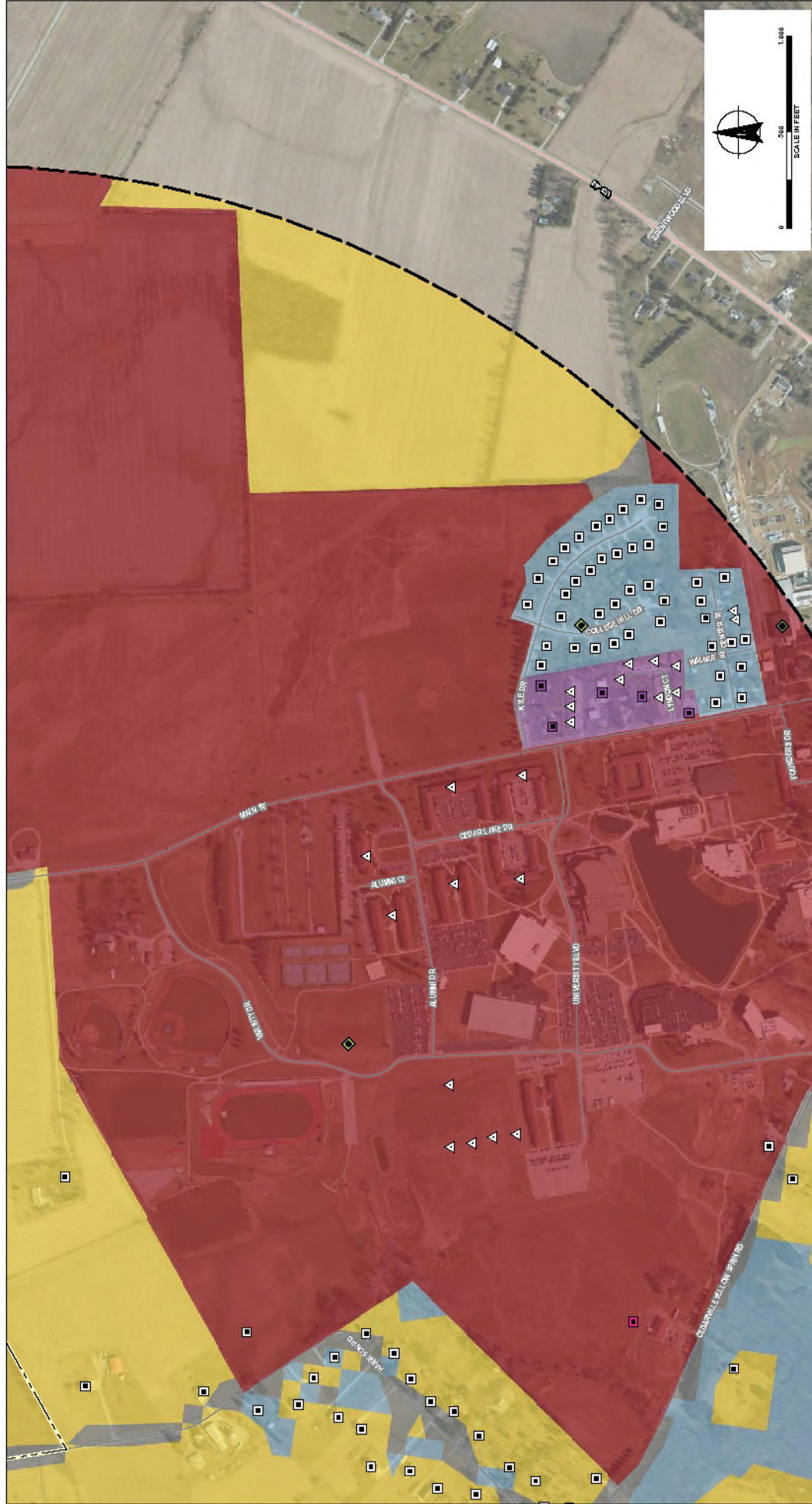


Figure 08-11
Land Use within One Mile
Sheet 28 of 28
Kingwood Solar
Greene County, Ohio

HALEY
ALDRICH

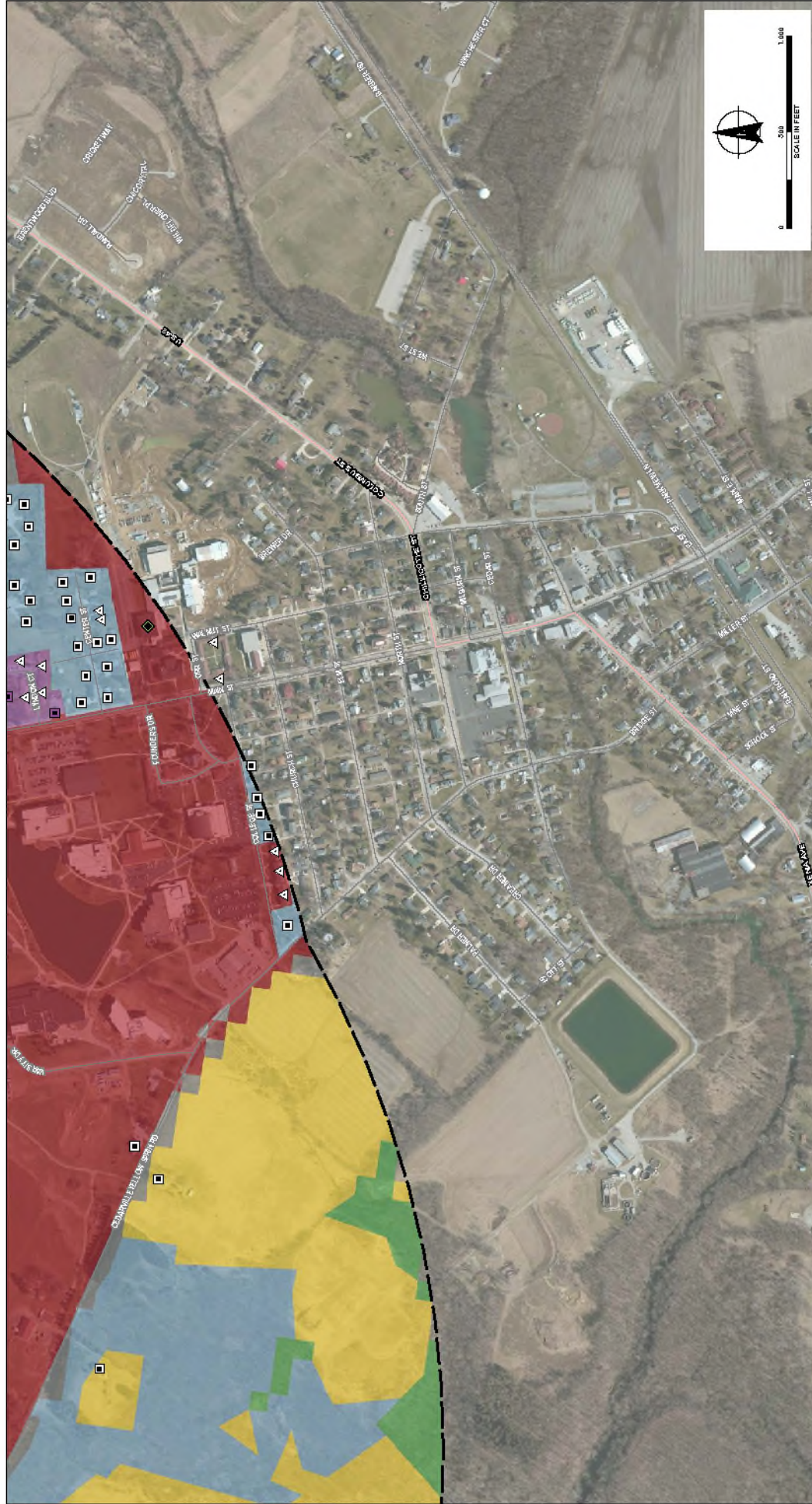
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5. COUNTY BOUNDARY AND ROAD DATA SOURCES: OHIO DEPARTMENT OF TRANSPORTATION (ODOT).
6. AERIAL IMAGERY: SOURCE: ESRI.

LEGEND

RESIDENCE
SCHOOL
PLACE OF WORSHIP
CIVIC BUILDING
COMMERCIAL BUILDING
INDUSTRIAL BUILDING
OTHER OCCUPIED PLACE

ROAD
HIGHWAY
OTHER LAND COVER CATEGORY
AGRICULTURAL
COMMERCIAL
INDUSTRIAL
INFRASTRUCTURE
INSTITUTIONAL
RECREATIONAL

RESIDENTIAL
VICINITY
PROJECT AREA
HAIER BUFFER OF PROJECT AREA
CITY OR TOWN BOUNDARY
COUNTY BOUNDARY



HALEY ALDRICH

NOTES

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5. COUNTY BOUNDARY AND ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
6. AERIAL IMAGERY SOURCE: ESRI

RESIDENCE

- SCHOOL
- PLACE OF WORSHIP
- CIVIC BUILDING
- COMMERCIAL BUILDING
- INDUSTRIAL BUILDING
- OTHER OCCUPIED PLACE

ROAD

- HIGHWAY
- OTHER LAND COVER DATA SOURCE
- AGRICULTURAL
- COMMERCIAL
- INDUSTRIAL
- INFRASTRUCTURE
- INSTITUTIONAL
- RECREATIONAL

PROJECT AREA

- HALEY ALDRICH PROJECT AREA
- HALEY ALDRICH PROJECT AREA
- HALEY ALDRICH PROJECT AREA

CITY OR TOWN BOUNDARY

- CITY OR TOWN BOUNDARY
- CITY OR TOWN BOUNDARY

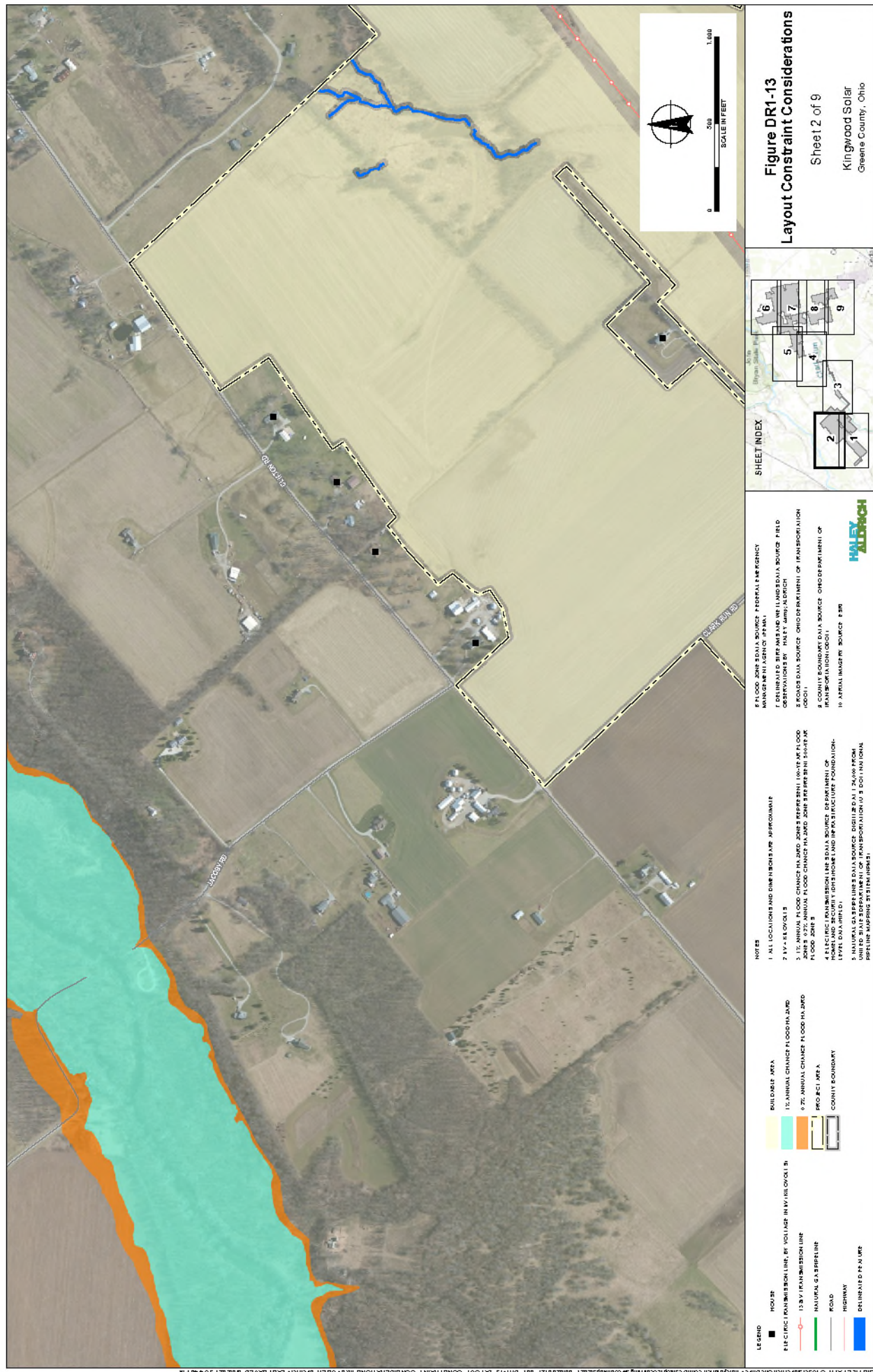
COUNTY BOUNDARY

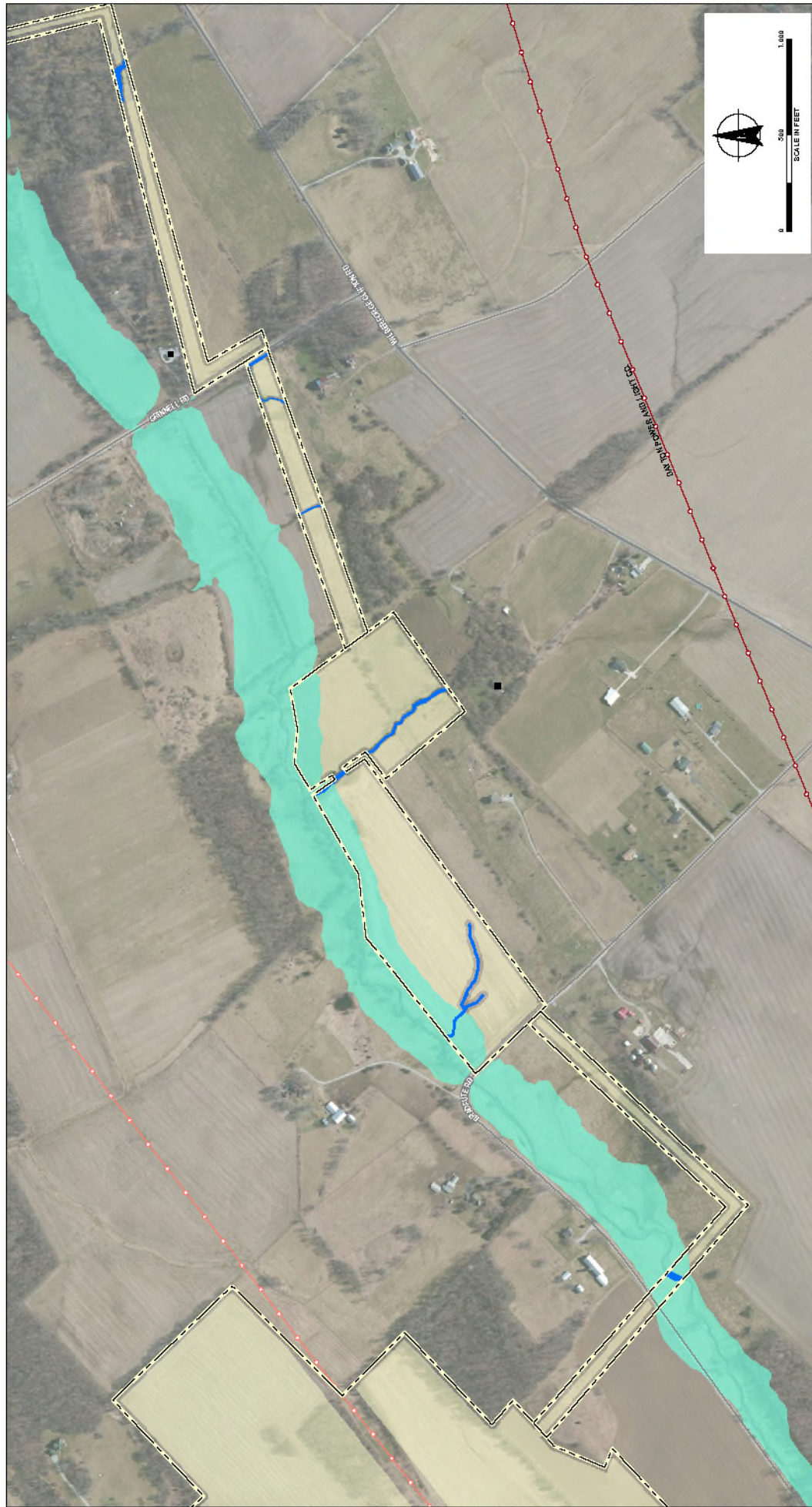
- COUNTY BOUNDARY

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Figure 08-11
Land Use within One Mile
Sheet 29 of 29
Kingwood Solar
Greene County, Ohio





LEGEND

- HOV 3P
- ELECTRIC TRANSMISSION LINE, 345 KV
- 1% ANNUAL CHANCE FLOOD HAZARD
- 100-YEAR FLOOD LINE
- NATURAL GAS PIPELINE
- ROAD
- HIGHWAY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. 1% ANNUAL FLOOD CHANCE HAZARD, 100-YEAR FLOOD CHANCE HAZARD, 100-YEAR FLOOD CHANCE HAZARD, 100-YEAR FLOOD CHANCE HAZARD
3. 1% ANNUAL FLOOD CHANCE HAZARD, 100-YEAR FLOOD CHANCE HAZARD, 100-YEAR FLOOD CHANCE HAZARD, 100-YEAR FLOOD CHANCE HAZARD
4. ELECTRIC TRANSMISSION LINE, 345 KV, DEPARTMENT OF TRANSPORTATION, OHIO
5. NATURAL GAS PIPELINE, 30 INCH, DEPARTMENT OF TRANSPORTATION, OHIO
6. NATURAL GAS PIPELINE, 30 INCH, DEPARTMENT OF TRANSPORTATION, OHIO
7. NATURAL GAS PIPELINE, 30 INCH, DEPARTMENT OF TRANSPORTATION, OHIO
8. NATURAL GAS PIPELINE, 30 INCH, DEPARTMENT OF TRANSPORTATION, OHIO
9. NATURAL GAS PIPELINE, 30 INCH, DEPARTMENT OF TRANSPORTATION, OHIO
10. NATURAL GAS PIPELINE, 30 INCH, DEPARTMENT OF TRANSPORTATION, OHIO

DATA SOURCES

- 1. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
- 2. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
- 3. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
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- 5. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
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- 8. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
- 9. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)
- 10. FLOOD ZONE DATA SOURCE: FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA)

HALEY ALDRICH

Figure DR1-13
Layout Constraint Considerations
Sheet 3 of 9
Kingwood Solar
Greene County, Ohio

SHEET INDEX





LEGEND

- HOV 3P
- ELECTRIC TRANSMISSION LINE BY VOLTAGE IN KILOVOLTS
- 15 KV TRANSMISSION LINE
- NATURAL GAS PIPELINE
- ROAD
- HIGHWAY
- DELIMITED PER NURE

LEGEND

- BUILDABLE AREA
- 1% ANNUAL CHANCE FLOOD HAZARD
- PROJECT AREA
- COUNTY BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
2. 1% ANNUAL CHANCE FLOOD HAZARD
3. 1% ANNUAL CHANCE FLOOD HAZARD
4. 1% ANNUAL CHANCE FLOOD HAZARD
5. 1% ANNUAL CHANCE FLOOD HAZARD
6. 1% ANNUAL CHANCE FLOOD HAZARD
7. 1% ANNUAL CHANCE FLOOD HAZARD
8. 1% ANNUAL CHANCE FLOOD HAZARD
9. 1% ANNUAL CHANCE FLOOD HAZARD
10. 1% ANNUAL CHANCE FLOOD HAZARD

FIGURE DR1-13
Layout Constraint Considerations
Sheet 7 of 9
Kingwood Solar
Greene County, Ohio

SHEET INDEX

FIGURE DR1-13
Layout Constraint Considerations
Sheet 7 of 9
Kingwood Solar
Greene County, Ohio



From: [Ohio, FW3](#)
To: [Gresock, Lynn](#)
Cc: nathan.reardon@dnr.state.oh.us; [Parsons, Kate](#)
Subject: Kingwood Solar, Greene County Ohio
Date: Monday, May 4, 2020 9:42:15 AM
Attachments: [pastedImagebase640.png](#)
[pastedImagebase641.png](#)
[2020 USEWS Federally Listed Bat Permittees - Ohio.pdf](#)

CAUTION: External Email



TAILS# 03E15000-2020-TA-1336

Dear Ms. Gresock,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

Female Indiana bats exhibit strong site fidelity to summer roosting and foraging areas, meaning that they return to the same area, and often the same trees, to roost, year after year. Because the project will result in a large amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal could result in significant impacts to Indiana bats. Because of this, the proposed project may result in indirect adverse effects to Indiana bats, even if tree clearing is conducted during the winter season when Indiana bats are not present. **Therefore, we recommend that a summer survey be conducted to determine presence or probable absence of Indiana bats at the project site.** The summer survey must be conducted by an approved surveyor (list attached) and be designed and conducted in coordination with the Endangered Species Coordinator for this office. In Ohio, summer mist net surveys must be conducted between June 1 and August 15. We recommend that any Indiana bats and northern long-eared bats captured, especially reproductively active females and juveniles, be monitored through radio-tracking to determine roost locations.

If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are also warranted. Portal surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office.

Survey results should be coordinated with this office prior to initiation of any work. Based on the results of the survey(s), we will evaluate potential impacts to the Indiana bat from the proposed project. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>).

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our

office at (614) 416-8993 or ohio@fws.gov.

Sincerely,



Patrice Ashfield
Ohio Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Kate Parsons, ODNR-DOW

From: [Ohio, FW3](#)
To: [Gresock, Lynn](#)
Cc: nathan.reardon@dnr.state.oh.us; [Parsons, Kate](#)
Subject: Kingwood Solar Project, Greene County Ohio
Date: Wednesday, March 24, 2021 3:01:36 PM
Attachments: [pastedImagebase640.png](#)
[pastedImagebase641.png](#)

CAUTION: External Email



TAILS# 03E15000-2020-TA-1336

Dear Ms. Gresock,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥ 3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of

northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus it is important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,



Patrice Ashfield
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Kate Parsons, ODNR-DOW

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

6/9/2021 3:10:38 PM

in

Case No(s). 21-0117-EL-BGN

Summary: Notice Notice of Responses to Second Set of Data Requests from the Staff of the Ohio Power Siting Board electronically filed by Mr. Michael J. Settineri on behalf of Kingwood Solar I LLC

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**NOTICE OF RESPONSES TO DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD**

On April 16, 2021, Kingwood Solar I LLC (“Kingwood Solar”) filed an Application for a Certificate of Environmental Compatibility and Public Need with the Ohio Power Siting Board (the “Board”). On July 21, 2021, the Board’s Staff provided Kingwood Solar with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s responses, previously submitted to the Board’s Staff.

Respectfully submitted,

/s/ Nathaniel B. Morse
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Attorneys for Kingwood Solar I LLC

CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on July 27, 2021 to:

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/s/ Nathaniel B. Morse
Nathaniel B. Morse

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**KINGWOOD SOLAR'S JULY 27, 2021 RESPONSES
TO STAFF'S JULY 21, 2021 DATA REQUESTS**

1. *Does Kingwood Solar LLC anticipate utilizing HDD collection line installation methods on all perennial stream crossings? And if not please explain why and which ones it would not.*

Yes, Kingwood Solar anticipates utilizing HDD or similar techniques for all perennial stream crossings (MM1 & MM18 as identified in Figure DR1-1).

2. *Kingwood Solar LLC anticipates that based upon final engineering and design, open cut trenching methods may be used to install collection lines for stream crossings and that all impacts will be <0.1 acres and <500 linear feet. Please explain if this is still accurate based on current engineering design, and please provide a total number of stream crossings anticipated for open cut trenching?*

Open-cut trenching may be considered for non-perennial streams only, if water is not present, avoidance of tree clearing is not a factor, and field conditions support such method. A maximum of 7 collection line crossings may be considered for open-cut trenching, and all individual impacts are anticipated to be <0.1 acres and <500 linear feet.

3. *Kingwood Solar anticipates "9 stream segments being crossed by underground collection lines" (MM1, MM4, MM6, MM17, MM18, MM19, MM20, MM22, MM23). Will any of these "stream segments" be crossed multiple times by collection lines? Or rather, will each "stream segment" be crossed one time totaling 9 stream crossings for the entire project?*

The identified stream segments, as depicted in Figure DR1-1 provided, are expected to be crossed only once each, totaling 9 stream segment crossings for underground collection lines for the entire project.

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7/27/2021 5:23:08 PM

in

Case No(s). 21-0117-EL-BGN

Summary: Notice of Responses to Fourth Set of Data Requests from the Staff of the Ohio Power Siting Board electronically filed by Nathaniel Morse on behalf of Kingwood Solar I LLC

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**NOTICE OF RESPONSES TO DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD**

On April 16, 2021, Kingwood Solar I LLC (“Kingwood Solar”) filed an Application for a Certificate of Environmental Compatibility and Public Need with the Ohio Power Siting Board (the “Board”). On July 13, 2021, the Board’s Staff provided Kingwood Solar with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s responses, previously submitted to the Board’s Staff.

Respectfully submitted,

/s/ Nathaniel B. Morse
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CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on August 3, 2021 to:

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/s/ Nathaniel B. Morse
Nathaniel B. Morse

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**KINGWOOD SOLAR’S JULY 28, 2021 RESPONSES
TO STAFF’S JULY 13, 2021 DATA REQUESTS**

- 1. Staff is concerned that this project is proposed in a more densely populated area than other projects that have been proposed to the Board. Please describe the Applicant’s best management practices regarding setbacks and aesthetic mitigation for non-participating residents.***

The Applicant has taken a number of steps to mitigate the aesthetic impacts of the Kingwood Solar Project (the “Project”) on non-participating residents. First, the Applicant is designing the Project to retain as much existing vegetation and forested areas as practicable. The total potential tree clearing for the Project is not expected to exceed 25 acres. Second, the Applicant has proposed varying degrees of visual mitigation. The levels of mitigation include multiple options of natural landscape vegetation, which will provide a visual buffer of natural vegetation between the Project and the viewer. This is shown in more detail in the Landscape Plan included as Attachment C to Appendix Q of the Application. Third, the Applicant has committed to using a wooden pole and woven-wire fence (or “deer fence”), instead of a chain-link and barbed-wire fence, to better match the agricultural nature of the Project area. Last, the Applicant, as explained in the Application, has committed to a minimum 25-foot project setback from all non-participating property lines, with an additional 20 feet between the Project boundary and equipment.

