

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON ELECTRIC GENERATION  
AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF HORUS	)	
KENTUCKY 1 LLC FOR A CERTIFICATE OF	)	
CONSTRUCTION FOR AN APPROXIMATELY	)	CASE NO.
69.3 MEGAWATT MERCHANT ELECTRIC	)	2020-00417
SOLAR GENERATING FACILITY IN SIMPSON	)	
COUNTY, KENTUCKY PURSUANT TO KRS	)	
278.700 AND 807 KAR 5:110	)	

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**DOCUMENTS TO BE PRODUCED PURSUANT TO  
SITING BOARD ORDER ENTERED MARCH 14, 2022**

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## **TAB 1**

**COMMONWEALTH OF KENTUCKY  
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In the Matter of:

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COUNTY KENTUCKY PURSUANT TO KRS )  
278.700 AND 807 KAR 5:110 )  
)**

**HORUS KENTUCKY 1 LLC'S RESPONSES TO  
SITING BOARD STAFF'S FIRST REQUEST FOR INFORMATION  
TO HORUS KENTUCKY 1 LLC  
(with Confidential Information in Highlight)**

Horus Kentucky 1 LLC provides the following responses to the Siting Board Staff's First Request for Information. The following exhibits are attached hereto as a part of this response:

- A. Sound Level Assessment Report
- B. Transportation Effect and Route Evaluation Study Report
- C. Property Value Impact Study Response Letter
- D. Glare Study Results Memo
- E. Zoning Regulations for City of Franklin and Simpson County Kentucky
- F. Conditional Use Permit Applications and Exhibits

1. Refer to the Application, Appendix E, page 1. Explain whether the web-based version of IMPLAN contains the same features and performs the same full analysis as the non-web-based version: [Confirmed](#).

2. Refer to the Application, Appendix E, page 1. Explain how often IMPLAN datasets are updated: [IMPLAN datasets are updated annually](#).

3. Refer to the Application, Appendix E, page 1. Explain how the 2019 data dollars were converted to 2021 dollars: [According to IMPLAN, the Data Year is the year of the dataset that is currently utilized. Currently, IMPLAN has datasets for 2001-2019 and two quarterly Data Years for 2020. The Dollar Year should be the year of the data for input and will default to the current year. The Data Year follows from the Regions screen and tells IMPLAN what dataset to use.](#)

4. Refer to the Application, Appendix E, page 1. Explain how IMPLAN outputs predicted from the construction of power and communication facilities might over- or underestimate economic effects compared to IMPLAN outputs derived from the construction of a solar facility, if Kentucky data were to exist: Due to the solar energy industry being an emerging market in Kentucky, there are no solar power facilities that have been constructed within the state in 2019 that IMPLAN can derive economic statistics and outputs from. Therefore, the closest industry to solar facilities was determined to be the construction of power and communication facilities. Once solar power facilities are constructed within the state, determining the economic effects would be more accurate moving forward.

5. Refer to the Application, Appendix E, page 1. Provide further explanation of the characteristics and component costs of power and communication facilities in Kentucky and locally in Simpson County upon which the IMPLAN outputs are predicted: Due to the solar energy industry being an emerging market in Kentucky, there are no solar power facilities that have been constructed within the state in 2019 that IMPLAN can derive economic statistics and outputs from. Therefore, the closest industry to solar facilities was determined to be the construction of power and communication facilities. Once solar power facilities are constructed within the state, determining the economic effects would be more accurate moving forward.

6. Refer to the Application, Appendix E, page 2. Explain whether IMPLAN's industry-specific multipliers, and other factors, vary by region: Confirmed, industry-specific multipliers are different per the county that is chosen in the analysis.

7. Refer to the Application, Appendix E, page 2. Explain how many workers of the 100 full-time jobs during the construction phase are expected to come from (1) Kentucky, (2) Simpson County: Depending on the available skill sets, it is expected that 30+% would be from within Simpson County. Horus hopes to secure as many local workers as possible in an effort to minimize costs, travel reimbursements and per diems.

8. Refer to the Application, Appendix E, page 2. Explain how many full-time workers are expected to be employed in the operation phase of the project: In the early years of the project, three FTEs are expected; however, that number could increase to four as the project progresses.

9. Refer to the Application, Appendix E, page 2. Explain what proportion of the \$80 million in capital cost for the construction phase are expected to be spent on equipment and services in (1) Kentucky, (2) Simpson County: Approximately \$5,000,000 in materials and then an additional \$1,000,000 in services. Revised analysis is provided in #55.

10. Refer to the Application, Appendix E, page 2. Of the proportion spent on labor in the construction phase, explain how salary data was estimated/obtained for the 100 full-time positions: IMPLAN database for Simpson County, Kentucky specifically was used, which includes average salary data for any given NAICS display codes:



2019 Data Year	\$1,007,605,886.10 Gross Domestic Product	\$739,354,999.79 Total Personal Income	11,925.99 Total Employment
201 Number of Industries	236.20 Land Area (Square Miles)	18,572 Population	7,209.68 Total Households

Industries						
Display Code	Display Description	Employment	Labor Income	Output	Average Employee Co...	Average Proprietor In...
52	Construction of new power...	51.96	\$2,577,163.56	\$6,935,732.53	\$49,113.78	\$50,324.31

11. Refer to the Application, Appendix E, page 2. Explain the region affected by the estimated growth percentages given in the chart at the bottom of page 2 of the analysis: [This is specifically for Simpson County, Kentucky region.](#)

12. Refer to the Application, Appendix E, page 2. Explain whether any of the estimated sector growth is expected to remain or decline after the projected has been completed: [Majority of the sector growth is expected to decline following the construction phase of the project.](#)

13. Refer to the Application, Appendix E, pages 2–3. Provide a separate discussion of the employment, labor income, value added, and output effects of the construction phase and the operations phase of the project. Include in the discussion the separate effects upon Simpson County and the State of Kentucky: [Revised analysis is provided in #55 for the construction phase of the project. Operation Phase: Based on conservative projection of three FTEs \(with weighted average amount of \\$50,000 annually\) and estimated amount of \\$50,000 expected to be spent on the purchase of material/supplies in Simpson County each year during the operational phase, the following economic indicators by impact are projected:](#)

Economic Indicators by Impact					
Impact	Employment	Labor Income	Value Added	Output	
1 - Direct	3.36	\$103,166.52	\$162,588.23	\$277,644.54	
2 - Indirect	0.19	\$8,278.79	\$15,382.30	\$28,014.60	
3 - Induced	0.25	\$8,760.32	\$18,191.98	\$33,559.52	
<b>Totals</b>	3.80	\$120,205.63	\$196,162.51	\$339,218.65	

14. Refer to the Application, Appendix E, pages 1–3. The table on page 2 and the chart on page 3 lists the direct impacts of the construction phase of the project with \$80 million attributed to Display Code 52. The indirect and induced impacts of the project are found in all other industrial categories for combined impacts of an additional \$17,741,854.49.

a. Explain what portion of the 100 full-time equivalent (FTE) labor is expected to come from Simpson County and from the rest of Kentucky: Depending on the available skill sets, it is expected that 30+% of FTEs would be from within Simpson County. Horus hopes to secure as many local workers as possible in an effort to minimize costs, travel reimbursements and per diems.

b. Explain what portion of the 55.24 indirect and 71.94 induced FTE labor is expected to come from Simpson County and from the rest of Kentucky: Horus expects a third of the labor to come from Simpson County and remaining from rest of the state.

c. Explain the direct, indirect and induced impacts of the project during the operational phase of the project: Direct impacts includes direct employment, direct labor income, and direct value added like GDP. Indirect impacts include indirect employment (such as business to business transactions as a result of the economic activity generated by the solar facility), indirect labor income (such as employee compensation and proprietor income associated with business to business transaction as a result of the economic activity generated by the solar facility), and indirect value added (such as taxes on production and imports). Induced impacts include induced employment (such as businesses that are supported by the operational purchases like real estate, health care, restaurants), induced labor income (such as FTEs spending their paychecks in the region), and induced value added (such as value added that is generated from household spending as a result of the economic activity generated by the solar facility).

d. Explain the meaning of “value Added” impacts: According to IMPLAN, the Value Added represents the difference between Output and the cost of Intermediate Inputs throughout a defined economy during a specified period of time. It equals gross Output (sales or receipts and other operating income, plus inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). Value Added is equivalent to the Industry’s contribution to GDP.

e. Explain whether the Impacts are on a gross or net basis, taking into account the economic value of the land and labor that is currently being employed on the project footprint. Refer to the Application, Appendix E, page 3. Provide the raw data for the employment impact chart at the top of page 3: The Impacts do not take into account the value of the land and labor that is currently being employed on the project footprint. Per #55, the Economic Analysis has been revised with a more conservative projection of \$6 million of output created in Simpson County created with 100 FTEs. The raw data of the employment impact chart is provided below:

have to be issued by the Tennessee Valley Authority since Horus is entering into a Power Purchase Agreement.

55. Refer generally to Appendix E (Economic Impact Analysis).

a. Provide an estimate of the amount of money likely to be spent on purchases of materials, supplies, equipment or other items in Simpson County in support of facility construction: Anticipated \$5,000,000 in materials and then an additional \$1,000,000 in services.

b. Provide an estimate of the amount of money likely to be spent on purchases of materials, supplies, equipment, or other items outside of Simpson County, but within the Commonwealth of Kentucky in support of facility construction: Anticipated \$2,000,000 in materials and then an additional \$1,000,000 in services.

c. Provide an estimate of the amount of sales or use tax revenue generated by the purchase of construction materials within Kentucky: For materials only, \$500,000.

d. Provide the approximate percentage of the estimated 100 FTE construction workers that will be hired from within Simpson County (local residents): Depending on the available skill sets, it is expected that 30+% would be from within Simpson County. Our hope is to secure as many local workers as possible in an effort to minimize costs, travel reimbursements and per diems.

e. Explain the estimate of \$29.7 million in construction labor income for 100 FTEs, which amounts to over \$297,000 per FTE over the 12 to 18-month construction period. If necessary, revise the estimate of labor income and the associated estimate of payroll taxes: The Economic Analysis has been revised with a more conservative projection of \$6 million of output created in Simpson County created with 100 FTEs:

Economic Indicators by Impact				
Impact	Employment	Labor Income	Value Added	Output
1 - Direct	100.00	\$959,122.17	\$2,243,247.02	\$6,000,000.00
2 - Indirect	4.14	\$178,907.78	\$332,417.12	\$605,405.64
3 - Induced	3.24	\$113,501.74	\$236,138.83	\$435,483.51
<b>Totals</b>	<b>107.38</b>	<b>\$1,251,531.69</b>	<b>\$2,811,802.97</b>	<b>\$7,040,889.15</b>

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f. Explain the IMPLAN analysis table that states that \$80 million of output would be created in Simpson County in relation to the earlier statement that capital construction costs would be \$80 million. For solar projects in general, a large portion of capital costs occur outside of the local area (i.e., purchase of the solar modules). Revise this analysis as necessary: [See answer to 55\(e\)](#).

g. Provide an estimate of the number of permanent positions or FTEs required for on-going Project operations: [In the early years, Horus anticipates employing three FTEs with that number potentially increasing to four as the project progresses.](#)

h. Provide the expected annual salary levels for those positions: [To be determined, but Horus anticipates a weighted average amount among landscaping, general labor, mechanical and licensed electrical personnel would be expected to be slightly over \\$50,000/annually.](#)

i. Provide an estimate of the amount of money expected to be spent on the purchase of material/supplies in the local area (Simpson County) each year during the operational phase: [Supplies would approximate \\$50,000 annually.](#)

j. Describe the types of items to be purchased locally for Project operations: [Items would relate mainly to repair and replacement of existing equipment. Supplies such as wire, consumables, landscaping equipment, fencing, gravel would be among the most common purchases.](#)

k. Explain whether the Horus Kentucky 1 is planning to seek an Industrial Revenue Bond and PILOT agreement with Simpson County. If so, provide the status of that process: [The SPV would expect to take advantage of any Kentucky tax treatments specifically available to solar projects and businesses in general, but at this point is not expecting to secure any PILOT agreement with the County.](#)

l. Provide a detailed table showing property tax revenues generated by the Project each year for the life of the Project: [Horus is currently in the process of determining what the tax treatment by the State and County will be and are still working to determine if they will be using an assessment and depreciation schedule, replacement value or income method to determine our annual tax bill.](#)

m. Provide a detailed table indicating the specific taxing entities that will receive those revenues and how much will be received by each entity over the life of the Project: [Same as above, Horus is still trying to determine this answer.](#)

56. Please confirm or correct our understanding that the expected life of the Project is approximately 30+ years: [Confirmed.](#)

## **TAB 2**

# **EXHIBIT I**

**Lease Agreement Copies**

**(NOT FOR PUBLIC)**



**GROUND LEASE AGREEMENT**  
**BASIC LEASE TERMS SUMMARY**

<b>Effective Date</b>	The date that this Lease has been fully executed by both Landlord and Tenant as reflected on the signature page(s).
<b>Landlord</b>	Summers Hodges Farm, LLC & Summers Rosdeutscher Farm, LLC; Ondy Summers and Gary Summers, Managers
<b>Tenant</b>	Horus Kentucky 1, LLC
<b>Land</b>	Approximately 252.00 acres, plus or minus, of real property located in Simpson County (the " <b>County</b> "), Kentucky with parcel ID numbers: [**], as approximately depicted on <u>Exhibit A</u> attached hereto.
<b>Initial Diligence Period</b> (See <u>Section 3</u> )	From the date of signing until August 1, 2021
<b>Initial Diligence Period Fee</b> (See <u>Section 3</u> )	
<b>Extended Diligence Period</b> (See <u>Section 3</u> )	[**] successive extension periods of [**] each.
<b>Extended Diligence Period Fees</b> (See <u>Section 3</u> )	1 <sup>st</sup> extension period: [**] 2 <sup>nd</sup> extension period: [**] 3 <sup>rd</sup> extension period: [**] 4 <sup>th</sup> extension period: [**]
<b>Initial Term</b> (Section 4)	
<b>Renewal Terms</b> (Section 4)	
<b>Rent</b> (Section 7)	
<b>Rent Escalation Percentage</b> (Section 7)	
<b>Intended Use</b> (Section 11)	The construction and operation of a solar photovoltaic array (the " <b>System</b> ") for the generation, storage and distribution of electric power.
<b>Landlord's Notice Address</b> (Section 19)	[**]
<b>Tenant's Notice Address</b> (Section 19)	Horus Renewables Corp. (OPDEnergy) 110 Front Street, Ste #300 Jupiter, FL 33477 c/o Arnaldo Rivera

## **GROUND LEASE AGREEMENT**

THIS GROUND LEASE AGREEMENT (the "**Lease**") is made and entered into by and between Landlord and Tenant, effective as of the Effective Date.

NOW THEREFORE, in consideration of the amounts to be paid to Landlord by Tenant and the other mutual covenants, promises and covenants, set forth herein, the receipt and sufficiency of which is hereby conclusively established, Landlord and Tenant hereby agree as follows:

1. **Basic Lease Terms Summary.** References in the body of this Lease to a portion of the Basic Lease Terms Summary (i.e., the defined terms in the left-hand column of the Basic Lease Terms Summary) shall be deemed and construed to incorporate all the terms provided under each such referenced portion of the Basic Lease Terms Summary. References in the Basic Lease Terms Summary to a portion of this Lease (i.e., Section references in the left-hand column of the Basic Lease Terms Summary) shall be deemed and construed to incorporate all the terms provided under each such referenced portion of the body of the Lease. Notwithstanding anything set forth above, if there is any inconsistency between the Basic Lease Terms Summary and another portion of this Lease, the terms of the Basic Lease Terms Summary shall control.

### **2. Leased Premises.**

(a) Landlord hereby agrees to lease the Premises (as defined in Section 2(b) below) to Tenant, and Tenant hereby agrees to lease the Premises from Landlord, upon the terms and subject to the conditions set forth herein.

(b) The "Premises" as used herein shall be an area comprised of all or part of the Land (such area to be determined in accordance with this Section 2), together with all personal property, improvements and fixtures located on the Land and all other appurtenances, tenements, hereditaments, rights and easements pertaining to the Land. Landlord acknowledges and agrees that the exact size, shape and location of the area of the Land that will comprise the Premises (the "**Lease Boundary Line**") has not yet been determined, and any maps or depictions which Tenant has shown or will show to Landlord (including, without limitation, Exhibit A attached hereto) are approximations only and are subject to change. During the Diligence Period (as defined in Section 3(f) below), Tenant shall assess the Land to determine the most suitable location for the System, and Tenant shall establish the final Lease Boundary Line in accordance with Section 2(c) below. Until the final Lease Boundary Line is established, any reference to the Premises herein shall be deemed to include the entirety of the Land.

Within thirty (30) days following the Construction Commencement Date (as defined in Section 4(a) below), Tenant shall obtain and deliver to Landlord an ALTA survey (the "**Survey**"), which shall set forth and conclusively establish: (1) the metes and bounds legal description of the Lease Boundary Line, and (2) the net acreage (the "**Acreage**", and each such acre, an "**Acre**") of the Premises, being the total Acreage located within the Lease Boundary Line. The parties agree that (A) the Lease Boundary Line and Acreage set forth in the Survey shall be incorporated into this Lease as if fully set forth herein without amendment to this Lease, and (B) the Acreage set forth in the Survey shall be the Acreage used for purposes of computing Rent. Landlord acknowledges and agrees that the final Acreage of the Premises as established by the Survey may be less than the approximate acreage of the Land set forth in the Basic Lease Terms Summary, which would have the effect of reducing the Rent payable under this Lease. If requested by Tenant, Landlord shall provide written consent to the foregoing or an amendment to this Lease expressly incorporating the Survey into this Lease as provided in this Section 2(c). **In the event Tenant damages any crops through such investigations or testing then it shall reimburse Landlord for the fair market value of any such damages, so long as such damage is not the result of Landlord's acts or omissions.**

### **3. Diligence Period.**

(a) The Initial Diligence Period shall commence on the Effective Date. Within thirty (30) days after the Effective Date, Tenant shall pay to Landlord the Initial Diligence Period Fee. Landlord and Tenant acknowledge and agree that the Initial Diligence Period Fee (and the Extended Diligence Period Fee, if applicable) have been bargained for and agreed to as consideration for the Diligence Period (as defined below), Tenant's right to terminate this Lease pursuant to Section 3(f), and for Landlord's execution and delivery of this Lease. Such consideration is in addition to and independent of all other consideration provided in this Lease and is nonrefundable.



in all events.

(b) Tenant may elect to extend the Initial Diligence Period by one or more Extended Diligence Periods by providing written notice to Landlord prior to the expiration of the previous Initial Diligence Period or Extended Diligence Period, and paying to Landlord the applicable Extended Diligence Period Fee within thirty (30) days after the expiration of the previous Initial Diligence Period or Extended Diligence Period. If Tenant does not elect to exercise an Extended Diligence Period, the applicable Extended Diligence Period Fee shall not be payable to Landlord. If Tenant has exercised an Extended Diligence Period and the Rent Commencement Date (as defined in Section 6(a)) occurs prior to the end of an Extended Diligence Period, any unamortized portion of the Extended Diligence Period Fee shall be applied against the initial Rent payment. The Initial Diligence Period and the Extended Diligence Periods, if exercised, shall be collectively referred to as the "**Diligence Period**".

