

# **Exhibit I**

## **Cultural Resources Report**

# Cultural Resources Records Review

Proposed Highland Solar Farm

State Route 138 and Highland County Road 5

Buford, Highland County, Ohio

October 2018

**Terracon** Project No. 49187638

William Green, MA, RPA  
Archaeologist  
Principal Investigator

Sam Carter, MHP  
Architectural Historian  
Principal Investigator

**Prepared For:**

Hecate Energy Highland LLC  
Chicago, Illinois

**Prepared By:**

Terracon Consultants, Inc.  
Lawrenceville, Georgia

Offices Nationwide  
Employee-Owned

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terracon.com

**Terracon**

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

## **APPENDIX**

- FIGURE 1      SHPO 1 Mile Buffer Map**
- FIGURE 2      SHPO 5 Mile Buffer Map**
- FIGURE 3      Predictive Model Map**

## **1.0 PROJECT SUMMARY**

Hecate Energy Highland LLC is proposing to construct the Highland Solar Farm (Project Site) near Buford, Ohio, which is located approximately 25 miles east of Cincinnati. The Project is proposed to be constructed within approximately 3,300 acres of private leased land located in Highland County, Ohio. Terracon Consultants, Inc. (Terracon), on behalf of Hecate Energy Highland LLC, has completed a cultural resources records review for the proposed Project. The cultural resources records review was conducted per the Ohio Power Siting Board (OPSB) to fulfill the requirements of Ohio Administrative Code (OAC) § 4906-4-08(B). The study was completed by a Registered Professional Archaeologist (RPA) and a qualified architectural historian who meets the U.S. Secretary of Interior's Professional Qualifications Standards for Historic Preservation.

## **2.0 SITE DESCRIPTION**

The Project Site comprises approximately 3,300 acres of land most of which consists of agricultural land. The proposed photovoltaic (PV) solar energy facility will have a proposed generation capacity of 300 megawatts (MW). The project includes the development of photovoltaic (PV) panels and supporting steel frames. Terracon understands plans also include the development of some access roads and a small substation.

## **3.0 RESEARCH METHODS**

### **3.1 Area of Potential Effects**

The area of potential effects (APE) for direct effects consists of all areas of potential ground disturbance within the Project boundaries. The APE for indirect effects consists of all areas that could potentially fall within the visual line of site of the proposed Project. Based on OPSB requirements, a records review was completed for a 5-mile radius from the Project boundaries (Figure 4). While resources within 5-miles are discussed, visual impacts are only anticipated within 1-mile of the project based on topography, vegetation, distance.

### **3.2 Records Review**

File review was conducted using resources available from the Ohio State Historic Preservation Office (SHPO) Online Mapping System. The database included review of the Ohio Archaeological Inventory, the Ohio Historic Inventory, National Register of Historic Places (NRHP) files, the Historic Bridge Inventory, previous cultural resource surveys and information on cemeteries maintained by the Ohio Genealogical Society.

## **4.0 RECORDS REVIEW RESULTS**

The records review in the SHPO Online Mapping System identified no previously recorded NRHP-listed or eligible properties, surveyed architectural resources, archaeological sites or previous cultural resource surveys within the Project boundaries. Within the 5-mile radius of the Project boundaries, two NRHP-listed properties, no NRHP-eligible properties, 55 previously surveyed architectural resources with no NRHP evaluation, 27 archaeological sites, and 66 OGS cemeteries were recorded (Figure 4).

### **4.1 NRHP-listed or eligible Properties**

Two NRHP-listed properties were identified within 5 miles of the Project boundaries. The nearest of the NRHP-listed properties is located approximately 1.6-miles north of the Project. The proposed project will not be visible from any NRHP-listed properties.

### **4.2 National Historic Landmarks (NHL)**

No previously recorded NHL properties are located within 5 miles of the Project boundaries.

### **4.3 Historic Bridge Inventory**

No bridges listed in the Ohio Historic Bridge Inventory are located within the 5 miles of the Project boundaries.