- 2. Other solar farm developers have proposed 300-foot setbacks from solar panels and related equipment from non-participating residences. Is the Applicant willing to commit to these setbacks? If not, what setback does the Applicant consider to be reasonable and why?***

As explained in the Application, the Applicant has committed to a minimum 25-foot project setback from all non-participating property lines to the Project fence line, with an additional 20-foot setback between the fence and the Project equipment. The Applicant is willing to engage in discussions on enhanced setbacks and would expect those discussions to take place in regards to any stipulation on the certificate conditions.

- 3. Is the applicant willing to commit to any of the following as mitigation for impacts to non-participating residences adjacent to the project (if no, please specify why)?***
- enhanced vegetative screening efforts (please specify)***
 - enhanced setbacks for non-participating residences surrounded on multiple sides***
 - property value guarantees or compensation***

As shown on the Landscape Plan in Figure 8 of Attachment C to Appendix Q of the Application, the Applicant has already proposed enhanced vegetative screening for many non-participating landowners. As to property values, the Applicant provided a Property Value Impact Study in Appendix F to the Application. That study reviewed property value data corresponding to eleven different solar projects in the United States and concluded that “no consistent negative impact has occurred to adjacent property that could be attributed to proximity to the adjacent solar farm.” Lastly, any commitments by the Applicant to provide mitigation beyond the mitigation measures proposed in the Application would be an appropriate topic for any discussions on a stipulation of the certificate conditions.

4. Provide a table listing structures, including participation status, within 500 feet of any aboveground project components.

Table DR3-4 outlines those structures, by type, participation status, and individual distance, within 500 feet of the Project Area boundary. Not taking into account the minimum 25-foot setback from all adjacent property lines, this conservatively represents the maximum extent of any aboveground project components.

5. Provide a large-scale aerial map that depicts all inhabited nonparticipating residential dwellings adjacent to the project area that have a direct, unobstructed line-of-sight view to the project boundaries.

See attached Figure DR3-5-1 for non-participating residential dwellings adjacent to the Project Area that have an unobstructed line-of-sight to the Project Area boundary.

**TABLE DR3-4
STRUCTURES WITHIN 500 FEET**

Structure Type	Distance from Project Area (feet)*	Participation Status
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Transmission Tower	0	N/A
Barn	0	Participating
Shed	8	Non-Participating
Barn	17	Non-Participating
Shed	19	Non-Participating
Shed	23	Non-Participating
Transmission Tower	26	N/A
Silo	28	Participating
House	28	Participating
Barn	29	Non-Participating
Transmission Tower	30	N/A
House	32	Non-Participating
Transmission Tower	35	N/A
Shed	37	Non-Participating
Barn	39	Non-Participating
Transmission Tower	40	N/A
Barn	42	Non-Participating
Shed	46	Participating
Silo	47	Participating
Garage	52	Participating
House	53	Non-Participating
Barn	57	Participating
Barn	58	Non-Participating
Shed	58	Non-Participating
Barn	63	Non-Participating
Garage	63	Non-Participating
House	70	Non-Participating
Transmission Tower	70	N/A
Barn	70	Non-Participating
Shed	74	Non-Participating

Structure Type	Distance from Project Area (feet)*	Participation Status
House	75	Non-Participating
Garage	77	Non-Participating
Silo	77	Participating
Silo	78	Participating
House	78	Participating
House	78	Participating
Silo	80	Participating
House	81	Participating
House	81	Participating
Barn	82	Non-Participating
Silo	82	Participating
Barn	83	Non-Participating
Garage	83	Non-Participating
Barn	83	Participating
House	84	Non-Participating
Barn	85	Participating
Barn	86	Participating
Shed	87	Non-Participating
House	87	Non-Participating
Barn	90	Participating
House	91	Non-Participating
Shed	92	Participating
Silo	93	Non-Participating
Barn	96	Non-Participating
House	96	Non-Participating
House	96	Non-Participating
Shed	96	Participating
Barn	98	Non-Participating
Shed	100	Non-Participating
House	101	Non-Participating
House	103	Non-Participating
Barn	103	Non-Participating
House	104	Non-Participating
House	104	Non-Participating
House	105	Participating
Barn	108	Participating
House	109	Non-Participating
Barn	110	Participating
Silo	110	Participating
House	111	Non-Participating
Shed	112	Participating
Barn	113	Participating
House	114	Non-Participating
Shed	114	Non-Participating
Barn	114	Participating
Shed	115	Non-Participating
Silo	115	Participating
Shed	117	Non-Participating
Barn	118	Non-Participating
Barn	119	Participating
Garage	120	Non-Participating
Barn	121	Non-Participating

Structure Type	Distance from Project Area (feet)*	Participation Status
House	122	Participating
Barn	124	Participating
Barn	125	Non-Participating
Shed	127	Participating
House	127	Participating
House	128	Non-Participating
Barn	133	Non-Participating
Barn	133	Non-Participating
House	136	Participating
Garage	139	Non-Participating
Barn	140	Non-Participating
House	142	Non-Participating
House	142	Non-Participating
House	143	Non-Participating
Shed	144	Non-Participating
Transmission Tower	144	N/A
House	146	Non-Participating
Barn	146	Non-Participating
Garage	149	Non-Participating
House	155	Non-Participating
Shed	155	Participating
Silo	157	Participating
House	160	Non-Participating
House	162	Non-Participating
Barn	162	Non-Participating
House	163	Non-Participating
Shed	167	Non-Participating
Barn	167	Non-Participating
Silo	169	Non-Participating
House	170	Non-Participating
House	171	Non-Participating
House	172	Non-Participating
Shed	173	Non-Participating
Barn	173	Non-Participating
Garage	174	Non-Participating
Barn	175	Participating
Shed	178	Participating
House	179	Non-Participating
Gazebo	179	Non-Participating
House	179	Non-Participating
Silo	180	Participating
House	182	Non-Participating
Barn	182	Non-Participating
Shed	184	Non-Participating
Transmission Tower	185	N/A
Barn	185	Participating
Shed	187	Participating
Barn	187	Non-Participating
House	190	Non-Participating
House	190	Non-Participating
Shed	191	Non-Participating
Garage	192	Non-Participating

Structure Type	Distance from Project Area (feet)*	Participation Status
House	192	Non-Participating
Transmission Tower	201	N/A
House	203	Non-Participating
Shed	203	Non-Participating
Barn	203	Non-Participating
House	206	Non-Participating
Barn	207	Participating
Shed	207	Non-Participating
Silo	211	Participating
House	214	Participating
House	215	Non-Participating
House	216	Non-Participating
Shed	219	Non-Participating
Barn	220	Non-Participating
House	223	Non-Participating
House	226	Non-Participating
Barn	228	Non-Participating
Shed	228	Non-Participating
Garage	230	Non-Participating
Barn	230	Non-Participating
4-H Camp Clifton	231	Non-Participating
Garage	236	Non-Participating
Barn	236	Participating
Barn	236	Non-Participating
House	238	Non-Participating
Barn	239	participating
Transmission Tower	244	N/A
Barn	244	Non-Participating
House	247	Non-Participating
Barn	247	Non-Participating
Transmission Tower	250	N/A
House	251	Non-Participating
House	251	Non-Participating
Barn	253	Participating
Shed	258	Non-Participating
Silo	260	Non-Participating
House	264	Non-Participating
Transmission Tower	264	N/A
House	264	Non-Participating
Transmission Tower	265	N/A
House	266	Non-Participating
House	267	Participating
Barn	271	Non-Participating
Transmission Tower	275	N/A
House	275	Non-Participating
House	275	Participating
Transmission Tower	276	N/A
Barn	278	Non-Participating
Shed	278	Non-Participating
House	282	Non-Participating
Shed	286	Non-Participating
House	288	Non-Participating

Structure Type	Distance from Project Area (feet)*	Participation Status
4-H Camp	289	Non-Participating
House	289	Non-Participating
Barn	292	Non-Participating
Silo	292	Non-Participating
Garage	292	Non-Participating
Silo	295	Non-Participating
Barn	295	Non-Participating
Barn	297	Non-Participating
Barn	298	Participating
Shed	299	Participating
House	303	Non-Participating
Garage	304	Non-Participating
Barn	306	Non-Participating
Shed	306	Non-Participating
Barn	306	Participating
House	308	Non-Participating
Barn	310	Non-Participating
House	312	Non-Participating
Transmission Tower	312	N/A
House	313	Non-Participating
Silo	315	Non-Participating
House	315	Non-Participating
Shed	317	Non-Participating
House	317	Non-Participating
Barn	319	Non-Participating
House	319	Non-Participating
Barn	324	Non-Participating
Barn	328	Non-Participating
Silo	334	Non-Participating
Barn	335	Non-Participating
Silo	336	Non-Participating
Barn	338	Non-Participating
Shed	340	Non-Participating
House	341	Non-Participating
Barn	343	Non-Participating
House	345	Non-Participating
Shed	346	Non-Participating
Barn	349	Non-Participating
Garage	353	Non-Participating
Barn	362	Non-Participating
Garage	362	Non-Participating
House	367	Non-Participating
Silo	368	Participating
Silo	369	Non-Participating
House	370	Non-Participating
Garage	370	Non-Participating
Barn	372	Non-Participating
House	373	Non-Participating
Garage	373	Non-Participating
Shed	373	Non-Participating
Garage	374	Non-Participating
Silo	376	Non-Participating

Structure Type	Distance from Project Area (feet)*	Participation Status
Barn	376	Non-Participating
House	377	Participating
House	377	Non-Participating
House	383	Non-Participating
Silo	389	Non-Participating
Garage	390	Non-Participating
Silo	390	Participating
House	396	Non-Participating
Silo	396	Participating
Barn	397	Non-Participating
Silo	401	Participating
Barn	402	Non-Participating
Barn	407	Non-Participating
Barn	407	Participating
Shed	407	Participating
Barn	407	Participating
Silo	408	Non-Participating
Silo	410	Non-Participating
Silo	411	Non-Participating
House	413	Non-Participating
Barn	416	Non-Participating
Barn	421	Non-Participating
House	429	Participating
4-H Camp	436	Non-Participating
Barn	439	Non-Participating
Barn	441	Non-Participating
Barn	445	Non-Participating
Garage	446	Non-Participating
House	447	Non-Participating
Barn	448	Non-Participating
Silo	449	Non-Participating
House	451	Non-Participating
House	457	Non-Participating
Barn	458	Non-Participating
Barn	468	Non-Participating
House	468	Non-Participating
Barn	469	Non-Participating
House	482	Non-Participating
Barn	483	Non-Participating
Barn	484	Non-Participating
Shed	485	Non-Participating
Shed	486	Non-Participating
Shed	488	Participating
House	489	Non-Participating
House	489	Non-Participating
Barn	494	Non-Participating

*Distance is measured from the approximate centroid of the structure



LEGEND

- HOUSE WITH UNOBSTRUCTED LINE-OF-SIGHT
- POTENTIAL FENCELINE
- POTENTIAL SOLAR ARRAY
- POTENTIAL TRANSFORMER PAD
- SUBSTATION

LANDSCAPE PLAN

- LIGHT SCREENING
- MEDIUM SCREENING
- TALL SCREENING
- ROAD
- PROJECT AREA

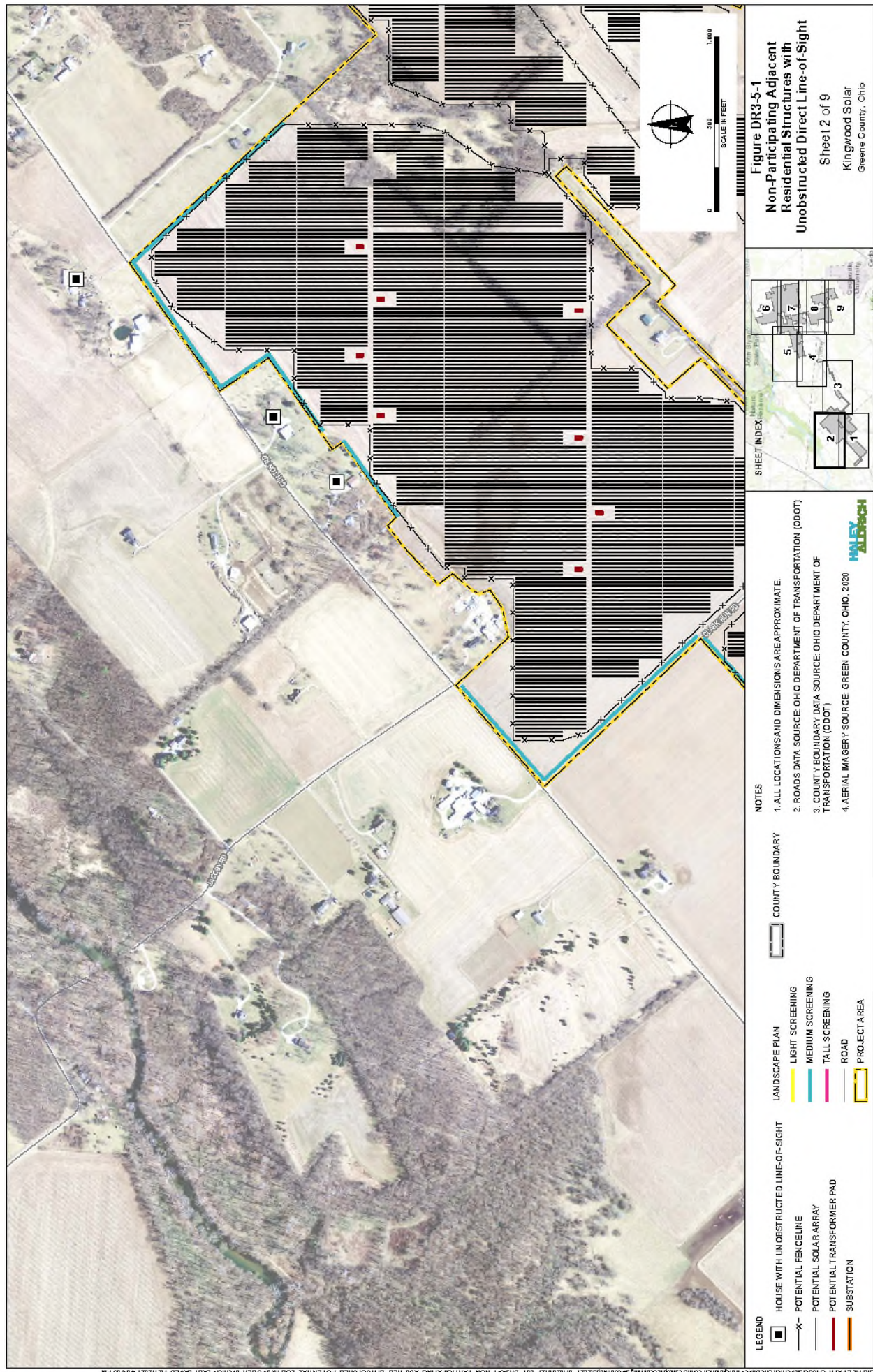
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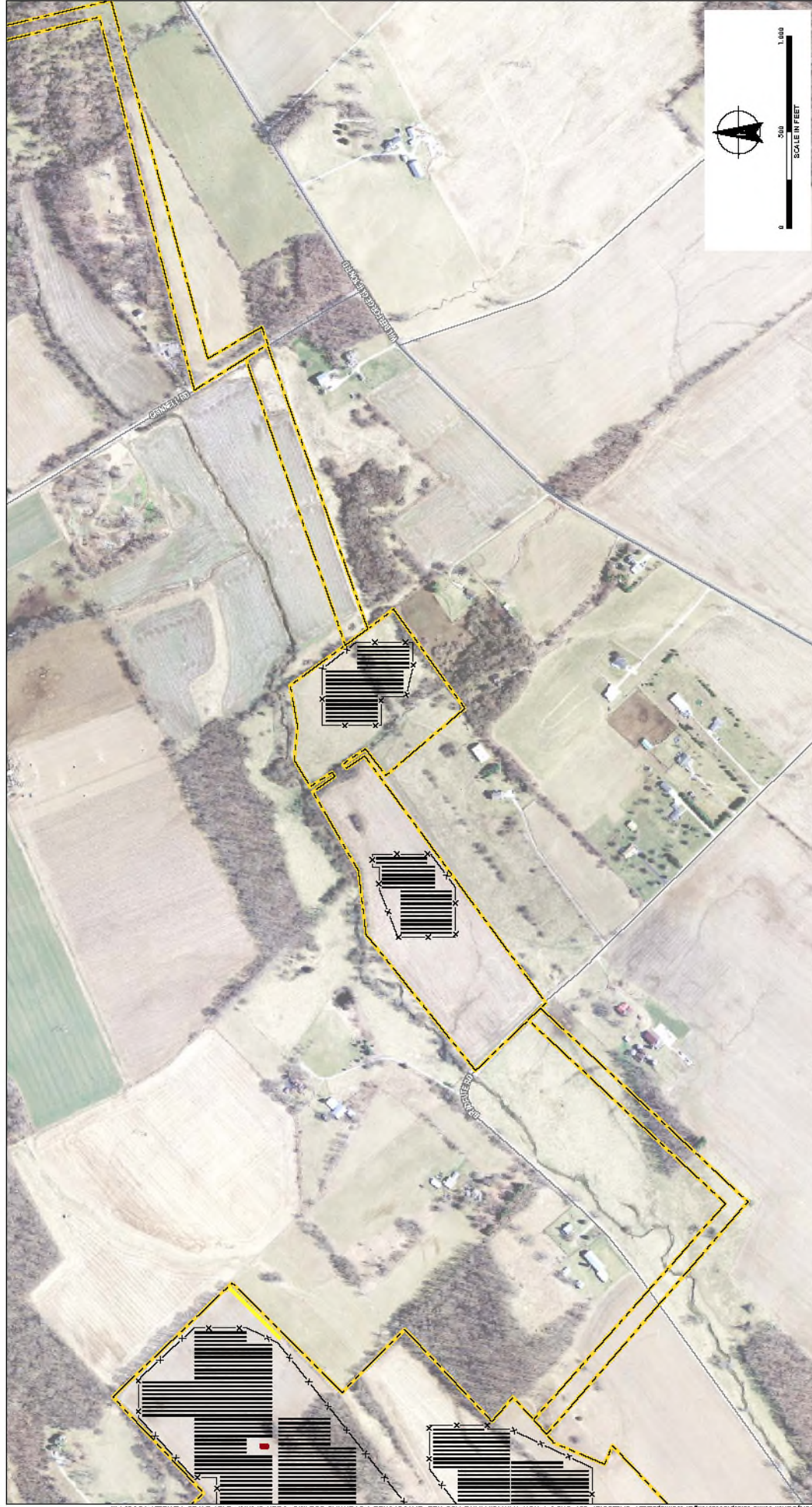
1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ROADS DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
3. COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
4. AERIAL IMAGERY SOURCE: GREEN COUNTY, OHIO, 2020

SHIELD INDEX

Figure DR3-5-1
Non-Participating Adjacent Residential Structures with Unobstructed Direct Line-of-Sight

Sheet 1 of 9
Kingwood Solar
Greene County, Ohio





LEGEND

- HOUSE WITH UNOBSTRUCTED LINE-OF-SIGHT
- POTENTIAL FENCELINE
- POTENTIAL SOLAR ARRAY
- POTENTIAL TRANSFORMER PAD
- SUBSTATION

LANDSCAPE PLAN

- LIGHT SCREENING
- MEDIUM SCREENING
- TALL SCREENING
- ROAD
- PROJECT AREA

NOTES

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4. AERIAL IMAGERY SOURCE: GREEN COUNTY, OHIO, 2020

Figure DR3-5-1

Non-Participating Adjacent Residential Structures with Unobstructed Direct Line-of-Sight

Sheet 13 of 9

Kingwood Solar

Greene County, Ohio

SHEET INDEX



LEGEND

- HOUSE WITH UNOBSTRUCTED LINE-OF-SIGHT
- POTENTIAL FENCELINE
- POTENTIAL SOLAR ARRAY
- POTENTIAL TRANSFORMER PAD
- SUBSTATION

LANDSCAPE PLAN

- LIGHT SCREENING
- MEDIUM SCREENING
- TALL SCREENING
- ROAD
- PROJECT AREA

NOTES

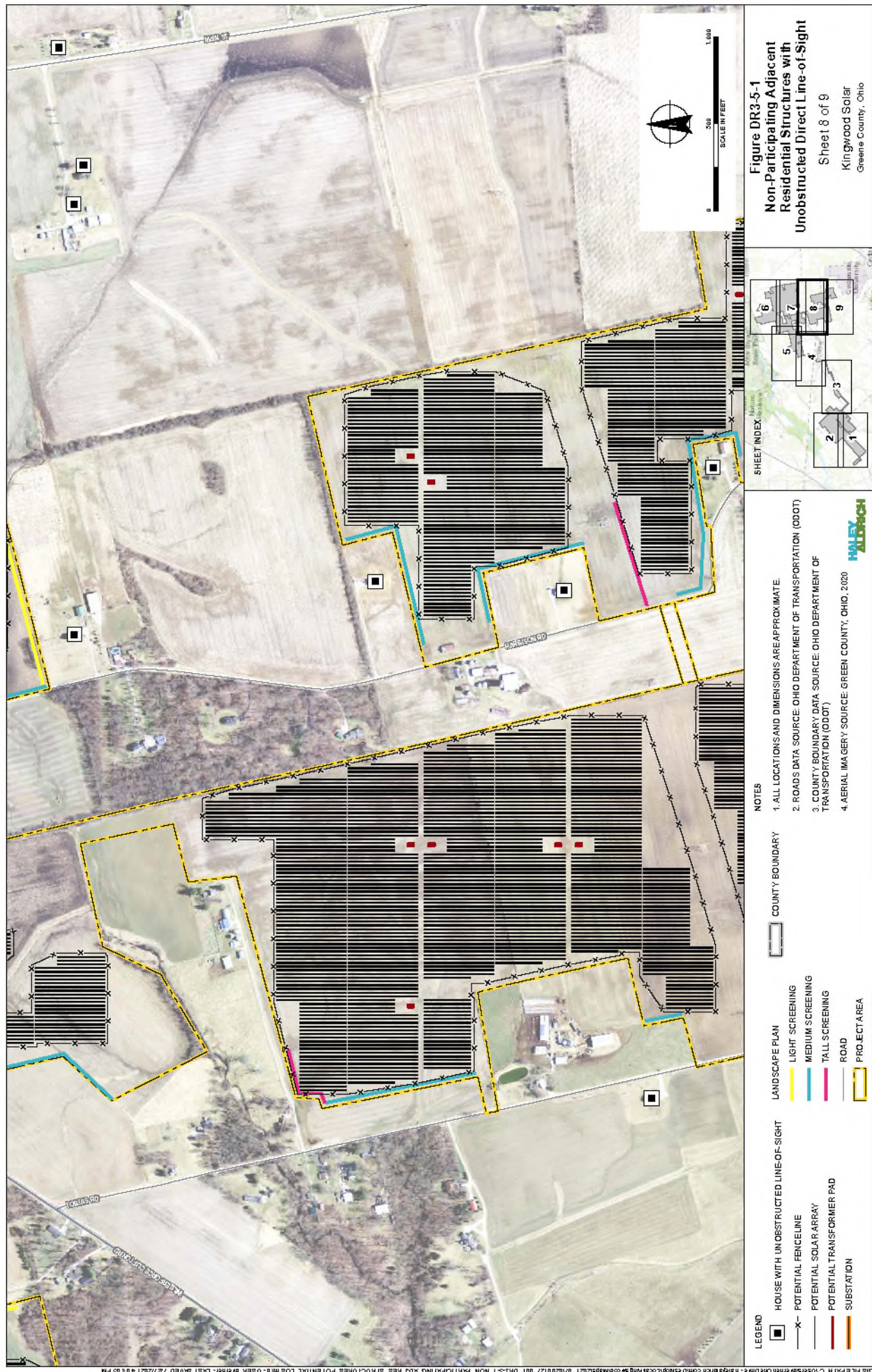
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4. AERIAL IMAGERY SOURCE: GREEN COUNTY, OHIO, 2020

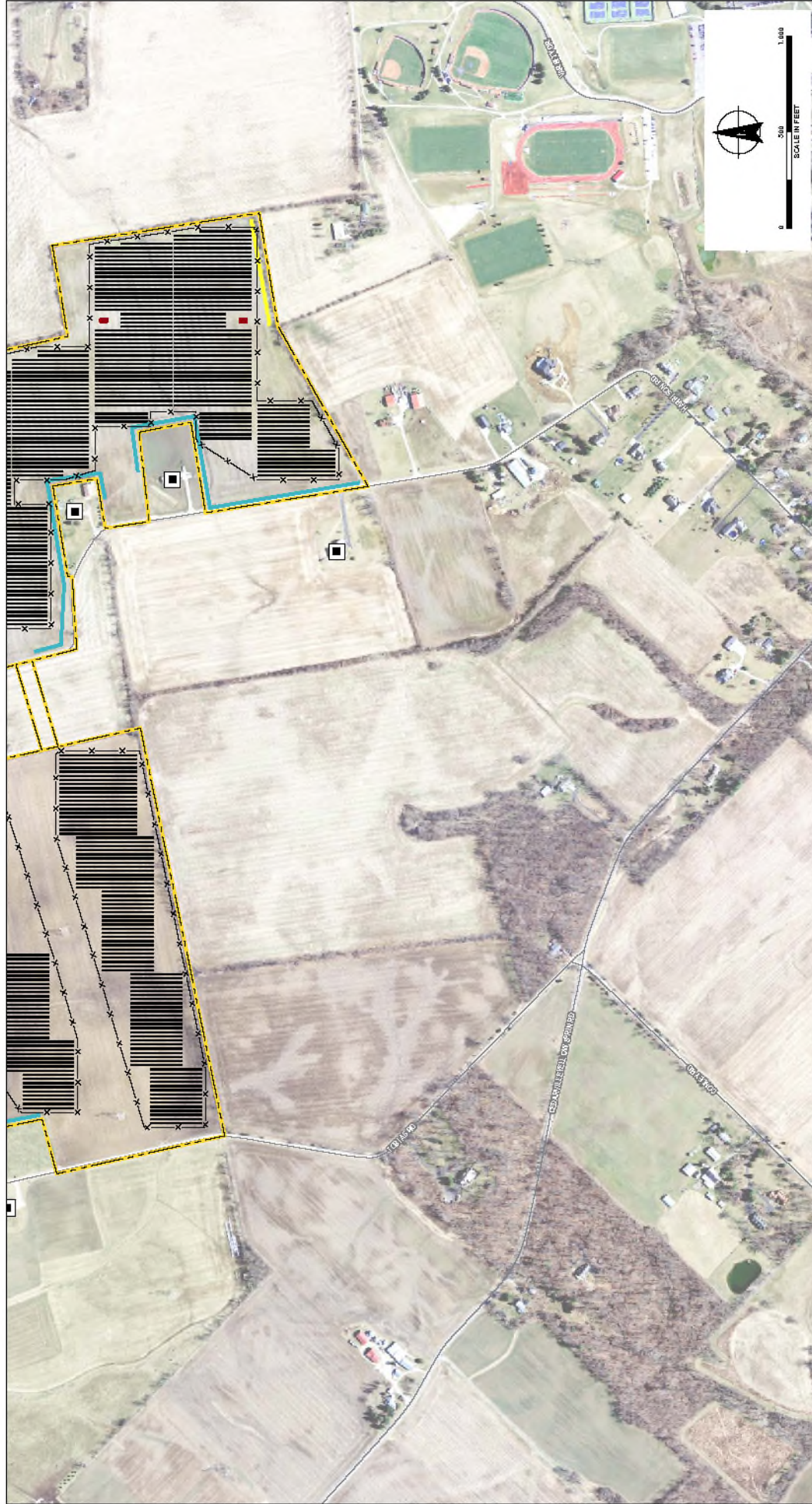
Figure DR3-5-1
Non-Participating Adjacent
Residential Structures with
Unobstructed Direct Line-of-Sight

Sheet 17 of 9
 Kinwood Solar
 Greene County, Ohio

SHEET INDEX

HALEY ALDRICH





LEGEND

- HOUSE WITH UNOBSTRUCTED LINE-OF-SIGHT
- POTENTIAL FENCELINE
- POTENTIAL SOLAR ARRAY
- POTENTIAL TRANSFORMER PAD
- SUBSTATION

LANDSCAPE PLAN

- LIGHT SCREENING
- MEDIUM SCREENING
- TALL SCREENING
- ROAD
- PROJECT AREA

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ROADS DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
3. COUNTY BOUNDARY DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
4. AERIAL IMAGERY SOURCE: GREEN COUNTY, OHIO, 2020

HALEY ALDRICH

Figure DR3-5-1
Non-Participating Adjacent Residential Structures with Unobstructed Direct Line-of-Sight

Sheet 19 of 9
Kingwood Solar
Greene County, Ohio

SHEET INDEX

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in

Case No(s). 21-0117-EL-BGN

Summary: Notice of Responses to Third Set of Data Requests from the Staff of the Ohio Power Siting Board electronically filed by Nathaniel Morse on behalf of Kingwood Solar I LLC

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**NOTICE OF SUPPLEMENTAL RESPONSE TO DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD**

On April 16, 2021, Kingwood Solar I LLC (“Kingwood Solar”) filed an Application for a Certificate of Environmental Compatibility and Public Need with the Ohio Power Siting Board (the “Board”). On May 17, 2021, the Board’s Staff provided Kingwood Solar with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s supplemental response, previously submitted to the Board’s Staff.