(c) During the Diligence Period, Tenant (and its agents, representatives, consultants and affiliates) shall be permitted access to the Premises at reasonable times and upon reasonable notice to Landlord, for purposes of conducting (at Tenant's expense) any and all investigations or testing of the Premises as Tenant may deem necessary, appropriate or convenient, including without limitation, the surveying or investigation of environmental, soils, biological, cultural, historical, boundary or geotechnical matters. Tenant is hereby authorized to undertake direct discussions and/or negotiations with any governmental entity or other agency, body or organization that has jurisdiction over the Premises (including, without limitation, any city, county state or federal agency) in regards to the Premises and the Intended Use.

(d) Landlord shall provide to Tenant any of the following in Landlord's possession or control, within five (5) days following the Effective Date: (1) any notice of violation of any law or regulation, including zoning laws applicable to the Premises, (2) any "Phase I" and other environmental assessment reports regarding the Premises, (3) Landlord's most recent survey and title insurance policy relating to the Premises, (4) any governmental permits, licenses or approvals for the Premises, (5) tax bills, contracts and agreements relating to the Premises, and (6) any other surveys, physical condition reports, notices regarding zoning or government action with respect to the Premises.

(e) Landlord acknowledges that Tenant may obtain, at Tenant's expense, a title insurance policy insuring Tenant's leasehold interest in the Premises. Landlord agrees to reasonably assist Tenant in obtaining such title policy by supplying any information reasonably requested by the title insurance company in connection with issuing such title policy.

(f) During the Diligence Period, Tenant may terminate the Lease, for any reason or no reason, exercisable upon written notice from Tenant to Landlord of its election to terminate delivered on or before the expiration of the Diligence Period (as may be extended pursuant to Section 3(d) above), in which event Landlord and Tenant shall have no further rights or obligations under this Lease except as otherwise expressly provided in this Lease.

#### 4. Lease Term:

(a)

(b)

**5. Termination of Lease.**

(a) Tenant shall have the right to terminate this Lease as to all or any part of the Premises as follows: (i) as of the last day of the one hundred eighty sixth (186th) month of the Initial Term (the "**Interim Termination Deadline**"), exercisable upon written notice to Landlord given prior to the Interim Termination Deadline, (ii) pursuant to the failure of any condition described in Section 5(b) below, or (iii) after the expiration of the Diligence Period but prior to the construction and commercial operation of the System, upon Tenant's determination that it would not be commercially reasonable to proceed with the construction and operation of the System; *provided*, that if Tenant so terminates pursuant to this clause (iii) after the occurrence of the Rent Commencement Date, then such termination shall be effective as of the date that Tenant pays to Landlord a

[REDACTED] If this Lease is terminated as to only a portion of the Premises, this Lease shall remain in effect as to the remainder of the Premises.

Tenant's obligation to pay Rent and continue this Lease is at all times expressly subject to satisfaction of each of the following conditions: (i) Tenant's obtaining and maintaining all necessary or required approvals from state, federal and local authorities, (a) Tenant's obtaining and maintaining any agreement that is necessary for the operation of the System and the sale and delivery of the electricity generated by it, including without limitation an interconnection agreement and power purchase agreement with the applicable utility company, and (iii) Tenant's ability to continuously operate the System and utilize the Premises for the Intended Use. If any of the foregoing conditions are not satisfied at any time following the Effective Date, Tenant shall have the right to terminate this Lease upon written notice to Landlord. Tenant agrees to pay a one time Cancellation Fee of Twenty Thousand Dollars (\$20,000.00) in the event the lease is terminated due to direct action by Tenant in the first Five (5) Years of the Initial Term.

**6. Rent Commencement.**

(a) [REDACTED]

**7. Rent; Payment Schedule; Rent Escalation.**

(a) Rent shall be payable in advance in semi-annual installments due on each January 15 and July 15 during the Term (each, a "**Rent Payment Date**"); *provided*, that the first installment of Rent shall be due on the Rent Commencement Date and shall be prorated, on a daily basis, for the period between the Rent Commencement Date and the first Rent Payment Date. If Tenant elects to terminate this Lease prior to the Rent Commencement Date in accordance with the terms of this Lease, no Rent shall be due or payable.

(b) Beginning on the fifth (5th) anniversary of the first Rent Payment Date, and for each anniversary thereafter, the annual Rent shall increase over the annual Rent payable for the immediately preceding



year by the Rent Escalation Percentage.

(c) If any overdue installment of rent is not received by Landlord within ten (10) days after

(d) If the Rent Commencement Date occurs prior to the establishment of the Lease Boundary Line pursuant to Section 2 above, then the Rent payable on and after the Rent Commencement Date until the date that the Lease Boundary Line is established (such period, the "**Interim Rent Period**") shall be computed based on the approximate acreage of the Land set forth in the Basic Lease Terms Summary above. Once the Lease Boundary Line is established, the Rent payable on and after such date shall be computed based on the final Acreage set forth in the Survey (and the Rent shall be increased or decreased accordingly). If the Rent is increased as a result of an increase in the final Acreage as set forth in the Survey, Tenant shall make a one-time payment to Landlord on the next Rent Payment Date equal to the difference between (i) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey, *minus* (ii) the amount of Rent actually paid during the Interim Rent Period. If the Rent is decreased as a result of a decrease in the final Acreage as set forth in the Survey, Tenant shall deduct from the next Rent payment owing to Landlord an amount equal to the difference between (i) the amount of Rent actually paid during the Interim Rent Period, *minus* (ii) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey.

(e) For purposes of clarification only, Tenant and Landlord acknowledge and agree that Rent shall be determined in accordance with this Section 7 during the entire Term of the Lease, including any Renewal Term.

8. **Utilities; Maintenance.** During the Term, (a) Tenant shall arrange and pay for all public utility services used on the Premises by Tenant, and (b) Tenant shall be responsible for the repair and maintenance of the entire Premises, including any portion of the Premises located outside of the proposed fenced area.

9. **Crops.**

#### 10. **Tenant's Property.**

(a) The System and its constituent parts, together with any and all improvements or other features constructed on, or personal property installed or placed on the Premises by or for Tenant, including without limitation, machinery, fixtures, trade fixtures, equipment, racking, inverters, cables, solar panels and other personal property (collectively, "**Tenant's Property**") are personal property within the meaning of Article 9 of the UCC (as defined in Section 45 below) regardless of the manner of attachment to the Premises. Tenant's Property is and shall at all times during the Term be deemed to be the property of Tenant (subject to any Transfer in accordance with Section 26(a)), to be removed at Tenant's expense upon the expiration or earlier termination of the Term in accordance with Section 13. The creation, attachment and perfection of security interests in Tenant's Property shall be governed exclusively by Article 9 of the UCC. For the avoidance of doubt and without limiting the foregoing, Landlord hereby waives all rights to distraint, possession or landlord's lien against Tenant's Property, if any, and shall not cause the creation of, or attachment to, Tenant's Property of any liens (including mechanics' and judgment liens) or other encumbrances. For the avoidance of doubt, Landlord is not responsible for payment of any Taxes assessed



## on Tenant's Property

(b) The parties hereto acknowledge that the Premises consist of land only and do not include Tenant's Property. Any claim to a lien or encumbrance upon the Premises, arising from any act or omission of Landlord, shall accrue only against the real estate owned by Landlord, and not against Tenant's Property, and shall be subject to this Lease. If any such lien or encumbrance shall be filed against Tenant's Property as a result of Landlord's actions, Landlord shall, without cost or expense to Tenant, promptly and within a reasonable time cause such lien or encumbrance to be discharged of record by payment, statutory lien release bond, court order or otherwise as provided by law. Landlord shall not permit any sale, foreclosure or forfeiture of the Premises by reason of nonpayment of a lien caused by Landlord or anyone claiming by or through Landlord. Landlord shall immediately notify Tenant of, and send Tenant a copy of, any notice Landlord receives claiming that Landlord is late or in default regarding any obligation Landlord has to pay money to any lender or third party holding a mortgage or other lien affecting the Premises.

11. **Use and Occupancy.** Tenant shall use the Premises for the Intended Use (including all lawful uses that are incidental to, or not inconsistent with the Intended Use) and/or any other lawful use.

## 12. Sunlight.

(a) Landlord acknowledges and agrees that access to sunlight ("Sunlight") is essential to the value to Tenant of the rights granted in this Lease and is a material inducement to Tenant in entering into this Lease. Landlord hereby grants and conveys to Tenant, its successors or assigns, for the Term an exclusive easement to open and unobstructed access to the sun for Solar Operations on the Leased Premises and to ensure adequate exposure of the Solar Operation to the sun.

(b) Landlord hereby grants and conveys to Tenant an exclusive easement prohibiting any obstruction to the open and unobstructed access to the sun (together with the preceding sentence, the "Solar Easement"). Eminent the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any Solar Operation is or may be located at any time from time to time and for a distance from the boundary of the Leased Premises, together vertically through all space located above the surface of the Leased Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Leased Premises and along such line to the opposite exterior boundary of the Premises.

(c) Landlord shall not permit others to engage in activities on the Property or any adjacent parcel of land owned or controlled by Landlord (the "Adjacent Property") that could adversely affect Sunlight, including but not limited to the construction of any structures, or allow the growth of foliage.

(d) If Landlord becomes aware of any potential activity on the Property or any Adjacent Property that could diminish the Sunlight at the Leased Premises, Landlord shall use its best efforts both to timely advise Tenant of such information and with respect to the Property or any Adjacent Property to reasonably cooperate with Tenant in taking measures to preserve the levels of Sunlight at the Leased Premises, which exist as of the date of this Lease. Tenant shall be entitled to seek all remedies available at law and in equity, including but not limited to, specific performance, to compel compliance with this Section.

(e) For clarification purposes, if the Landlord does not own any Adjacent Property, then any provisions in this Lease with respect to "Adjacent Property" shall not apply.

13. **Alterations and Construction Rights.** Tenant may, at its expense and without the consent of Landlord, remove and/or alter any existing improvements on the Premises, and make any alterations, additions, improvements and changes to the Premises that Tenant deems reasonably necessary in the operation of its business and the Intended Use, including, without limitation, installation of the System, fencing, security devices and/or signage, and excavating, grading, leveling or otherwise modifying the Land; provided, that such alterations, additions, improvements and changes are made in compliance with applicable laws. Landlord shall sign and deliver all applications and other documents, and shall take all such other actions, as are reasonably requested by Tenant in connection with obtaining any re-zonings, variances or other approvals as Tenant shall deem necessary or desirable.

in connection with the operation of the Premises. Tenant agrees to minimize the use of gravel on project roadways. Tenant agrees to minimize the removal of topsoil and excavation on the site. Any major excavation work performed by Tenant shall require prior approval of Landlord, excepting the construction of the project substation, pad sites and remediation. Landlord will have no more than ten (10) business days to approve, and such approval shall not be unreasonably withheld. Tenant further agrees to plant and maintain grasses and/or other vegetation for erosion control purposes on the Premises.

14. End of Term.

15. Taxes.

(a) During the Term, Tenant shall pay Tenant's Portion (calculated in accordance with this Section 15(a)) of the Tax Bill, applicable to each tax year or part thereof which falls within the Term. Landlord shall provide Tenant with copies of all invoices, bills and notices (collectively, "Tax Bills") regarding all real estate and ad valorem taxes and assessments imposed or levied on the Premises by any applicable government taxing authority (each, a "Tax", and collectively, "Taxes"), within thirty (30) days of Landlord's receipt of any such Tax Bill. Tenant shall remit payment directly to the taxing authority for any Tax Bill that Tenant receives; provided, that if the Premises are comprised of less than 100% of a larger tax parcel ("Larger Parcel"), Tenant shall pay the portion of the Tax Bill allocable to the Premises (such portion, "Tenant's Portion"), which portion shall bear the same relationship to the total Tax Bill as the Premises bears to the Larger Parcel. Once the Lease Boundary Line is established, the parties shall confirm Tenant's Portion in a written confirmation. Without limiting the foregoing, Tenant shall have the right, but not the obligation, at any time during the Term to pay the entire Tax Bill on Landlord's behalf and deduct any amounts not attributable to Tenant's Portion from future installment payments of Rent.

(b) Without limiting Section 15(a), if Tenant's use of the Premises results in the revocation of a classification of the Premises as "agricultural land", "forestry land" or similar classification, thereby triggering liability for "rollback" taxes, Tenant shall pay Tenant's Portion of such rollback tax liability, together with any related interest or penalties, other than interest and/or penalties arising from Landlord's failure to timely provide Tenant with a copy of such Tax Bill.

(c) Upon Tenant's reasonable request, Landlord shall take such reasonable actions and do



such things as necessary or desirable to facilitate any action by Tenant to contest any Tax Bill or the assessed value of the property on which they are levied, or to otherwise seek the abatement of Taxes applicable to the Premises, or to seek the separate assessment of the Premises as a distinct tax parcel if the Premises are included within a Larger Parcel. Tenant shall have the right, but not the obligation to pursue any such action.

(d) Notwithstanding anything contained in this Lease, (1) Tenant shall not be under any obligation to pay any part of any franchise, excise, estate, inheritance, income or similar tax which is or may become payable by Landlord or which may be imposed against Landlord or against the Rent payable under this Lease or upon the income or profits of Landlord by reason of any law now in force or later enacted, and (2) in the event the Premises are re-assessed for tax purposes because of transfer of ownership of the Land during the Term of this Lease, Tenant shall not be responsible for payment of any increase in taxes, charges and assessments attributable to such re-assessment, which increase shall be the sole responsibility of Landlord.

16. **Fire or Other Casualty.** If during the Term, all or part of the Premises or Tenant's Property are damaged by fire, wind, flood, earthquake or other casualty, with the result that, in Tenant's sole discretion, it would not be commercially or economically reasonable or desirable to repair and restore the Premises and/or Tenant's Property, as applicable, then Tenant may terminate this Lease by providing Landlord with written notice of the same and vacating the Premises in compliance with Section 14 hereof. Tenant, or its successor in interest, shall be entitled to 100% of any proceeds from casualty insurance policies maintained by Tenant.

17. **Condemnation.**

(a) If all or part of the Premises and/or Tenant's Property shall be subject to condemnation, the exercise of the power of eminent domain, or other governmental taking (the foregoing, collectively, a "Taking") with the result that, in Tenant's sole and absolute discretion, the unaffected portion of the Premises is insufficient or otherwise unsuitable for Tenant's continued use of the Property for the Intended Use or such other use as existed at the time of the Taking (a "Total Taking"), then Tenant may terminate this Lease by providing Landlord with written notice of the Total Taking, the Lease shall terminate effective as of the date set forth in such notice, and Tenant shall vacate the Premises in accordance with Section 14.

(b) If all or part of the Premises and/or Tenant's Property shall be subject to a Taking that, in Tenant's sole determination, does not constitute a Total Taking (a "Partial Taking") then (i) concurrently with such Taking this Lease shall terminate with respect to the affected portion of the Premises, which Tenant shall vacate in accordance with Section 13, (ii) this Lease shall continue in full force and effect with respect to the unaffected portion of the Premises and (iii) the Acreage shall be reduced for each Acre (or portion thereof) subject to the Taking, and the Rent shall be reduced accordingly. For purposes of clarification only, Tenant shall be entitled to remove Tenant's Property from any portion of the Premises that is subject to a Taking.

(c) Tenant shall have the right but not the obligation to participate in any proceedings with respect to a Taking; in such event Landlord shall cooperate with Tenant to facilitate such participation. Neither Landlord nor Tenant shall enter voluntarily into any binding agreement or settlement related to a Taking without the prior consent of the other party, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) The proceeds of any Taking shall be apportioned as between Landlord and Tenant as follows: Landlord shall receive an amount equal to the fair market value of the Land subject to the Taking and calculated with reference to the value of the Land for agricultural use, but not the improvements constructed or placed by Tenant thereon, and Tenant shall receive such amounts as are necessary to compensate Tenant for the loss of use of the Premises so Taken, including any improvements constructed or placed by Tenant on the Land, and the loss or interruption of Tenant's business and the cost of any restoration or repair necessitated by such Taking, including consequential losses. If after giving effect to the foregoing there remain any un-apportioned proceeds, they will be equitably apportioned as between Landlord and Tenant. Notwithstanding the foregoing, however, in the event Tenant exercises its right to terminate this Lease under this Section 16, then Tenant shall first receive all condemnation proceeds until Tenant has received an amount equal to the appraised value of the System prior to the Taking.

18. **Default; Remedies**



19. **Indemnifications.** To the extent permitted by law, Landlord shall indemnify, defend and hold Tenant harmless for, from and against any and all damages or claims caused by Landlord's negligence or willful misconduct, or Landlord's breach of this Lease, that Tenant may be compelled to pay or defend in connection with this Lease or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the actions or omissions of Tenant or any of Tenant's agents or employees. To the extent permitted by law, Tenant agrees to indemnify, defend and hold Landlord harmless for, from and against any and all damages or claims caused by Tenant's negligence or willful misconduct, or Tenant's breach of this Lease, that Landlord may be compelled to pay or defend in connection with this Lease or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the actions or omissions of Landlord or any of Landlord's agents or employees.

20. **Notices.** All notices, elections, demands, requests, and other communications hereunder shall be in writing, signed by the party making the same and shall be sent by certified or registered United States mail, postage prepaid, or by national overnight courier service which provides tracking and acknowledgement of receipts, or by email or facsimile transmission, addressed to the party to be served at the address indicated in the Basic Lease Terms Summary above or at such other address as may hereafter be designated in writing by either party hereto, or by any other method if actually received. The time and date on which mail is postmarked shall be the time and date on which such communication is deemed to have been given.

21. **Easements.** Landlord hereby irrevocably grants and conveys to Tenant, its successors or assigns, during the Term of this Lease (a) an easement for light, solar energy resources, access (including vehicular and pedestrian ingress and egress) and utility access over, under and across all property owned by Landlord which is adjacent to or in the vicinity of the Premises as reasonably necessary for Tenant's conduct of the Intended Use on the Premises and to access the Premises, (b) an easement for any and all encroachments of Tenant's Property onto Landlord's adjacent property, and (c) an easement over, under and across the Landlord's adjacent property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Intended Use of the Premises. Without limiting the foregoing, Landlord agrees to execute and deliver any separate easement agreements for the benefit of Tenant, its successors or assigns, and the Premises as Tenant or the utility to which the System is interconnected (the "Utility") may reasonably request to facilitate the construction, operation and removal of the System, or otherwise in connection with Tenant's use of the Premises during the Term (collectively, the "Easements"). Landlord and Tenant (and the Utility, as applicable) shall in good faith establish the location and terms of such Easements within twenty (20) days of the request therefor, and any such Easements shall be confirmed in writing, signed by the parties and recorded in the County records against the Land and/or any property adjacent to or in the vicinity of the Premises and shall run with the Lease and inure to the benefit of Tenant (or the Utility, as applicable) and its transferees, successors and assigns hereunder, including any Additional Notice Party.

22. **Non-Disturbance Agreement.** Upon Tenant's request, Landlord shall execute, and shall use commercially reasonable efforts to cause any current beneficiaries of any mortgages/deeds of trust, or any other parties with rights in, or interests secured by Landlord's interest in, the Land or any other property owned by Landlord which is subject to an easement benefiting Tenant (collectively, "Landlord's Land"), to enter into an agreement with Tenant confirming that such party subordinates its rights or interests in Landlord's Land to this Lease, or solely with respect to current beneficiaries of any mortgages/deeds of trust or other parties with a security interest in Landlord's Land, that such party will not disturb or extinguish Tenant's interest in Landlord's Land and in this Lease. Such agreement shall be in form and substance reasonably agreeable to Tenant and any Additional Notice Party (defined in Section 28). If Tenant and Landlord are unable to obtain such agreements from any third party holding an interest in Landlord's Land, Tenant shall be entitled (but not obligated) to make payments or performance in fulfillment of Landlord's obligations to such third party and may offset the amount of such payments or performance from amounts due Landlord under this Lease; provided, that if such obligations cannot be satisfied by the payment of money or performance by Tenant, Tenant shall have the right to immediately terminate this Lease.