### **4.4 Ohio Historic Inventory**

55 historic structures within the OHI are located within the 5 miles of the Project boundaries. Historic structures in the OHI have not been formally evaluated for listing in the NRHP. The nearest of the OHI historic structures are located approximately two miles southeast of the Project in the town of Mowrystown. The proposed project will not be visible from any OHI historic structures.

### **4.5 Ohio Archaeological Inventory Sites**

The Ohio Archaeological Inventory (OAI) recorded 28 archaeological sites within 5 miles of the project boundaries. As these sites are generally below ground visual impacts are not a concern for these types of resources. Of these, two sites are mapped within the 1-mile APE of the project. None of these sites are located within the Project boundaries. A summary of the OAI sites within 1-mile of the site is included in Table 1.

**Table 1: OAI Sites within 1-Mile Radius**

<b>Site No.</b>	<b>Site Type</b>	<b>Time Period</b>	<b>Setting</b>
33HI315	Unknown	Late Archaic Prehistoric	Open
33HI387	Unknown	Non-Aboriginal Historic	Open

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#### 4.6 Previous Cultural Resource Surveys

Based on the SHPO Online Mapping System two prior cultural resource surveys have been conducted within 1-mile of the project. No previous cultural resource surveys have been conducted within the Project boundaries.

**Table 2: Previous Cultural Resource Surveys within 1-Mile Radius**

National Archaeological Database ID	Survey Name	Reference
13119	Phase I and Phase II Archaeological Survey for County Bridge Hig C.R. 13-1.40 in Clay Township, Highland County, Ohio	Buehrig (1993)
20238	Phase I Archaeological Survey for the US-OH-5177 Buford-A / CLTN-140 Wireless Cellular Tower in Clay Township ((Village of Buford), Highland County, Ohio (CTL# 16510188COLa)	Meyer-Landis and Brown (2016)

#### 4.8 Ohio Genealogical Society Cemeteries

Based on the SHPO Online Mapping System, 66 Ohio Genealogical Society (OGS) cemeteries are recorded within 5 miles of the project boundaries. 10 cemeteries were identified within 1-mile. None of the OGS cemeteries have been determined to be eligible for the NRHP. No OGS cemeteries are recorded within the Project boundaries.

**Table 3: OGS Cemeteries within 1-Mile Radius**

OGS ID	Cemetery Name	Location Description	Location Confidence
5351	Dunn-Roberts	North side of CR 56A. Just west of CR 20B. On farm	Yes
5356	Kibler	East of CR 20B. Just north of TR 145A	No
5367	Unnamed #3	North side of CR 56A. Just east of CR 60A. On farm. Once owned by David Fender	No
5162	Unnamed #2	East from SR 134. West from TR 411A. South from TR 406A. North from SR 138. On farm	No
5157	Hopkins	In northeast corner of intersection of SR 134 and TR 210A. Access from roadway. East of Little North Fork of White Oak Creek	No
5163	Unnamed #3	In bed of TR 401A connecting Buford-Hillsboro Pike (SR 138) with Straight-out-Buford Pike (CR 5A)	No
5160	Taggart	At northeast corner of intersection of TR 411A and SR 138. On farm	No
5366	Unnamed #2	Near Clay Township line. North side of CR 56A. Well back from road. On farm. Once owned by H. Robinson. I. Shaw (1916)	No
5349	Bells Run	South side of SR 321. Between TR 141A and TR 143A	Yes
5152	Buford	Just south of Buford. On west side of SR 134. Between highway and North Fork (stream)	Yes

## **5.0 PREDICTIVE MODEL**

In general, the most significant variables for determining archaeological site location appear to be distance to a permanent water source or wetland, slope, and soil drainage characteristics. Prehistoric sites tend to occur on low slope areas with well drained soils that are within 200 meters of a permanent water source or wetland. Historic sites tend to be located within 100 meters of old roads or other sources of transportation. Based on these parameters, approximately 123 acres of the project area have a high potential for containing prehistoric archaeological sites. These are areas having well drained soils within 200 meters of a water source. Approximately 1,523 acres have a moderate probability for containing prehistoric archaeological sites. These include areas of somewhat poorly or poorly drained soils within 200 meters of a water source. Approximately 710 acres have a high probability of containing historic archaeological sites, which include all areas within 100 meters of a road other transportation feature (Figure 5). However, approximately 452 acres of the historic high probability areas overlap with the prehistoric high and moderate probability areas, leaving only 258 additional acres.