Respectfully submitted,

/s/ Nathaniel B. Morse
Michael J. Settineri (0073369) Counsel of Record
Anna Sanyal (0089269)
Nathaniel B. Morse (0099768)
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CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on September 28, 2021 to:

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/s/ Nathaniel B. Morse
Nathaniel B. Morse

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**KINGWOOD SOLAR'S SUPPLEMENTAL RESPONSES
TO STAFF'S MAY 17, 2021 DATA REQUESTS**

6. *What is the current status of the Applicant's cultural resources investigation? Provide a projected schedule for final field work, completion of consultant's reports to SHPO and anticipated final coordination with SHPO. Also, please forward correspondence from SHPO to Staff as you receive it.*

June 1, 2021 Response: Field work has been completed for the historic architecture report and preparation of the report is underway. We expect that a limited number of resources in the immediate Project Area may be recommended for visual screening as a result of this review. We anticipate submittal of the report to the SHPO in June.

Field work is nearing completion for the archaeological survey, although delays associated with field interference by members of the public and agricultural practices have been experienced. Field work is expected to be completed in early June with a report submitted to the SHPO in late June or early July. To date, no finds have warranted a recommendation of avoidance.

The SHPO is currently utilizing its full 30-day review period for report review, so we would expect final coordination by the end of July or early August 2021.

Supplemental Response: Consistent with the June 1, 2021 response, the Applicant submitted the *History/Architecture Reconnaissance Survey for the Proposed Kingwood Solar Project in Portions of Cedarville, Miami, and Xenia Townships, Greene County, Ohio* to SHPO on June 22, 2021. On July 23, 2021, SHPO responded and agreed with the survey's recommendations of eligibility for listing in the National Register of Historic Places and that no additional history/architecture investigations are necessary. The full survey and correspondence from SHPO are attached.

The Applicant also submitted the *Phase I Archeological Investigations for the 600 Ha (1,482.5 Ac) Kingwood Solar Farm Development in Miami, Xenia, and Cedarville Townships, Greene County, Ohio* ("Phase I Archeological Investigation Report") to SHPO on July 15, 2021. In the cover letter attaching that report, the Applicant explained that 85% of the Phase I archeological survey had been completed and proposed a Programmatic Agreement for the completion of the remainder of the survey. On August 6, 2021, SHPO responded and agreed with the Applicant's proposed course of action to develop a Programmatic Agreement. That Programmatic Agreement was executed on August 18, 2021. The correspondence from SHPO and the executed Programmatic Agreement are attached. The Applicant is providing its Phase I Archeological Investigation Report under seal to

the Public Utilities Commission of Ohio's Docketing Division pursuant to Ohio Adm.Code 4906-2-21. The Applicant will file a motion for protective order due to the sensitive nature of the locations of identified resources in the Report.

June 22, 2021

Ohio History Connection
800 E. 17th Avenue
Columbus, OH 43211

Attention: Joy Williams
Project Reviews Manager

Subject: Kingwood Solar Historic Architecture Survey

Dear Joy:

Attached please find the History/Architecture Reconnaissance Survey Report prepared for Kingwood Solar (the Project) by Amy Kramb in accordance with the approved Work Plan. The survey identified a total of eight history/architecture resources that are potentially eligible for listing on the National Register of Historic Places (NRHP) for which potential visibility of the Project Area from the resources' property was considered at least possible. In addition, of the 258 architectural locations identified for evaluation within the defined Area of Potential Effect (APE), a total of 17 were considered to have some potential for a view of the Project Area from the resources' property were unable to be evaluated due to distance, vegetation, obscured views or limited access. Each of these structures is further reviewed in this letter, based on available aerial imagery, to provide additional context regarding the potential for visual affect.

Potentially NRHP-Eligible Structures

Figures 1 through 8 illustrate the location of each of the eight structures identified as potentially eligible for NRHP listing and with some potential for a view of the Project Area. Each figure shows the elements of the Project layout (within the Project Area) located in nearest proximity to the referenced structure on an aerial photograph that also provides information regarding various potentially intervening features. Areas where landscape screening is proposed are also shown. A description of potential visibility from each structure is provided below:

1. **AL43:** Although the report indicates that some portions of this property would have the potential for a view of the Project Area, as shown on Figure 1, the closest proposed solar arrays are approximately 2,500 feet to the west. Existing active agricultural row crops are located between the structure and the proposed arrays, which would screen line-of-sight during the growing season, particularly when planted in corn.
2. **AL61:** The report indicates that some portions of this property have some likelihood of a potential for a view of the Project Area. As shown on Figure 2, the closest proposed solar arrays are located approximately 1,200 feet to the north and incorporate proposed landscape screening. Proposed solar arrays to the west are even more distant (over 2,000 feet away) and are separated from the structure by active row crop agriculture that would likely screen views,

particularly when planted in corn. The existing overhead transmission line is also an element of current views in that direction.

3. **AL158:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 3, the structure is buffered by intervening structures and vegetation to the closest proposed panel arrays (approximately 2,000 feet to the southwest); in addition, landscape screening is proposed along the Project Area boundary in this location.
4. **AL159:** The report indicates that some portions of this property have the possibility of a view of the Project Area. This structure, as shown on Figure 4, is well-buffered from the Project, similar to nearby AL-158, with the closest solar arrays even farther away, at 2,700 feet to the southwest.
5. **AL211:** The report indicates that some portions of this property would have the potential for a view of the Project Area. As shown on Figure 5, trees surround the house in many directions, but views are possible through the trees to nearby fields. The closest solar arrays are proposed to be located approximately 850 feet from the structure. The presence of a natural gas pipeline corridor limits the ability to add vegetative screening in that location.
6. **AL255:** The report indicates that views of the Project Area from some portions of this property are possible but unlikely. As shown on Figure 6, existing vegetation around the structure provides substantial buffering; the existing overhead transmission line; intervening vegetation and structures; and active row crop agricultural fields are located between this structure and the nearest proposed solar array (approximately 2,600 feet).
7. **AL256:** The report indicates that some portions of this property would have the potential for a view of the Project Area. As shown on Figure 7, this structure is somewhat screened by trees in certain directions. Project-related features in proximity include the underground collection line (which would not be a visual component), as well as solar arrays that will be located approximately 950 feet from the structure.
8. **AL258:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 8, the structure is well-buffered by existing vegetation. Project features in proximity include the underground collection line (which would not be a visual component), well-screened solar arrays approximately 1,200 feet to the west, a small area of solar arrays to the east (approximately 1,300 feet away) that are buffered by existing trees, and solar arrays to the north-northwest, approximately 1,300 feet away, which plan to incorporate landscape screening along a segment of the fence line.

We believe that, given the characteristics of the setting of each of these resources, Project layout proximity, and proposed landscape screening, no adverse effect to these structures is anticipated due to the Project.

Unevaluated Structures

Figures 9 through 25 provide the same information for structures that were unable to be assessed. As noted, these structures are not necessarily eligible for NRHP listing, but the potential for visibility of the Project Area from some portion of the property could not be ruled out. Based upon this more detailed evaluation of visibility, an appropriate approach to considering potential impact can be identified. A description of potential visibility from each structure is provided below:

1. **AL54:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 9, proposed solar arrays are located approximately 1,200 feet to the west-southwest, but would be viewed through heavy trees along the driveway,

across Route 71, and through intervening active agricultural row crop fields. In addition, landscape screening at the Project Area boundary is proposed.

2. **AL55:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 10, this structure is buffered by existing vegetation and a fencerow of trees. The proposed solar arrays are relatively proximate (approximately 150 feet to the west, 200 feet to the north, and 300 feet to the south); however, landscape screening is proposed in locations where existing vegetation does not currently provide buffering.
3. **AL59:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 11, the closest proposed solar arrays are located approximately 500 feet to the north, separated from the structure by fields with active row crop agriculture. Some landscape screening is proposed in this direction. Solar arrays are also proposed approximately 1,900 feet to the southwest; these are buffered from view by existing fencerow trees and additional fields with active row crop agriculture.
4. **AL65:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 12, this structure is well-buffered by existing vegetation and surrounded by fields with active row crop agriculture. Proposed solar arrays are located approximately 600 feet to the north, where landscape screening is proposed.
5. **AL150:** The report indicates that views of the Project Area from some portions of this property are possible but unlikely. As shown on Figure 13, this structure is well-buffered by existing vegetation. The closest proposed solar arrays are located approximately 2,100 feet to the south, with intervening trees and active agriculture. In addition, landscape screening is proposed along this fence line.
6. **AL151:** The report indicates that views of the Project Area from some portions of this property are possible but unlikely. As shown on Figure 14, this structure is well-buffered by existing vegetation. The nearest proposed solar arrays are over 2,000 feet away, with fields used for active row crop agriculture intervening. Landscape screening is proposed within the Project Area for these arrays.
7. **AL198:** The report indicates that views of the Project Area from some portions of this property are possible but unlikely. As shown on Figure 15, this structure – associated with Camp Clifton – is screened in most directions by woods. Proposed solar arrays to the east (approximately 2,800 feet away) would be screened by trees; landscape screening is also proposed. To the south, proposed panels are approximately 3,000 feet; distant and line-of-sight would be influenced by intervening fencerow trees and active agricultural fields. To the southwest, proposed arrays are even more distant (at approximately 4,000 feet), with intervening fencerow trees and agricultural fields; landscape screening is also proposed for these arrays.
8. **AL199:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 16, this structure – also associated with Camp Clifton – is extremely well-buffered by trees. The closest proposed solar arrays are located approximately 2,600 feet to the east-southeast. Not only is line-of-sight impeded by existing vegetation, but landscape screening is proposed within the Project Area.
9. **AL200:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 17, this structure – another Camp Clifton structure – is also extremely well-buffered by trees. The closest solar arrays are located over 1,000 feet to the east. In addition to the existing trees that buffer the view, fields with active row crop agriculture are also located between the structure and Project Area.
10. **AL208:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 18, this structure has some limited tree cover on its property. The closest proposed solar arrays are approximately 150 feet to the north and west; landscape screening is proposed. To the east, additional proposed solar arrays are located

approximately 1,400 feet away; these are screened by intervening trees and active agricultural fields as well as by proposed landscape screening.

11. **AL209:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 19, this structure is surrounded by trees, some of which include a forested wetland within the Project Area that will not be altered. The closest proposed solar arrays are approximately 475 feet to panels to west, screened from view by the trees and forested wetland. To the north, proposed solar arrays are approximately 600 feet away, with intervening trees and structures; landscape screening is also proposed. To the east, proposed solar arrays are approximately 1,370 feet away. Intervening trees and agricultural fields will limit views; landscape screening is also proposed.
12. **AL213:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 20, this structure has relatively open views of proposed solar arrays (screened by some trees) that are located approximately 300 feet to the east, 345 feet to the south, and 650 feet to the north. The owner of this structure is leasing property for development of the Project.
13. **AL229:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 21, this structure is located along the underground collection line route. A number of trees and active agricultural fields are located between this structure and proposed solar panel locations. Proposed arrays to the northeast are approximately 2,800 feet away; the existing overhead transmission line is also a component of that view. Proposed arrays to the southwest (approximately 3,100 feet away) would be screened by trees and active agricultural fields.
14. **AL231:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 22, this structure is well-screened by trees, and further surrounded by active agricultural fields. The existing overhead electric transmission line is located between the structure and the closest proposed solar arrays (approximately 3,300 feet to the east). Additional proposed array locations are located approximately 4,300 feet to the south (separated by active agricultural fields, the existing overhead transmission line, and trees) and approximately 5,500 feet to the west (separated by trees and active agricultural fields).
15. **AL232** – The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 23, this structure is next door to AL-231 and shares its dense wooded setting. For this structure, the closest proposed solar arrays are located approximately 3,200 feet to the east, 4,500 feet to the south, and 5,700 feet to the west. The same visual context provides significant buffering of potential views.
16. **AL233** – The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 24, the structure is surrounded by trees. The closest proposed solar arrays are approximately 2,200 feet to the south; existing trees are located between the structure and the Project, and landscape screening is proposed. Proposed solar arrays are also located approximately 2,900 feet to the east, with existing trees and active agricultural fields in the intervening area.
17. **AL246:** The report indicates that some portions of this property have the possibility of a view of the Project Area. As shown on Figure 25, the area around the structure is very wooded. The closest proposed solar arrays are approximately 1,600 feet to the east with planned landscape screening along the fence line. Proposed solar arrays are also located approximately 2,400 feet to the north, separated from the structure by intervening vegetation and structures, as well as some active agricultural fields. Proposed solar arrays approximately 2,600 feet to the southeast will be located on the opposite side of the existing overhead transmission line that extends through the area.

As can be seen, the majority of these structures are well-buffered by existing vegetation and other features, and many are distant from the proposed solar arrays. We look forward to your review of the report and this information, and to additional coordination with your office, as appropriate.

Sincerely yours,
HALEY & ALDRICH, INC.

A handwritten signature in black ink, reading "Lynn Gresock". The signature is written in a cursive, flowing style.

Lynn Gresock
Principal Consultant

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Figures

Figure 1
AL43: GRE-00149-11



- Closest Array Areas
 - To the West: 2,500 feet

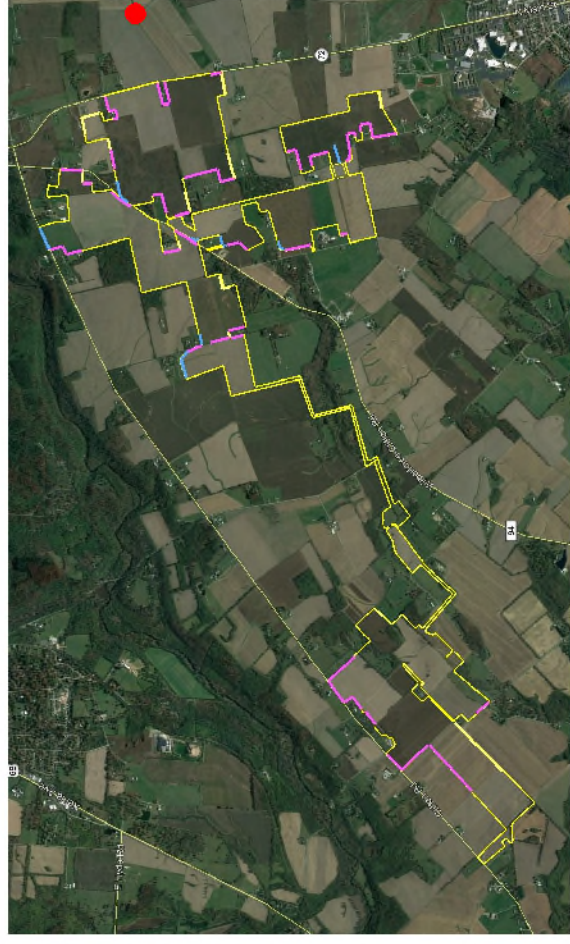


Figure 2

AL61: GRE-01500-08

- Closest Array Areas
 - To the North-Northwest: 1,200 feet
 - To the West-Southwest: 2,300 feet

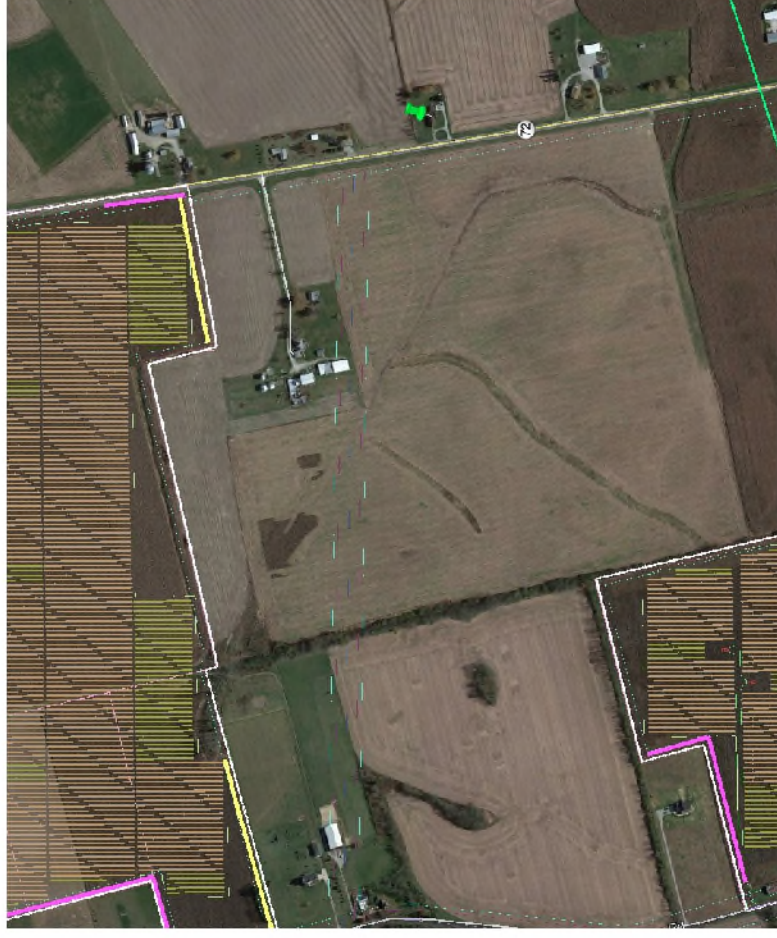
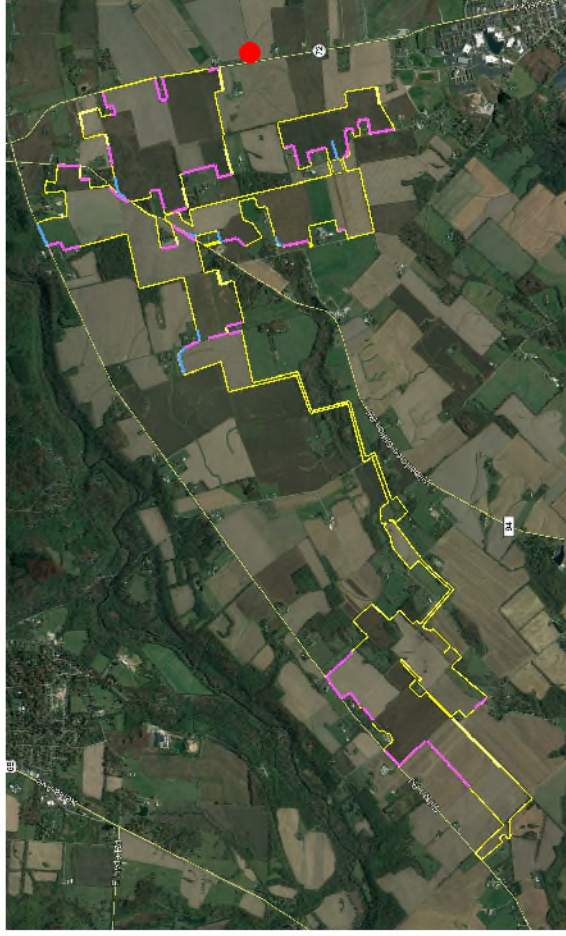


Figure 3
AL158: GRE-00147-11

- Closest Array Areas
 - To the Southwest: 2,000 feet

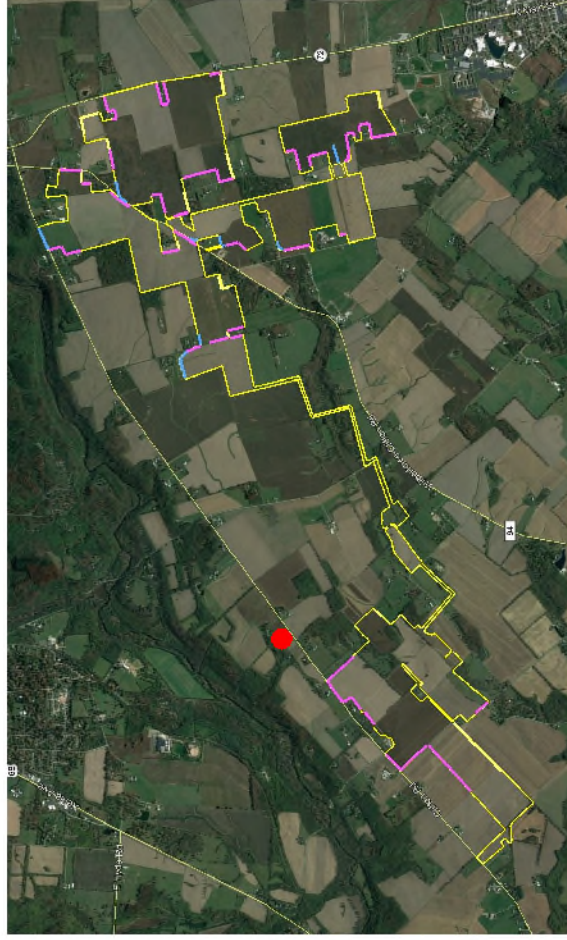


Figure 4
AL159: GRE-00135-11



- Closest Array Areas
 - To the Southwest: 2,700 feet

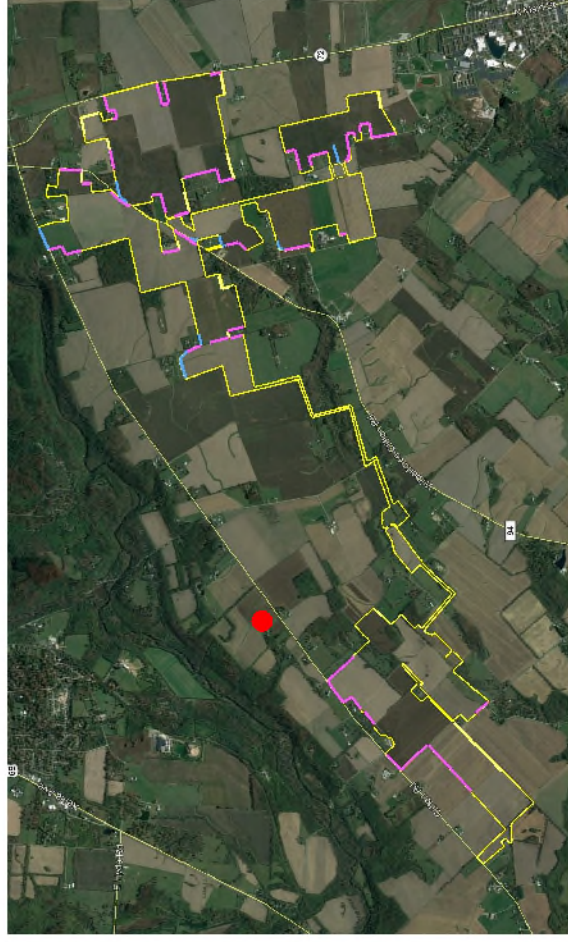
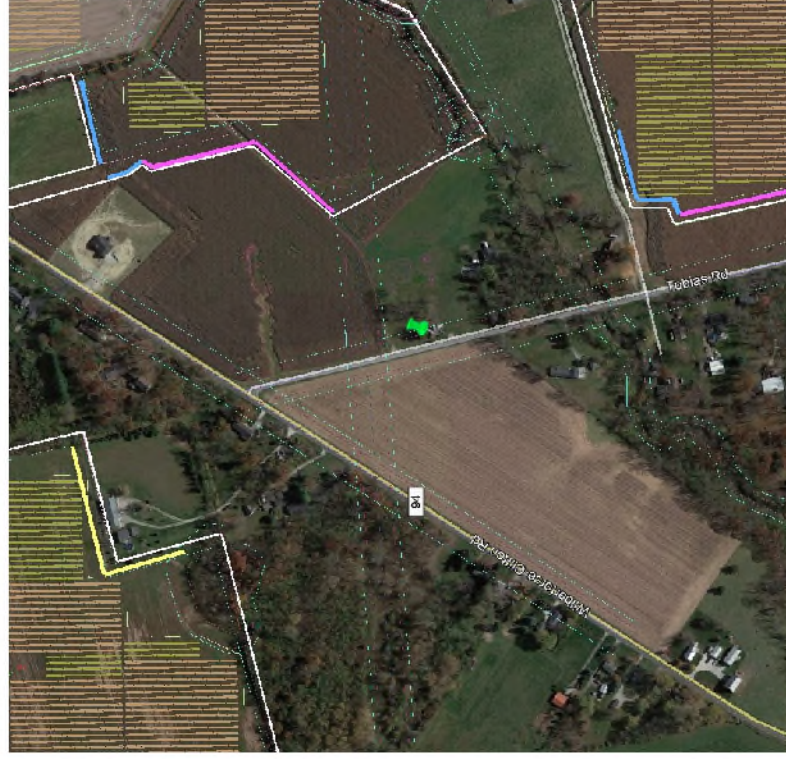