23. **Landlord's Representations and Warranties.**



(a) Landlord hereby represents and warrants to Tenant that: (a) Landlord owns the Land in fee simple, and has all requisite right, power and authority to enter into this Lease, without the consent or joinder of any party not joining in the execution hereof (including spouses); (b) the execution of this Lease will not constitute a violation of nor be in conflict with nor constitute a default under any term or provision of any agreement or instrument to which Landlord is a party or by which the Premises or any part thereof is bound; (c) no hazardous or toxic substances have been released or manufactured, or are present on the Premises in amounts in excess of the lawful limit absent a permit, and no underground storage tanks (whether or not abandoned) exist on or under the Premises; (d) Landlord has not received any notice of any pending or threatened Taking, zoning change or legal, regulatory or other noncompliance relating to the Premises, or of any possible widening of the streets abutting the Premises; (e) Landlord has not received any notice of proposed curtailment of utility services to the Premises; (f) the Premises are free from any recorded or unrecorded use or occupancy restrictions or declarations of restrictive covenants, and there are no existing liens, mortgages, or deeds of trust encumbering all or any part of the Premises; (g) there are no service or maintenance contracts affecting the Premises; (h) there are no delinquent or outstanding Taxes, liens or other impositions levied or assessed against the Premises or any larger parcel of property of which the Premises is a part; (i) except for this Lease, there are no leases, options to purchase, license agreements or other third party rights to use or possess the Premises, whether written or oral, recorded or unrecorded; (j) Landlord is not in the hands of a receiver nor is an application for such a receiver pending, nor has Landlord made an assignment for the benefit of creditors, nor filed, or had filed against it, any petition in bankruptcy nor is Landlord a defendant in any ongoing or pending litigation proceedings; (k) if Landlord is a limited partnership, trust, limited liability company, corporation or other business entity, Landlord is in good standing under the laws of the state of its incorporation and the state in which the Premises are located, and the undersigned representatives of Landlord have full power and authority to execute and deliver this Lease; (l) if Landlord is one or more natural persons, except for the spouse identified on the signature page to this Lease, such natural persons are unmarried, (m) there is no underground septic system or leach field located upon the Land; (n) there are no wells, dry wells, exploration wells or monitoring wells on the Land; (o) no person or entity has buried any refuse, construction materials, garbage or any other matter of any kind or nature below the surface of the Land, (p) the Land does not support or affect any endangered species and is not within an area that is subject to any "environmentally sensitive" or "non-disturbance" designation under any law or zoning ordinance, and (q) no portion of the Land includes any archeological site, burial site, artifact or other condition of archeological, tribal or historical significance.

(b) The provisions of this Section 23 will survive the termination or expiration of this Lease. All of Landlord's representations and warranties contained in this Lease shall be true as of the Effective Date and shall be subject to any state of facts arising during the Term of this Lease without the direct or indirect, active or passive, involvement of Landlord.

#### **24. Insurance.**

(a) During the Term, Tenant shall maintain, at Tenant's cost and expense, a policy or policies of insurance providing Commercial General Liability Insurance for Tenant's liability arising out of claims for bodily injury (including death) and property damages. Tenant shall maintain coverage of at least [REDACTED]

(b) Upon Landlord's request, Tenant will promptly furnish Landlord with certificates of insurance evidencing the insurance required to be maintained under Section 24(a).

**25. Landlord Covenants.** From and after the Effective Date until the expiration or earlier termination of the Term:

(a) Landlord shall not, without the prior written consent of Tenant, (i) institute or consent to any rezoning of the Premises; (ii) further encumber or suffer to exist the further encumbrance or Transfer of the Premises (except as caused by or on behalf of Tenant) except in accordance with Section 25 of this Lease; (iii) cause or permit any activities or conditions that would impair operation of the System (including, without limitation, by erecting or permitting to be erected any cell towers, water towers, billboards, silos, trees or any other natural or man-made structures to be placed, constructed, or to otherwise exist on any property owned or controlled by Landlord that may diminish the quantity of sunlight that otherwise would reach the Premises or that may cause shade or shadows upon the Premises or any portion thereof, and Landlord shall not emit or permit the emission of suspended particulate matter, smoke, fog or steam or other air-borne impediments to insolation on the Premises, or



burn or permit the burning of garbage, plant, shrub, and yard trimmings or other vegetation that could adversely affect insulation levels on the Premises), and, upon written notice from Tenant, Landlord shall promptly remove any existing uses or improvements on any property adjacent to or in the vicinity of the Premises which Tenant reasonably determines will impair Tenant's use of the Premises; (iv) cause or permit the violation of any applicable laws, rules, regulations or ordinances applicable to the Premises; or (v) commence (or have commenced against it) any voluntary or involuntary proceedings in bankruptcy, insolvency or similar proceedings with respect to Landlord.

(b) Landlord shall promptly give Tenant a copy of any notice of any kind received by Landlord regarding the Premises or any Taxes.

(c) Landlord shall comply with and perform all of its covenants, agreements and obligations to third parties, including, but not limited to, payment of government property taxes and assessments (to the extent required under this Lease), and payment and performance of any mortgage or other financing obligations owed to lenders, which affect or relate to the Premises.

**26. Memorandum of Lease.** This Lease shall not be recorded; however, within five (5) days following Tenant's request, Landlord and Tenant shall execute a memorandum of this lease in recordable form, setting forth the following provisions of this Lease, including, without limitation: (a) all information required by law; (b) restrictions on Transfers; (c) any unexercised Renewal Term options; (d) rights of first offer or of first refusal of Tenant with respect to the Land; (e) Tenant's Exclusivity Right as set forth in Section 41; (f) the easement rights granted to Tenant hereunder; and (g) such other provisions of this Lease as the parties may mutually agree to incorporate therein. Tenant shall cause the memorandum of lease to be recorded in the County records against the Land and any other property of Landlord (if applicable).

**27. Assignments, Mortgages, Transfers.** This Lease shall be binding upon and inure to the benefit of the parties hereto and their legal representatives, successors and assigns, subject to the following terms and conditions:

(a) Tenant may assign this Lease, in whole or in part, or sublet the Premises, or any part thereof, with Landlord's prior written consent. Landlord shall provide consent within ten (10) business days, and such consent shall not be unreasonably withheld. Tenant shall notify Landlord within a reasonable time prior to such Transfer. If Tenant assigns its entire interest in this Lease to a party that expressly assumes in writing all obligations of Tenant under this Lease arising after the effective date of the assignment, Tenant shall be released or discharged from all of its covenants and obligations under this Lease, except such obligations as shall have accrued prior to the effective date of any such assignment or transfer, and Landlord agrees to look solely to Tenant's assignee for performance of such obligations.

(b) Landlord shall not Transfer (as defined in Section 28 below) its interest in the Land or in this Lease without Tenant's prior written consent, and such consent shall not be unreasonably withheld. Any such Transfer shall be expressly subject to this Lease, and Landlord shall not transfer the fee interest in the Premises unless the assignee assumes all of Landlord's obligations under this Lease, any easements granted to Tenant (as applicable) and any consents granted to Tenant's lenders. For Transfers pursuant to the death or disability of Landlord, Landlord's executor or successor in interest should endeavor to provide notice of such Transfer (or proceedings that will result in such a Transfer) to Tenant as promptly as possible under the circumstances. Landlord shall notify Tenant of the closing of such Transfer, and if applicable, the name and contact information of the successor to Landlord's interest hereunder and payment instructions for future payments of Rent and other amounts due under the Lease; provided, that Landlord shall indemnify Tenant for, from and against losses arising from Tenant's payment of Rent or other amounts as so directed.

**28. Third Party Protections.** Tenant may pledge, sell, grant and/or assign, sublease, mortgage and otherwise transfer (each, a "Transfer") this Lease or Tenant's leasehold interest in the Premises, in whole or in part, without Landlord's prior written consent, in connection with the financing or re-financing of Tenant's Property. If Tenant shall notify Landlord in writing of the existence of, and contact information for, any third party (including, without limitation, any bank, credit equity providers, any financial institution, etc.) with a security interest or other interest in the Lease and/or in the Tenant's Property, whether via a collateral Transfer, pledge, mortgage, deed of trust or otherwise (any such third party, an "Additional Notice Party"), then the following provisions shall apply and such time as Landlord shall receive written confirmation that such Additional Notice Party's interests in this Lease, the System, the Tenant's Property or the Premises are released:



(a) Without limiting Section 33, no assignment, amendment, election to terminate or other modification of this Lease shall be effective unless approved by the Additional Notice Party in writing. In the event Tenant acquires fee ownership of the Land, or in the event of Tenant's voluntary surrender of the leasehold estate, there shall be no merger of the leasehold estate created by this Lease with the fee without the prior written consent of the Additional Notice Party, which consent may be granted, conditioned or withheld in the Additional Notice Party's sole and absolute discretion.

(b) If any event of Default by Tenant remains uncured following the applicable cure period under Section 38, Landlord shall send written notice of such uncured Default to each Additional Notice Party at the address provided therein, whereupon the Additional Notice Party shall have an additional thirty (30) days during which it may, in its sole discretion, cure such Default on Tenant's behalf. Landlord may not pursue any remedy for such Default unless it remains uncured following the expiration of such Additional Notice Party's thirty (30) day cure period. No notice shall be effective against an Additional Notice Party unless and until actually received by such Additional Notice Party.

(c) Neither the bankruptcy nor the insolvency of Tenant shall be grounds for terminating this Lease as long as the Rent and all other obligations of Tenant hereunder are paid or performed by or on behalf of Tenant or the Additional Notice Party in accordance with the terms of this Lease.

(d) Subject to Section 28(f), if this Lease is terminated pursuant to a Tenant Default, Landlord shall enter into a new lease with Additional Notice Party or its nominee on the same terms as set forth herein, and for a term equal to the then-unexpired portion of this Lease, with an option to extend for any then remaining Renewal Term(s). Such new lease shall be effective as of the date of termination of this Lease. If more than one Additional Notice Party makes a request for a new lease pursuant hereto, the new lease shall be delivered to the Additional Notice Party with a security interest in this Lease which is prior in lien, and the request of any Additional Notice Party without a security interest in this Lease or whose lien is subordinate shall be void and of no further force or effect.

(e) If this Lease is terminated pursuant to a rejection in bankruptcy or other similar proceeding with respect to Landlord, then Landlord, or its successor in interest to the Land, if any, shall enter into a new lease with Tenant on substantially the same terms as this Lease and for the then otherwise unexpired portion of the Term. Such new lease shall be effective as of the date of termination of this Lease.

(f) An Additional Notice Party shall have the right, subject to the terms and conditions of this Lease: (a) to assign its security interest; (b) to enforce its lien and acquire title to the leasehold estate by any lawful means; (c) to take possession of and operate the Tenant's Property, the leasehold estate or any portion thereof and to perform all obligations to be performed by Tenant hereunder, or to cause a receiver to be appointed to do so; and (d) to acquire the leasehold estate by foreclosure or by an assignment in lieu of foreclosure and thereafter to assign or transfer the leasehold estate to a third party. Landlord's consent shall not be required for the acquisition of the encumbered leasehold estate or subleasehold estate by a third party who acquires the same by or subsequent to foreclosure or assignment in lieu of foreclosure. During any period of possession of the Premises by an Additional Notice Party (or a receiver requested by such Additional Notice Party) and/or during the pendency of any foreclosure proceedings instituted by an Additional Notice Party, the Additional Notice Party shall pay or cause to be paid all other monetary charges payable by Tenant hereunder which have accrued and are unpaid at the commencement of said period and those which accrue thereafter during said period. Following acquisition of Tenant's leasehold estate by the Additional Notice Party or its assignee or designee as a result of either foreclosure or acceptance of an assignment in lieu of foreclosure, or by a purchaser at a foreclosure sale and subject to the provisions of this Section 28(f), this Lease shall continue in full force and effect and the Additional Notice Party or party acquiring title to Tenant's leasehold estate shall, within thirty (30) days, commence the cure of all defaults hereunder and thereafter diligently process such cure to completion.

(g) Subject to the terms and conditions hereof, Landlord hereby waives any lien, security interest or claim of any nature that Landlord now has or may hereafter have by statute, rule, regulation, common law, agreement or otherwise, in and to Tenant's Property and other of Tenant's property that is or may be from time to time heretofore located at the Premises and/or the Landlord's adjacent property, if any, and in which Tenant at any time has granted or will grant a security interest to an Additional Notice Party (all such property and the records relating thereto shall be hereafter called the "Collateral"). Landlord recognizes and acknowledges that any claim or



claims ("Claims") that an Additional Notice Party has or may have against such Collateral by virtue of any lien or security interest are superior to any lien, security interest, or claim of any nature that Landlord now has or may hereafter have to such Collateral by statute, rule, regulation, common law, agreement or otherwise. The waiver provided for herein shall be effective until the discharge of the Claims. Landlord further agrees to notify any purchaser of the Premises and/or the Landlord's adjacent property and any subsequent mortgagee or other encumbrance holder of the existence of the foregoing waiver of Landlord's lien rights, which shall be binding upon the executors, administrators, successors and transferees of Landlord, and shall inure to the benefit of the successors and assigns of any Additional Notice Party. Landlord hereby irrevocably agrees and consents to refrain from taking any action to bar, restrain or otherwise prevent an Additional Notice Party from the Premises for the purpose of inspecting the Collateral.

(h) Landlord agrees to execute and deliver such documents and instruments, including, without limitation, an amendment to this Lease, an amendment to any recorded memorandum of lease, a deed, agreement or a subordination agreement, as may be reasonably requested by an Additional Notice Party or in furtherance of a Transfer related to the financing or re-financing of the System, to allow such Additional Notice Party reasonable means to protect or preserve the System or its collateral interest in the Lease; provided, that Landlord shall not be required to amend this Lease or enter into any of the above cited agreements in any way that would extend the Term, decrease the Rent or otherwise in any material respect adversely affect any rights of Landlord. Each party shall bear its own expenses, including legal expenses, in connection with any request for the execution and delivery of additional documents and instruments in accordance with this Section 28(b).

29. **Estoppel.** Upon the request of either party (or any Additional Notice Party), the non-requesting party shall deliver to the requesting party a certificate setting forth the material terms of the Lease, the existence of any Default under the Lease, the date through which Rent has been paid and any amounts on deposit with Landlord, the current Rent rate, and such other reasonable terms requested by the requesting party. The failure by the non-requesting party to respond to such request within fifteen (15) days shall constitute an event of Default, and in addition, shall result in the deemed acceptance, approval and confirmation of the truth of the matters set forth in the certificate sent with the original request.

30. **Brokerage Commission.** Except as pursuant to a separate agreement between Tenant and Tenant's Broker, if any, Landlord and Tenant each represent and warrant to the other that they have not dealt with any real estate agent or broker in connection with this transaction. Landlord and Tenant each hereby, mutually and save the other harmless from and against all losses, costs and expenses incurred by reason of a breach of such representation and warranty.

31. **Governing Law.** This Lease shall be construed and enforced in accordance with the laws of the State in which the Land is located, and any disputes arising from or relating to this Lease shall be construed, governed and interpreted and regulated under the laws of such State.

32. **Interpretation; Amendment.** The terms of this Lease shall not be amended, restated, changed or otherwise modified except in a writing signed by Landlord, Tenant and any Additional Notice Party. If any term or provision of this Lease shall to any extent be invalid or unenforceable, the remainder of this Lease shall not be affected thereby and each other term and provision of this Lease shall be valid and enforced to the fullest extent permitted by law.

33. **Integration; Anti-Merger.** This instrument, including the attached Exhibits, contains the complete agreement of the parties regarding the subject matter of this Lease, and there are no oral or written conditions, terms, understandings or other agreements pertaining thereto which have not been incorporated herein. This instrument creates only the relationship of landlord and tenant between the parties as to the Premises and nothing in this Lease shall in any way be construed to impose upon either party any obligations or restrictions not expressly set forth in this Lease. This Lease shall continue until the expiration or termination of the Lease and Term, and shall not be extinguished by operation of law pursuant to the acquisition by a single party of the interests in both Tenant and Landlord hereunder.

34. **Exclusive Control; Quiet Enjoyment.** Tenant shall have exclusive control, possession, occupancy, use and management of the Premises on and after the Rent Commencement Date, subject to any easements or security instruments existing on the Effective Date, or as caused by Tenant, and Landlord then warrants and intends Tenant's right to quietly hold and enjoy the Premises. Tenant, and its agents, guests, subtenants and



designees, and any Additional Notice Party, shall have access to the Premises at all times after the Rent Commencement Date, and neither Landlord nor any agent of Landlord shall, without a Tenant representative, enter upon any portion of the Premises except as specifically permitted hereunder. For the avoidance of doubt, this Lease does not convey any subsurface oil, gas, mineral, liquid or other subsurface rights (collectively, "**Mineral Rights**") to Tenant; provided, however, that Landlord shall not engage in, and shall not permit, any activity, including, without limitation, the extraction of minerals, oil, gas, liquid or other substances, if such activity could result, in Tenant's sole and absolute discretion, in a failure of subsurface support for the Premises or otherwise impair or adversely affect Tenant's Property or Tenant's use of the Premises. The foregoing covenants shall be a covenant running with the Land binding upon any party owning any interest in, or rights to develop or use such Mineral Rights. To the best knowledge of Landlord, Landlord is the sole owner of the Mineral Rights and Landlord holds good, indefeasible and insurable title to the Mineral Rights.

35. **Waiver.** The waiver by any party of any instance of a breach of any covenant or agreement herein shall not be deemed to constitute waiver of any subsequent breach of the same or any other covenant or agreement under this Lease.

36. **Nonrecourse.** The performance of this Lease by Landlord and Tenant shall be secured by their respective interests in the Premises. Except for such interests in the Premises, neither Landlord's nor Tenant's property or assets (including without limitation Tenant's Property), shall be subject to levy, execution or any other enforcement procedure in connection with the satisfaction of liability under this Lease.

37. **Consent; Further Assurances.** Each party shall execute and deliver such further documents and perform such other acts, as may be reasonably necessary to achieve the parties' intent in entering into this Lease. The parties further agree that, to the extent the consent or approval of either of them is required, requested or appropriate under this Lease, such consent or approval shall not be unreasonably or unduly withheld, delayed, or conditioned, and except as may otherwise be expressly provided for herein, each party shall bear its own costs and expenses, including legal costs, in connection with such consent or approval.

38. **Counterparts.** This Lease may be executed in any number of counterparts, each of which shall be deemed an original copy executed and delivered. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party executing with the same force and effect as if such facsimile were an original thereof.

39. **Survival.** Upon the expiration or earlier termination of this Lease in accordance with its terms, this Lease shall cease to have force and effect, unless the context requires otherwise to achieve the parties' intent with respect thereto.

40. **First Refusal to Lease.** Without limiting Tenant's rights to renew or extend the Term as set forth in this Lease, Landlord hereby grants to Tenant a right of first refusal to lease the Premises for a term commencing at the expiration or termination of this Lease, or extended, and/or any premises owned by Landlord located adjacent to the Premises, only upon the terms and conditions as contained in any valid, acceptable, bona fide lease offer to Landlord or any subsequent Landlord may receive prior to the cancellation or termination of this Lease, as extended. Tenant shall have twenty (20) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed lease (the "**Proposed Lease**"), within which time to exercise its option to lease and accept any such lease terms. Landlord agrees to promptly notify Tenant of receipt of any such acceptable offer to lease. Tenant shall exercise such right of first refusal by delivery of notice to Landlord accepting such offer. Thereafter, Tenant shall be deemed to have extended this Lease upon the economic terms of the Proposed Lease (i.e. rent, payment of taxes and expenses, options to extend, etc.). Tenant and Landlord shall be bound by all of the economic terms of the Proposed Lease. Landlord and Tenant shall enter into an amendment of this Lease extending the Term and incorporating the other economic terms of the Proposed Lease. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant. This Right of First Refusal will shall not continue after thirty (30) days of the expiration of this Lease or any extensions thereof.