## **6.0 CONCLUSIONS**

The cultural resources records review identified two NRHP-listed properties and 55 previously surveyed architectural resources that have not been evaluated for NRHP eligibility within a 5-mile radius of the Project boundaries. No resources were identified on the Project site. Impacts are not anticipated to these resources based on the topography, vegetation, existing development, and distance. It should be noted there may be multiple 19<sup>th</sup> and 20<sup>th</sup> century structures within the 1-mile radius of the Project boundaries which have not been evaluated due to lack of inclusion in the SHPO inventory. Based on the limited predicted visibility and the low density of previously recorded historic resources within the visual APE the Project is not anticipated to result in significant impacts to historic resources. A full Phase I Cultural Resource Survey, to include an archeological survey and visual impacts, is recommended prior to project construction. A predictive model was developed to guide project development and scope the development of the Survey.

Based on the predictive model, Terracon recommends that high probability areas having good surface visibility (i.e., greater than 50 percent) be surveyed by pedestrian survey using transects spaced 10 meters apart. In areas of high probability having poor surface visibility (i.e., less than 50 percent) we recommend shovel testing at 15-meter intervals. In areas of moderate probability having good surface visibility we recommend a surface inspection along transects spaced 15 meters apart. In moderate probability areas having poor surface visibility we recommend shovel testing at 25-meter intervals. In areas having a low archaeological potential with good surface visibility, we recommend a surface inspection along transects spaced 30 meters apart. In low probability areas with poor surface visibility we recommend shovel testing at 30-meter intervals. Systematic survey methods should be supplemented by judgmentally placed shovel tests on landforms or other areas that appear to have a high potential for containing archaeological resources, regardless of the initial probability model determinations.





State Historic  
Preservation Office

### Legend

#### NR Listings

- Listed
- National Historic Landmark
- Delisted

- NR Determinations of Eligibi
- Archaeological Sites
- Historic Structures
- Historic Bridges
- Historic Tax Credit Projects