Figure 5
AL211: GRE-00147-11



- Closest Array Areas
 - To the East-Northeast: 850 feet
 - To the South-Southeast: 900 feet
 - To the North-Northwest: 1,300 feet
 - To the Northwest: 1,350 feet

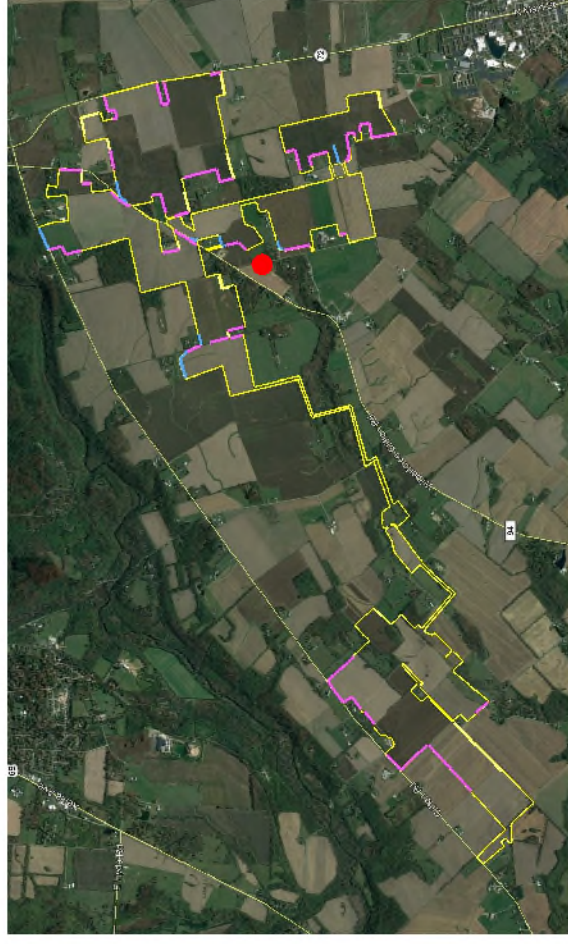


Figure 6 AL255: GRE-01502-08

- Closest Array Areas
 - To the North: 2,600 feet
 - To the Northeast: 2,800 feet

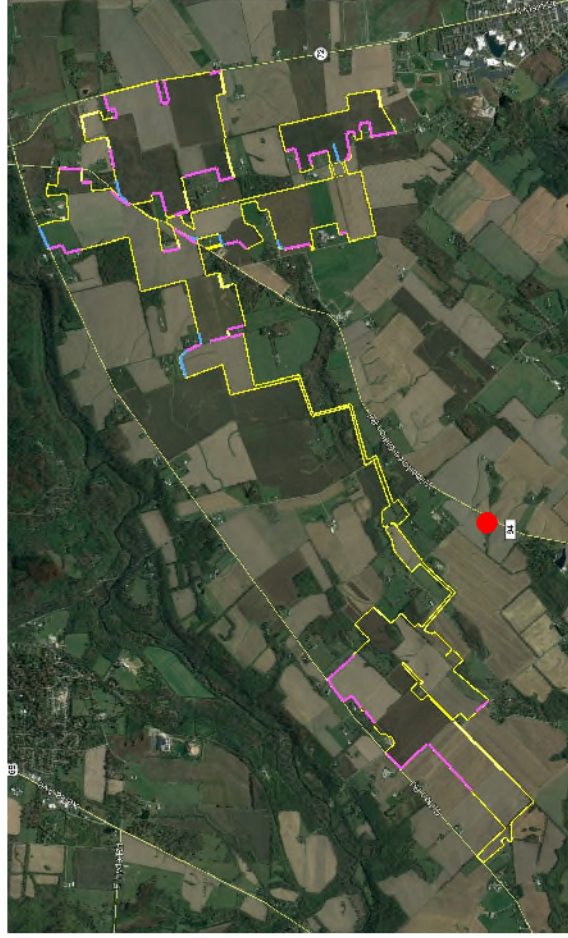


Figure 7 AL256: GRE-00978-08

- Closest Array Areas
 - To the North-Northeast: 950 feet
 - To the Northeast: 1,950 feet

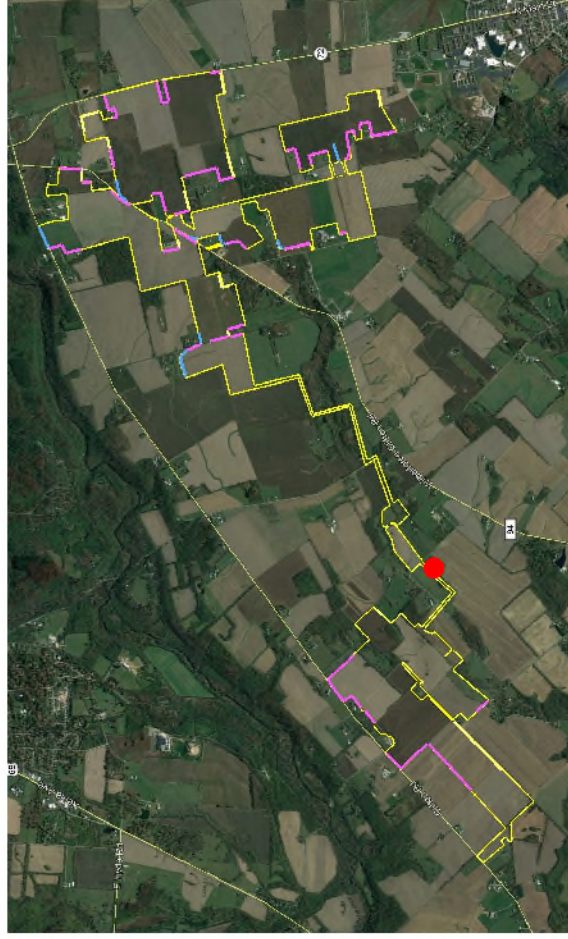
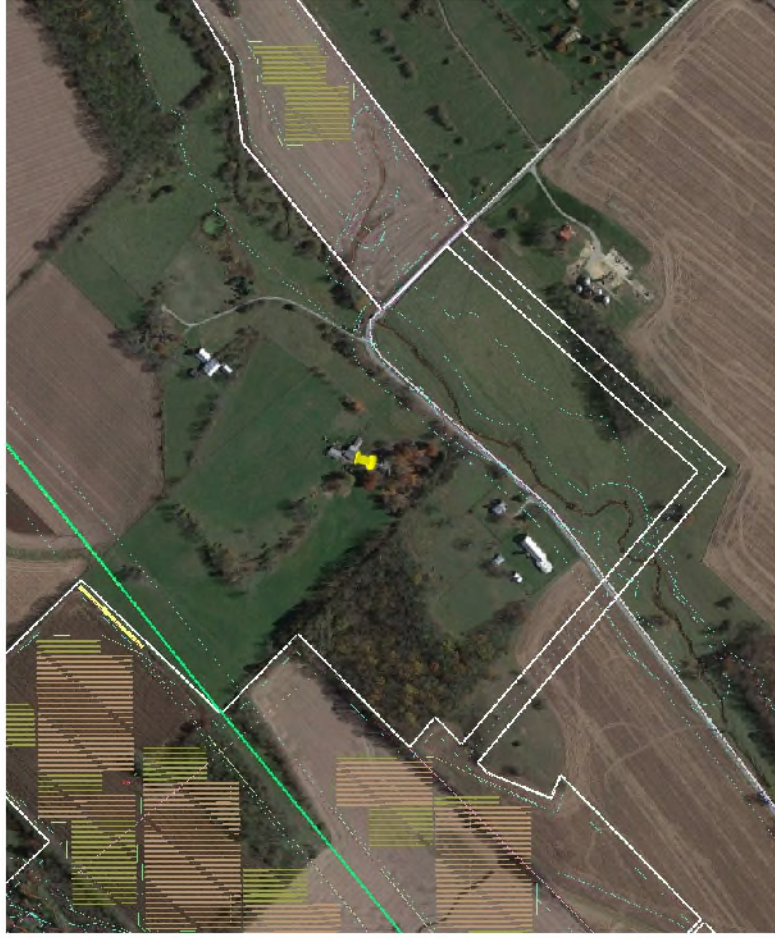


Figure 8
AL258: GRE-00449-08



- Closest Array Areas
 - To the West: 1,200 feet
 - To the East: 1,300 feet
 - To the North-Northwest: 1,300 feet

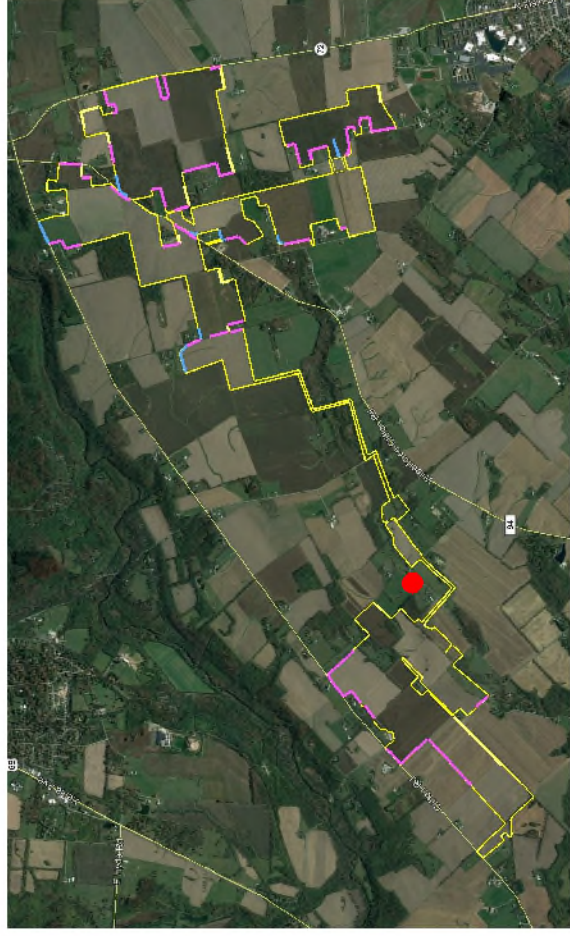


Figure 9
AL54



- Closest Array Areas
 - To the West-Southwest: 1,200 feet

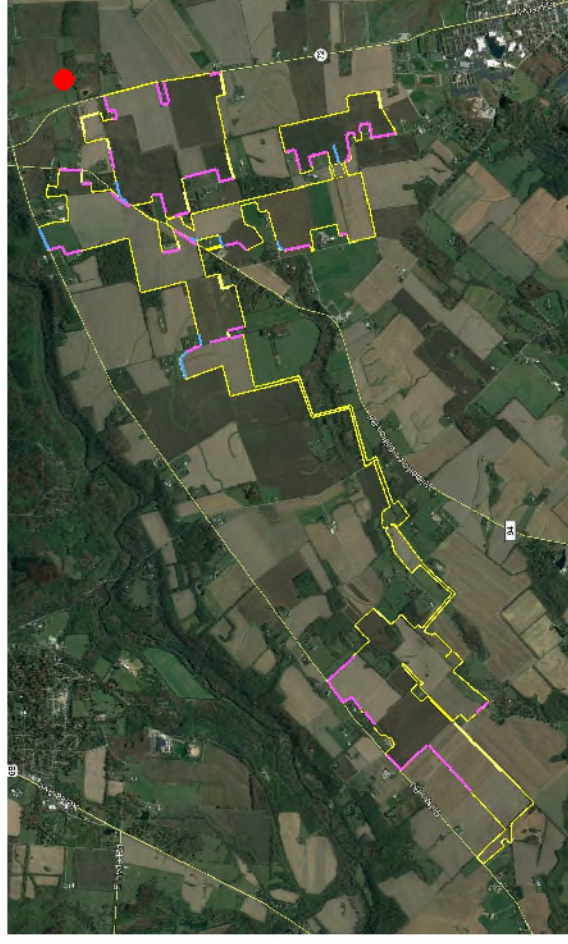


Figure 10

AL55

- Closest Array Areas
 - To the West: 150 feet
 - To the North: 200 feet
 - To the South: 300 feet

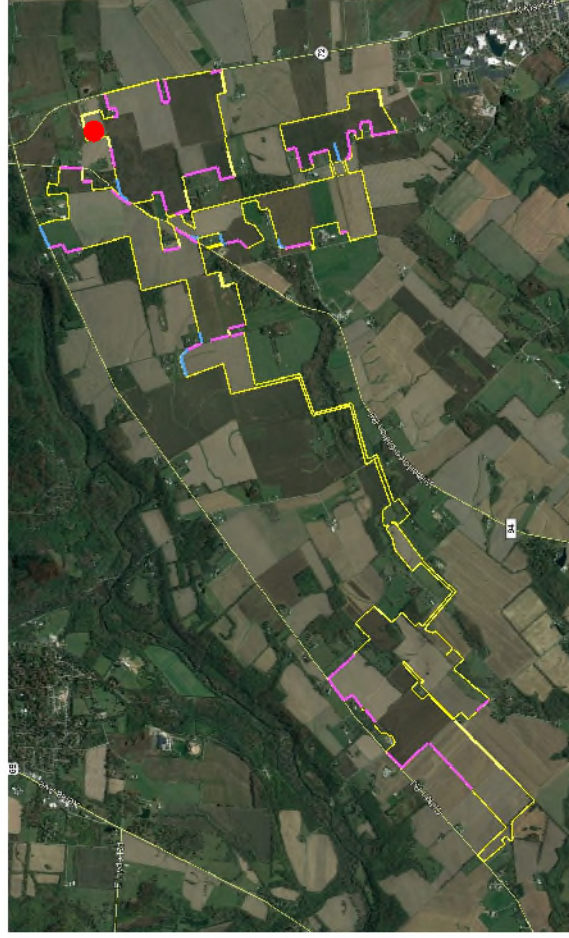
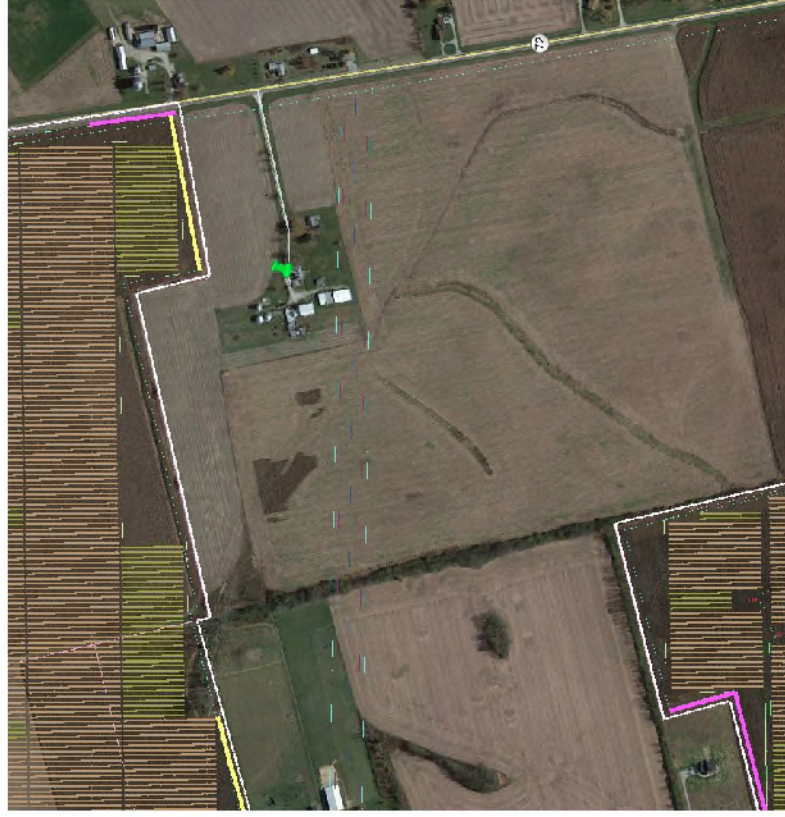


Figure 11
AL59



- Closest Array Areas
 - To the North: 500 feet
 - To the Southwest: 1,900 feet

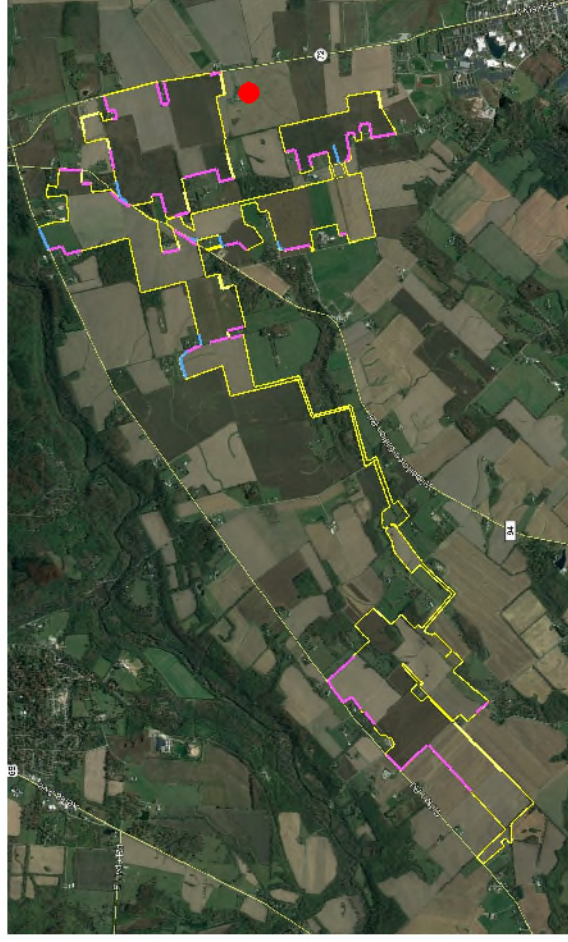


Figure 12

AL65

- Closest Array Areas
– To the North: 600 feet

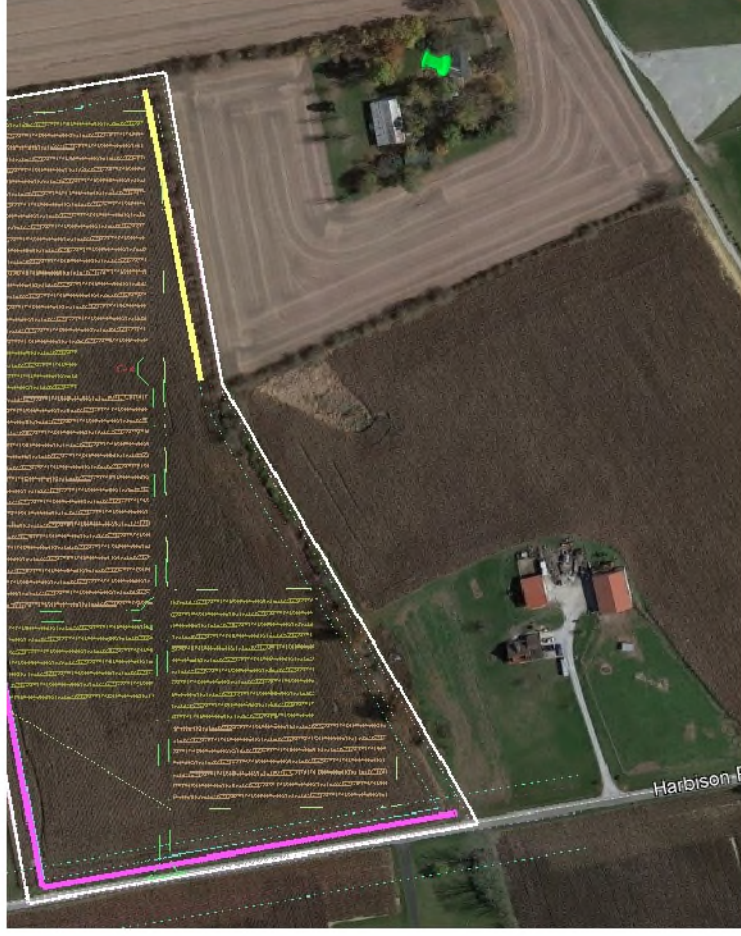
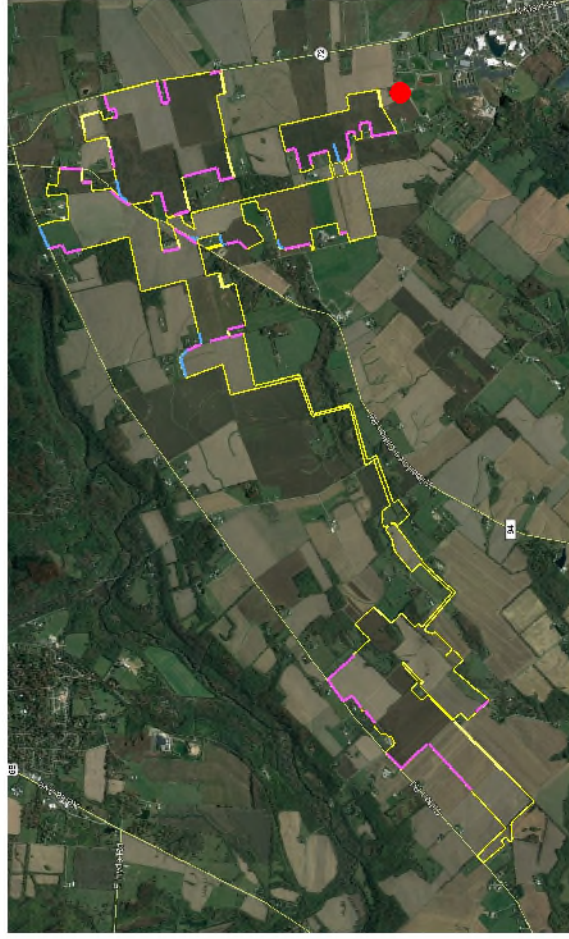


Figure 13 AL150

- Closest Array Areas
 - To the South: 2,100 feet
 - To the Southeast: 2,300 feet

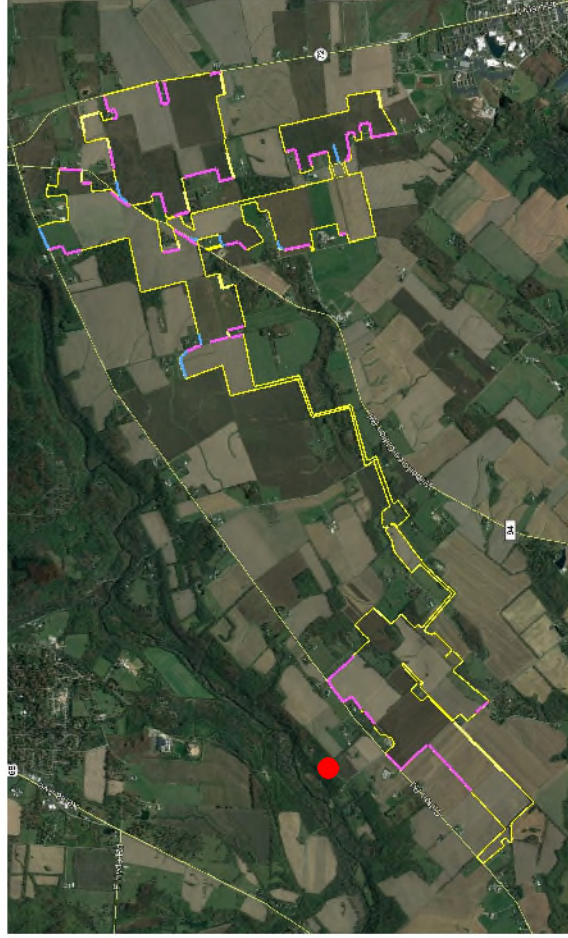


Figure 14
AL151: GRE-01048-13



- Closest Array Areas
 - To the Southeast: 2,000 feet

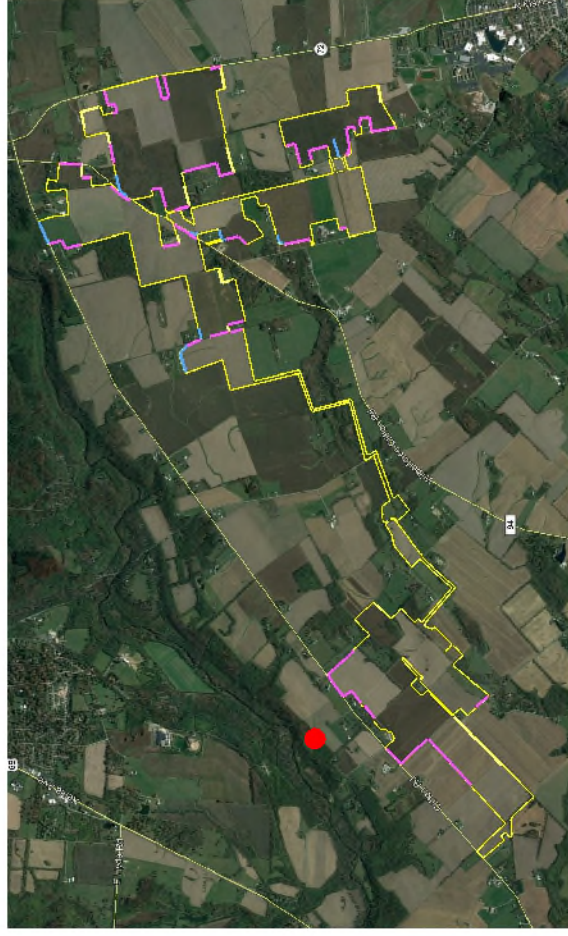


Figure 15 AL198

- Closest Array Areas
 - To the East-Southeast: 2,800 feet

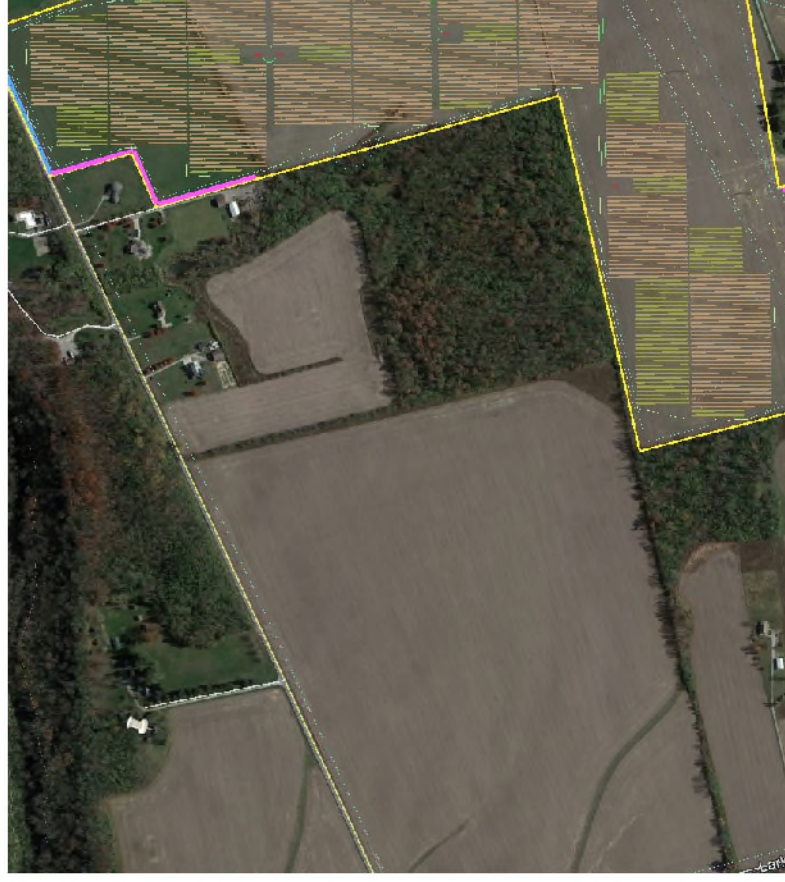
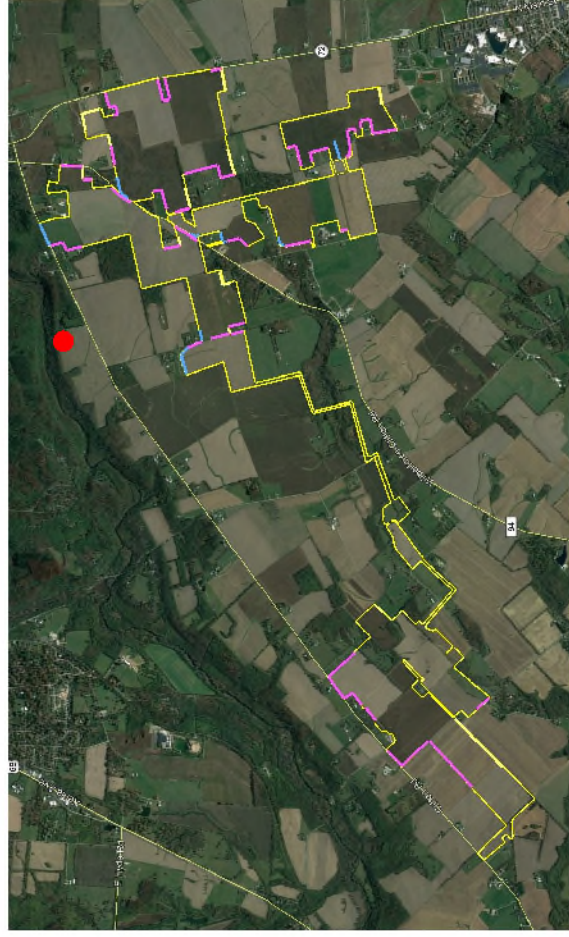