41. **First Refusal to Purchase.** Without limiting Tenant's rights to renew or extend the Term as set forth in this Lease, Landlord hereby grants to Tenant a right of first refusal to purchase the Premises, or any part of which the Premises is a part, upon the same terms and conditions as contained in any bona fide purchase offer



Landlord, or its successors and assigns, may receive prior to the cancellation or termination of this lease, an extended. Tenant shall have ten (10) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed sale agreement ("**Proposed Sale Agreement**") within which time to exercise its option to purchase and accept any such proposed sale terms. Tenant shall exercise such option of first refusal by delivery of notice to Landlord accepting such offer. If Tenant exercises its option, Landlord and Tenant shall enter into a commercially reasonable sale agreement ("**Sale Agreement**") upon the economic terms of the Proposed Sale Agreement; provided, however, irrespective of the terms of the Proposed Sale Agreement, the Sale Agreement shall provide that: (a) Landlord shall deliver to Tenant a current commitment for an owner's title insurance policy issued by a title company acceptable to Tenant committing to insure Tenant in the amount of the purchase price and showing title to be good and marketable fee simple, free and clear of all liens, reservations, easements encumbrances, restrictions of record and encroachments, except such matters approved by Tenant as part of a the Sale Agreement, (b) transfer of title by Landlord to Tenant shall be effected by warranty deed conveying such title, (c) Landlord shall satisfy and remove from title at closing any and all monetary encumbrances, including any mortgage or trust deed, and (d) Tenant shall have no obligations for payment of any brokerage fee in connection with the purchase and if any such payment is due to any party it shall be paid by Landlord. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant.

42. This Paragraph intentionally removed.

43. **Confidentiality.** Landlord agrees to hold all confidential information of Tenant, including, without limitation, the terms of this Lease, in strict confidence, and will not disclose same to any person, other than as required by applicable law, rule, or regulation. Landlord acknowledges and stipulates that Tenant may suffer irreparable harm in the event of a breach of this confidentiality agreement, for which Tenant has no adequate remedy at law. Therefore, in addition to all other remedies available pursuant to the terms of this Lease or at law, Tenant shall have the right to obtain immediate injunctive or other equitable relief upon a breach of this confidentiality agreement by Landlord, without the necessity of giving any notice of such default or opportunity to cure the same.

44. **Attorneys' Fees.** In the event of any dispute under this Lease, the party against whom any final judgment is entered agrees to pay the prevailing party all reasonable costs, charges, and expenses, including attorneys' fees, expended or incurred in connection therewith, to the extent permitted by law.

45. **Tax Credits.** If under applicable law the holder of a leasedhold interest in the nature of that held by Tenant or Tenant's assignee becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure established by any local, state or federal government, then, at Tenant's option, Landlord and Tenant shall amend this Lease or replace it with a different instrument so as to convey Tenant's interest in the Premises to a substantially similar interest that makes Tenant eligible for such tax credit, benefit or incentive.

46. **Marketing.** Following the Construction Commencement Date and continuing until the expiration or earlier termination of this Lease, Landlord gives and grants to Tenant and Tenant's affiliates, and each of their respective licensees, agents, representatives, employees, successors and assigns (collectively, the "**Licensed Parties**"), the right and license to photograph, publish and use photographs (whether still or moving) of the Premises in all media and types of advertising and promotion by the Licensed Parties. Landlord agrees that all images of the Premises used and taken by the Licensed Parties are owned by the Licensed Parties and that the Licensed Parties may obtain copyright in material containing same. If Landlord should receive any print, negative or other copy thereof, Landlord shall not authorize its use by anyone else. Landlord agrees that no advertisement, promotion or other material utilizing or containing the Premises need be submitted to Landlord for approval and the Licensed Parties shall be without liability to Landlord for any distortion or illusory effect resulting from the publication of the Premises. Landlord represents and warrants that the license granted hereunder (a) does not and will not violate or infringe upon the rights of any third party and entity; and (b) does not in any way conflict with any existing commitment on Landlord's part. Nothing herein shall constitute any obligation on the Licensed Parties to make use of any of the rights set forth in this Section 46.

47. **State Specific Provisions**

(a) In the event of any inconsistencies between the terms and conditions of this Section 47 and the other terms and conditions of this Lease, the terms and conditions of this Section 47 shall control and be binding.

(b) As used in this Lease, "UCC" shall mean the Uniform Commercial Code found at Title 3 of the Pennsylvania Commerce Code of the [ ] Statutes or any replacement or successor statute or code.

(c) TO THE EXTENT PERMITTED BY LAW, EACH OF THE PARTIES KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES THE RIGHT TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THIS LEASE, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS LEASE AND ANY OTHER AGREEMENT CONTEMPLATED TO BE EXECUTED IN CONJUNCTION HERewith, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER ORAL OR WRITTEN) OR ACTIONS OF ANY PARTY HERETO. EACH OF THE PARTIES TO THIS LEASE WAIVES ANY RIGHT TO CONSOLIDATE ANY ACTION IN WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT OR HAS NOT BEEN WAIVED. THIS PROVISION IS A MATERIAL INDUCEMENT TO EACH OF THE PARTIES FOR ENTERING INTO THIS LEASE.

(d) **No Consequential Damages.** The parties agree that it is the intent that neither Landlord nor Tenant, nor their respective members, managers, officers, directors, partners, shareholders, agents, employees, contractors or affiliates, shall be liable to the other party or to its affiliates, member, managers, officers, directors, shareholders, partners, agents, employees, successors or assigns, for claims for incidental, special, indirect, punitive or consequential damages of any nature (connected with or resulting from performance or non-performance of this Lease, including claims in the nature of lost revenue, income or profits, losses, damages or liabilities under any financing, lending, construction or other contracts, agreements or arrangements to which either may be a party irrespective of whether such claims are based upon negligence, strict liability, contract, operation of law or otherwise). NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS LEASE, NEITHER PARTY SHALL BE ENTITLED TO, AND EACH OF LANDLORD AND TENANT HEREBY WAIVES, ANY AND ALL RIGHTS TO RECOVER CONSEQUENTIAL, INCIDENTAL, PUNITIVE AND/OR EXEMPLARY DAMAGES, HOWEVER ARISING, WHETHER IN CONTRACT, IN TORT, OR OTHERWISE, UNDER OR WITH RESPECT TO ANY ACTION TAKEN IN CONNECTION WITH THIS LEASE.

(e) **Waiver of Subrogation.** Landlord and Tenant each hereby waives any right of recovery against the other and the authorized representatives of the other for any loss or damage that is covered or required by this Lease to be covered by any policy of insurance maintained with respect to the Premises or any business thereon, even though such loss or damage might have been occasioned by the negligence of such party. Each party shall cause insurance policies relating to this Lease, the Premises or the System to provide that such insurers waive all right of recovery by way of subrogation against either party in connection with any claim, loss or damage covered by such policies.

(f) **Partial Invalidity.** Should any provision of this Lease be held in a final and unappealable decision by a court of competent jurisdiction to be either invalid, void or unenforceable, the remaining provisions hereof shall remain in full force and effect and unimpaired by the court's holding. Notwithstanding any other provision of this Lease, the parties agree that in no event shall the term of this lease be longer than the longest period permitted by applicable law.

(end of text)



IN WITNESS WHEREOF, the parties hereto have duly executed this Lease as of the later of the dates indicated below.

**LANDLORD:**

Summer Hodges Farm, LLC

By: Cindy Summers Gary Sumner

Printed Name: CINDY SUMMERS Gary Sumner

Title: Manager

Date: 8/21/2020

Summers Rosdeutscher Farm, LLC

By: Cindy Summers Gary Sumner

Printed Name: CINDY SUMMERS Gary Sumner

Title: Manager

Date: 8/21/2020

**TENANT:**

Horus Kentucky 1, LLC

A Delaware limited liability company

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

IN WITNESS WHEREOF, the parties hereto have duly executed this Lease as of the later of the dates indicated below.

**LANDLORD:**

Summer Hodges Farm, LLC

By: Cindy Summers Key Person

Printed Name: Cindy Summers Greg Summers

Title: Manager

Date: 8/2/2020

Summers Ropdeutscher Farm, LLC

By: Cindy Summers Key Person

Printed Name: Cindy Summers Greg Summers

Title: Manager

Date: 8/2/2020

**TENANT:**

Horus Kentucky L, LLC

A Delaware limited liability company

By: [Signature]

Printed Name: DICARLOS J. CHAVES

Title: DIRECTOR

Date: 8/31/2020



**Exhibit A**

**Description of the Land**

**252.00 acres**, more or less, being portions of Tax Parcels 044-00-00-011.00, 043-00-00-026.00 and 043-00-00-025.00, Simpson County, Kentucky, as shown in the first plat below, less and accept an 8.01 acre area as shown in the second plat below.



LANDLORD INITIAL

*YJ*

DATE

*8/31/2020*

LANDLORD INITIAL

*CL*

DATE

*8/31/2020*

TENANT INITIAL \_\_\_\_\_ DATE \_\_\_\_\_

**GROUND LEASE AGREEMENT**  
**BASIC LEASE TERMS SUMMARY**

<b>Effective Date</b>	The date that this Lease has been fully executed by both Landlord and Tenant as reflected on the signature page(s).
<b>Landlord</b>	Roger D. Hoffman
<b>Tenant</b>	Horus Kentucky 1, LLC
<b>Land</b>	Up to 307.35 acres, plus or minus, of real property located in Simpson County (the " <b>County</b> "), Kentucky with parcel ID number(s): <b>044-00-00-012.00</b> , as approximately depicted on <u>Exhibit A</u> attached hereto. <b>Tenant will lease no less than 289.00 acres.</b>
<b>Initial Diligence Period</b> (See <u>Section 3</u> )	
<b>Initial Diligence Period Fee</b> (See <u>Section 3</u> )	
<b>Extended Diligence Periods</b> (See <u>Section 3</u> )	
<b>Extended Diligence Periods Fees</b> (See <u>Section 3</u> )	
<b>Initial Term</b> ( <u>Section 4</u> )	
<b>Renewal Terms</b> ( <u>Section 4</u> )	
<b>Rent</b> ( <u>Section 7</u> )	
<b>Rent Escalation Percentage</b> ( <u>Section 7</u> )	
<b>Intended Use</b> ( <u>Section 11</u> )	The construction and operation of a solar photovoltaic array (the " <b>System</b> ") for the generation, storage and distribution of electric power.

<b>Landlord's Notice Address</b> ( <u>Section 19</u> )	[**]
<b>Tenant's Notice Address</b> ( <u>Section 19</u> )	Horus Renewables Corp 615 South College Street, 10 <sup>th</sup> Floor Charlotte, NC 28202 c/o Logan Stephens

## **GROUND LEASE AGREEMENT**

THIS GROUND LEASE AGREEMENT (this "**Lease**") is made and entered into by and between Landlord and Tenant, effective as of the Effective Date.

NOW THEREFORE, in consideration of the amounts to be paid to Landlord by Tenant and the other mutual covenants promises and covenants set forth herein, the receipt and sufficiency of which is hereby conclusively established, Landlord and Tenant hereby agree as follows:

1. **Basic Lease Terms Summary.** References in the body of this Lease to a portion of the Basic Lease Terms Summary (e.g., the defined terms in the left-hand column of the Basic Lease Terms Summary) shall be deemed and construed to incorporate all the terms provided under each such referenced portion of the Basic Lease Terms Summary. References in the Basic Lease Terms Summary to a portion of the body of this Lease (e.g., Section references in the left-hand column of the Basic Lease Terms Summary) shall be deemed and construed to incorporate all the terms provided under each such referenced portion of the body of the Lease. Notwithstanding anything set forth above, if there is any inconsistency between the Basic Lease Terms Summary and another portion of this Lease, the terms of the Basic Lease Terms Summary shall control.

2. **Leased Premises.**

(a) Landlord hereby agrees to lease the Premises (as defined in Section 2(b) below) to Tenant, and Tenant hereby agrees to lease the Premises from Landlord, upon the terms and subject to the conditions set forth herein.

(b) The "**Premises**" as used herein shall be an area comprised of all or part of the Land (such area to be determined in accordance with this Section 2), together with all personal property, improvements and fixtures located on the Land and all other appurtenances, tenements, hereditaments, rights and easements pertaining to the Land. Landlord acknowledges and agrees that the exact size, shape and location of the area of the Land that will comprise the Premises (the "**Lease Boundary Line**") has not yet been determined, and any maps or depictions which Tenant has shown or will show to Landlord (including, without limitation, Exhibit A attached hereto) are approximations only and are subject to change. During the Diligence Period (as defined in Section 3(b) below), Tenant shall assess the Land to determine the most suitable location for the System, and Tenant shall establish the final Lease Boundary Line in accordance with Section 2(c) below. Until the final Lease Boundary Line is established, any reference to the Premises herein shall be deemed to include the entirety of the Land.

Within thirty (30) days following the Construction Commencement Date (as defined in Section 4(a) below), Tenant shall obtain and deliver to Landlord an ALTA survey (the "**Survey**"), which shall set forth and conclusively establish (1) the metes and bounds legal description of the Lease Boundary Line, and (2) the net acreage (the "**Acreage**", and each such acre, an "**Acre**") of the Premises, being the total Acreage located within the Lease Boundary Line. The parties agree that (A) the Lease Boundary Line and Acreage set forth in the Survey shall be incorporated into this Lease as if fully set forth herein without amendment to this Lease, and (B) the Acreage set forth in the Survey shall be the Acreage used for purposes of computing Rent. Landlord acknowledges and agrees that the final Acreage of the Premises as established by the Survey may be less than the approximate acreage of the Land set forth in the Basic Lease Terms Summary, which would have the effect of reducing the Rent payable under this Lease. If requested by Tenant, Landlord shall provide written consent to the foregoing or an amendment to this Lease expressly incorporating the Survey into this Lease as provided in this Section 2(c). **In the event Tenant damages any crops through such investigations or testing then it shall reimburse Landlord for the fair market value of any such damages, so long as such damage is not the result of Landlord's acts or omissions.**

(c)

3. **Diligence Period.**

(a) The Initial Diligence Period shall commence on the Effective Date. Within thirty (30) days after the Effective Date, Tenant shall pay to Landlord the Initial Diligence Period Fee. Landlord and Tenant acknowledge and agree that the Initial Diligence Period Fee (and the Extended Diligence Period Fee, if applicable) have been bargained for and agreed to as consideration for the Diligence Period (as defined below), Tenant's right to terminate this Lease pursuant to Section 3(f), and for Landlord's execution and delivery of this Lease. Such consideration is in addition to and independent of all other consideration provided in this Lease and is nonrefundable in all events.

(b) Tenant may elect to extend the Initial Diligence Period by one or more Extended Diligence Periods by providing written notice to Landlord prior to the expiration of the previous Initial Diligence Period or Extended Diligence Period, and paying to Landlord the applicable Extended Diligence Period Fee within thirty (30) days after the expiration of the previous Initial Diligence Period or Extended Diligence Period. If Tenant does not elect to exercise an Extended Diligence Period, the applicable Extended Diligence Period Fee shall not be payable to Landlord. If Tenant has exercised an Extended Diligence Period and the Rent Commencement Date (as defined in Section 6(a)) occurs prior to the end of an Extended Diligence Period, any unamortized portion of the Extended Diligence Period Fee shall be applied against the initial Rent payment. The Initial Diligence Period and the Extended Diligence Periods, if exercised, shall be collectively referred to as the "**Diligence Period**".

(c) During the Diligence Period, Tenant (and its agents, representatives, consultants and affiliates) shall be permitted access to the Premises at reasonable times and upon reasonable notice to Landlord, for purposes of conducting (at Tenant's expense) any and all investigations or testing of the Premises as Tenant may deem necessary, appropriate or convenient, including without limitation, the surveying or investigation of environmental, soils, biological, cultural, historical, boundary or geotechnical matters. Tenant is hereby authorized to undertake direct discussions and/or negotiations with any governmental entity or other agency, body or organization that has jurisdiction over the Premises (including, without limitation, any city, county state or federal agency) in regards to the Premises and the Intended Use.

(d) Landlord shall provide to Tenant any of the following in Landlord's possession or control, within five (5) days following the Effective Date: (1) any notice of violation of any law or regulation, including zoning laws applicable to the Premises, (2) any "Phase I" and other environmental assessment reports regarding the Premises, (3) Landlord's most recent survey and title insurance policy relating to the Premises, (4) any governmental permits, licenses or approvals for the Premises, (5) tax bills, contracts and agreements relating to the Premises, and (6) any other surveys, physical condition reports, notices regarding zoning or government action with respect to the Premises.

(e) Landlord acknowledges that Tenant may obtain, at Tenant's expense, a title insurance policy insuring Tenant's leasehold interest in the Premises. Landlord agrees to reasonably assist Tenant in obtaining such title policy by supplying any information reasonably requested by the title insurance company in connection with issuing such title policy.

(f) During the Diligence Period, Tenant may terminate the Lease, for any reason or no reason, exercisable upon written notice from Tenant to Landlord of its election to terminate delivered on or before the expiration of the Diligence Period (as may be extended pursuant to Section 3(b) above), in which event Landlord and Tenant shall have no further rights or obligations under this Lease except as otherwise expressly provided in this Lease.

#### 4. **Lease Term.**

(a)



#### 5. **Termination of Lease.**

(a) Tenant shall have the right to terminate this Lease as to all or any part of the Premises as follows: (i) as of the last day of the one hundred eighty sixth (186th) month of the Initial Term (the "**Interim Termination Deadline**"), exercisable upon written notice to Landlord given prior to the Interim Termination Deadline, (ii) pursuant to the failure of any condition described in Section 5(b) below, or (iii) after the expiration of the Diligence Period but prior to the construction and commercial operation of the System, upon Tenant's determination that it would not be commercially reasonable to proceed with the construction and operation of the System; *provided*, that if Tenant so terminates pursuant to this clause (iii) after the occurrence of the Rent Commencement Date, then such termination shall be effective as of the date that Tenant pays to Landlord a termination fee equal to the unpaid balance of the total Rent that would otherwise be due for the first twelve months following the Rent Commencement Date. If this Lease is terminated as to only a portion of the Premises, this Lease shall remain in effect as to the remainder of the Premises.

(b) Tenant's obligation to pay Rent and continue this Lease is at all times expressly subject to satisfaction of each of the following conditions: (i) Tenant's obtaining and maintaining all necessary or required approvals from state; federal and local authorities, (ii) Tenant's obtaining and maintaining any agreement that is necessary for the operation of the System and the sale and delivery of the electricity generated by it, including without limitation an interconnection agreement and power purchase agreement with the applicable utility company, and (iii) Tenant's ability to continuously operate the System and utilize the Premises for the Intended Use. If any of the foregoing conditions are not satisfied at any time following the Effective Date, Tenant shall have the right to terminate this Lease upon written notice to Landlord.