#### OCS Cemeteries

- Confident
- Not Confident

#### OHC Sites

- NR Boundaries
- OAI Site Boundaries
- Phase1
- Phase2
- Phase3

0 0.88 1.75 Miles

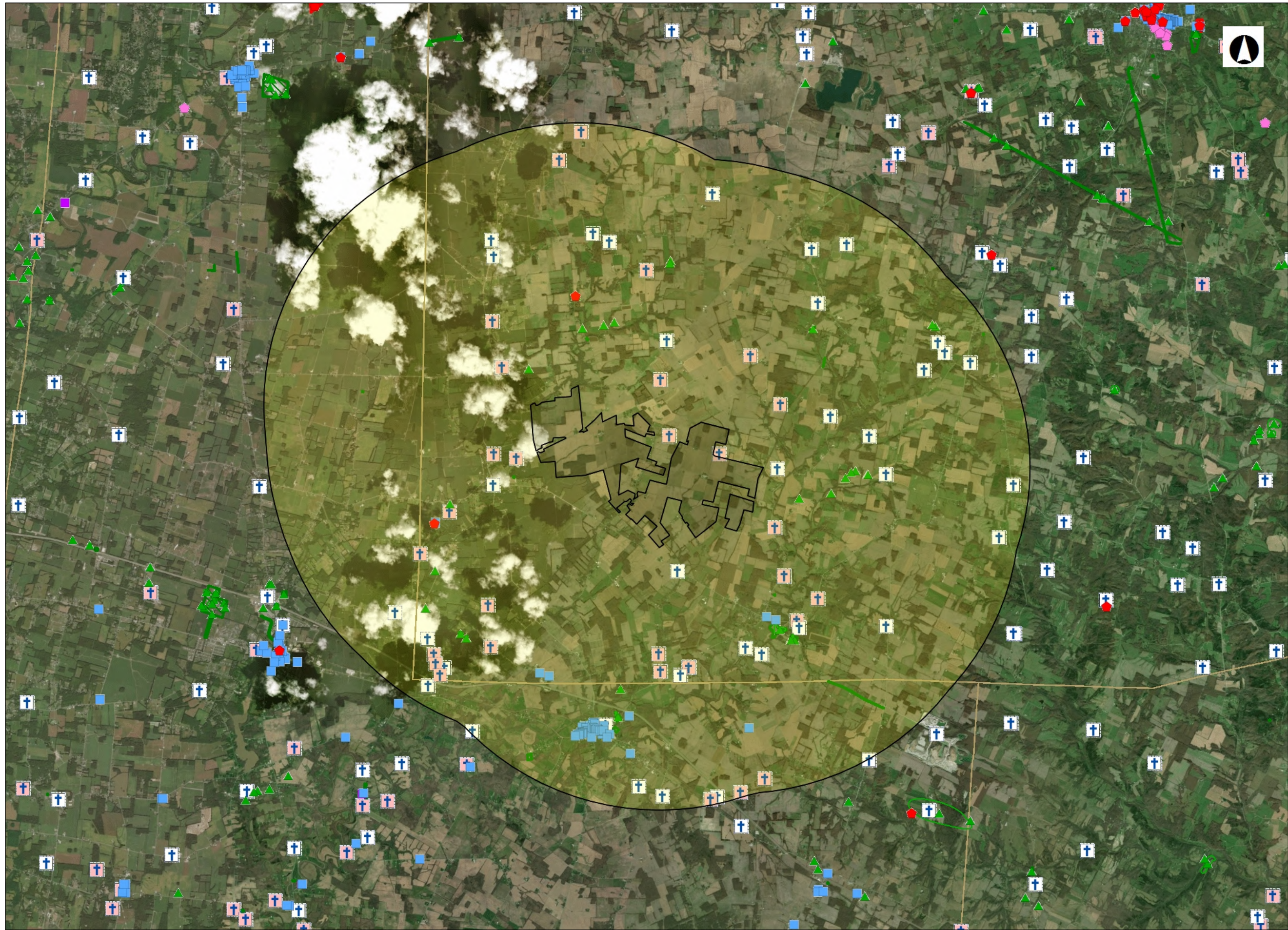
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**Figure 1:**

**SHPO 1-Mile Buffer**







**Legend**

**NR Listings**

- Listed
- National Historic Landmark
- Delisted

**NR Determinations of Eligibility**

- Archaeological Sites
- Historic Structures
- Historic Bridges
- Historic Tax Credit Projects