Figure 16
AL199: GRE-00139-11

- Closest Array Areas
 - To the East-Southeast: 2,600 feet
 - To the South-Southeast: 2,900 feet

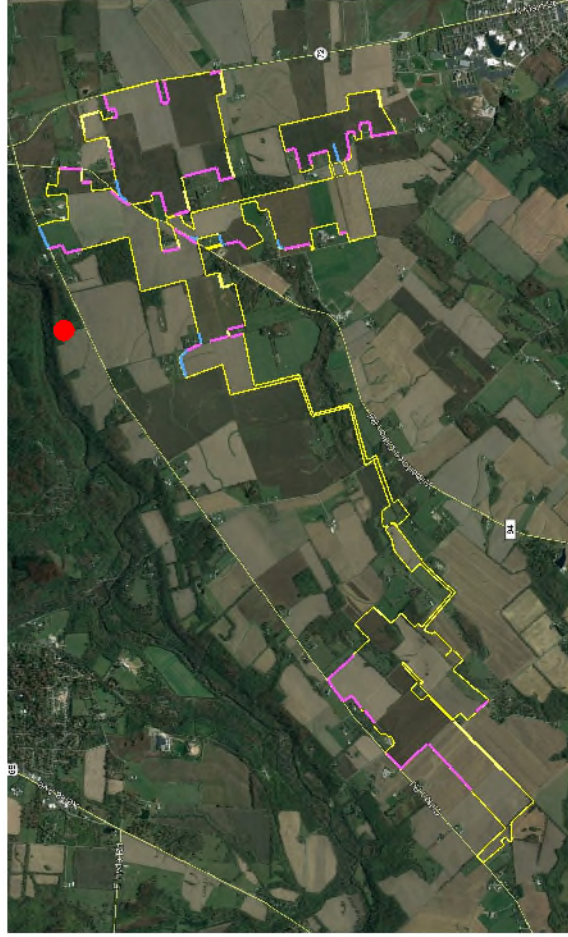


Figure 17
AL200



- Closest Array Areas
 - To the East: 1,000 feet

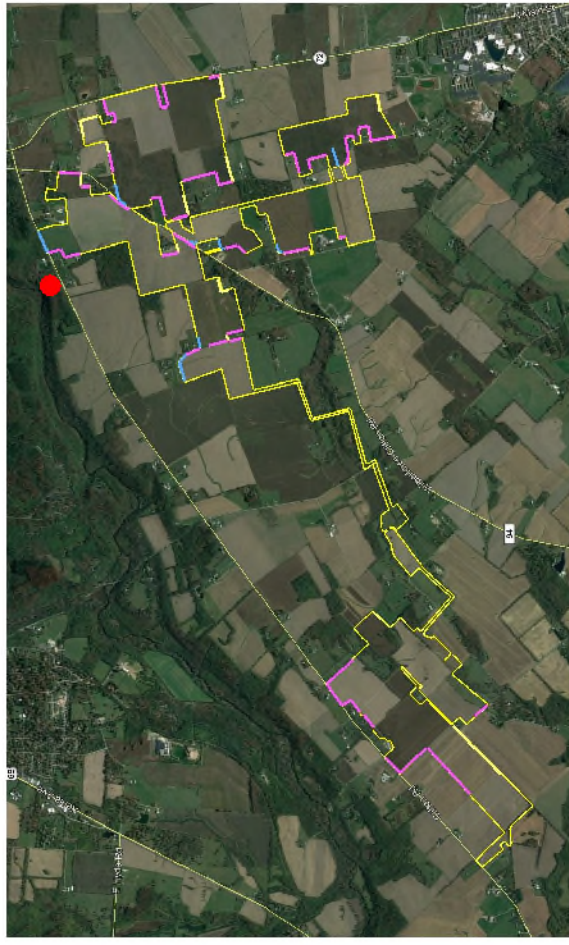


Figure 18 AL208

- Closest Array Areas
 - To the North: 150 feet
 - To the West: 150 feet
 - To the East: 1,400 feet

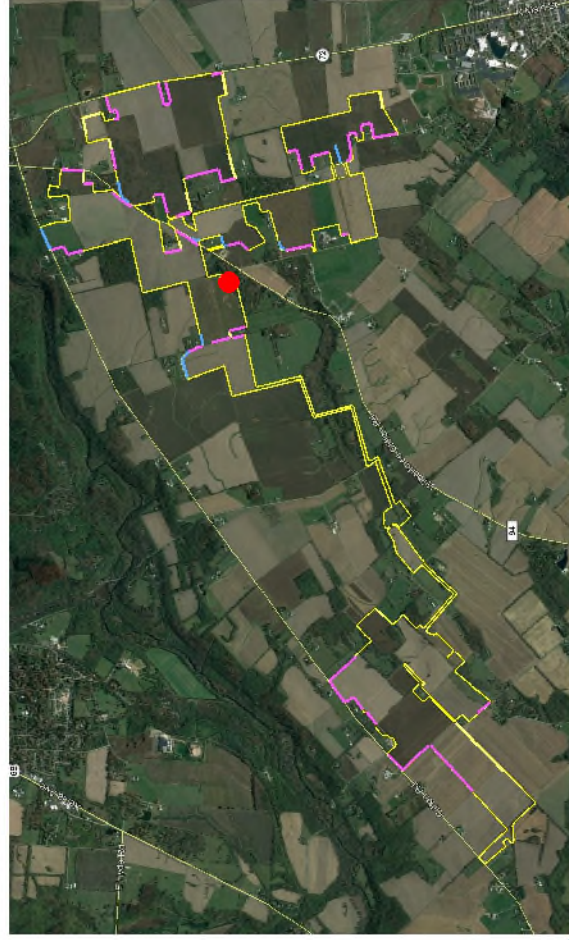


Figure 19
AL209

- Closest Array Areas
 - To the West: 475 feet
 - To the North: 600 feet
 - To the East: 1,370

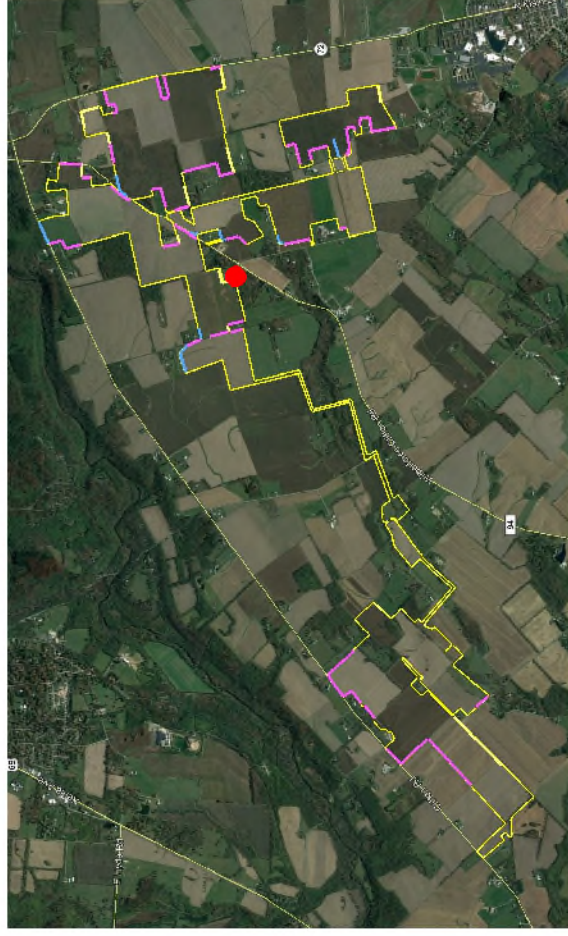
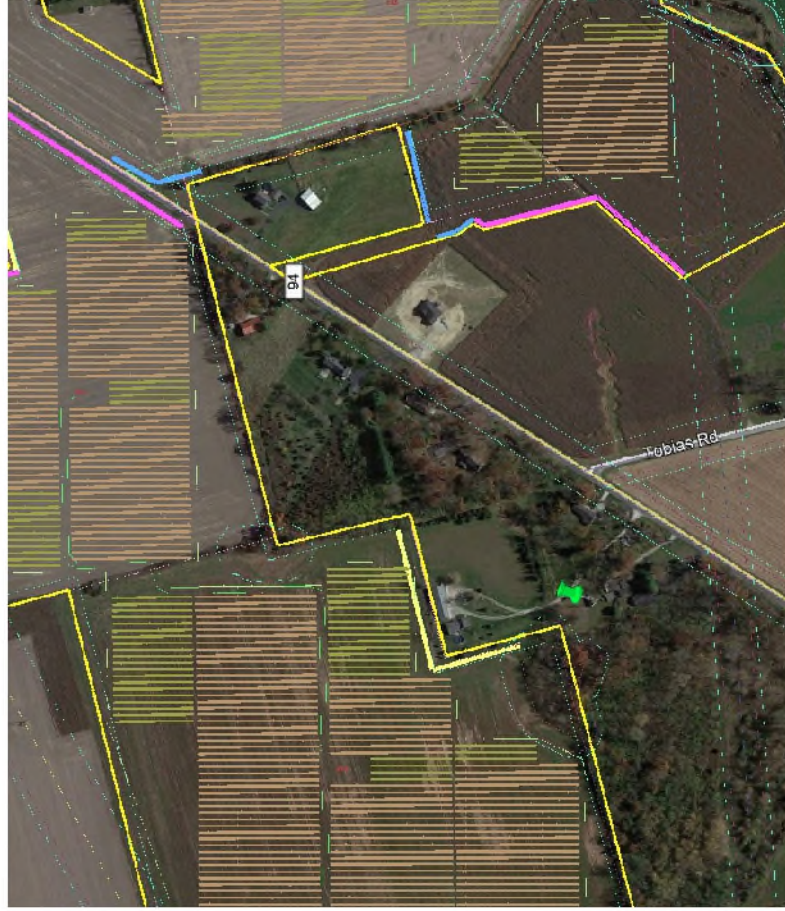


Figure 20 AL213

- Closest Array Areas
 - To the East: 300 feet
 - To the South: 345 feet
 - To the North: 650

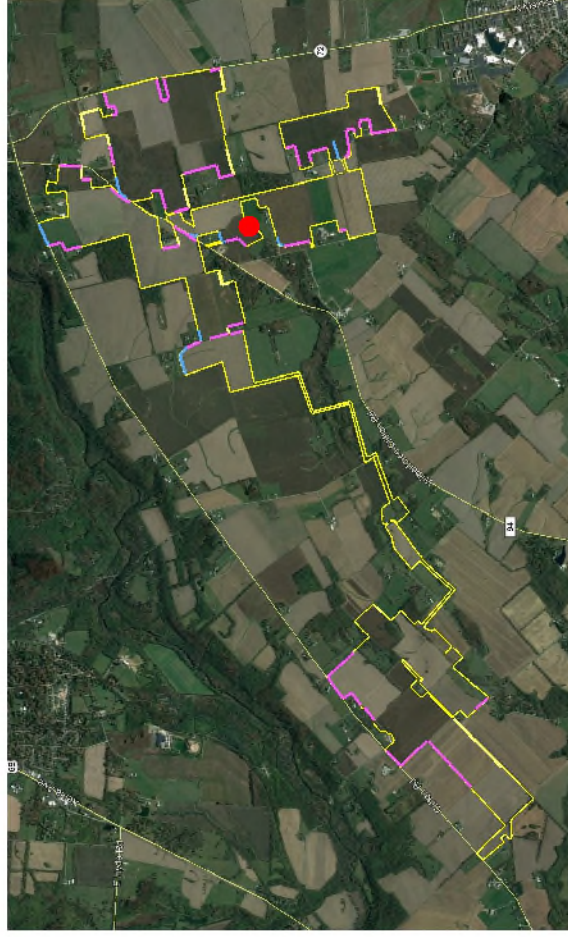


Figure 21
AL229



- Closest Array Areas
 - To the Northeast: 2,800 feet

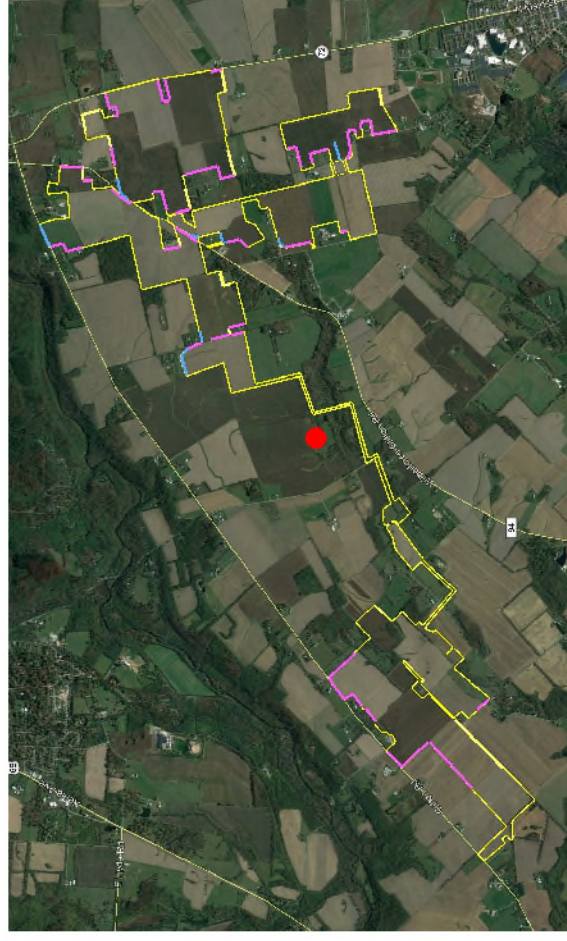


Figure 22
AL231

- Closest Array Areas
 - To the East: 3,300 feet

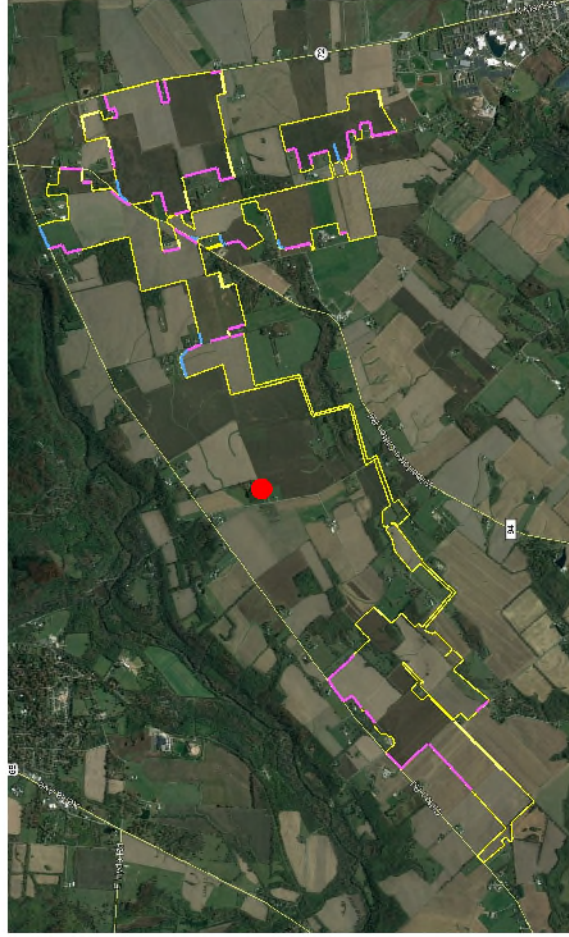


Figure 23
AL232



- Closest Array Areas
 - To the East: 3,200 feet

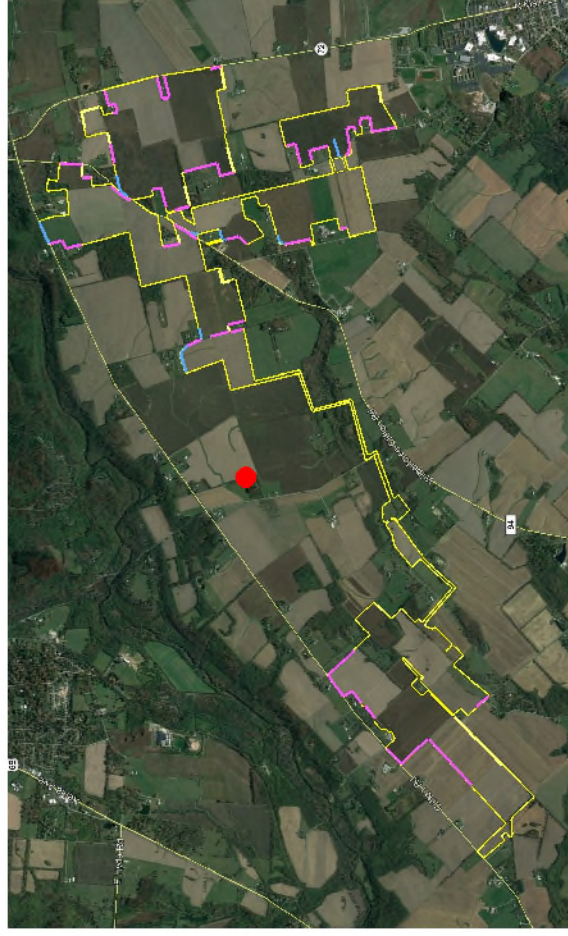


Figure 24

AL233: GRE-00138-11

- Closest Array Areas
 - To the South: 2,200 feet
 - To the East: 2,900 feet

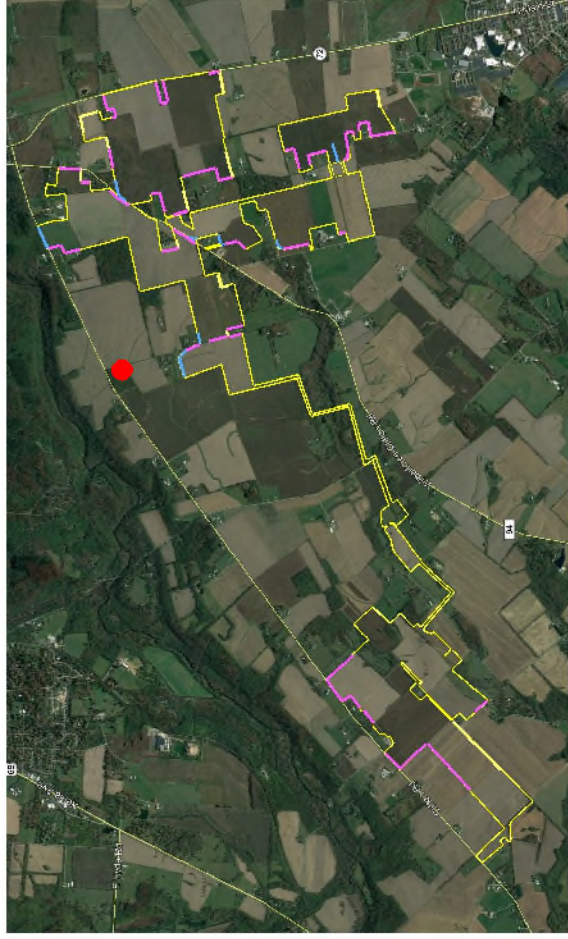
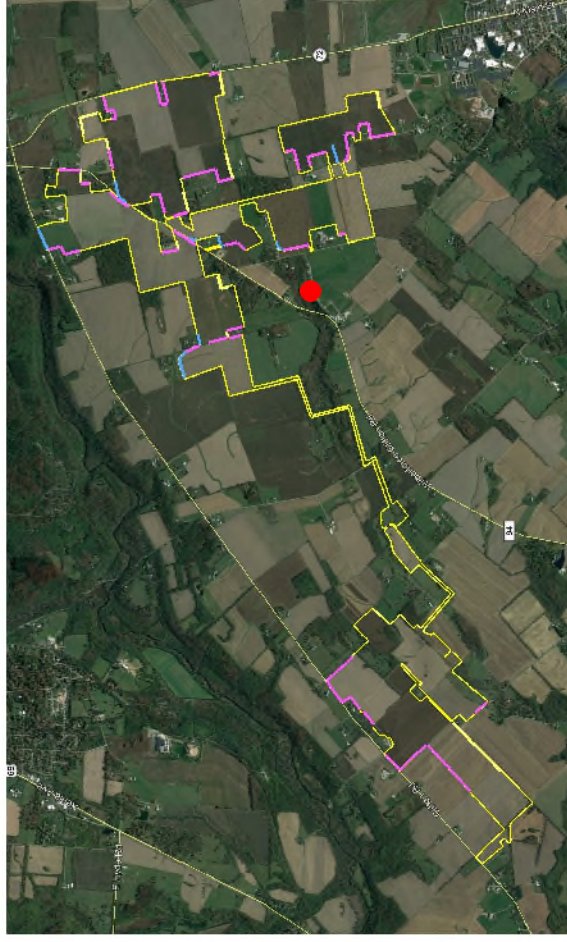
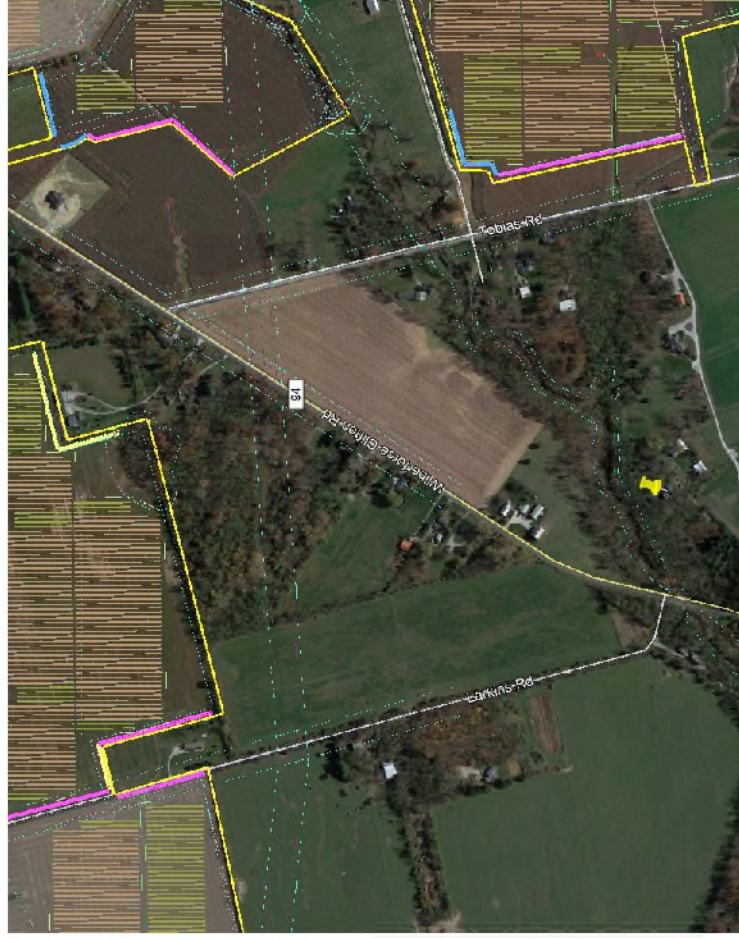


Figure 25
AL246

- Closest Array Areas
 - To the East: 1,600 feet
 - To the North: 2,350 feet
 - To the Southeast: 2,600 feet





July 23, 2021

In reply, please refer to:
2021-GRE-50764

Lynn Gresock
Haley & Aldrich, Inc.
3 Bedford Farms Drive
Bedford, New Hampshire 03110

RE: Kingwood Solar Historic Architecture Survey

Dear Ms. Gresock:

This letter is in response to the receipt, on June 22, 2021, of the *History/Architecture Reconnaissance Survey for the Proposed Kingwood Solar Project in Portions of Cedarville, Miami, and Xenia Townships, Greene County, Ohio* by Kramb Consulting, LLC (Kramb, 2021). The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-04). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C.470 [36 CFR 800]).