#### **6. Rent Commencement.**

(a) Tenant's obligation to pay Rent shall commence on the earlier of: (i) the expiration of the Diligence Period (as may be extended pursuant to Section 3(b) above) or (ii) the Construction Commencement Date (the earlier of such dates, the "**Rent Commencement Date**"). For the avoidance of doubt, the Construction Commencement Date shall not be deemed to have occurred as a result of (and the Rent Commencement Date shall not be triggered by): (1) Tenant's due diligence activities on the Premises (including, without limitation, any surveying, soil or environmental testing or similar work) or (2) any work performed by or on behalf of the servicing utility company. Upon the occurrence of the Rent Commencement Date, Tenant shall send a written notice to Landlord confirming the occurrence of the Rent Commencement Date.

(b) Landlord shall furnish Tenant with a signed, completed form W-9 within twenty (20) business days following the Effective Date and thereafter within ten (10) days of any event causing a change in any of the information set forth in the previously-delivered W-9, including any transfer or assignment of the Landlord's interest in the Lease. Tenant shall be entitled to delay delivery of Rent or any other payment due under this Lease, including the Initial Diligence Period Fee, until it receives such W-9.

#### **7. Rent; Payment Schedule; Rent Escalation.**

(a) Rent shall be payable in advance in semi-annual installments due on each January 15 and July 15 during the Term (each, a "**Rent Payment Date**"); provided, that the first installment of Rent shall be due on the Rent Commencement Date and shall be prorated, on a daily basis, for the period between the Rent Commencement Date and the first Rent Payment Date. If Tenant elects to terminate this Lease prior to the Rent Commencement Date in accordance with the terms of this Lease, no Rent shall be due or payable.

(b) Beginning on the fifth (5th) anniversary of the first Rent Payment Date, and for each anniversary thereafter, the annual Rent shall increase over the annual Rent payable for the immediately preceding year by the Rent Escalation Percentage.

(c) If any overdue installment of rent is not received by Landlord within ten (10) days after Landlord provides Tenant written notice of the delinquency, Tenant will pay a late fee to Landlord in the amount of five percent (5%) of the unpaid delinquent rent amount, and Tenant shall pay interest of 1.5% per month on the unpaid balance due from the date of Landlord's notice until the principle and the interest is paid in full.

(d) If the Rent Commencement Date occurs prior to the establishment of the Lease Boundary Line pursuant to Section 2 above, then the Rent payable on and after the Rent Commencement Date until the date that the Lease Boundary Line is established (such period, the "**Interim Rent Period**") shall be computed based on the approximate acreage of the Land set forth in the Basic Lease Terms Summary above. Once the Lease Boundary

Line is established, the Rent payable on and after such date shall be computed based on the final Acreage set forth in the Survey (and the Rent shall be increased or decreased accordingly). If the Rent is increased as a result of an increase in the final Acreage as set forth in the Survey, Tenant shall make a one-time payment to Landlord on the next Rent Payment Date equal to the difference between (i) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey, *minus* (ii) the amount of Rent actually paid during the Interim Rent Period. If the Rent is decreased as a result of a decrease in the final Acreage as set forth in the Survey, Tenant shall deduct from the next Rent payment owing to Landlord an amount equal to the difference between (i) the amount of Rent actually paid during the Interim Rent Period, *minus* (ii) the amount of Rent which would have been payable during the Interim Rent Period if computed based on the final Acreage set forth in the Survey.

(e) For purposes of clarification only, Tenant and Landlord acknowledge and agree that Rent shall be determined in accordance with this Section 7 during the entire Term of the Lease, including any Renewal Term.

8. **Utilities; Maintenance.** During the Term, (a) Tenant shall arrange and pay for all public utility services used on the Premises by Tenant, and (b) Tenant shall be responsible for the repair and maintenance of the entire Premises, including any portion of the Premises located outside of the proposed fenced area.

9. **Crops.**

10. **Tenant's Property.**

(a) The System and its constituent parts, together with any and all improvements or other features constructed on, or personal property installed or placed on the Premises by or for Tenant, including without limitation, machinery, fixtures, trade fixtures, equipment, racking, inverters, cables, solar panels and other personal property (collectively, "**Tenant's Property**") are personal property within the meaning of Article 9 of the UCC (as defined in Section 45 below) regardless of the manner of attachment to the Premises. Tenant's Property is and shall at all times during the Term be deemed to be the property of Tenant (subject to any Transfer in accordance with Section 26(a)), to be removed at Tenant's expense upon the expiration or earlier termination of the Term in accordance with Section 13. The creation, attachment and perfection of security interests in Tenant's Property shall be governed exclusively by Article 9 of the UCC. For the avoidance of doubt and without limiting the foregoing, Landlord hereby waives all rights to distraint, possession or landlord's lien against Tenant's Property, if any, and shall not cause the creation of, or attachment to, Tenant's Property of any liens (including mechanics' and judgment liens) or other encumbrances. For the avoidance of doubt, Landlord is not responsible for payment of any Taxes assessed on Tenant's Property.

(b) The parties hereto acknowledge that the Premises consist of land only and do not include Tenant's Property. Any claim to a lien or encumbrance upon the Premises, arising from any act or omission of Landlord, shall accrue only against the real estate owned by Landlord, and not against Tenant's Property, and shall be subject to this Lease. If any such lien or encumbrance shall be filed against Tenant's Property as a result of Landlord's actions, Landlord shall, without cost or expense to Tenant, promptly and within a reasonable time cause such lien or encumbrance to be discharged of record by payment, statutory lien release bond, court order or otherwise as provided by law. Landlord shall not permit any sale, foreclosure or forfeiture of the Premises by reason of nonpayment of a lien caused by Landlord or anyone claiming by or through Landlord. Landlord shall immediately notify Tenant of, and send Tenant a copy of, any notice Landlord receives claiming that Landlord is late or in default regarding any obligation Landlord has to pay money to any lender or third party holding a mortgage or other lien affecting the Premises.

11. **Use and Occupancy.** Tenant shall use the Premises for the Intended Use (including all lawful uses that are incidental to, or not inconsistent with the Intended Use) and/or any other lawful use.

12. **Sunlight.**

(a) Landlord acknowledges and agrees that access to sunlight ("Sunlight") is essential to the value to Tenant of the rights granted in this Lease and is a material inducement to Tenant in entering into this Lease. Landlord hereby grants and conveys to Tenant, its successors or assigns, for the Term an exclusive easement to open and unobstructed access to the sun for Solar Operations on the Leased Premises and to ensure adequate exposure of the Solar Operation to the sun.

(b) Landlord hereby grants and conveys to Tenant an exclusive easement prohibiting any obstruction to the open and unobstructed access to the sun (together with the preceding sentence, the "Solar Easement") throughout the entire Premises to and for the benefit of the area existing horizontally three hundred and sixty degrees (360°) from any point where any Solar Operation is or may be located at any time from time to time and for a distance from the boundaries of the Leased Premises, together vertically through all space located above the surface of the Leased Premises, that is, one hundred eighty degrees (180°) or such greater number or numbers of degrees as may be necessary to extend from each point on and along a line drawn along the surface from each point along the exterior boundary of the Leased Premises and along such line to the opposite exterior boundary of the Premises.

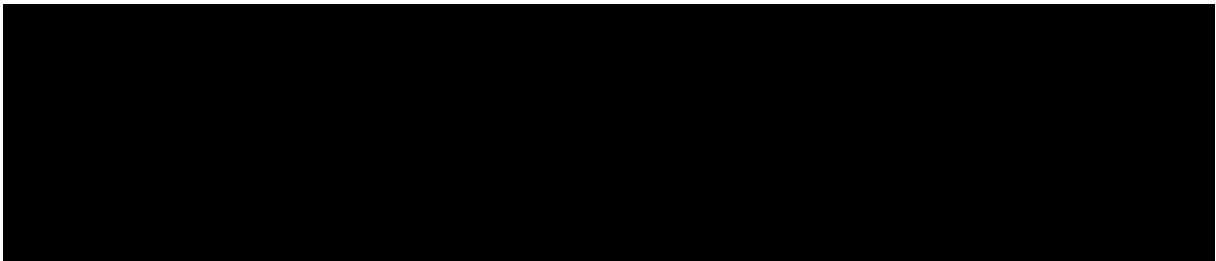
(c) Landlord shall not permit others to engage in activities on the Property or any adjacent parcel of land owned or controlled by Landlord (the "Adjacent Property") that could adversely affect Sunlight, including but not limited to the construction of any structures, or allow the growth of foliage.

(d) If Landlord becomes aware of any potential activity on the Property or any Adjacent Property that could diminish the Sunlight at the Leased Premises, Landlord shall use its best efforts both to timely advise Tenant of such information and with respect to the Property or any Adjacent Property to reasonably cooperate with Tenant in taking measures to preserve the levels of Sunlight at the Leased Premises, which exist as of the date of this Lease. Tenant shall be entitled to seek all remedies available at law and in equity, including but not limited to, specific performance, to compel compliance with this Section.

(e) For clarification purposes, if the Landlord does not own any Adjacent Property, then any provisions in this Lease with respect to "Adjacent Property" shall not apply.

13. **Alterations and Construction Rights.** Tenant may, at its expense and without the consent of Landlord, remove and/or alter any existing improvements on the Premises, and make any alterations, additions, improvements and changes to the Premises that Tenant deems reasonably necessary in the operation of its business and the Intended Use, including, without limitation, installation of the System, fencing, security devices and/or signage, and excavating, grading, leveling or otherwise modifying the Land; provided, that such alterations, additions, improvements and changes are made in compliance with applicable laws. Landlord shall sign and deliver all applications and other documents, and shall take all such other actions, as are reasonably requested by Tenant in connection with obtaining any re-zonings, variances or other approvals as Tenant shall deem necessary or desirable in connection with the operation of the Premises.

14. **End of Term.**





(b) **Decommissioning Security.** Tenant shall provide project decommissioning security in the form of a Letter of Credit, Surety Bond or similar instrument with a credit worthy financial institution or insurance provider in a form reasonably acceptable to Landlord in an amount equal to \$ 50,000.00 (fifty thousand dollars) on or before the beginning of the Term, and said instrument will be maintained until the removal of the Project infrastructure, as accorded in Article 14.a., is complete. In the event of a failure by the Tenant to remove all equipment and return the Project Site to good condition as outlined in Article 14.a., Landlord may draw against the instrument to return the Project site to the condition required in Article 14.a. and to pay any unpaid rent as required therein. Nothing in this paragraph will release the Tenant from its obligation to return the property in the condition required in Article 14.a.

**15. Taxes.**

(a) During the Term, Tenant shall pay Tenant's Portion (calculated in accordance with this Section 15(a)) of the Tax Bill, applicable to each tax year or part thereof which falls within the Term. Landlord shall provide Tenant with copies of all invoices, bills and notices (collectively, "Tax Bills") regarding all real estate and ad valorem taxes and assessments imposed or levied on the Premises by any applicable government taxing authority (each, a "Tax", and collectively, "Taxes"), within thirty (30) days of Landlord's receipt of any such Tax Bill. Tenant shall remit payment directly to the taxing authority for any Tax Bill that Tenant receives; provided, that if the Premises are comprised of less than 100% of a larger tax parcel ("Larger Parcel"), Tenant shall pay the portion of the Tax Bill allocable to the Premises (such portion, "Tenant's Portion"), which portion shall bear the same relationship to the total Tax Bill as the Premises bears to the Larger Parcel. Once the Lease Boundary Line is established, the parties shall confirm Tenant's Portion in a written confirmation. Without limiting the foregoing, Tenant shall have the right, but not the obligation, at any time during the Term to pay the entire Tax Bill on Landlord's behalf and deduct any amounts not attributable to Tenant's Portion from future installment payments of Rent.

(b) Without limiting Section 15(a), if Tenant's use of the Premises results in the revocation of a classification of the Premises as "agricultural land", "forestry land" or similar classification, thereby triggering liability for "rollback" taxes, Tenant shall pay Tenant's Portion of such rollback tax liability, together with any related interest or penalties, other than interest and/or penalties arising from Landlord's failure to timely provide Tenant with a copy of such Tax Bill.

(c) Upon Tenant's reasonable request, Landlord shall take such reasonable actions and do such things as necessary or desirable to facilitate any action by Tenant to contest any Tax Bill or the assessed value of the property on which they are levied, or to otherwise seek the abatement of Taxes applicable to the Premises, or to seek the separate assessment of the Premises as a distinct tax parcel if the Premises are included within a Larger Parcel. Tenant shall have the right, but not the obligation to pursue any such action.

(d) Notwithstanding anything contained in this Lease, (1) Tenant shall not be under any obligation to pay any part of any franchise, excise, estate, inheritance, income or similar tax which is or may become payable by Landlord or which may be imposed against Landlord or against the Rent payable under this Lease or upon the income or profits of Landlord by reason of any law now in force or later enacted, and (2) in the event the Premises are re-assessed for tax purposes because of transfer of ownership of the Land during the Term of this Lease, Tenant shall not be responsible for payment of any increase in taxes, charges and assessments attributable to such re-assessment, which increase shall be the sole responsibility of Landlord.

**16. Fire or Other Casualty.** If during the Term, all or part of the Premises or Tenant's Property are damaged by fire, wind, flood, earthquake or other casualty, with the result that, in Tenant's sole discretion, it would not be commercially or economically reasonable or desirable to repair and restore the Premises and/or Tenant's Property, as applicable, then Tenant may terminate this Lease by providing Landlord with written notice of the same and vacating the Premises in compliance with Section 14 hereof. Tenant, or its successor in interest, shall be entitled to 100% of any proceeds from casualty insurance policies maintained by Tenant.

**17. Condemnation.**

(a) If all or part of the Premises and/or Tenant's Property shall be subject to condemnation,

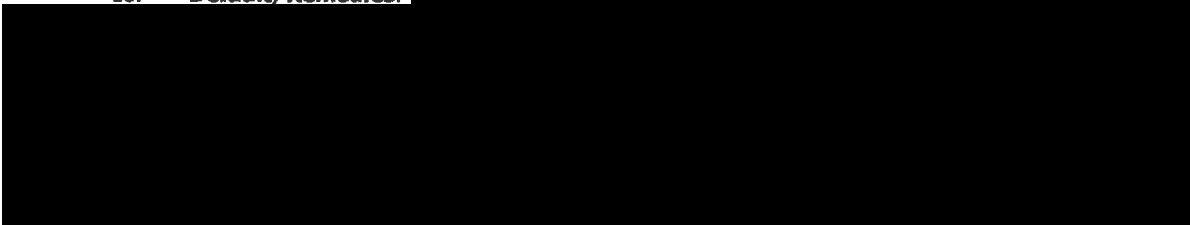
the exercise of the power of eminent domain, or other governmental taking (the foregoing, collectively, a "**Taking**") with the result that, in Tenant's sole and absolute discretion, the unaffected portion of the Premises is insufficient or otherwise unsuitable for Tenant's continued use of the Property for the Intended Use or such other use as existed at the time of the Taking (a "**Total Taking**"), then Tenant may terminate this Lease by providing Landlord with written notice of the Total Taking, the Lease shall terminate effective as of the date set forth in such notice, and Tenant shall vacate the Premises in accordance with Section 14.

(b) If all or part of the Premises and/or Tenant's Property shall be subject to a Taking that, in Tenant's sole determination, does not constitute a Total Taking (a "**Partial Taking**") then (i) concurrently with such Taking this Lease shall terminate with respect to the affected portion of the Premises, which Tenant shall vacate in accordance with Section 13, (ii) this Lease shall continue in full force and effect with respect to the unaffected portion of the Premises and (iii) the Acreage shall be reduced for each Acre (or portion thereof) subject to the Taking, and the Rent shall be reduced accordingly. For purposes of clarification only, Tenant shall be entitled to remove Tenant's Property from any portion of the Premises that is subject to a Taking.

(c) Tenant shall have the right but not the obligation to participate in any proceedings with respect to a Taking; in such event Landlord shall cooperate with Tenant to facilitate such participation. Neither Landlord nor Tenant shall enter voluntarily into any binding agreement or settlement related to a Taking without the prior consent of the other party, which consent shall not be unreasonably withheld, conditioned or delayed.

(d) The proceeds of any Taking shall be apportioned as between Landlord and Tenant as follows: Landlord shall receive an amount equal to the fair market value of the Land subject to the Taking and calculated with reference to the value of the Land for agricultural use, but not the improvements constructed or placed by Tenant thereon, and Tenant shall receive such amounts as are necessary to compensate Tenant for the loss of use of the Premises so Taken, including any improvements constructed or placed by Tenant on the Land, and the loss or interruption of Tenant's business and the cost of any restoration or repair necessitated by such Taking, including consequential losses. If after giving effect to the foregoing there remain any un-apportioned proceeds, they will be equitably apportioned as between Landlord and Tenant. Notwithstanding the foregoing, however, in the event Tenant exercises its right to terminate this Lease under this Section 16, then Tenant shall first receive all condemnation proceeds until Tenant has received an amount equal to the appraised value of the System prior to the Taking.

#### 18. **Default; Remedies.**



19. **Indemnifications.** To the extent permitted by law, Landlord shall indemnify, defend and hold Tenant harmless for, from and against any and all damages or claims caused by Landlord's negligence or willful misconduct, or Landlord's breach of this Lease, that Tenant may be compelled to pay or defend in connection with this Lease or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the actions or omissions of Tenant or any of Tenant's agents or employees. To the extent permitted by law, Tenant agrees to indemnify, defend and hold Landlord harmless for, from and against any and all damages or claims caused by Tenant's negligence or willful misconduct, or Tenant's breach of this Lease, that Landlord may be compelled to pay or defend in connection with this Lease or Tenant's use of the Premises, except to the extent such damages or claims are directly attributable to the actions or omissions of Landlord or any of Landlord's agents or employees.

20. **Notices.** All notices, elections, demands, requests, and other communications hereunder shall be in writing, signed by the party making the same and shall be sent by certified or registered United States mail, postage prepaid, or by national overnight courier service which provides tracking and acknowledgement of receipts, or by email or facsimile transmission, addressed to the party to be served at the address indicated in the Basic Lease Terms Summary above or at such other address as may hereafter be designated in writing by either party hereto, or by any other method if actually received. The time and date on which mail is postmarked shall be the time and date on which such communication is deemed to have been given.

21. **Easements.** Landlord hereby irrevocably grants and conveys to Tenant, its successors or assigns, during the Term of this Lease (a) an easement for light, solar energy resources, access (including vehicular and pedestrian ingress and egress) and utility access over, under and across all property owned by Landlord which is adjacent to or in the vicinity of the Premises as reasonably necessary for Tenant's conduct of the Intended Use on the Premises and to access the Premises, (b) an easement for any and all encroachments of Tenant's Property onto Landlord's adjacent property, and (c) an easement over, under and across the Landlord's adjacent property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Intended Use of the Premises. Without limiting the foregoing, Landlord agrees to execute and deliver any separate easement agreements for the benefit of Tenant, its successors or assigns, and the Premises as Tenant or the utility to which the System is interconnected (the "**Utility**") may reasonably request to facilitate the construction, operation and removal of the System, or otherwise in connection with Tenant's use of the Premises during the Term (collectively, the "**Easements**"). Landlord and Tenant (and the Utility, as applicable) shall in good faith establish the location and terms of such Easements within twenty (20) days of the request therefor, and any such Easements shall be confirmed in writing, signed by the parties and recorded in the County records against the Land and/or any property adjacent to or in the vicinity of the Premises and shall run with the Lease and inure to the benefit of Tenant (or the Utility, as applicable) and its transferees, successors and assigns hereunder, including any Additional Notice Party.