**OGS Cemeteries**

- Confident
- Not Confident

**OHC Sites**

- OHC Sites

**NR Boundaries**

- NR Boundaries

**OAI Site Boundaries**

- OAI Site Boundaries

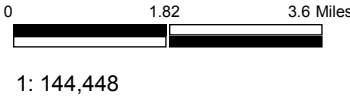
**Phase**

- Phase1
- Phase2
- Phase3

**Historic Previously Surveyed National Road**

- I-70
- National Road - Route 40
- Old National Road

**Counties**



**Figure 2:**

**SHPO 5-Mile Buffer**

Datum: [Datum]  
 Projection: WGS\_1984\_Web\_Mercator\_Auxiliary\_Sp here





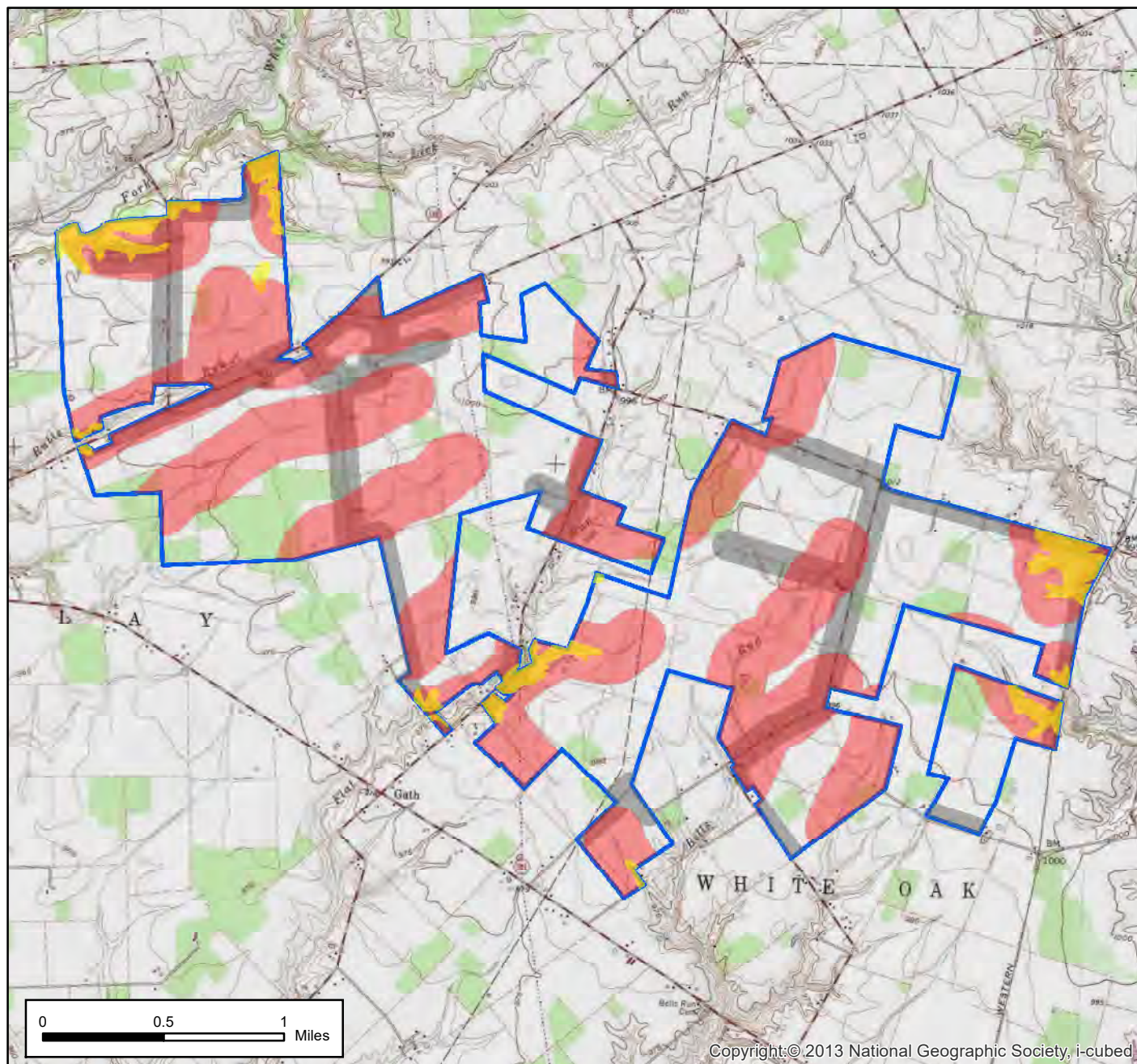
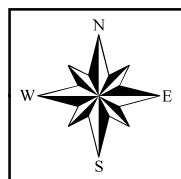
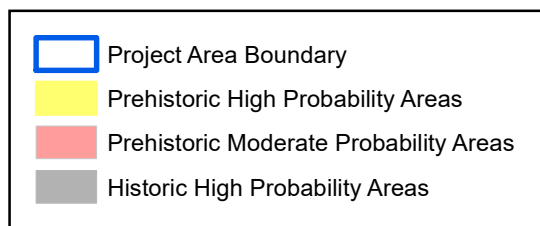


Figure X. Archaeological sensitivity map.  
Base Maps: Sardinia (1979) and Sugar Tree Ridge (1974) USGS 7.5' topographic maps.



Project No.	49187638
Date:	October 2018
Drawn By:	BGG
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ARCHAEOLOGICAL POTENTIAL
HIGHLAND SOLAR HIGHLAND CO., OHIO

Figure
<b>X</b>

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Summary: Application Exhibit I electronically filed by Ms. Karen A. Winters on behalf of Hecate Energy Highland LLC