The proposed undertaking involves the construction of a solar energy facility consisting of ground-mounted photovoltaic arrays and associated infrastructure within an approximately 1,500-acre area of parcels containing all components of the Project. The following review and comments pertain only to the *History/Architecture Reconnaissance Survey for the Proposed Kingwood Solar Project in Portions of Cedarville, Miami, and Xenia Townships, Greene County, Ohio*. The archaeological component has been submitted in a stand-alone report, and therefore will be reviewed under a separate cover.

A total of 258 architectural resources were surveyed and assessed for National Register eligibility during the field survey. Seventeen (17) of these resources are recommended as potentially eligible for listing in the National Register of Historic Places. The SHPO agrees with Kramb's recommendations of eligibility.

The information provided suggests that views to the project from potentially eligible properties will be limited. A landscape plan has been designed to provide additional screening of solar arrays from nearby historic properties. Therefore, our office agrees that no additional history/architecture investigations are necessary to meet compliance with requirements for Certificate Applications for Electric Generating Facilities as detailed in Ohio Administrative Code 4906-04 and as administered by the OPSB.

If you have any questions, please do not hesitate to contact me at jwilliams@ohiohistory.org.
Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Joy Williams".

Joy Williams, Project Reviews Manager
Resource Protection and Review

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."

RPR Serial No: 1089064

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org



In refer to
2021-GRE-50764 4 And 5

August 6, 2021

Lynn Gresock
Haley & Aldrich, Inc.
3 Bedford Farms Drive
Bedford, NH 03110

Dear Ms. Gresock:

**Re: Kingwood Solar Archaeological Survey, Miami, Xenia and Cedarville Townships,
Greene County Ohio**

This is in response to the receipt, on July 15, 2021, of *Phase I Archaeological Investigations for the 600 Ha (1,482.5 Ac) Kingwood Solar Farm Development in Miami, Xenia, And Cedarville Townships, Greene County, Ohio*. The comments of the Ohio Historic Preservation Office (OSHPO) are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

The Kingwood Solar Energy Center will be developed on a 1,500-acre parcel in Greene County, Ohio. The document submitted to this office provides details about the partially completed archaeological survey. To date, approximately 85% of the Phase I archaeological survey has been completed with 32 archaeological sites identified. The Ohio Historic Preservation Office is in agreement with the proposed course of action to develop a Programmatic Agreement for the completion of the remaining archaeological survey. This office looks forward to review of the completed survey.

Please be advised that this is a Section 106 decision. This review decision may not extend to other OSHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. We have also updated our [Survey Report Submission Standards](#).

Sincerely,

A handwritten signature in blue ink that reads "Nathan A. Young".

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org

**PROGRAMMATIC AGREEMENT
BETWEEN
KINGWOOD SOLAR I, LLC
AND
THE OHIO STATE HISTORIC PRESERVATION OFFICE
FOR THE ADMINISTRATION OF
A SOLAR ENERGY PROJECT IN
GREENE COUNTY, OHIO**

WHEREAS, Kingwood Solar I, LLC (“Applicant”) has proposed to construct the Kingwood Solar project (“Project”) in Greene County, Ohio; and

WHEREAS, Applicant has filed an Application for a Certificate of Environmental Compatibility and Public Need (“Certificate”) with the Ohio Power Siting Board (“OPSB”) pursuant to Ohio Revised Code (“ORC”) Chapter 4906 in April 2021 (OPSB Case No. 21-0117-EL-BGN); and

WHEREAS, constructing the Project may have the potential to affect cultural resources, including “landmarks” as that term is defined in Ohio Administrative Code (“OAC”) Rule 4906-4-08(D); and

WHEREAS, applicants for certificates for electric generation under OAC Chapter 4906-4 must provide information on cultural resources and describe measures that will be taken to minimize any adverse visual impacts created by the generation facility; and

WHEREAS, OPSB is coordinating with the Ohio State Historic Preservation Office (“SHPO”) pursuant to ORC Section 149.53 and Applicant is working with SHPO to provide plans to avoid, minimize, or mitigate any adverse effects of the Project on cultural resources, including “landmarks” under the OAC.

NOW, THEREFORE, Applicant and SHPO have agreed to the following stipulations set forth in this Programmatic Agreement (“PA”):

STIPULATIONS

I. Roles and Responsibilities

- A. SHPO shall be responsible for providing technical assistance and guidance as needed and reviewing Project documentation, in accordance with SHPO's assigned duties under the ORC and OAC.
- B. Applicant shall be responsible for consulting with and preparing documents for SHPO and maintaining records on the Project.
- C. Applicant shall utilize persons meeting the applicable Professional Qualification Standards set forth in the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation* to conduct identification of cultural resources.

II. Archaeological and Cultural Resource Review Phasing

A. Phase 1: Complete Archaeological and historic/architectural surveys

Applicant initiated archaeological and historic/architectural surveys through Weller & Associates, Inc. ("Weller"), who coordinated with SHPO to determine an approved work plan for the historic/architecture and archaeology field surveys associated with an approximately 1,500-acre area of potential effect ("APE"). The work plan was approved by SHPO on March 16, 2021.

Archaeological and historic/architectural surveys for the Project's OPSB certificate application were initiated in the fourth quarter of 2020. The architectural survey was submitted to SHPO on June 22, 2021 and is currently under review. Applicant anticipates reviewing landscape screening with SHPO to avoid and minimize impact to historic properties.

Approximately 85% of the total acreage for the archaeological survey for the Project was completed during the work initiated in fourth quarter of 2020; a report documenting the findings, including the conclusion that no impact to archaeological resources is anticipated and no further work is recommended, was submitted to SHPO on July 15, 2021. The report is currently under review by SHPO. The remaining 15% of the Project Area will be completed as soon as conditions are made favorable for survey. This is to allow for the SHPO review to be completed prior to commencement of Project construction. Upon completion of the fieldwork, Weller will provide SHPO with the addendum report addressing the remaining areas.

B. Phase 2: Evaluate “landmarks” through research and analysis

Any cultural resources identified by surveys described in Section II.A of this PA will be recorded as stipulated in the SHPO-approved survey plans and subsequently evaluated in a manner that is reflective of the eligibility criteria for listing in the National Register of Historic Places (“NRHP”). See 36 Code of Federal Regulations (“CFR”) § 60.4. Technical reports will include recommendations for NRHP eligibility, as well as evaluations of the effects of the Project on any identified cultural resources. If a cultural resource is determined to be significant and/or eligible for listing in the NRHP and avoidance is not feasible, a mitigation plan will be submitted to SHPO for review.

C. Phase 3: Develop a plan for avoiding, minimizing, or mitigating adverse effects to cultural resources, including “landmarks”

Applicant will make reasonable efforts to avoid adverse effects on any resources that are determined as significant cultural resources, including “landmarks” as the term is used in OAC Rule 4906-4-08(D), by adjusting Project facilities. If avoidance is not feasible or practicable, Applicant will work with SHPO to develop a minimization/mitigation plan that will be memorialized in a Memorandum of Understanding (“MOU”) and may include the following mitigation treatment strategies: additional survey work, thematic or multiple property studies, NRHP nominations, offset funding for restoration of local landmarks, support for local preservation organizations, heritage tourism, development of education materials and lesson plans, and website development. It is anticipated that these or similar mitigation treatment strategies will be appropriate for the Project.

III. Project Review and Concurrence

Provided that Applicant follows the phasing approach in Section II of this PA, and subject to this PA’s terms, SHPO’s execution of this PA constitutes its concurrence regarding avoidance or mitigation of adverse effects to cultural resources by the Project.

IV. Technical Assistance and Educational Activities

Staff in SHPO’s Resource Protection and Review Department will provide technical assistance and consultation as requested by Applicant, or as proposed by SHPO, in order to assist Applicant in carrying out the terms of this PA.

V. Post-Review Discovery

In the event that Applicant discovers a previously unidentified site within the APE that may be eligible for listing in the NRHP or regarded as a ‘landmark’ that would be affected by the Project, Applicant shall promptly stop work in the immediate vicinity of the site and notify the OPSB and SHPO within 48 hours of the discovery.

If Applicant and SHPO concur that the discovered resource is eligible for listing in the NRHP, Applicant will consult with SHPO to evaluate measures that will avoid, minimize, or mitigate any adverse effects. Upon agreement regarding such measures, Applicant shall implement them, may recommence construction in the immediate vicinity of the site and notify the OPSB of its action.

If Applicant and SHPO cannot reach agreement regarding the eligibility of a post-review discovery, the matter will be referred to the OPSB for review. If Applicant and SHPO cannot reach agreement on measures to avoid, minimize, or mitigate adverse effects, the matter shall be referred to the OPSB for appropriate action.

If Applicant discovers any human or burial remains during implementation of the Project, the Applicant shall cease work immediately in the immediate vicinity of the site, notify the SHPO, the appropriate authorities, and OPSB staff, and adhere to applicable State and Federal laws regarding the treatment of human or burial remains.

VI. Dispute Resolution


Should any signatory to this PA object to actions proposed herein or dispute the meaning of this PA's terms, the disputing signatory shall serve all other signatories with notice of its objection or dispute and shall consult to resolve the objection or dispute. If the objection or dispute cannot be resolved within 30 days of service of the notice of objection or dispute, then the SHPO may make a final decision on the dispute and advise Applicant to proceed accordingly.

VII. Duration, Amendment, and Effect

This PA will continue in full force until February 1, 2024, provided that its cessation shall not affect the continued application of the measures outlined in Section V of this PA. At the request of any signatory, this PA may be reviewed for amendments at any time. This PA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is submitted to SHPO. Execution of this PA by Applicant and SHPO constitutes final concurrence by SHPO for purposes of OPSB review of the Project's certificate application.

SIGNATORIES:

Ohio Historic Preservation Office

Diana Welling 
Digitally signed by Diana Welling
DN: cn=Diana Welling, o=Ohio History
Connection, ou=State Historic Preservation Office,
email=dwelling@ohiohistory.org, c=US
Date: 2021.08.18 10:37:33 -0400

8/18/2021

Diana Welling, Department Head

Date

Ohio Deputy State Historic Preservation Officer

Kingwood Solar I, LLC



August 11, 2021

Date

Exhibit A: Project Location Map

Exhibit B: SHPO-Approved Work Plan and Consultation

Exhibit A

Project Location Map

Exhibit B

SHPO-Approved Work Plan and Consultation



In refer to
2021-GRE-50764 4 And 5

August 6, 2021

Lynn Gresock
Haley & Aldrich, Inc.
3 Bedford Farms Drive
Bedford, NH 03110

Dear Ms. Gresock:

**Re: Kingwood Solar Archaeological Survey, Miami, Xenia and Cedarville Townships,
Greene County Ohio**

This is in response to the receipt, on July 15, 2021, of *Phase I Archaeological Investigations for the 600 Ha (1,482.5 Ac) Kingwood Solar Farm Development in Miami, Xenia, And Cedarville Townships, Greene County, Ohio*. The comments of the Ohio Historic Preservation Office (OSHPO) are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

The Kingwood Solar Energy Center will be developed on a 1,500-acre parcel in Greene County, Ohio. The document submitted to this office provides details about the partially completed archaeological survey. To date, approximately 85% of the Phase I archaeological survey has been completed with 32 archaeological sites identified. The Ohio Historic Preservation Office is in agreement with the proposed course of action to develop a Programmatic Agreement for the completion of the remaining archaeological survey. This office looks forward to review of the completed survey.

Please be advised that this is a Section 106 decision. This review decision may not extend to other OSHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. We have also updated our [Survey Report Submission Standards](#).

Sincerely,

A handwritten signature in blue ink that reads "Nathan A. Young".

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org



July 23, 2021

In reply, please refer to:
2021-GRE-50764

Lynn Gresock
Haley & Aldrich, Inc.
3 Bedford Farms Drive
Bedford, New Hampshire 03110

RE: Kingwood Solar Historic Architecture Survey

Dear Ms. Gresock:

This letter is in response to the receipt, on June 22, 2021, of the *History/Architecture Reconnaissance Survey for the Proposed Kingwood Solar Project in Portions of Cedarville, Miami, and Xenia Townships, Greene County, Ohio* by Kramb Consulting, LLC (Kramb, 2021). The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-04). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C.470 [36 CFR 800]).

The proposed undertaking involves the construction of a solar energy facility consisting of ground-mounted photovoltaic arrays and associated infrastructure within an approximately 1,500-acre area of parcels containing all components of the Project. The following review and comments pertain only to the *History/Architecture Reconnaissance Survey for the Proposed Kingwood Solar Project in Portions of Cedarville, Miami, and Xenia Townships, Greene County, Ohio*. The archaeological component has been submitted in a stand-alone report, and therefore will be reviewed under a separate cover.

A total of 258 architectural resources were surveyed and assessed for National Register eligibility during the field survey. Seventeen (17) of these resources are recommended as potentially eligible for listing in the National Register of Historic Places. The SHPO agrees with Kramb's recommendations of eligibility.

The information provided suggests that views to the project from potentially eligible properties will be limited. A landscape plan has been designed to provide additional screening of solar arrays from nearby historic properties. Therefore, our office agrees that no additional history/architecture investigations are necessary to meet compliance with requirements for Certificate Applications for Electric Generating Facilities as detailed in Ohio Administrative Code 4906-04 and as administered by the OPSB.

If you have any questions, please do not hesitate to contact me at jwilliams@ohiohistory.org.
Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Joy Williams".

Joy Williams, Project Reviews Manager
Resource Protection and Review

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."

RPR Serial No: 1089064

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org



In refer to
2021-GRE-50764

March 16, 2021

Ryan Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212

Dear Mr. Weller:

Re: Kingwood Solar Work Plan, Miami, Xenia and Cedarville Townships, Greene County Ohio

This is in response to the receipt, on February 24, 2021, of *Technical Proposal for Phase I Cultural Resource Management Investigations for the Approximately 1,500-Acre Kingwood Solar Project, Miami, Xenia and Cedarville Townships, Greene County, Ohio*. The comments of the Ohio Historic Preservation Office (OSHPO) are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

The Kingwood Solar Energy Center will be developed on a 1,500-acre parcel in Greene County, Ohio. The document submitted to this office provides details about the proposed work plan to be employed for the Phase I cultural resource testing. The Ohio historic Preservation Office is in agreement with the proposed work plan. Should changes to this plan be necessary, please contact the OSHPO for additional review and comment.

Please be advised that this is a Section 106 decision. This review decision may not extend to other OSHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. We have also updated our [Survey Report Submission Standards](#).

Sincerely,

A handwritten signature in blue ink that reads "Nathan J. Young".

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org



1395 West Fifth Avenue
Columbus, Ohio 43212
Ph: 614-485-9435
Fx: 614-485-9439
Web: www.wellercrm.com

February 25, 2021

**Ohio State Historic Preservation Office
Attn: Krista Horrocks
Ohio State Historic Preservation Office
800 E. 17th Ave.
Columbus, Ohio 43211**

RE: Phase I Cultural Resource Management Investigations for the Approximately 1,500-acre Kingwood Solar Project, Miami, Xenia, and Cedarville Townships, Greene County, Ohio

Weller & Associates, Inc. is submitting the above titled Phase I technical proposal to the Ohio History Connection on behalf of:

**Kingwood Solar 1 LLC
200 Park Avenue, 9th Floor
New York, NY 10166**

As you will see below, the work plan incorporates:

- An archaeological research design adhering to the guidelines of the Ohio State Historic Preservation Office (SHPO 1994) and incorporating the entirety of the proposed project area and limits of disturbances; and
- A history/architecture survey incorporating the entirety of the proposed project area, areas of direct/indirect effects, as well as an area extending within the proposed project's line-of-sight, which is presumed not to exceed one mile.

The proposed project is subject to review by the Ohio Power Siting Board; it is not currently known whether a permit from the U.S. Army Corps of Engineers will be required. This work plan is being submitted pursuant to regulations and stipulations set forth by the Ohio Power Siting Board and in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1992, U.S.C. 470f (Appendix A) and should be reviewed accordingly. We are requesting concurrence from SHPO for this proposed work plan or any necessary revisions to the work plan.

Sincerely,

A handwritten signature in dark ink, appearing to read "Josh Engle".

Joshua D. Engle, M.A.
Principal Investigator

Weller & Associates, Inc.

**TECHNICAL PROPOSAL FOR
PHASE I CULTURAL RESOURCE MANAGEMENT
INVESTIGATIONS FOR THE APPROXIMATELY 1,500-ACRE
KINGWOOD SOLAR PROJECT
MIAMI, XENIA, AND CEDARVILLE TOWNSHIPS,
GREENE COUNTY, OHIO**

Prepared for:

Ohio History Connection
Ohio State Historic Preservation Office
800 E. 17th Avenue
Columbus, Ohio 43211

Prepared by:

Weller and Associates, Inc.
1395 West Fifth Ave
Columbus, Ohio 43212
Phone: (614) 485-9435
rweller@wellercrm.com

February 25, 2021

TECHNICAL PROPOSAL FOR PHASE I CULTURAL RESOURCE MANAGEMENT INVESTIGATIONS FOR THE APPROXIMATELY 1,500-ACRE KINGWOOD SOLAR PROJECT MIAMI, XENIA, AND CEDARVILLE TOWNSHIPS, GREENE COUNTY, OHIO

Introduction

The project will consist of the construction of a solar energy facility (the project) that is located between Yellow Springs and Cedarville, Greene County, Ohio. The limits of disturbance (LOD) accounts for an approximately 1,500-acre area that includes the solar array area and staging area. The cultural resource management investigations are subject to review by the Ohio Power Siting Board (OPSB) and possibly the Army Corps of Engineers (USACE). The project area is located in an upland setting that is predominantly located in active agricultural fields. The area that is subject to the proposal includes several separated parcels that are drained by Clark Run, a tributary of the Little Miami River. A literature review of the area indicated that there have been numerous archaeological sites recorded in the subject area as well as its surrounding setting; however, the project area has not been the focus of any formal professional surveys. Therefore, the sites have not been evaluated or assessed for their significance. The area and its general surroundings are not densely populated. This is an upland environment that is within the Southern Ohio Loamy Till Plain physiographic region.

The exact placement of any facility structures within the area are currently unknown, so the entire area will be subjected to survey and will be considered the project direct area of potential effects (APE). Phase I archaeological identification survey will be conducted within the entirety of the proposed project area and LOD. In addition, indirect effects will be accounted for in the form of an architectural survey for an area extending within the proposed project's line-of-sight but not to exceed 1 mile as discussed below.

The Scope of Work (SOW) includes the following tasks to be completed to guidelines of the State Historic Preservation Office (SHPO) (SHPO1994).

Scope of Work

Task 1 – Records Review. This task will be completed using the SHPO's Online Mapping System (OMS) and available historic mapping/documents. For the archaeological survey, all previously recorded archaeological resources and previous surveys within a one-mile radius will be included in the literature review. In addition, background research will be completed to review historic maps, atlases, and other sources that might provide information for the locations of historic-era sites, areas of prior disturbance, etc. The literature review will use a 1.6 kilometer (km) (1 mile) study area. This allows for an understanding as to the amount of previously recorded resources near the project and is reflective of the type of construction that is proposed. In conducting the literature review, the following resources will be consulted:

- 1) *An Archaeological Atlas of Ohio* (Mills 1914);
- 2) SHPO United States Geological Survey (USGS) 7.5' series topographic maps;
- 3) Ohio Archaeological Inventory (OAI) files;
- 4) Ohio Historic Inventory (OHI) files;
- 5) National Register of Historic Places (NRHP) files;
- 6) Determinations of Eligibility (DOE) files;
- 7) SHPO CRM/contract archaeology files; and
- 8) County atlases, histories, historic USGS 15' series topographic map(s), and current USGS 7.5' series topographic map(s);
- 9) Online Genealogical and Cemetery Records

Task 2 –Phase I Survey. This method will include archaeological testing of the entire project area. Phase I archaeological identification survey for this project will be completed to guidelines (1994) of the SHPO. Landforms or areas with slope less than 15% that support poor visibility (e.g., areas of pasture, forest, etc.) are to be examined by systematic shovel testing. In areas where slope is in excess of 15%, pedestrian survey is the primary method of investigation.

The Phase I survey will be completed using the following methods:

- *Pedestrian Survey* – this method is used to survey landforms having slopes in excess of 15%, or areas with slopes less than 15% where surface visibility is 50% or greater (e.g., plowed field). The survey transect interval is 10 meters (m). All identified prehistoric period artifacts are collected and provenienced. Historic period sites will likely have the boundary of the deposit plotted and a representative sample of the materials collected.
- *Shovel Testing* – this method is used to sample subsurface contexts in areas with poor visibility supporting slopes less than 15%. A shovel test pit (STP) is 50-x-50 centimeter (cm) square and extending 10 cm into sterile subsoil. The STPs are excavated on grid at 15 m intervals – additional radial STPs are required at 7.5 m intervals when any artifacts are discovered. Excavated soil is screened through 0.25-inch mesh. This is consistent with current state guidelines.
- *Visual Inspection* – This method is reserved for areas that are found to be contained in standing water or mechanically disturbed soils and not suitable for sampling. It is also used to inspect the surrounding terrain and setting to better understand the landscape.

The crew will be directly supervised in the field by an MA-level archaeologist. GPS units will be used to ensure field personnel maintain accurate survey tracts and do not extend survey outside the project survey corridor. The results of the records review and field survey will be documented to SHPO specifications.

Task 3 – Define Visual Effects APE. Weller will employ a visual APE that includes the area of direct effect, the project area, and an area extending one mile from the proposed facilities. The resulting “Visual APE” will be examined systematically for evidence of aboveground resources (e.g., buildings, structures, cemeteries, etc.) 50 years or older. Based on historical mapping and current aerial mapping, it appears that there are numerous resources in the study area. The APE will be refined in the field and in consideration of actual visual impediments and viewshed.

Task 4 – Cultural Historic Survey. The approach to the field survey will account for all aboveground resources 50 years and older located within the project and visual APEs and will be completed to guidelines (2014) of the SHPO. However, we will focus time and resources on the development of a historic context and the evaluation of likely National Register-eligible properties. This approach to the survey will include systematic survey and mapping of all buildings 50 years of age or older in the APE in order to identify those with National Register potential followed by a more intensive documentation and evaluation of potentially eligible aboveground resources, if such properties exist within the APE.

The comprehensive survey will involve the identification and preliminary evaluation of aboveground resources 50 years of age or older in the APE and the recording of each to a baseline level of documentation (including location, age, building type, building style, construction, materials, and alterations).

Documentation tables completed in the field will be reviewed for accuracy and completeness and will be exported to Excel for data analysis. A summary and analysis of the field data detailing the overall architectural character of the APE will be included in the body of the report, as will representative photographs. Photographs of every resource that is 50 years of age or older, keyed to the results table, will be included as an appendix to the report.

Weller historians will analyze the data and identify properties that are clearly ineligible for the National Register due to a lack of associative significance or loss of integrity, as well as potential National Register-eligible properties to advance them to the next stage of documentation and evaluation. Each property advanced to intensive survey will be documented on an OHI form following guidelines established in *How to Complete the Ohio Historic Inventory* (Gordon 1992). The OHI contains detailed historical and descriptive information, a location map, site plan, and additional photographs. The OHI will be submitted utilizing the SHPO I-Form electronic application. This more intensive level of documentation will produce sufficient information about historic properties to permit them to be evaluated or re-evaluated for significance according to the National Register Criteria for Evaluation. The intensive-level documentation includes collecting information that specifically explains the relationship of a property to the important themes and property types identified in the comprehensive survey. This additional research often includes establishing a chain of title, the examination of census records and tax data, placing each property within the historic context, and informant interviews if possible. The additional research will support final recommendations of non-eligibility or eligibility, and the delineation of historic property boundaries.

Based on previous experience with other solar projects, it is assumed that the proposed solar panels will have a maximum height of about 15 feet once installed, likely with 6-8-foot-tall metal fence enclosures. Located in an upland setting, the terrain surrounding the project ranges from relatively flat to somewhat rolling. The surrounding area is an overwhelmingly open, rural agricultural setting with residences and farmsteads scattered throughout the area. The area is between the communities of Yellow Springs and Cedarville; however, there is a large and treed stream valley (along the Little Miami River) that separates the planned construction from Yellow Springs. Cedarville is to the south and noticeably down-slope from the planned activity. Forestation, topography, and visibility are all important factors that will be considered in confirmation of the APE. Many of the architectural resources that are within, amidst, near, or might be within the one-mile APE are associated with farmsteads. These are resources with multiple buildings and are very likely to be older than 50 years, although may have varying levels of integrity.

Based on the above project assumptions and a review of aerial mapping, it seems unlikely that the eventual determination of the APE would extend beyond a mile, simply because it is unlikely that the solar panels would be visible from distances that would be greater than a mile. The exact APE will be adjusted during the field survey to account for distance, topography, and intervening buildings or vegetation. Given the number of buildings within the potential APE, which might be reduced during field investigations, it is recommended that OHI forms be completed for all resources that are considered to be eligible or potentially eligible for the NRHP and within the APE rather than for all buildings 50 years or older. These will be discussed in detail within a History/Architecture Resource table in the Phase I report which meets all Secretary of Interior guidelines for history/architecture surveys.

Weller will conduct the Phase I History/Architecture reconnaissance field work from the public right-of-way. During the field work, all primary buildings within the APE will be photographed for inclusion within the report. Since work will be conducted from the public right-of-way, no property owner notification letters/right-of-entry is required. Aerial images indicate that only some buildings are distanced from the public right-of-way and views may be obscured by existing vegetation and surrounding residences. In cases where buildings are not visible from the public right-of-way, all efforts will be made to document the building using Auditor information and aeriels.

Task 5 – Assessment of Effects.

Weller will describe the relationship of the proposed project to any historic properties located within the APE and apply the Criteria of Adverse Effect (36CFR800.5). An undertaking is considered to have an adverse effect on an historic property when it may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, or association. Weller will offer a determination of effect for any historic property within the APE and conclude the report with an effect finding for the project. In addition, any above ground NRHP listed property or DOE property on file at the SHPO within the 1-mile literature review radius will be considered for potential effects.

***Archaeological Survey Contingency Plan** - Often, it is difficult to arrange for fields to be tilled in a timely manner which greatly reduces survey costs through surface collection. If, in the event that there are sizeable aspects of this project that cannot be tilled accordingly, Weller would anticipate defaulting to a Programmatic Agreement that the OHC has been implementing that allows for more time to make areas suitable for survey without impeding on project certifications. However, such areas would need to be made suitable for surface collection methods (assuming they are not wooded) prior to project construction.

Archaeological Laboratory Work

All recovered artifacts will be collected and transported to the Weller laboratory in Columbus, Ohio. At the laboratory, recovered artifacts will be cleaned and conserved in a manner appropriate to assure their stability. All analyzed diagnostic artifacts will be fully provenienced and labeled. All artifacts, which may provide significant interpretive value to the site, will be fully analyzed. The cultural and temporal affiliation, material of manufacture, style, function, form, etc. of recovered artifacts will be identified to the fullest extent possible. Representative photographs of diagnostic artifacts recovered during the survey will be included in the report as well as a detailed inventory of all recovered artifacts by provenience. Project field notes, records, and site photographs and any other documentation and artifacts will be retained by Weller until the final report has been accepted by SHPO. Following the acceptance of the final report, a letter regarding the disposition of the cultural materials (artifacts) identified and collected during survey for this project will be sent to the landowner.