22. **Non-Disturbance Agreement.** Upon Tenant's request, Landlord shall execute, and shall use commercially reasonable efforts to cause any current beneficiaries of any mortgages/deeds of trust, or any other parties with rights in, or interests secured by Landlord's interest in, the Land or any other property owned by Landlord which is subject to an easement benefiting Tenant (collectively, "**Landlord's Land**"), to enter into an agreement with Tenant confirming that such party subordinates its rights or interests in Landlord's Land to this Lease, or solely with respect to current beneficiaries of any mortgages/deeds of trust or other parties with a security interest in Landlord's Land, that such party will not disturb or extinguish Tenant's interest in Landlord's Land and in this Lease. Such agreement shall be in form and substance reasonably agreeable to Tenant and any Additional Notice Party (defined in Section 28). If Tenant and Landlord are unable to obtain such agreements from any third party holding an interest in Landlord's Land, Tenant shall be entitled (but not obligated) to make payments or performance in fulfillment of Landlord's obligations to such third party and may offset the amount of such payments or performance from amounts due Landlord under this Lease; provided, that if such obligations cannot be satisfied by the payment of money or performance by Tenant, Tenant shall have the right to immediately terminate this Lease.

23. **Landlord's Representations and Warranties.**

(a) Landlord hereby represents and warrants to Tenant that: (a) Landlord owns the Land in fee simple, and has all requisite right, power and authority to enter into this Lease, without the consent or joinder of any party not joining in the execution hereof (including spouses); (b) the execution of this Lease will not constitute a violation of nor be in conflict with nor constitute a default under any term or provision of any agreement or instrument to which Landlord is a party or by which the Premises or any part thereof is bound; (c) no hazardous or toxic substances have been released or manufactured, or are present on the Premises in amounts in excess of the lawful limit absent a permit, and no underground storage tanks (whether or not abandoned) exist on or under the Premises; (d) Landlord has not received any notice of any pending or threatened Taking, zoning change or legal, regulatory or other noncompliance relating to the Premises, or of any possible widening of the streets abutting the Premises; (e) Landlord has not received any notice of proposed curtailment of utility services to the Premises; (f) the Premises are free from any recorded or unrecorded use or occupancy restrictions or declarations of restrictive covenants, and there are no existing liens, mortgages, or deeds of trust encumbering all or any part of the Premises; (g) there are no service or maintenance contracts affecting the Premises; (h) there are no delinquent or outstanding Taxes, liens or other impositions levied or assessed against the Premises or any larger parcel of property of which the Premises is a part; (i) except for this Lease, there are no leases, options to purchase, license agreements or other third party rights to use or possess the Premises, whether written or oral, recorded or unrecorded; (j) Landlord is not in the hands of a receiver nor is an application for such a receiver pending, nor has Landlord made an assignment for the benefit of creditors, nor filed, or had filed against it, any petition in bankruptcy nor is Landlord a defendant in any ongoing or pending litigation proceedings; (k) if Landlord is a limited partnership, trust, limited liability company, corporation or other business entity, Landlord is in good standing under the laws of the state of its incorporation and the state in which the Premises are located, and the undersigned representatives of Landlord have full power and authority to execute and deliver this Lease; (l) if Landlord is one or more natural persons, except for the spouse identified on the signature page to this Lease, such natural persons are unmarried, (m) there is no underground septic system or leach field located upon the Land; (n) there are no wells, dry wells, exploration wells or monitoring wells on the Land; (o) no person or

entity has buried any refuse, construction materials, garbage or any other matter of any kind or nature below the surface of the Land, (p) the Land does not support or affect any endangered species and is not within an area that is subject to any "environmentally sensitive" or "non-disturbance" designation under any law or zoning ordinance, and (q) no portion of the Land includes any archeological site, burial site, artifact or other condition of archeological, tribal or historical significance.

(b) The provisions of this Section 23 will survive the termination or expiration of this Lease. All of Landlord's representations and warranties contained in this Lease shall be true as of the Effective Date and shall be subject to any state of facts arising during the Term of this Lease without the direct or indirect, active or passive, involvement of Landlord.

#### **24. Insurance.**

(a) During the Term, Tenant shall maintain, at Tenant's cost and expense, a policy or policies of insurance providing Commercial General Liability Insurance for Tenant's liability arising out of claims for bodily injury (including death) and property damage.

(b) Upon Landlord's request, Tenant will promptly furnish Landlord with certificates of insurance evidencing the insurance required to be maintained under Section 24(a).

**25. Landlord Covenants.** From and after the Effective Date until the expiration or earlier termination of the Term:

(a) Landlord shall not, without the prior written consent of Tenant, (i) institute or consent to any rezoning of the Premises; (ii) further encumber or suffer to exist the further encumbrance or Transfer of the Premises (except as caused by or on behalf of Tenant) except in accordance with Section 25 of this Lease; (iii) cause or permit any activities or conditions that would impair operation of the System (including, without limitation, by erecting or permitting to be erected any cell towers, water towers, billboards, silos, trees or any other natural or man-made structures to be placed, constructed, or to otherwise exist on any property owned or controlled by Landlord that may diminish the quantity of sunlight that otherwise would reach the Premises or that may cause shade or shadows upon the Premises or any portion thereof, and Landlord shall not emit or permit the emission of suspended particulate matter, smoke, fog or steam or other air-borne impediments to insolation on the Premises, or burn or permit the burning of garbage, plant, shrub, and yard trimmings or other vegetation that could adversely affect insolation levels on the Premises), and, upon written notice from Tenant, Landlord shall promptly remove any existing uses or improvements on any property adjacent to or in the vicinity of the Premises which Tenant reasonably determines will impair Tenant's use of the Premises; (iv) cause or permit the violation of any applicable laws, rules, regulations or ordinances applicable to the Premises; or (v) commence (or have commenced against it) any voluntary or involuntarily proceedings in bankruptcy, insolvency or similar proceedings with respect to Landlord.

(b) Landlord shall promptly give Tenant a copy of any notice of any kind received by Landlord regarding the Premises or any Taxes.

(c) Landlord shall comply with and perform all of its covenants, agreements and obligations to third parties, including, but not limited to, payment of government property taxes and assessments (to the extent required under this Lease), and payment and performance of any mortgage or other financing obligations owed to lenders, which affect or relate to the Premises.

**26. Memorandum of Lease.** This Lease shall not be recorded; however, within five (5) days following Tenant's request, Landlord and Tenant shall execute a memorandum of this Lease in recordable form, setting forth the following provisions of this Lease, including, without limitation: (a) all information required by law, (b) restrictions on Transfers, (c) any unexercised Renewal Term options, (d) rights of first offer or of first refusal of Tenant with respect to the Land, (e) Tenant's Exclusivity Right as set forth in Section 41, (f) the easement rights granted to Tenant hereunder, and (g) such other provisions of this Lease as the parties may mutually agree to incorporate therein. Tenant shall cause the memorandum of lease to be recorded in the County records against the Land and any other property of Landlord (if applicable).

**27. Assignments; Mortgages; Transfers.** This Lease shall be binding upon and inure to the benefit of the parties hereto and their legal representatives, successors and assigns, subject to the following terms and

conditions:

(a) Tenant may assign this Lease, in whole or in part, or sublet the Premises, or any part thereof, without Landlord's prior consent; provided that Tenant shall notify Landlord within a reasonable time after such Transfer. If Tenant assigns its entire interest in this Lease to a party that expressly assumes in writing all obligations of Tenant under this Lease arising after the effective date of the assignment, Tenant shall be released or discharged from all of its covenants and obligations under this Lease, except such obligations as shall have accrued prior to the effective date of any such assignment or transfer, and Landlord agrees to look solely to Tenant's assignee for performance of such obligations.

(b) Landlord shall give Tenant at least thirty (30) days' prior notice of any Transfer (as defined in Section 28 below) by Landlord of its interest in the Land or in this Lease. In addition, any such Transfer shall be expressly subject to this Lease, and Landlord shall not transfer the fee interest in the Premises unless the assignee assumes all of Landlord's obligations under this Lease, any easements granted to Tenant (as applicable) and any consents granted to Tenant's lenders. For example, but without limiting the foregoing, the Lease shall remain prior in interest to any mortgage entered into by Landlord after the Effective Date. For Transfers pursuant to the death or disability of Landlord, Landlord's executor or successor in interest should endeavor to provide notice of such Transfer (or proceedings that will result in such a Transfer) to Tenant as promptly as possible under the circumstances. Landlord shall notify Tenant of the closing of such Transfer, and if applicable, the name and contact information of the successor to Landlord's interest hereunder and payment instructions for future payments of Rent and other amounts due under the Lease; provided, that Landlord shall indemnify Tenant for, from and against losses arising from Tenant's payment of Rent or other amounts as so directed.

28. **Third Party Protections.** Tenant may pledge, sell, grant and/or assign, sublease, mortgage and otherwise transfer (each, a "Transfer") this Lease or Tenant's leasehold interest in the Premises, in whole or in part, without Landlord's prior consent, in connection with the financing or re-financing of Tenant's Property. If Tenant shall notify Landlord in writing of the existence of, and contact information for, any third party (including, without limitation, any tax-credit equity providers) with a security interest or other interest in the Lease, whether via a collateral Transfer, mortgage, deed of trust or otherwise (any such third party, an "Additional Notice Party"), then the following provisions shall apply until such time as Landlord shall receive written confirmation that such Additional Notice Party's interests in this Lease, the System or the Premises are released:

(a) Without limiting Section 32, no assignment, amendment, election to terminate or other modification of this Lease shall be effective unless approved by the Additional Notice Party in writing. In the event Tenant acquires fee ownership of the Land, or in the event of Tenant's voluntary surrender of the leasehold estate, there shall be no merger of the leasehold estate created by this Lease with the fee without the prior written consent of the Additional Notice Party, which consent may be granted, conditioned or withheld in the Additional Notice Party's sole and absolute discretion.

(b) If any event of Default by Tenant remains uncured following the applicable cure period under Section 18, Landlord shall send written notice of such uncured Default to each Additional Notice Party at the address provided therefor, whereupon the Additional Notice Party shall have an additional thirty (30) days during which it may, in its sole discretion, cure such Default on Tenant's behalf. Landlord may not pursue any remedy for such Default unless it remains uncured following the expiration of such Additional Notice Party's thirty (30) day cure period. No notice shall be effective against an Additional Notice Party unless and until actually received by such Additional Notice Party.

(c) Neither the bankruptcy nor the insolvency of Tenant shall be grounds for terminating this Lease as long as the Rent and all other obligations of Tenant hereunder are paid or performed by or on behalf of Tenant or the Additional Notice Party in accordance with the terms of this Lease.

(d) Subject to Section 28(b), if this Lease is terminated pursuant to a Tenant Default, Landlord shall enter into a new lease with Additional Notice Party or its nominee on the same terms as set forth herein, and for a term equal to the then-unexpired portion of this Lease, with an option to extend for any then-remaining Renewal Term(s). Such new lease shall be effective as of the date of termination of this Lease. If more than one Additional Notice Party makes a request for a new lease pursuant hereto, the new lease shall be delivered to the Additional Notice Party with a security interest in this Lease which is prior in lien, and the request of any Additional Notice Party without a security interest in this Lease or whose lien is subordinate shall be void and of no further force or effect.

(e) If this Lease is terminated pursuant to a rejection in bankruptcy or other similar proceeding with respect to Landlord, then Landlord, or its successor in interest to the Land, if any, shall enter into a new lease with Tenant on substantially the same terms as this Lease and for the then otherwise unexpired portion of the Term. Such new lease shall be effective as of the date of termination of this Lease.

(f) An Additional Notice Party shall have the right, subject to the terms and conditions of this Lease: (a) to assign its security interest; (b) to enforce its lien and acquire title to the leasehold estate by any lawful means; (c) to take possession of and operate the Tenant's Property, the leasehold estate or any portion thereof and to perform all obligations to be performed by Tenant hereunder, or to cause a receiver to be appointed to do so; and (d) to acquire the leasehold estate by foreclosure or by an assignment in lieu of foreclosure and thereafter to assign or transfer the leasehold estate to a third party. Landlord's consent shall not be required for the acquisition of the encumbered leasehold estate or subleasehold estate by a third party who acquires the same by or subsequent to foreclosure or assignment in lieu of foreclosure. During any period of possession of the Premises by an Additional Notice Party (or a receiver requested by such Additional Notice Party) and/or during the pendency of any foreclosure proceedings instituted by an Additional Notice Party, the Additional Notice Party shall pay or cause to be paid all other monetary charges payable by Tenant hereunder which have accrued and are unpaid at the commencement of said period and those which accrue thereafter during said period. Following acquisition of Tenant's leasehold estate by the Additional Notice Party or its assignee or designee as a result of either foreclosure or acceptance of an assignment in lieu of foreclosure, or by a purchaser at a foreclosure sale and subject to the provisions of this Section 28(f), this Lease shall continue in full force and effect and the Additional Notice Party or party acquiring title to Tenant's leasehold estate shall, within thirty (30) days, commence the cure of all defaults hereunder and thereafter diligently process such cure to completion.

(g) Subject to the terms and conditions hereof, Landlord hereby waives any lien, security interest, or claim of any nature that Landlord now has or may hereafter have by statute, rule, regulation, common law, agreement or otherwise, in and to Tenant's Property and other of Tenant's property that is or may be from time to time hereafter located at the Premises and/or the Landlord's adjacent property, if any, and to which Tenant at any time has granted or will grant a security interest to an Additional Notice Party (all such property and the records relating thereto shall be hereafter called the "Collateral"). Landlord recognizes and acknowledges that any claim or claims ("Claims") that an Additional Notice Party has or may have against such Collateral by virtue of any lien or security interest are superior to any lien, security interest, or claim of any nature that Landlord now has or may hereafter have to such Collateral by statute, rule, regulation, common law, agreement or otherwise. The waiver provided for herein shall be effective until the discharge of the Claims. Landlord further agrees to notify any purchaser of the Premises and/or the Landlord's adjacent property and any subsequent mortgagee or other encumbrance holder of the existence of the foregoing waiver of Landlord's lien rights, which shall be binding upon the executors, administrators, successors and transferees of Landlord, and shall inure to the benefit of the successors and assigns of any Additional Notice Party. Landlord hereby irrevocably agrees and consents to refrain from taking any action to bar, restrain or otherwise prevent an Additional Notice Party from the Premises for the purpose of inspecting the Collateral.

(h) Landlord agrees to execute and deliver such documents and instruments, including, without limitation, an amendment to this Lease, an amendment to any recorded memorandum of lease or a subordination agreement, as may be reasonably requested by an Additional Notice Party or in furtherance of a Transfer related to the financing or re-financing of the System, to allow such Additional Notice Party reasonable means to protect or preserve the System or its collateral interest in the Lease; provided, that Landlord shall not be required to amend this Lease in any way that would extend the Term, decrease the Rent or otherwise in any material respect adversely affect any rights of Landlord. Each party shall bear its own expenses, including legal expenses, in connection with any request for the execution and delivery of additional documents and instruments in accordance with this Section 28(h).

29. **Estoppel.** Upon the request of either party (or any Additional Notice Party), the non-requesting party shall deliver to the requesting party a certificate setting forth the material terms of the Lease, the existence of any Default under the Lease, the date through which Rent has been paid and any amounts on deposit with Landlord, the current Rent rate, and such other reasonable terms requested by the requesting party. The failure by the non-requesting party to respond to such request within fifteen (15) days shall constitute an event of Default, and in addition, shall result in the deemed acceptance, approval and confirmation of the truth of the matters set forth in the certificate sent with the original request.

30. **Brokerage Commission.** Except as pursuant to a separate agreement between Tenant and



Tenant's broker, if any, Landlord and Tenant each represent and warrant to the other that they have not dealt with any real estate agent or broker in connection with this transaction. Landlord and Tenant each hereby indemnify and save the other harmless from and against all losses, costs and expenses incurred by reason of a breach of such representation and warranty.

31. **Governing Law.** This Lease shall be construed and enforced in accordance with the laws of the State in which the Land is located, and any disputes arising from or relating to this Lease shall be construed, governed and interpreted and regulated under the laws of such State.

32. **Interpretation; Amendment.** The terms of this Lease shall not be amended, restated, changed or otherwise modified except in a writing signed by Landlord, Tenant and any Additional Notice Party. If any term or provision of this Lease shall to any extent be invalid or unenforceable, the remainder of this Lease shall not be affected thereby and each other term and provision of this Lease shall be valid and enforced to the fullest extent permitted by law.

33. **Integration; Anti-Merger.** This instrument, including the attached Exhibits, contains the complete agreement of the parties regarding the subject matter of this Lease, and there are no oral or written conditions, terms, understandings or other agreements pertaining thereto which have not been incorporated herein. This instrument creates only the relationship of landlord and tenant between the parties as to the Premises; and nothing in this Lease shall in any way be construed to impose upon either party any obligations or restrictions not expressly set forth in this Lease. This Lease shall continue until the expiration or termination of the Lease and Term, and shall not be extinguished by operation of law pursuant to the acquisition by a single party of the interests in both Tenant and Landlord hereunder.

34. **Exclusive Control; Quiet Enjoyment.** Tenant shall have exclusive control, possession, occupancy, use and management of the Premises on and after the Rent Commencement Date, subject to any easements or security instruments existing on the Effective Date, or as caused by Tenant, and Landlord shall warrant and defend Tenant's right to quietly hold and enjoy the Premises. Tenant, and its agents, guests, subtenants and designees, and any Additional Notice Party, shall have access to the Premises at all times after the Rent Commencement Date, and neither Landlord nor any agent of Landlord shall, without a Tenant representative, enter upon any portion of the Premises except as specifically permitted hereunder. For the avoidance of doubt, this Lease does not convey any subsurface oil, gas, mineral, liquid or other subsurface rights (collectively, "**Mineral Rights**") to Tenant; provided, however, that Landlord shall not engage in, and shall not permit, any activity, including, without limitation, the extraction of minerals, oil, gas, liquid or other substances, if such activity could result, in Tenant's sole and absolute discretion, in a failure of subsurface support for the Premises or otherwise impair or adversely affect Tenant's Property or Tenant's use of the Premises. The foregoing sentence shall be a covenant running with the Land binding upon any party owning any interest in, or rights to develop or use such Mineral Rights. To the best knowledge of Landlord, Landlord is the sole owner of the Mineral Rights and Landlord holds good, indefeasible and insurable title to the Mineral Rights.

35. **Waiver.** The waiver by any party of any instance of a breach of any covenant or agreement herein shall not be deemed to constitute waiver of any subsequent breach of the same or any other covenant or agreement under this Lease.

36. **Nonrecourse.** The performance of this Lease by Landlord and Tenant shall be secured by their respective interests in the Premises. Except for such interests in the Premises, neither Landlord's, nor Tenant's property or assets (including without limitation Tenant's Property), shall be subject to levy, execution or any other enforcement procedure in connection with the satisfaction of liability under this Lease.

37. **Consents; Further Assurances.** Each party shall execute and deliver such further documents and perform such other acts, as may be reasonably necessary to achieve the parties' intent in entering into this Lease. The parties further agree that, to the extent the consent or approval of either of them is required, requested or appropriate under this Lease, such consent or approval shall not be unreasonably or unduly withheld, delayed, or conditioned, and except as may otherwise be expressly provided for herein, each party shall bear its own costs and expenses, including legal costs, in connection with such consent or approval.

38. **Counterparts.** This Lease may be executed in any number of counterparts, each of which shall be deemed an original once executed and delivered. In the event that any signature is delivered by facsimile transmission or by e-mail delivery of a ".pdf" format data file, such signature shall create a valid and binding obligation of the party

executing with the same force and effect as if such facsimile were an original thereof.

39. **Survival.** Upon the expiration or earlier termination of this Lease in accordance with its terms, this Lease shall cease to have force and effect, unless the context requires otherwise to achieve the parties' intent with respect thereto.