Report Preparation

The results and recommendations associated with this Phase I archaeological and architectural survey will be presented in two separate detailed technical reports prepared in accordance with SHPO guidelines (SHPO 1994). The final reports will be created in Microsoft Word and single-spaced on standard sized (8.5 x 11 inch) white paper. Page numbers will appear on all pages. Maps, photographs, and other graphics will be clearly presented. Maps will include the locations of all recorded resources, and detailed GIS and AutoCAD maps. Final reports will be suitable for submission to the SHPO.

Project field notes, records, and site photographs and any other documentation and artifacts will be retained by Weller until the final report has been accepted by SHPO. Following the acceptance of the final report, the artifacts and a copy of attendant documentation will be returned to the landowner at their request. Originals of the attendant documentation will be retained at Weller's office.

Human Remains

In the unlikely event that human remains are discovered during the excavations, all work in the area of the discovery will cease and the Greene County Sheriff and SHPO will be notified of the discovery.

Schedule

Weller is anticipating scheduling for the project fieldwork and report preparation to support the OPSB review timeline. Should it be necessary, more detailed timing may be stipulated in a future programmatic agreement with the SHPO.

FOR Weller & Associates, Inc.:



Signed: _____

Name: Joshua Engle, M.A., RPA

Position: Principal Investigator

References

Gordon Stephen

1992 *How to Complete the Ohio Historic Inventory*. Ohio State Historic Preservation Office, Columbus, Ohio.

Ohio Historic Preservation Office

1994 *Archaeology Guidelines*. Ohio State Historic Preservation Office, Columbus, Ohio.

2014 *Guidelines for Conducting History/Architecture Surveys in Ohio*. The Ohio Historical Society and Ohio Historic Preservation Office, Columbus, Ohio.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

9/28/2021 10:28:19 AM

in

Case No(s). 21-0117-EL-BGN

Summary: Notice Notice of Supplemental Response to Data Requests from the Staff of the Ohio Power Siting Board electronically filed by Nathaniel Morse on behalf of Kingwood Solar I LLC

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**NOTICE OF RESPONSES TO DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD**

On April 16, 2021, Kingwood Solar I LLC (“Kingwood Solar”) filed an Application for a Certificate of Environmental Compatibility and Public Need with the Ohio Power Siting Board (the “Board”). On September 29, 2021, the Board’s Staff provided Kingwood Solar with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s responses, previously submitted to the Board’s Staff.

Respectfully submitted,

/s/ Nathaniel B. Morse
Michael J. Settineri (0073369) Counsel of Record
Anna Sanyal (0089269)
Nathaniel B. Morse (0099768)
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Attorneys for Kingwood Solar I LLC

CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on October 19, 2021 to:

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/s/ Nathaniel B. Morse
Nathaniel B. Morse

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**KINGWOOD SOLAR'S OCTOBER 12, 2021 RESPONSES
TO STAFF'S SEPTEMBER 29, 2021 DATA REQUESTS**

- 1. Given the documented karst geology in and around the project area and given the shallow (<12 feet) depths to bedrock found in several of the 30 site borings, has the applicant considered bedrock coring to identify karst features and their extent?***

Upon final engineering, bedrock coring may be considered in areas where arrays may be placed and bedrock depths were encountered at <12 feet, if necessary, however this is not anticipated based on the Geotechnical Report results. As noted in the Geotechnical Report, no karst features have been identified in the Project Area as shown in Figure 8-04 of the Application which is based on data from the Ohio Department of Natural Resources. Approximately 85 acres out of the 1,500 acre Project Area has been identified as "Probable Karst" area based on data from the ODNR and as shown in Figure 8-04. Thirty boring locations identified as B-1 through B-30 were analyzed and bedrock was encountered at depths of 2 to 12 feet in eleven of the borings as shown in Table 1 to the Geotechnical Report attached as Appendix L to the Application. None of those boring locations are within the 85 acres identified as "Probable Karst" areas.

- 2. Is any additional geotechnical work planned at this time? If so, please elaborate on what that may include.***

No additional geotechnical work is planned at this time although additional geotechnical input and analysis may occur as part of the final engineering for the Project and in consultation with the Project's EPC contractor.

- 3. Should karst features be identified during construction, please explain what the Applicant will do to mitigate any potential issues associated with karst? i.e. will karst features be avoided?***

Final engineering and Project design will take into consideration the 'Probable Karst' areas identified by the ODNR, shown in Figure 8-04 of the Application. This may include avoiding these areas and/or performing specific mitigation measures like NX or NQ bedrock coring, pile load testing during pre-construction activity, or pre-drilling pile holes during construction.

- 4. Please discuss the site hydrology in further detail to include discussion of karst geology influence.***

The Project Area is largely outside of high flood depth areas and the Project layout is deliberately designed to avoid above-ground features in 100-year floodplain designated areas. Karst features are not

anticipated to have influence in the Project Area considering there are no identified karst features within the Project Area, as shown in Figure 08-4. Areas in the project area designated as ‘Probable Karst’ by ODNr will be closely assessed when consulting with the EPC Contractor and during pre-construction activity.

5. *Has any pile load testing been conducted at the project site? What consideration has been given to pile load capacities for piles that must be pre-drilled and grouted piles due to the shallow bedrock contact in certain areas?*

Pile load testing has not been conducted. Out of the eleven boring locations where bedrock depths were encountered at <12 feet, as shown in Appendix L of the Application, only three boring locations are currently being considered for array areas, two of which encountered bedrock at depths of 9.5 and 12 feet. The Project Permitting Layout is shown in Appendix A of the Application. For these three locations, pre-drilling may be considered upon final engineering and in consultation with the EPC Contractor.

6. *Does the Applicant have an estimate of the number of piles that may require pre-drilling?*

The three boring locations with bedrock depths of <12 feet which are currently considered for array areas in the Project Layout, are anticipated to comprise less than 5% of the entire Project Area. An estimate of the number of piles that may require pre-drilling is unavailable at this time.

7. *The ODNr geology assessment in Appendix N speaks to bedrock outcrops at or immediately below ground level in the project area. Are any special trenching methods planned for underground collection lines where bedrock may be encountered?*

Specific trenching methods for underground collection lines where bedrock may be encountered may include a hydraulic bedrock trencher, hoe ram, or another piece of equipment suitable for such applications. Explosives will not be used.

8. *Please provide a description and or chart of the vegetative community types comprising the Kingwood Solar Project area in total acreage. (# of acres of deciduous forest, # of acres of grassland/pasture, # of acres of wetlands, etc.)*

As summarized in the table below, approximately 97% of the Project Site is currently dominated by an agricultural vegetative community (pasture/crop). As outlined in Appendix M, Aquatic Resource Report, approximately 1.52 acres of wetland were delineated, of which 0.62 acre were PEM and 0.88 acre were PFO.

Ecological Community	Approximate Area (acres)	Percentage
Agricultural	1,369	92.5%
Developed	6	0.4%
Forested	19	1.3%
Herbaceous	15	1.0%
Pasture	63	4.3%
Scrub-Shrub	7	0.4%
Wetland	1.5	0.1%
Total	1,480.5	100%

9. Please describe the vegetative management plan that Kingwood Solar anticipates using post project construction. Please also describe what steps will be taken by Kingwood Solar to prevent the establishment and/or further propagation of noxious weeds post Project construction?

The Vegetation Management Plan, provided as Appendix O of the Application, provides details associated with vegetation management during both construction and operation. Details are provided regarding the pollinator seed mix and the intent of the Applicant to work with Ernst/Monarch Vegetation for supply of the pollinator-friendly vegetation seed. Details are also provided that describe the mowing and maintenance activities planned during Project operation. As noted, it is not anticipated that any herbicides will be used for regular maintenance.

The prevention of establishment and/or further propagation of noxious weeds post-construction, will be first addressed by implementing the following measures during construction:

- Heavy seeding of desirable species. As a part of the EPC contractor's requirements, work will not be considered complete until vegetation has sufficiently established such that ground stability is achieved. Final stabilization is defined under the Ohio Stormwater General Permit as having a density of at least 70 percent cover prior to filing for the Notice of Termination.
- Use of clean equipment. In order to limit or minimize the potential for incidental seed to be transported from off-site locations, vehicle washing will be conducted in controlled areas.

Then, as noted in the Vegetation Management Plan, monthly inspections will occur once construction is complete. In addition to inspecting for vegetation height and debris requiring removal, the status of planted and seeded vegetation will also be observed. As a part of this inspection, observations as to whether noxious weeds have begun to encroach within the Project Area will be noted. The presence of any such species will be controlled by methods, such as hand-pulling, digging, or tarping/mulching, to eradicate noxious weeds that may be present. Additional seed for desired species may also be applied. Control methods will be selected that are appropriate for the given season, and these regular inspections have a goal of controlling weeds while they are young, and preferably before they flower. Areas noted as requiring observation will be logged during the monthly inspections and specifically monitored. Only if the area is non-responsive to manual control methods would the controlled use of herbicides be considered.

After approximately three years of favorable vegetation establishment, inspections for noxious weeds may be reduced to bi-monthly during the spring growing season. A vegetation expert will remain on-call to address any identification or control recommendations.

10. Does the applicant propose to have an on-site O&M building? If yes, please provide a description of the proposed building and mapping of the proposed location.

No, the project will not include a stand-alone O&M building structure. Kingwood may consider use of Connex container(s) to house Project equipment and/or parts required for the Project O&M activity. The exact location for the container(s) if used will be determined upon final design, however the location is anticipated to be adjacent to the Project substation, as identified in the Project Permitting Layout attached as Appendix A to the Application.

11. Does the applicant propose a setback from non-participating residences?

As stated in the Application, a minimum setback of 25 feet is proposed from arrays to non-participating property boundaries. No setback is proposed from non-participating residences.

12. Approximately how many inverters would be included in the project.

Approximately 55 inverters are planned to be used in the project. The exact number of inverters will be finalized at a later design stage closer to construction.

13. Would access roads be wider than 20 feet during construction or is the 20-foot width discussed in the application the maximum width of disturbance associated with access roads?

All access roads will be a maximum width of 20 feet during both construction and operation of the Project.

14. Please provide details on proposed laydown areas including mapping, total acreage, and

As shown in Appendix A to the OPSB Application, Project Permitting Layout, and quantified in Table 08-7 of the Application, a maximum of approximately 21 acres will be used for temporary laydown areas.

15. In follow up to Kingwood Solar's June 1, 2021 Responses to Staff's May 17 and May 20 Data Requests (DR#20) which included an updated Figure 03-3, the included Figure 03-3 doesn't depict the 200 feet of 138 kV gen-tie line but only a POI. Please provide an updated Figure 03-3 (Project Layout) and other relevant facility mapping that depicts the specific proposed location of the gen-tie line referenced on page 1 of the Application and provide associated shapefiles.

An updated version of Figure 03-3 is provided depicting the approximate location of the 200-foot 138-kV gen-tie mentioned on page 1 of the Application. This location may shift slightly depending on the final design of the interconnection facilities.

16. In follow up to Kingwood Solar's June 1, 2021 Responses to Staff's May 17 and May 20 Data Requests (DR#30 and 31), please explain will Kingwood Solar implement a setback to any water well within the project area? If so, what setback to water wells will Kingwood Solar implement?

As mentioned in Kingwood's previous Data Request responses, coordination with individual landowners will occur to confirm location and active/inactive status of identified wells within the Project Area. For any water wells within the Project Area that are determined to be active and in use, Applicant will implement a sufficient setback to allow for access and future maintenance.

17. In follow up to Kingwood Solar's June 1, 2021 Responses to Staff's May 17 and May 20 Data Requests (DR#37), please confirm would the total volume of water to be used by Kingwood Solar to clean the panels in one year would be 282,8675 gal (365 days x 775 gal/day)?

If panel cleaning is necessary, the maximum total volume of water anticipated for Kingwood Solar is 282,875 gallons per year, or an average of 775 gallons per day.

18. Have the solar panels under consideration by Kingwood Solar passed the US EPA's Toxicity Characteristic Leaching Procedure (TCLP) test?

The Applicant has not confirmed with the manufacturers if the panels included in Appendix J – Representative Equipment Specifications have been tested under US EPA TCLP testing procedures. However, Applicant is considering a comparable panel provider, JA Solar, with a model that has been tested using the TCLP methods. Please see “JAM72D30 UDS Level 2 Report Final Report” provided, conducted by Eurofins TestAmerica in North Canton, Ohio.

19. Please estimate when the remaining 15% of the archaeological survey will be completed.

The remaining archaeological field work will be completed upon conclusion of the 2021 harvest season, as well as obtaining site access permission from the remaining landowners. It is expected that the work will be completed either in late fall of 2021 or early spring of 2022.

20. When drain tile damage is discovered during construction how will it be handled?

If a drain tile is damaged during construction of the Project, the damage occurrence will be flagged to the EPC Contract Site Lead, and the owner of the affected drain tile and associated field will be notified. If the owner of the drain tile elects that the drain tile be repaired, a local drain tile contractor will be hired to repair the affected drain tile as soon as possible. Damaged drain tiles determined not to impact adjacent properties (i.e. not a 'Main' tile) may not be repaired pending discussions with the subject property owner.

21. Staff will likely be including a condition in the staff report that would require:

The Applicant shall ensure that nearby parcels are protected from unwanted drainage problems due to construction and operation of the project. The Applicant shall ensure this by either 1) documenting benchmark conditions of surface and subsurface drainage systems prior to construction, including the location of laterals, mains, grassed waterways, and county maintenance/repair ditches. The Applicant will make efforts to conduct a perimeter dig utilizing a tile search trench and consult with owners of all parcels adjacent to the property, the county soil and water conservation district, and the county to request drainage system information over those parcels. The Applicant shall consult with the county engineer for tile located in a county maintenance/repair ditch, or 2) locate and replace all field tile drainage systems, or 3) agree to compensate parcels owners affected by damage to functioning field tile drainage systems and soils resulting from the construction, operation, and/or maintenance of the facility in agricultural areas for damage to crops or other agricultural activities.

Do you have an idea which of those three options you would choose? Or if you have an alternate option what would be?

Applicant will provide feedback on any proposed conditions in the Staff Report either through testimony or as part of discussions on any stipulation proposed for this proceeding.

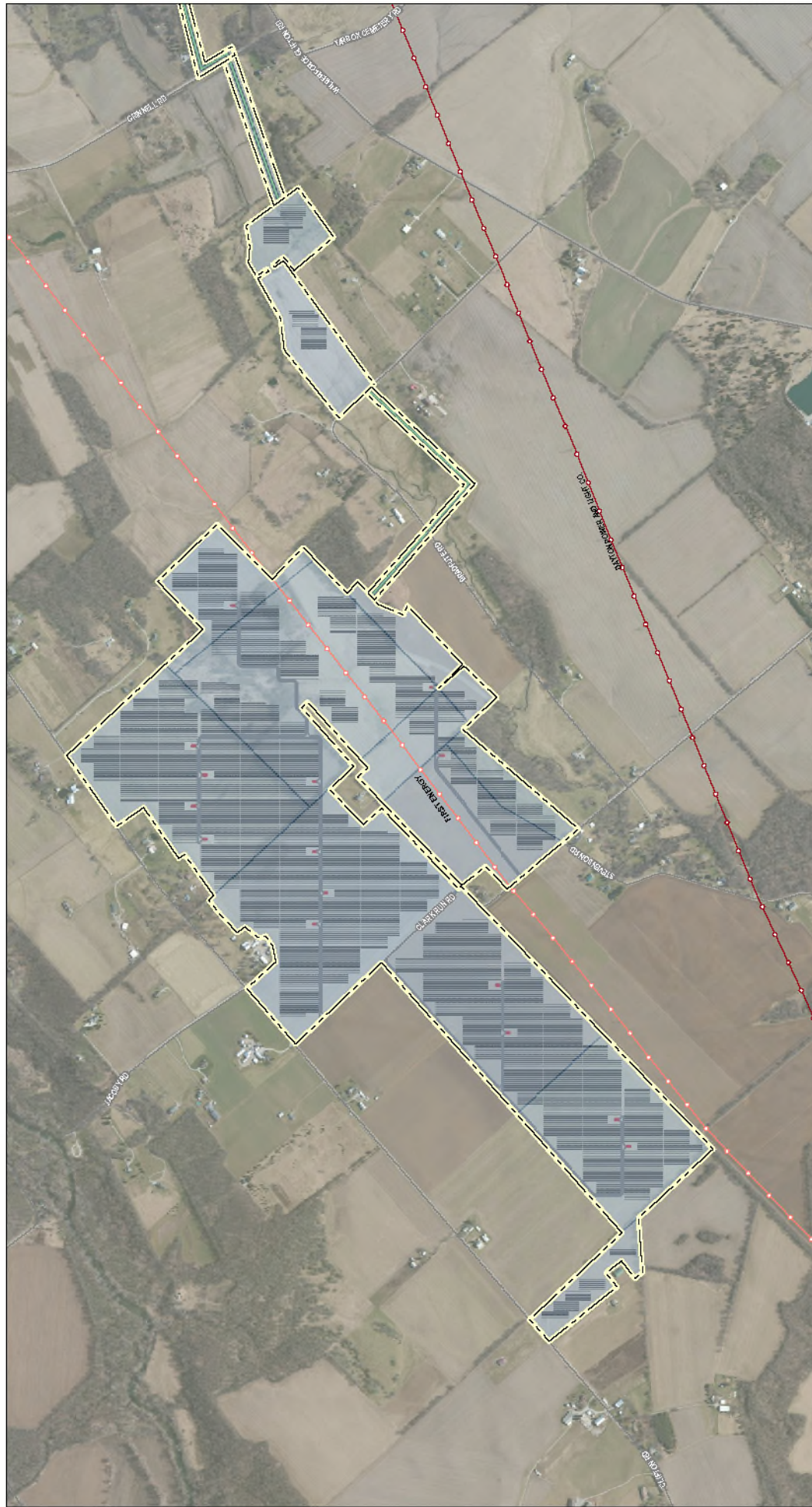
22. If during project construction or operation a neighboring parcel owner/tenant complains that their parcel is not draining properly and they make a claim that the drainage problem is due the project, describe how the complaint will be handled?

a. How will you determine if damage to due to the project?

Upon any complaint received through the Complaint Resolution Process regarding drainage issues, Kingwood will promptly consult with complainant as well as a local drain tile contractor to determine whether the supposed damage to the complainant's property was due to the Project and Project activity.

b. If you determine the damage is due to the project, what is the timeframe for repairs to be done. For example, repairs will be attempted to be completed within x days and at worst will be completed within x days.

If the damage is concluded by the drain tile contractor to be due to the Project and Project activities, repairs will be conducted as soon as possible, and estimated to be within 30 days of such conclusion being made that the damage is due to Project activity, and subject to field conditions and contractor availability.



LEGEND

- POTENTIAL SOLAR ARRAY
- POTENTIAL TRANSFORMER PAD
- POTENTIAL COLLECTION LINE
- POTENTIAL GRAVEL ROAD
- 12.5 KV TRANSMISSION LINE
- 34.5KV TRANSMISSION LINE
- FOUR
- HIGHWAY
- PROJECT AREA
- PROJECT PARCEL

NOTES

- 1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
- 2. N+ = N+ OUTS
- 3. ELECTRIC TRANSMISSION LINES DATA SOURCE: DEPARTMENT OF HOMELAND SECURITY (GIS) HOMELAND INFRASTRUCTURE FOUNDATIONAL LEVEL DATA (HIFLD)
- 4. PARCEL BOUNDARY DATA SOURCE: GREENE COUNTY
- 5. FPOUS DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
- 6. AERIAL IMAGE SOURCE: ESRI

HALEY

HALEY

SCALE IN FEET

0 1,000 2,000

Figure 03-3

Project Layout

Sheet 1 of 3

Kingwood Solar

Greene County, Ohio

SHEET INDEX

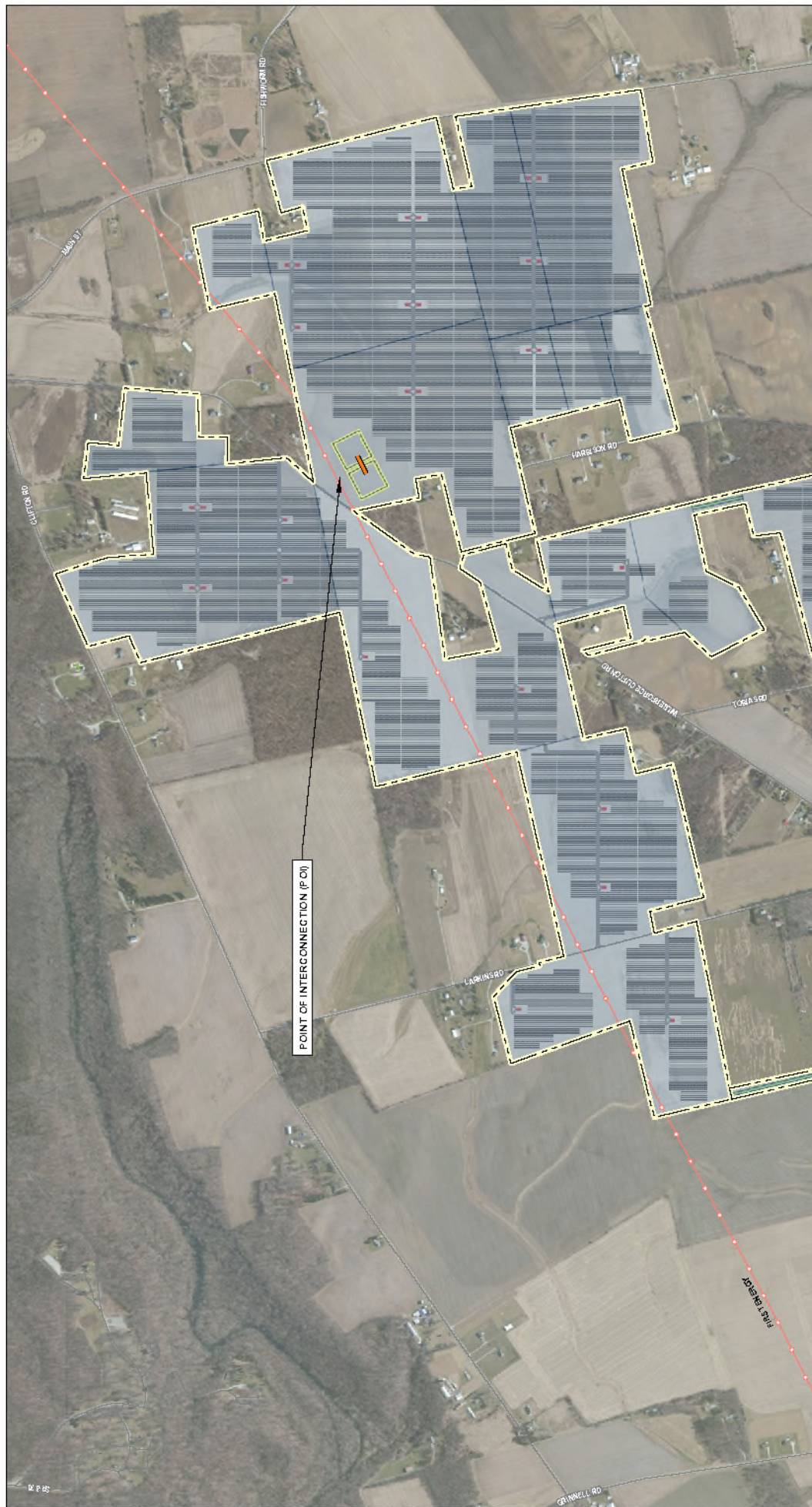
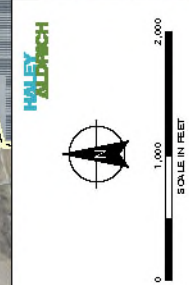
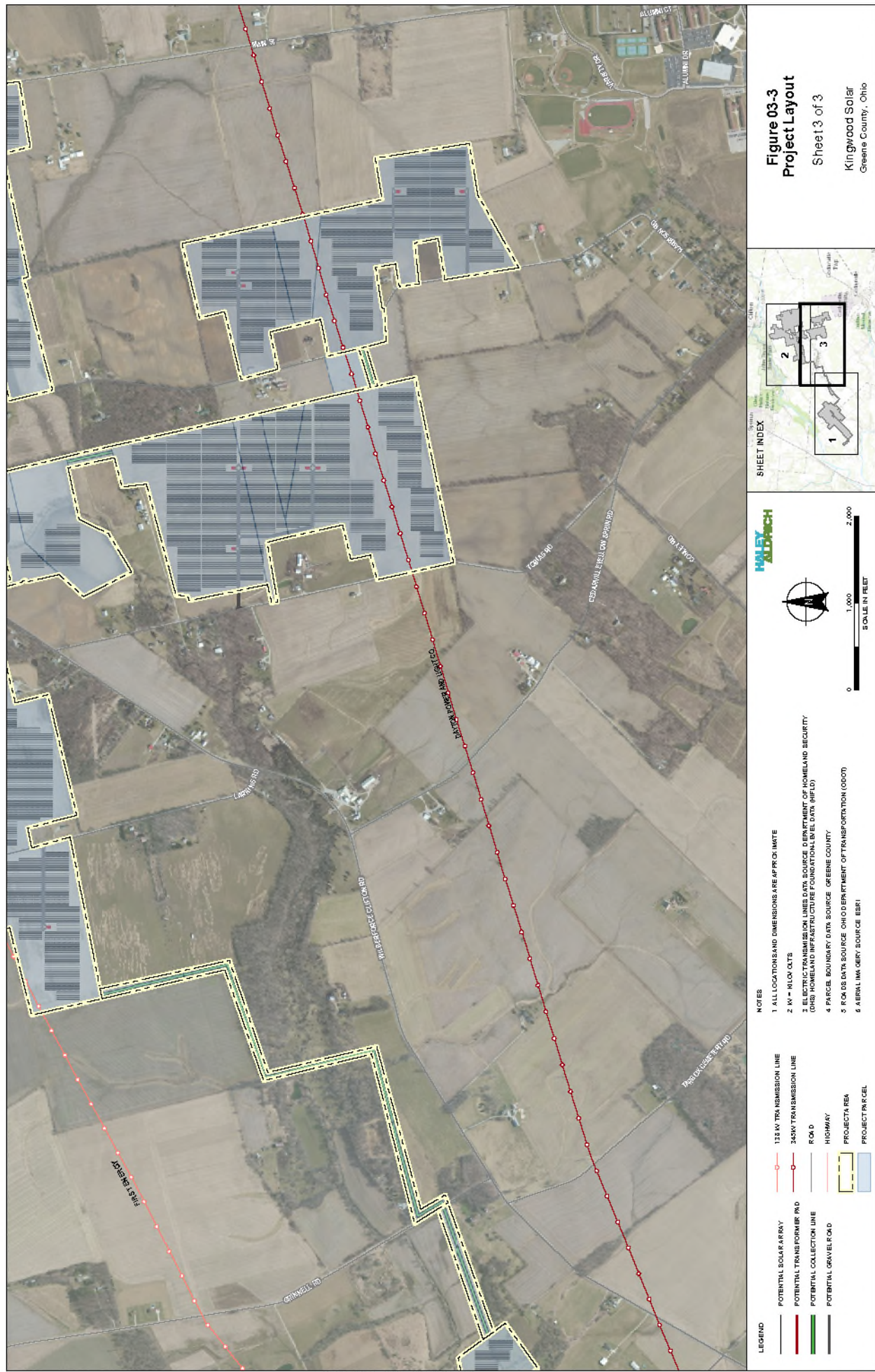


Figure 03-3
Project Layout
Sheet 2 of 3
Kingwood Solar
Greene County, Ohio



- NOTES**
- 1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE
 - 2. 112 KVA TRANSFORMER
 - 3. ELECTRIC TRANSMISSION LINES DATA SOURCE: DEPARTMENT OF HOMELAND SECURITY (GIS) HOMELAND INFRASTRUCTURE FOUNDATIONAL LEVEL DATA (HIFLD)
 - 4. PARCEL BOUNDARY DATA SOURCE: GREENE COUNTY
 - 5. ROAD DATA SOURCE: OHIO DEPARTMENT OF TRANSPORTATION (ODOT)
 - 6. AERIAL IMAGE SOURCE: ESRI

- LEGEND**
- POTENTIAL SOLAR ARRAY
 - POTENTIAL TRANSFORMER PAD
 - POTENTIAL COLLECTION LINE
 - POTENTIAL GRAVEL ROAD
 - SUBSTATION
 - POTENTIAL CENTRE LINE
 - 112 KVA TRANSMISSION LINE
 - 345KV TRANSMISSION LINE
 - ROAD
 - HIGHWAY
 - PROJECT AREA
 - PROJECT PARCEL



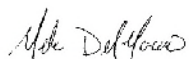
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-148075-2
Client Project/Site: Solar Module TCLP

For:
JA Solar
2570 North First Street
Suite 360
San Jose, California 95131

Attn: Teodor Galitev



Authorized for release by:
5/7/2021 9:38:38 AM

Michael DelMonico, Project Manager I
(330)497-9396
Michael.DelMonico@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Chain of Custody	16

Definitions/Glossary

Client: JA Solar

Job ID: 240-148075-2

Project/Site: Solar Module TCLP

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: JA Solar
Project/Site: Solar Module TCLP

Job ID: 240-148075-2

Job ID: 240-148075-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-148075-2

Comments

No additional comments.