40. **First Refusal to Lease.** Without limiting Tenant's rights to renew or extend the Term as set forth in this Lease, Landlord hereby grants to Tenant a right of first refusal to lease the Premises for a term commencing at the expiration or termination of this Lease, as extended, and/or any premises owned by Landlord located adjacent to the Premises, only upon the terms and conditions as contained in any valid, acceptable, bona fide lease offer Landlord or any subsequent Landlord may receive prior to the cancellation or termination of this Lease, as extended. Tenant shall have twenty (20) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed lease (the "**Proposed Lease**"), within which time to exercise its option to lease and accept any such lease terms. Landlord agrees to promptly notify Tenant of receipt of any such acceptable offer to lease. Tenant shall exercise such right of first refusal by delivery of notice to Landlord accepting such offer. Thereafter, Tenant shall be deemed to have extended this Lease upon the economic terms of the Proposed Lease (i.e. rent, payment of taxes and expenses, options to extend, etc.). Tenant and Landlord shall be bound by all of the economic terms of the Proposed Lease. Landlord and Tenant shall enter into an amendment of this Lease extending the Term and incorporating the other economic terms of the Proposed Lease. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant.

41. **First Refusal to Purchase.** Without limiting Tenant's rights to renew or extend the Term as set forth in this Lease, Landlord hereby grants to Tenant a right of first refusal to purchase the Premises, or any land of which the Premises is a part, upon the same terms and conditions as contained in any bona fide purchase offer Landlord, or its successors and assigns, may receive prior to the cancellation or termination of this Lease, as extended. Tenant shall have twenty (20) days after receipt from Landlord of written notice of such offer, with a certified full written statement of such offer and copy of the proposed sale agreement ("**Proposed Sale Agreement**") within which time to exercise its option to purchase and accept any such proposed sale terms. Tenant shall exercise such option of first refusal by delivery of notice to Landlord accepting such offer. If Tenant exercises its option, Landlord and Tenant shall enter into a commercially reasonable sale agreement ("**Sale Agreement**") upon the economic terms of the Proposed Sale Agreement; provided, however, irrespective of the terms of the Proposed Sale Agreement, the Sale Agreement shall provide that (a) Landlord shall deliver to Tenant a current commitment for an owners title insurance policy issued by a title company acceptable to Tenant committing to insure Tenant in the amount of the purchase price and showing title to be good and marketable fee simple, free and clear of all liens, reservations, easements encumbrances, restrictions of record and encroachments, except such matters approved by Tenant as part of a the Sale Agreement, (b) transfer of title by Landlord to Tenant shall be effected by warranty deed conveying such title, (c) Landlord shall satisfy and remove from title at closing any and all monetary encumbrances, including any mortgage or trust deed, and (d) Tenant shall have no obligations for payment of any brokerage fee in connection with the purchase and if any such payment is due to any party it shall be paid by Landlord. Notwithstanding Tenant's failure to exercise such right of first refusal on a single occasion, such right of first refusal shall be a continuing right throughout the balance of the Term and Landlord shall be obligated to submit any future offers to Tenant.

42. **Exclusivity.** Landlord covenants that it will not (i) use or lease or permit any tenant to use or lease or (ii) permit any occupant or subtenant or assignee of a tenant or occupant to use any other property in which Landlord has an interest and which is located within a radius of one (1) mile of the Premises, for the purpose of conducting a business that is engaged in the solar power generation business and/or a use similar to the Intended Use ("**Tenant's Exclusivity Right**").

43. **Confidentiality.** Landlord agrees to hold all confidential information of Tenant, including, without limitation, the terms of this Lease, in strict confidence, and will not disclose same to any person, other than as required by applicable law, rule, or regulation. Landlord acknowledges and stipulates that Tenant may suffer irreparable harm in the event of a breach of this confidentiality agreement, for which Tenant has no adequate remedy at law. Therefore, in addition to all other remedies available pursuant to the terms of this Lease or at law, Tenant shall have the right to obtain immediate injunctive or other equitable relief upon a breach of this confidentiality agreement by Landlord, without the necessity of giving any notice of such default or opportunity to cure the same.

44. **Attorneys' Fees.** In the event of any dispute under this Lease, the party against whom any final

judgment is entered agrees to pay the prevailing party all reasonable costs, charges, and expenses, including attorneys' fees, expended or incurred in connection therewith, to the extent permitted by law.

45. **Tax Credits.** If under applicable law the holder of a leasehold interest in the nature of that held by Tenant or Tenant's assignee becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure established by any local, state or federal government, then, at Tenant's option, Landlord and Tenant shall amend this Lease or replace it with a different instrument so as to convert Tenant's interest in the Premises to a substantially similar interest that makes Tenant eligible for such tax credit, benefit or incentive.

46. **Marketing.** Following the Construction Commencement Date and continuing until the expiration or earlier termination of this Lease, Landlord gives and grants to Tenant and Tenant's affiliates, and each of their respective licensees, agents, representatives, employees, successors and assigns (collectively, the "**Licensed Parties**"), the right and license to photograph, publish and use photographs (whether still or moving) of the Premises in all media and types of advertising and promotion by the Licensed Parties. Landlord agrees that all images of the Premises used and taken by the Licensed Parties are owned by the Licensed Parties and that the Licensed Parties may obtain copyright in material containing same. If Landlord should receive any print, negative or other copy thereof, Landlord shall not authorize its use by anyone else. Landlord agrees that no advertisement, promotion or other material utilizing or containing the Premises need be submitted to Landlord for approval and the Licensed Parties shall be without liability to Landlord for any distortion or illusionary effect resulting from the publication of the Premises. Landlord represents and warrants that the license granted hereunder (a) does not and will not violate or infringe upon the rights of any third party and entity; and (b) does not in any way conflict with any existing commitment on Landlord's part. Nothing herein shall constitute any obligation on the Licensed Parties to make use of any of the rights set forth in this Section 46.

47. **State Specific Provisions.**

(a) In the event of any inconsistencies between the terms and conditions of this Section 47 and the other terms and conditions of this Lease, the terms and conditions of this Section 47 shall control and be binding.

(b) As used in this Lease, "**UCC**" shall mean the Uniform Commercial Code found at Title 1 of the Business and Commerce Code of the [ ] Statutes or any replacement or successor statute or code.

(c) **TO THE EXTENT PERMITTED BY LAW, EACH OF THE PARTIES KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES THE RIGHT TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED ON THIS LEASE, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS LEASE AND ANY OTHER AGREEMENT CONTEMPLATED TO BE EXECUTED IN CONJUNCTION HERewith, OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER ORAL OR WRITTEN) OR ACTIONS OF ANY PARTY HERETO. EACH OF THE PARTIES TO THIS LEASE WAIVES ANY RIGHT TO CONSOLIDATE ANY ACTION IN WHICH A JURY TRIAL HAS BEEN WAIVED WITH ANY OTHER ACTION IN WHICH A JURY TRIAL CANNOT OR HAS NOT BEEN WAIVED. THIS PROVISION IS A MATERIAL INDUCEMENT TO EACH OF THE PARTIES FOR ENTERING INTO THIS LEASE.**

(d) **No Consequential Damages.** The parties agree that it is the intent that neither Landlord nor Tenant, nor their respective members, managers, officers, directors, partners, shareholders, agents, employees, contractors or affiliates, shall be liable to the other party or to its affiliates, member, managers, officers, directors, shareholders, partners, agents, employees, successors or assigns, for claims for incidental, special, indirect, punitive or consequential damages of any nature connected with or resulting from performance or non-performance of this Lease, including claims in the nature of lost revenue, income or profits, losses, damages or liabilities under any financing, lending, construction or other contracts, agreements or arrangements to which either may be a party irrespective of whether such claims are based upon negligence, strict liability, contract, operation of law or otherwise. **NOTWITHSTANDING ANYTHING TO THE CONTRARY IN THIS LEASE, NEITHER PARTY SHALL BE ENTITLED TO, AND EACH OF LANDLORD AND TENANT HEREBY WAIVES, ANY AND ALL RIGHTS TO RECOVER CONSEQUENTIAL, INCIDENTAL, PUNITIVE AND/OR EXEMPLARY DAMAGES, HOWEVER ARISING, WHETHER IN CONTRACT, IN TORT, OR OTHERWISE, UNDER OR WITH RESPECT TO ANY ACTION TAKEN IN CONNECTION WITH THIS LEASE.**

(e) **Waiver of Subrogation.** Landlord and Tenant each hereby waives any right of recovery against the other and the authorized representatives of the other for any loss or damage that is covered or required

by this Lease to be covered by any policy of insurance maintained with respect to the Premises or any operations therein, even though such loss or damage might have been occasioned by the negligence of such party. Each party shall cause insurance policies relating to this Lease, the Premises or the System to provide that such insurers waive all right of recovery by way of subrogation against either party in connection with any claim, loss or damage covered by such policies.

(f) **Partial Invalidity.** Should any provision of this Lease be held in a final and unappealable decision by a court of competent jurisdiction to be either invalid, void or unenforceable, the remaining provisions hereof shall remain in full force and effect and unimpaired by the court's holding. Notwithstanding any other provision of this Lease, the parties agree that in no event shall the term of this Lease be longer than the longest period permitted by applicable law.

*[end of text]*

IN WITNESS WHEREOF, the parties hereto have duly executed this Lease as of the later of the dates indicated below.

**LANDLORD:**

Roger D. Hoffman

By: Roger D. Hoffman

Printed Name: ROGER D. HOFFMAN

Title: owner

Date: 5/1/19

**TENANT:**

Horus Kentucky 1, LLC

A Delaware limited liability company

By: 

Printed Name: ALEJANDRO J. CHAVES

Title: CEO - PRESIDENT

Date: 5/14/19

**Exhibit A**  
**Depiction of the Land**  
**Tenant**



LANDLORD INITIAL R.H. DATE 5/1/19

LANDLORD INITIAL R.H. DATE 5/1/19

TENANT INITIAL \_\_\_\_\_ DATE \_\_\_\_\_

**TAB 3**



# **EXHIBIT E**

## **Phase I Archaeological Survey**

**(NOT FOR PUBLIC)**

**PHASE I ARCHAEOLOGICAL SURVEY OF  
APPROXIMATELY 530 ACRES AT THE HORUS  
KENTUCKY 1 SOLAR SITE AND APPROXIMATELY  
6.85 MILES OF TVA TRANSMISSION LINE L5402  
SIMPSON COUNTY, KENTUCKY**

**Terracon** Project No. 7320P073

July 2021



**Prepared for:**  
Horus Renewables Corp.  
West Sacramento, California

**Prepared by:**  
Terracon Consultants, Inc.  
Columbia, South Carolina

Offices Nationwide  
Employee-Owned

Established in 1965  
[terracon.com](http://terracon.com)

**Terracon**

Geotechnical ■ Environmental ■ Construction Materials ■ Facilities

**PHASE I ARCHAEOLOGICAL SURVEY OF  
APPROXIMATELY 530 ACRES AT THE  
HORUS KENTUCKY 1 SOLAR SITE AND APPROXIMATELY  
6.85 MILES OF TVA TRANSMISSION LINE L5402  
SIMPSON COUNTY, KENTUCKY**

**FINAL REPORT**

Lead Federal Agency:  
Tennessee Valley Authority

Prepared For:

Horus Renewables Corp.  
1030 Riverside Parkway, Suite 130  
West Sacramento, California 95605

Prepared By:

**Terracon**

521 Clemson Road  
Columbia, South Carolina 29229

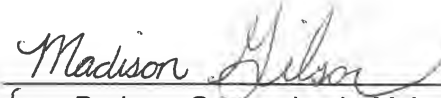
Project No. 7320P073

Authors:

Barbara Gengenbach, M.A., Mills Dorn, M.H.P., and William Green, M.A.



William Green, M.A., RPA # 10387  
Principal Investigator



for Barbara Gengenbach, M.A.  
Archaeologist

**July 2021**

## Phase I Archaeological Survey

Horus Kentucky 1 Project/ TVA TL L5402 ■ Simpson Co., KY

July 2021 ■ Terracon Project No. 7320P073



## MANAGEMENT SUMMARY

Terracon Consultants, Inc. (Terracon), on behalf of OPDENERGY c/o Horus Renewables Corp. (Client), has conducted a Phase I Archaeological Survey of approximately 530 acres at the proposed Horus Kentucky 1 Solar Project located along Tyree Chapel Road approximately 3.75 miles south of Franklin in Simpson County, Kentucky. The survey also included a survey of approximately 6.85 miles of an existing Tennessee Valley Authority (TVA) Transmission Line (TL) right-of-way (ROW) starting at the Franklin, Kentucky TVA substation and heading south for approximately 6.85 miles, before crossing the Tennessee border and terminating at a TVA substation on Jim Courtney Road in Portland, Tennessee. The results of the survey for the Tennessee portion of the project are provided in a separate report (Gengenbach and Green 2021). A separate Architectural Survey report has been prepared for the 530-acre solar site (Dorn and Green 2021).

The purpose of the investigation was to identify and evaluate cultural resources that could be eligible for inclusion in the National Register of Historic Places (NRHP). This scope of work was conducted for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101 et seq.). The lead federal agency for the project is the Tennessee Valley Authority (TVA). This work was conducted under contract to Horus Renewables Corp. in general accordance with Terracon Proposal P57207024, dated April 3, 2020, and under the terms and conditions of a Master Services Agreement (MSA) dated April 29, 2018. Based on consultation between TVA and the Kentucky State Historic Preservation Office (SHPO), no architectural survey was required as part of the transmission line survey as the height of the proposed transmission line will have a change of 7–10 feet (e-mail from TVA to Terracon dated January 26, 2021).

Fieldwork for the Phase I Archaeological Survey was conducted in five visits between May 26, 2020 and April 28, 2021. The archaeological Area of Potential Effects (APE) for the current project consists of the 530 acres at the Horus Kentucky 1 Solar site, and approximately 6.85 mi of existing 100-ft (30 m) wide right-of-way (ROW) along TL L5402.

As a result of the archaeological investigations, one previously recorded site, 15Si17, four newly recorded sites—15Si60, 15Si62, 15Si61, and 15Si63—six isolated finds (IFs 1–6) and one small family cemetery (Kitchens Cemetery - 15Si64/ KHC No. SI 536) were identified (Figure 1, Table 1). Previously recorded archaeological sites 15Si31 and 15Si327, reported to be in or near the project, were not re-located. Of the identified resources, archaeological site 15Si61, a Middle or Late Archaic base camp, is recommended as being potentially eligible for inclusion in the National Register of Historic Places (NRHP). Site 15Si17 was previously listed as an “Inventory Site” and will retain its recommendation of not eligible for the NRHP. The remainder of the sites and isolated finds are recommended as being ineligible for inclusion in the NRHP.



## Phase I Archaeological Survey

Horus Kentucky 1 Project/ TVA TL L5402 ■ Simpson Co., KY

July 2021 ■ Terracon Project No. 7320P073



Based on these results, it is Terracon's recommendation that archaeological site 15Si61 and the Kitchens Cemetery should be avoided by any ground disturbing activities. If this is not possible, then additional investigations may be required. The remainder of the project area contains no significant resources and we recommend that no additional archaeological investigations are warranted in these areas.

**Table 1. Archaeological Resources within the Area of Potential Effects.**

Resource ID	Description	NRHP Eligibility	Recommendations
15Si17	Pre-contact lithic scatter and historic artifact scatter	Not Eligible	No additional work
15Si60	19 <sup>th</sup> /20 <sup>th</sup> c. house site	Not Eligible	No additional work
<b>15Si61</b>	<b>Middle or Late Archaic base camp</b>	<b>Potentially Eligible</b>	<b>Avoidance</b>
15Si62	Late 19 <sup>th</sup> –mid-20 <sup>th</sup> c. house site	Not Eligible	No additional work
15Si63	Pre-contact lithic scatter	Not Eligible	No additional work
15Si64/SI 536	Kitchens Cemetery	Not Eligible	Avoidance
IF-1	Pre-contact isolated find	Not Eligible	No additional work
IF-2	Pre-contact isolated find	Not Eligible	No additional work
IF-3	Pre-contact isolated find	Not Eligible	No additional work
IF-4	Early Archaic(?) isolated find	Not Eligible	No additional work
IF-5	Pre-contact isolated find	Not Eligible	No additional work
IF-6	Pre-contact isolated find	Not Eligible	No additional work

**Sites indicated in bold are potentially significant.**

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## Phase I Archaeological Survey

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## Phase I Archaeological Survey

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## 1.0 INTRODUCTION

Terracon Consultants, Inc. (Terracon), on behalf of OPDENERGY c/o Horus Renewables Corp. (Client), has conducted a Phase I Archaeological Survey of approximately 530 acres at the proposed Horus Kentucky 1 Solar Project located along Tyree Chapel Road approximately 3.75 miles south of Franklin in Simpson County, Kentucky. The survey also included approximately 6.85 miles of a Tennessee Valley Authority (TVA) Transmission Line (TL) starting at the Franklin, Kentucky TVA substation and extending south for approximately 6.85 miles, before crossing the Tennessee border and terminating at a TVA substation on Jim Courtney Road in Portland, Tennessee. The results of the survey for the Tennessee portion of the project are provided in a separate report (Gengenbach and Green 2021). A separate Architectural Survey report has been prepared for the 530-acre solar site (Dorn and Green 2021).

The purpose of the investigation was to identify and evaluate cultural resources that could be eligible for inclusion in the National Register of Historic Places (NRHP). This scope of work was conducted for compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101 et seq.). The lead federal agency for the project is the Tennessee Valley Authority (TVA). This work was conducted under contract to Horus Renewables Corp. in general accordance with Terracon Proposal P57207024, dated April 3, 2020, and under the terms and conditions of a Master Services Agreement (MSA) dated April 29, 2018. Based on consultation between TVA and the Kentucky State Historic Preservation Office (SHPO), no architectural survey was required as part of the transmission line survey as the height of the proposed transmission line will not be substantially increased (e-mail from TVA to Terracon dated January 26, 2021).

The archaeological Area of Potential Effects (APE) for the current project consists of the 530 acres at the Horus Kentucky 1 Solar site, as well as approximately 6.85 mi (11 km) of existing 100-ft (30.48 m) wide right-of-way (ROW) along TL L5402. The portion of the transmission line that passes through Kenny Perry's Country Creek Golf Course (approximately 0.6 miles) was not surveyed as we were not granted access to the property. Additionally, based on a topographic map of the area as well as aerial imagery, half of the project area within the golf course follows the path of an unnamed intermittent stream while the remainder appears to be disturbed and consists of various pathways, sand pits, and ornamental plantings.

Fieldwork for the Phase I Archaeological Survey was conducted in five sessions: May 26 and 27, 2020; October 12–22, 2020; November 30–December 4, 2020; January 11–22, 2021; and April 28, 2021, by Principal Investigator William Green, M.A., R.P.A., Archaeologist Barbara Gengenbach, M.A., Crew Chiefs Cristy Abbott and Samantha Hunt, Field Technicians Angela D'Ambrosio, Erin Kislán, Kristi Bodine, and Ryan Thomas, and Architectural Historian Mills Dorn, M.H.P. William Green was the Principal Investigator for the project. Artifact analysis was completed by William Green and graphics were prepared by Barbara Gengenbach and Mara

## Phase I Archaeological Survey

Horus Kentucky 1 Project/ TVA TL L5402 ■ Simpson Co., KY

July 2021 ■ Terracon Project No. 7320P073



Daleen, M.A. The report was prepared by Barbara Gengenbach Mills Dorn, and William Green. Serena Green of GreenLit Editing provided copy editing support.