Receipt

The samples were received on 4/23/2021 10:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 15.1° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

DEEP BLUE 3.0

Mono

**550W MBB Bifacial Mono PERC
Half-cell Double Glass Module**

JAM72D30 525-550/MB Series

Introduction

Assembled with 11BB bifacial PERCUM cells and half-cell configuration, these double glass modules have the capability of converting the incident light from the rear side together with the front side into electricity, providing higher output power, lower temperature coefficient, less shading loss, as well as enhanced tolerance for mechanical loading.



Higher output power



More reliable, more stable
power generation



Less shading effect

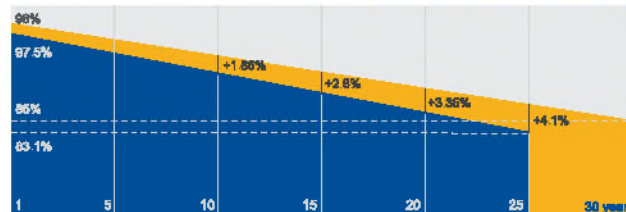


Lower temperature coefficient

Superior Warranty

- 12-year product warranty
- 30-year linear power output warranty

**0.45% Annual Degradation
Over 30 years**



■ Bifacial double glass module linear power warranty

■ Standard module linear power warranty

Comprehensive Certificates

- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval



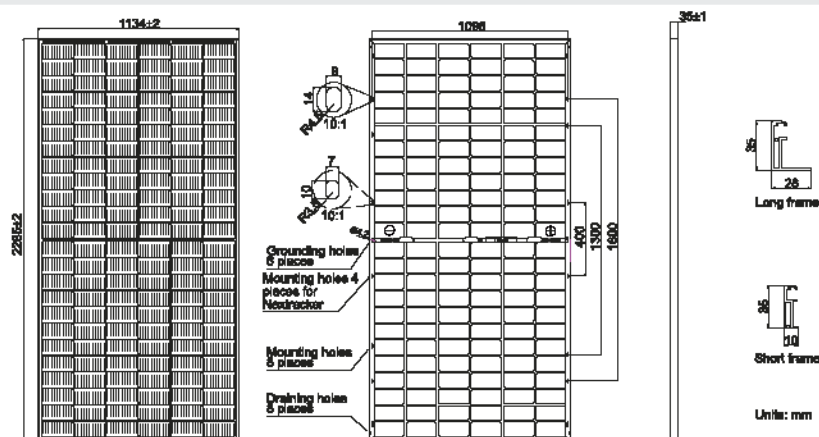
JA SOLAR

www.jasolar.com

Specifications subject to technical changes and tests
JA Solar reserves the right of final interpretation.



MECHANICAL DIAGRAM



Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	31.6kg±3%
Dimensions	2285±2mm×1134±2mm×35±1mm
Cable Cross Section Size	4mm ² (IEC), 12 AWG(UL)
No. of cells	144(6×24)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-35
Cable Length (including Connector)	Portrait:300mm(+)/400mm(-); Landscape:1300mm(+)/1300mm(-)
Front Glass/Back Glass	2.0mm/2.0mm
Packaging Configuration	31pcs/Pallet, 620pcs/40ft Container

ELECTRICAL PARAMETERS AT STC

TYPE	JAM72D30 -525/MB	JAM72D30 -530/MB	JAM72D30 -535/MB	JAM72D30 -540/MB	JAM72D30 -545/MB	JAM72D30 -550/MB
Rated Maximum Power(Pmax) [W]	525	530	535	540	545	550
Open Circuit Voltage(Voc) [V]	49.15	49.30	49.45	49.60	49.75	49.90
Maximum Power Voltage(Vmp) [V]	41.15	41.31	41.47	41.64	41.80	41.96
Short Circuit Current(Isc) [A]	13.65	13.72	13.79	13.86	13.93	14.00
Maximum Power Current(Imp) [A]	12.76	12.83	12.90	12.97	13.04	13.11
Module Efficiency [%]	20.3	20.5	20.6	20.8	21.0	21.2
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(α_{Isc})	+0.045%/°C					
Temperature Coefficient of Voc(β_{Voc})	-0.275%/°C					
Temperature Coefficient of Pmax(γ_{Pmp})	-0.350%/°C					
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types

ELECTRICAL CHARACTERISTICS WITH DIFFERENT POWER RANGES (REFERENCE TO 10% SOLAR ILLUMINANCE RATIO)

TYPE	JAM72D30 -525/MB	JAM72D30 -530/MB	JAM72D30 -535/MB	JAM72D30 -540/MB	JAM72D30 -545/MB	JAM72D30 -550/MB	Maximum System Voltage	1500V DC
Rated Max Power(Pmax) [W]	562	567	572	578	583	589	Operating Temperature	-40°C~+85°C
Open Circuit Voltage(Voc) [V]	49.54	49.67	49.80	49.83	50.03	50.21	Maximum Series Fuse Rating	30A
Max Power Voltage(Vmp) [V]	41.53	41.77	41.99	42.24	42.43	42.67	Maximum Static Load,Front* Maximum Static Load,Back*	5400Pa(112 lb/ft²) 2400Pa(50 lb/ft²)
Short Circuit Current(Isc) [A]	14.34	14.39	14.45	14.50	14.56	14.63	NOCT	45±2°C
Max Power Current(Imp) [A]	13.52	13.58	13.63	13.69	13.74	13.79	Bifaciality**	70%±10%

*For NexTracker installations, Maximum Static Load, Front is 2400Pa while Maximum Static Load, Back is 2400Pa

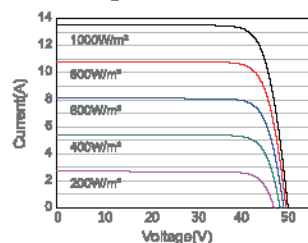
$$^{**}\text{Blade load} = P_{\text{max, rear}} / \text{Rated } P_{\text{max, front}}$$

OPERATING CONDITIONS

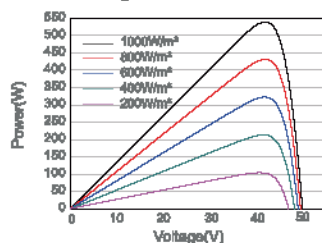
Maximum System Voltage	1500V DC
Operating Temperature	-40°C→+85°C
Maximum Series Fuse Rating	30A
Maximum Static Load, Front*	5400Pa(112 lb/ft²)
Maximum Static Load, Back*	2400Pa(50 lb/ft²)
NOCT	45±2°C
Bifaciality**	70%±10%
Fire Performance	UL Type 29

CHARACTERISTICS

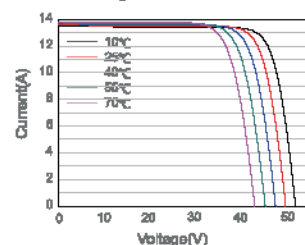
Current-Voltage Curve JAM72D30-540/MB



Power-Voltage Curve JAM72D30-540/MB



Current-Voltage Curve JAM72D30-540/MB



Method Summary

Client: JA Solar

Job ID: 240-148075-2

Project/Site: Solar Module TCLP

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
1311	TCLP Extraction	SW846	TAL CAN
3010A	Preparation, Total Metals	SW846	TAL CAN
7470A	Preparation, Mercury	SW846	TAL CAN
Part Size Red	Particle Size Reduction Preparation	None	TAL CAN

Protocol References:

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330) 497-9396

Sample Summary

Client: JA Solar

Job ID: 240-148075-2

Project/Site: Solar Module TCLP

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-148075-2	D30	Solid	04/22/21 00:00	04/23/21 10:20	

Detection Summary

Client: JA Solar

Job ID: 240-148075-2

Project/Site: Solar Module TCLP

Client Sample ID: D30

Lab Sample ID: 240-148075-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	1.6		0.50		mg/L	1		6010B	TCLP
Lead	1.9		0.050		mg/L	1		6010B	TCLP

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: JA Solar
Project/Site: Solar Module TCLP

Job ID: 240-148075-2

Client Sample ID: D30

Lab Sample ID: 240-148075-2

Date Collected: 04/22/21 00:00

Matrix: Solid

Date Received: 04/23/21 10:20

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		04/28/21 14:00	04/29/21 16:25	1
Barium	1.6		0.50		mg/L		04/28/21 14:00	04/29/21 16:25	1
Cadmium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 16:25	1
Chromium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 16:25	1
Lead	1.9		0.050		mg/L		04/28/21 14:00	04/29/21 16:25	1
Selenium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 16:25	1
Silver	ND		0.050		mg/L		04/28/21 14:00	04/29/21 16:25	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/L		04/28/21 14:00	04/30/21 11:00	1

QC Sample Results

Client: JA Solar
Project/Site: Solar Module TCLP

Job ID: 240-148075-2

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-483208/2-A
Matrix: Solid
Analysis Batch: 483437

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:52	1
Barium	ND		0.50		mg/L		04/28/21 14:00	04/29/21 13:52	1
Cadmium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:52	1
Chromium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:52	1
Lead	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:52	1
Selenium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:52	1
Silver	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:52	1

Lab Sample ID: LCS 240-483208/3-A
Matrix: Solid
Analysis Batch: 483437

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.00	1.95		mg/L		97	50 - 150
Barium	2.00	1.90		mg/L		95	50 - 150
Cadmium	1.00	0.974		mg/L		97	50 - 150
Chromium	1.00	0.926		mg/L		93	50 - 150
Lead	1.00	0.942		mg/L		94	50 - 150
Selenium	2.00	2.01		mg/L		100	50 - 150
Silver	0.100	0.0995		mg/L		100	50 - 150

Lab Sample ID: LB 240-483078/1-B
Matrix: Solid
Analysis Batch: 483437

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 483208

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:47	1
Barium	ND		0.50		mg/L		04/28/21 14:00	04/29/21 13:47	1
Cadmium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:47	1
Chromium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:47	1
Lead	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:47	1
Selenium	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:47	1
Silver	ND		0.050		mg/L		04/28/21 14:00	04/29/21 13:47	1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-483211/2-A
Matrix: Solid
Analysis Batch: 483586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 483211

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/L		04/28/21 14:00	04/30/21 10:35	1

Lab Sample ID: LCS 240-483211/3-A
Matrix: Solid
Analysis Batch: 483586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 483211

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00530		mg/L		106	80 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: JA Solar
Project/Site: Solar Module TCLP

Job ID: 240-148075-2

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LB 240-483078/1-C
Matrix: Solid
Analysis Batch: 483586

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 483211

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.0020		mg/L		04/28/21 14:00	04/30/21 10:33	1

QC Association Summary

Client: JA Solar
Project/Site: Solar Module TCLP

Job ID: 240-148075-2

Metals

Processed Batch: 482994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148075-2	D30	TCLP	Solid	Part Size Red	

Leach Batch: 483078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148075-2	D30	TCLP	Solid	1311	482994
LB 240-483078/1-B	Method Blank	TCLP	Solid	1311	
LB 240-483078/1-C	Method Blank	TCLP	Solid	1311	

Prep Batch: 483208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148075-2	D30	TCLP	Solid	3010A	483078
LB 240-483078/1-B	Method Blank	TCLP	Solid	3010A	483078
MB 240-483208/2-A	Method Blank	Total/NA	Solid	3010A	
LCS 240-483208/3-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 483211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148075-2	D30	TCLP	Solid	7470A	483078
LB 240-483078/1-C	Method Blank	TCLP	Solid	7470A	483078
MB 240-483211/2-A	Method Blank	Total/NA	Solid	7470A	
LCS 240-483211/3-A	Lab Control Sample	Total/NA	Solid	7470A	

Analysis Batch: 483437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148075-2	D30	TCLP	Solid	6010B	483208
LB 240-483078/1-B	Method Blank	TCLP	Solid	6010B	483208
MB 240-483208/2-A	Method Blank	Total/NA	Solid	6010B	483208
LCS 240-483208/3-A	Lab Control Sample	Total/NA	Solid	6010B	483208

Analysis Batch: 483586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148075-2	D30	TCLP	Solid	7470A	483211
LB 240-483078/1-C	Method Blank	TCLP	Solid	7470A	483211
MB 240-483211/2-A	Method Blank	Total/NA	Solid	7470A	483211
LCS 240-483211/3-A	Lab Control Sample	Total/NA	Solid	7470A	483211

Lab Chronicle

Client: JA Solar
Project/Site: Solar Module TCLP

Job ID: 240-148075-2

Client Sample ID: D30

Lab Sample ID: 240-148075-2

Date Collected: 04/22/21 00:00

Matrix: Solid

Date Received: 04/23/21 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Processed	Part Size Red			482994	04/27/21 10:20	POP	TAL CAN
TCLP	Leach	1311			483078	04/27/21 16:25	DRJ	TAL CAN
TCLP	Prep	3010A			483208	04/28/21 14:00	MRL	TAL CAN
TCLP	Analysis	6010B		1	483437	04/29/21 16:25	DSH	TAL CAN
TCLP	Processed	Part Size Red			482994	04/27/21 10:20	POP	TAL CAN
TCLP	Leach	1311			483078	04/27/21 16:25	DRJ	TAL CAN
TCLP	Prep	7470A			483211	04/28/21 14:00	MRL	TAL CAN
TCLP	Analysis	7470A		1	483586	04/30/21 11:00	SLD	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: JA Solar

Job ID: 240-148075-2

Project/Site: Solar Module TCLP

Laboratory: Eurofins TestAmerica, Canton

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-22

1

2

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154151
S
Environment Testing
America

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720

Tel: (330) 497-9396
Fax: (330) 497-0772
www.testamericainc.com

3/22, 2021

Teodor Galitev
JA Solar
2570 North First Street
Suite 360
San Jose, CA 95131
Teodor.galitev@jasolar.us
Tel: (408) 586-0000

Subject: Analytical Services Proposal - Solar Modules TCLP Metals Testing
Eurofins TestAmerica Quotation Number 24026957



240-148075 Chain of Custody

Dear Teodor Galitev:

We appreciate the opportunity to provide your company with a quotation for your Solar Modules TCLP Metals Testing project. Eurofins TestAmerica has a unique combination of full service capabilities, technical expertise, local service options, and online resources necessary to ensure successful project outcomes.

At Eurofins TestAmerica, quality is the hallmark of our business. To ensure your project's data quality objectives are met, we offer experienced personnel who are trained and committed to completing your analytical project on time, a fully documented QA/QC program, and state-of-the-art laboratory equipment and facilities. In addition to being a full service laboratory, we are part of the nation's largest environmental laboratory network. This provides access to an unparalleled spectrum of capabilities and turnaround time options, all through a single point of contact. Michael DelMonico has been assigned as your Project Manager for this work and can be reached by phone at 330 497-9396 or via email at Michael.DelMonico@Eurofinset.com.

- **Total Access:** a web portal offering you customizable, real time access to data. With 24 hour access you can perform data trending, compare data to industry or project limits, track CoCs, invoices, reports and much more.
- **Level IV Deliverables/Customizable EDDs:** high resolution, text searchable reports, available in virtually any format.
- **Extensive Experience:** Project Managers with in-depth knowledge of regulatory protocols and procedures.
- **Nationwide Logistical Support:** bringing you an extensive courier network, service centers and shipping options throughout the U.S. and abroad.
- **PFAS, Dioxins/Furans, Air, Radiochemistry, IH** and other specialty analyses are offered alongside routine soil and water methods with seamless reports and consolidated EDDs.

The following quotation includes a detailed price breakdown, as well as any notes and clarifications pertaining to your project, and is subject to Eurofins TestAmerica's Standard Terms and Conditions, unless otherwise agreed upon in writing.

We thank you for choosing Eurofins TestAmerica, and we look forward to working with you on this project.

Sincerely,

Gary Wood
Client Relations Manager
gary.wood@Eurofinset.com

cc: Michael DelMonico

[Signature] 4/23/21 1020

- 1
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Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : _____

Client JA Selva Site Name _____ Cooler unpacked by: [Signature]

Cooler Received on 4-23-21 Opened on 4-23-21

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☐ See Multiple Cooler Form

IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 15.0 °C Corrected Cooler Temp. 15.1 °C

IR GUN# IR-12 (CF +0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____

Yes No

-Were the seals on the outside of the cooler(s) signed & dated?

Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Yes No

-Were tamper/custody seals intact and uncompromised?

Yes No NA

3. Shippers' packing slip attached to the cooler(s)?

Yes No

4. Did custody papers accompany the sample(s)?

Yes No

5. Were the custody papers relinquished & signed in the appropriate place?

Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

Yes No

7. Did all bottles arrive in good condition (Unbroken)?

Yes No

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?

Yes No

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

10. Were correct bottle(s) used for the test(s) indicated?

Yes No

11. Sufficient quantity received to perform indicated analyses?

Yes No

12. Are these work share samples and all listed on the COC?

Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt?

Yes No NA pH Strip Lot# HC022887

14. Were VOAs on the COC?

Yes No

15. Were air bubbles >6 mm in any VOA vials? Yes Larger than this.

Yes No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____

Yes No

17. Was a LL Hg or Me Hg trip blank present? _____

Yes No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: _____

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WT-NC-099

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

10/19/2021 11:35:36 AM

in

Case No(s). 21-0117-EL-BGN

Summary: Notice of Response to Data Request 4 electronically filed by Nathaniel Morse on behalf of Kingwood Solar I LLC

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**NOTICE OF SUPPLEMENTAL RESPONSE TO DATA REQUESTS FROM
THE STAFF OF THE OHIO POWER SITING BOARD**

On April 16, 2021, Kingwood Solar I LLC (“Kingwood Solar”) filed an Application for a Certificate of Environmental Compatibility and Public Need with the Ohio Power Siting Board (the “Board”). On May 17, 2021, the Board’s Staff provided Kingwood Solar with Data Requests pertaining to Kingwood Solar’s Application. Attached to this notice are copies of Kingwood Solar’s second supplemental response, previously submitted to the Board’s Staff.

Respectfully submitted,

/s/ Nathaniel B. Morse
Michael J. Settineri (0073369) Counsel of Record
Anna Sanyal (0089269)
Nathaniel B. Morse (0099768)
VORYS, SATER, SEYMOUR AND PEASE LLP
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P.O. Box 1008
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(614) 719-5146 (fax)
mjsettineri@vorys.com
aasanyal@vorys.com
nbmorse@vorys.com

Attorneys for Kingwood Solar I LLC

CERTIFICATE OF SERVICE

The Public Utilities Commission of Ohio's e-filing system will electronically serve notice of the filing of this document on the parties referenced on the service list of the docket card who have electronically subscribed to the case. In addition, the undersigned certifies that a courtesy copy of the foregoing document is also being sent via electronic mail on February 9, 2022 to:

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/s/ Nathaniel B. Morse
Nathaniel B. Morse

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of)	
Kingwood Solar I LLC for a Certificate	)	Case No. 21-0117-EL-BGN
of Environmental Compatibility and)	
Public Need)	

**KINGWOOD SOLAR'S SUPPLEMENTAL RESPONSES
TO STAFF'S MAY 17, 2021 DATA REQUESTS**

6. *What is the current status of the Applicant's cultural resources investigation? Provide a projected schedule for final field work, completion of consultant's reports to SHPO and anticipated final coordination with SHPO. Also, please forward correspondence from SHPO to Staff as you receive it.*

June 1, 2021 Response: Field work has been completed for the historic architecture report and preparation of the report is underway. We expect that a limited number of resources in the immediate Project Area may be recommended for visual screening as a result of this review. We anticipate submittal of the report to the SHPO in June.

Field work is nearing completion for the archaeological survey, although delays associated with field interference by members of the public and agricultural practices have been experienced. Field work is expected to be completed in early June with a report submitted to the SHPO in late June or early July. To date, no finds have warranted a recommendation of avoidance.

The SHPO is currently utilizing its full 30-day review period for report review, so we would expect final coordination by the end of July or early August 2021.

September 27, 2021 Supplemental Response: Consistent with the June 1, 2021 response, the Applicant submitted the *History/Architecture Reconnaissance Survey for the Proposed Kingwood Solar Project in Portions of Cedarville, Miami, and Xenia Townships, Greene County, Ohio* to SHPO on June 22, 2021. On July 23, 2021, SHPO responded and agreed with the survey's recommendations of eligibility for listing in the National Register of Historic Places and that no additional history/architecture investigations are necessary. The full survey and correspondence from SHPO are attached.

The Applicant also submitted the *Phase I Archeological Investigations for the 600 Ha (1,482.5 Ac) Kingwood Solar Farm Development in Miami, Xenia, and Cedarville Townships, Greene County, Ohio* ("Phase I Archeological Investigation Report") to SHPO on July 15, 2021. In the cover letter attaching that report, the Applicant explained that 85% of the Phase I archeological survey had been completed and proposed a Programmatic Agreement for the completion of the remainder of the survey. On August 6, 2021, SHPO responded and agreed with the Applicant's proposed course of action to develop a Programmatic Agreement. That Programmatic Agreement was executed on August 18, 2021. The correspondence from SHPO and the executed Programmatic Agreement are

attached. The Applicant is providing its Phase I Archaeological Investigation Report under seal to the Public Utilities Commission of Ohio's Docketing Division pursuant to Ohio Adm.Code 4906-2-21. The Applicant will file a motion for protective order due to the sensitive nature of the locations of identified resources in the Report.

February 9, 2021 Second Supplemental Response: Consistent with the prior responses, the Applicant submitted the *Addendum Phase I Archeological Investigations for the Kingwood Solar Farm Development in Miami, Xenia, and Cedarville Townships, Greene County, Ohio* ("Addendum Phase I Archaeological Investigation Report") to SHPO on December 15, 2021. On January 3, 2022, SHPO responded and agreed with the survey's recommendations that none of the properties were eligible for listing in the National Register of Historic Places. SHPO also concluded that no further coordination is required unless the project changes or additional archaeological remains are discovered during the course of the Project. The correspondence from SHPO is attached. The Applicant is providing its Addendum Phase I Archaeological Investigation Report under seal to the Public Utilities Commission of Ohio's Docketing Division pursuant to Ohio Adm.Code 4906-2-21. The Applicant will file a motion for protective order due to the sensitive nature of the locations of identified resources in the Report.



In reply refer to
2021-GRE-50764-5 and 7

January 3, 2022

Ryan Weller
Weller and Associates
1395 West Fifth Avenue
Columbus, Ohio 43212

Dear Mr. Weller:

RE: Kingwood Solar Project Addendum, Miami, Xenia and Cedarville Townships, Greene County, Ohio

This is in response to the receipt, on July 20, 2021 of *Phase I Archaeological Investigations for the 600 ha (1,482.5 ac) Kingwood Solar Farm Development in Miami, Xenia, and Cedarville Townships, Greene County, Ohio*. Submitted under a separate cover sheet, on December 15, 2021, was *Addendum Phase I Archaeological Investigations for the Kingwood Solar Farm Development in Miami, Xenia, and Cedarville Townships, Greene County, Ohio*. The comments of the State Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Surface collection, shovel test pit excavation and intensive visual inspection of the project area resulted in the identification of 39 previously unrecorded archaeological sites. These sites, 33GR1641-1679 are small historic artifact scatters or prehistoric scatters and isolated find spots. These sites are not likely to yield additional information about Ohio history or prehistory. One previously documented site, 33GR343, was re-identified.

Based on the information provided, I concur with the opinion that these properties are not eligible for inclusion in the National Register of Historic Places. Therefore the project will not affect historic properties. No further coordination is required unless the project changes or additional archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please be advised

that this is a Section 106 decision. This review decision may not extend to other SHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. We have also updated our [Survey Report Submission Standards](#)

Sincerely,

A handwritten signature in blue ink that reads "Nathan J. Young". The signature is written in a cursive, flowing style.

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org

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Case No(s). 21-0117-EL-BGN

Summary: Notice Notice of Supplemental Response to Data Requests from the
Staff of the Ohio Power Siting Board electronically filed by Nathaniel Morse on
behalf of Kingwood Solar I LLC

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

3/22/2022 11:30:49 AM

in

Case No(s). 21-0117-EL-BGN

Summary: Exhibit Kingwood Exh 2 electronically filed by Mr. Ken Spencer on behalf of Armstrong & Okey, Inc.