This report has been prepared in partial compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) (54 U.S.C. § 300101 et seq.). The investigation and report meet the qualifications outlined in the Secretary of the Interior Standards and Guidelines for Archaeology and Historic Preservation (Federal Register 48:44716–44742), and the Kentucky Heritage Council and SHPOs *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (2017). The Principal Investigator for the project meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) and is a Registered Professional Archaeologist (RPA).



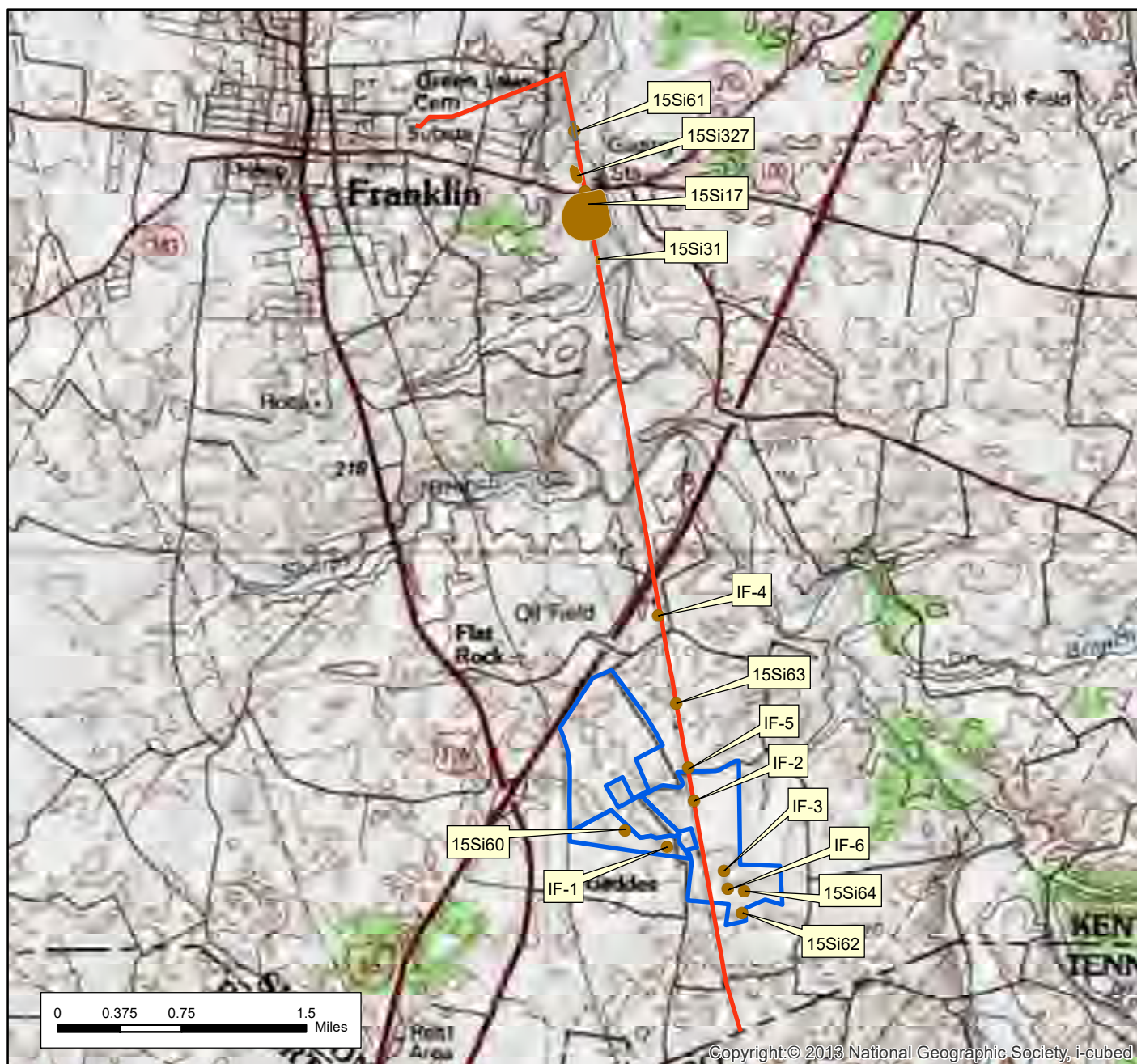
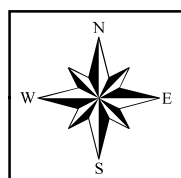
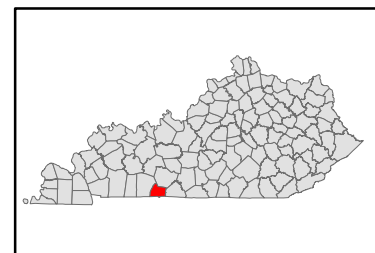
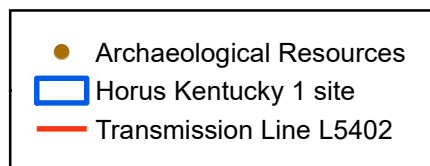


Figure 1. Topographic map depicting cultural resources within the project areas.

Base Map: Franklin (1979) 7.5' USGS topographic quadrangle.



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Drawn By:	BEG
Reviewed By:	BGG

**Terracon**

521 Clemson Rd. Columbia, SC  
 PH. (803) 741-9000 terracon.com

USGS TOPOGRAPHIC MAP

HORUS KENTUCKY 1 SOLAR  
 SIMPSON CO., KY

Figure

**1**

## 2.0 ENVIRONMENTAL CONTEXT

### 2.1 PHYSICAL LOCATION AND SETTING

The proposed Horus Kentucky 1 Solar Project is located along Tyree Chapel Road, approximately 3.0 miles southeast of Franklin, Simpson County, Kentucky. This portion of the project area is situated between Peden Mill Road and Nashville Road on the east and west, and Interstate 65 and Geddes Road on the north and south. Tyree Chapel Road bisects the project area from north to south. Transmission line L5402 begins at the TVA Franklin Substation on East Cedar Street in Franklin, Kentucky, and continues south within Kentucky for approximately 6.85 miles before crossing the Tennessee state border. The following roads cross the transmission line corridor from north to south: Robey Street, Filter Plant Road, Gold City Road/ Highway 73, Scottsville Road/ Highway 100, Turner Ford Road, Hayden Snyder Road, I-65, Peden Mill Road, Hendricks Road, and Blue Door Church Road.

The solar site is composed of mostly agricultural fields with small stands of mixed hardwoods near the boundaries. The northern portion of TL L5402 is largely residential in nature. The transmission line crosses through a portion of the Town of Franklin, the Jim Roberts Community Park, and Kenny Perry's Country Creek Golf Course. The southern portion of TL L5402 is largely agricultural in nature (Figures 2 and 3).

### 2.2 GEOLOGY AND TOPOGRAPHY

The project area is situated within the Western Pennyroyal Karst Plain region of the Interior Plateau physiographic province. This region is bounded by the Crawford-Mammoth Cave Uplands to the north, the Eastern Highland Rim to the east, and the Western Highland Rim to the south and west. The Interior Plateau extends from southern Indiana and Ohio to northern Alabama. The open hills and irregular plains of the ecoregion are composed of Mississippian to Ordovician-age limestone, chert, sandstone, siltstone, and shale (USEPA).

The Western Pennyroyal Karst Plain is characterized by irregular plains with few perennial streams. Small sinkholes and depressions are common as the area consists of a thin loess mantle over Mississippian-age limestones (USEPA). This region is noted for its fertile soils, and is well-suited for agriculture. Elevations at the solar site typically range from about 710 to 750 feet above mean sea level (AMSL), while elevations along the TL L5402 corridor range from about 580 feet AMSL near the West Fork of Drakes Creek, to 760 feet AMSL in the southern portion of the corridor.

### 2.3 HYDROLOGY

The project area lies within the West Fork of Drakes Creek portion of the Green River Drainage Basin in Simpson County, Kentucky. The West Fork of Drakes Creek originates just north of Portland in Sumner County, Tennessee, and intersects with TL L5402 four times. It flows



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**Figure 2. Horus Kentucky 1 solar site typical topography and land use, facing east.**



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**Figure 3. TL L5402 typical topography and land use, facing northwest**

north through Simpson County before joining Middle Fork and Drakes Creek in Warren County, Kentucky. Drakes Creek joins the Green River approximately 20 miles north of the project area, east of Bowling Green, Kentucky. The Green River flows approximately 384 miles from Lincoln County, Kentucky before joining the Ohio River in Spottsville, Kentucky.

## 2.4 SOILS

Soils in the project area are generally composed of silt loams derived from fine-silty loess over clayey residuum weathered from limestone. Each of the soil types in the project area is listed in Table 2. Approximately 90 percent (n=552 acres) of the project area contains well drained soils (USDA SoilWeb).

Archaeological sites are expected to be located primarily in areas containing well drained soils such as the Baxter, Elk, Mountview, and Nolin soil associations (Table 2). Baxter, Mountview, and Nicholson soils are found along ridges and hills, Elk and Lawrence soils are found along flats or stream terraces, and Nolin soils are found in floodplains and closed depressions.

**Table 2. Soil types in the project area.**

<b>Soil Series</b>	<b>Texture</b>	<b>Slope</b>	<b>Drainage Class</b>
Baxter	Gravelly silt loam	2–20%	Well drained
Elk	Silt loam	0–6%	Well drained
Fredonia Complex	Rock outcrop	12–30%	Well drained
Lawrence	Silt loam	n/a	Somewhat poorly drained
Mountview	Silt loam	2–12%	Well drained
Nicholson	Silt loam	2–6%	Moderately well drained
Nolin	Silt loam	n/a	Well drained

## 2.5 CLIMATE

The climate in Simpson County is classified as humid-subtropical, with long, hot summers and short, cool winters. The average daily high in the winter is approximately 47° F, with an average daily minimum of 26° F. In summer, the average daily temperature is 79° F, with an average daily high of 90° F. Total annual precipitation averages 45 to 55 inches in the region. The growing season ranges from 180 to 220 days in most of the state. Average snowfall varies across the state, with four to six inches common in the southwest and around 10 inches in the east; however, snow cover rarely lasts more than a few days (Scott 2012).

## 2.6 VEGETATION

Throughout the latter half of the twentieth century, forests of the eastern U.S. were typically categorized according to the classification system based on the groundbreaking work of Lucy Braun (1950), which placed the project area firmly in the Western Mesophytic region. In 2006, Dyer revised these forest regions, with the project area now being categorized as Mesophytic



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(Dyer 2006: ArcGIS shapefile available at [https://people.ohio.edu/dyer/forest\\_regions.html](https://people.ohio.edu/dyer/forest_regions.html)). With 162 species, this region is the most diverse with dominant species being chestnut oak, yellow poplar, and Virginia pine. Vegetation in the project area consists primarily of agricultural fields and pastures with developed residential land throughout (Figures 2 and 3).

## 3.0 CULTURAL CONTEXT

The cultural history of North America can be divided into two general eras: Pre-contact and historic. The Pre-contact era spans at least 13,000 years of human activity, predating the arrival of Europeans on the North American continent. The historic era is brief by comparison and includes the time of initial European exploration and settlement through colonization, industrialization, and emergence of the modern era. The following discussion summarizes the various periods of Pre-contact and historic occupation in the region.

### 3.1 PRE-CONTACT CONTEXT

Over the last two decades, there has been growing debate over when humans first arrived in the New World. The traditional interpretation is that Clovis Period humans first arrived in North America via the Bering land bridge that connected Alaska to Siberia at the end of the Pleistocene, approximately 13,500 years ago. From Alaska and northwestern Canada, these migrants moved southward through an ice-free corridor separating the Cordilleran and Laurentide ice sheets to eventually settle in North and South America. A variation of this theme is that humans travelled along the Pacific Coast of North America during this time rather than going through an ice-free corridor (Erlandson et al. 2007; Fladmark 1979).

Recently these interpretations have been called into question, with several sites providing possible evidence for earlier (Pre-Clovis) occupations. These sites include Monte Verde in southern Chile (Dillehay 1989; Meltzer et al. 1997), Meadowcroft Rockshelter in Pennsylvania (Adovasio et al. 1979, 1980a, 1980b, 1990), the Cactus Hill (McAvoy and McAvoy 1997) and Saltville (McDonald 2000) sites in Virginia, and the Topper Site located along the Savannah River in Allendale County, South Carolina (Goodyear 2005). Suggested dates for some of these sites (e.g., Topper) go back more than 50,000 years, although the evidence for this has been fiercely contested. More recently, a number of sites providing possible evidence for a presence in the New World between 13,500 and 15,000 years go have been discovered. Although far from numerous, these sites are scattered across North and South America, including Alaska, Florida, Oregon, Tennessee, Texas, Wisconsin, and southern Chile. Thus, it does appear that humans may have been in the New World as far back as 15,000 years ago, although more research is needed to validate this claim.

#### 3.1.1 Paleoindian Period (ca. 13,500–10,000 B.P.)

The Paleoindian Period can be tentatively dated from about 13,500–10,000 years before present (B.P.), possibly extending as far back as 15,000 years ago. The first people to reach the interior of the New World are referred to as Paleoindians. These people are known for their efficient chipped stone tool kit, which included distinctive fluted points. These point types are found throughout North America, including Clovis, Folsom, and Hi-Lo points (DeRegnaucourt 1991; Dorwin 1966; Justice 1987). According to the Paleoindian Database of the Americans (PIDBA), a

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total 27 fluted projectile points have been recorded in Kentucky; three of these were in Kenton County (Anderson et al. 2010). Although the region may have been populated earlier, the earliest evidence of occupations in Kentucky dates to ca. 11,500 B.P. (Pollack 2008).

The Paleoindian Period is divided into an early, middle and late stage (Maggard and Stackelbeck 2008; Tankersley 1996). The Early Paleoindian Period is noted as spanning from approximately 11,500–11,000 B.P. (Tankersley 1996). However, no chronometric dates for this period are currently available for Kentucky. In fact, most Paleoindian sites in the state have been identified as isolated finds consisting of Clovis projectile points or point fragments. Approximate dates and cultural traits for Paleoindian occupations in Kentucky were acquired by identifying the recovered projectile point types and comparing them to the date ranges and cultural traits of more readily defined early Paleoindian sites with similar identified projectile points. Although several possible Paleoindian big game kill sites are located in Kentucky, no direct association between the recovered megafauna and a Paleoindian tool kit has yet been established. These sites include Big Bone Lick in Boone County, the Clays Ferry Crevice in Fayette County, and the Adams Mastodon site in Harrison County (Tankersley 1996). Tankersley's research indicates that Paleoindian sites are most likely to be found in specific micro-environments over a large area. The floodplains of major streams and their confluences are likely to contain Paleoindian sites, as well as the fringes of ponds and bogs, saline springs, major game trails, and especially those areas that exhibit such characteristics and provide a substantial source of high-quality lithic raw material (Tankersley 1996:37). Freeman et al. (1996:390) summarize Rolingson's survey of Paleoindian sites in Kentucky by saying that Paleoindian points were found in their highest densities along major salt licks and springs, as well as known game trails connecting such features.

In Kentucky, the earliest identified projectile points have been identified as Clovis-type points. In addition to a distinctive fluted projectile point, the Clovis tool kit consisted of a variety of stone, bone, ivory, and antler tools, such as chipped stone knives and scrapers, bone awls, and ivory antler or bone billets. These early colonizing groups were very small, generally consisting of only one- or two-family groups. They were highly mobile hunter-gatherers who primarily subsisted by hunting Late Pleistocene fauna like bison, musk ox, caribou, and the now extinct megafauna such as ground sloth, moose-elk, mammoth, and mastodon (Tankersley 1996). The late Paleoindians were the first groups to utilize rockshelters on a regular basis (Tankersley 1996:35).

Regional archaeological complexes began to develop during the middle Paleoindian Period. These regionally specific styles replaced the Clovis point tradition with such point types as the Cumberland, Quad, Simpson, Suwannee, and in the late Paleoindian period with Dalton (Meserve), and Hardaway-Dalton (Justice 1987:8–9; Niquette and Henderson 1984:30).

The Middle Paleoindian Period (11,000–10,500 B.P.) corresponds with a time of climatic change brought on by the beginning of the end of the last major glacial ice stage. Due to these environmental changes, which included the disappearance of many of the megafauna species,

there became a greater reliance on smaller, locally available game and plant resources for subsistence (Maggard and Stackelbeck 2008). These changes to a more diverse, locally sustained subsistence pattern is marked in the archaeological record by an increased diversity in fluted point styles, as well as a more diverse lithic tool kit that included spurred end scrapers and side scrapers, and an increased use of lower quality local cherts (Tankersley 1996). The most common Middle Paleoindian point type in the mid-south and southeastern region is the Cumberland point, a fluted, lanceolate style point that is longer and narrower than Clovis points. Middle Paleoindian Period sites recorded in Kentucky include the Henderson site in Lyon County, and the Boyd site in Christian County (Maggard and Stackelbeck 2008; Tankersley 1996). Unifacial tools such as end scrapers and flake tools were also recovered in association with the Cumberland point fragments.

By the Late Paleoindian Period (10,500–10,000 B.P.) fluted projectile points had disappeared and were replaced by points of the non-fluted Dalton Cluster (Justice 1987; Tankersley 1996). The Dalton Cluster points display a much greater stylistic variety reflecting greater regional diversity. There was also a wider range of tools associated with the Late Paleoindian tool kit as opposed to the earlier Paleoindian groups (Maggard and Stackelbeck 2008; Tankersley 1996). This toolkit included a wide variety of bifacial and unifacial tools including beveled and back bifaces, unifacial scrapers, adzes, retouched flakes and drills/perforators. The regional diversity in point styles may indicate more restricted regional settlement systems on the part of these later Paleoindian groups, while the more diverse toolkit composition may indicate more intensive exploitation of a wider range of food resources.

### **3.1.2 The Archaic Period (10,000–3000 B.P.)**

Brown and Cleland (1968) postulate that while Paleoindians exploited post-Pleistocene biotic communities that were mosaic in nature, Archaic cultures represent adaptations to the rather recent zonation of floral and faunal assemblages. This zonation of biotic communities presented Archaic peoples with particular geographic regions occupied by specifically adapted flora and fauna. The consolidation of differentially maturing resources into zones allowed Archaic bands to schedule the procurement of subsistence items as they became seasonally available. This type of restricted wandering strategy was not possible in a more mosaic environment where resources were randomly distributed. Archaic inhabitants lived as part of this developing system, and their subsistence strategies and settlement patterns reflected the changing environmental conditions.

Archaeologists have suggested that cultural changes resulted from the changing environment of Archaic times (Styles et al. 1983:265). The environment was still cooler and wetter than current conditions, but the floral assemblage was changing (Jefferies 1988:97). Deciduous trees were replacing the spruce and hemlock, throughout much of Kentucky, though many coniferous trees were still present. In addition, a wide variety of modern faunal species replaced the extinct Pleistocene megafauna (Jefferies 1996:39; 1988:94). Mammals include the gray squirrel, fox squirrel, whitetail deer, raccoon, beaver, woodchuck, a variety of mice, striped skunks, mink, otter,



fox, black bear, and bobcats. Bird species may have included red-tailed hawks, ruffed grouse, great horned and eastern screech owl, pileated woodpecker, wild turkeys, and blue jay among others (Kricher 1988). A variety of ducks, geese, hawks, and songbirds could also have been present during the fall and spring migrations.

The Archaic has traditionally been assigned a timeline of 10,000–3000 B.P. and is broken into three subdivisions: the Early Archaic (10,000–8000 B.P.), the Middle Archaic (8000–5000 B.P.), and the Late Archaic (5000–3000 B.P.). Cultural activity associated with the Archaic Traditions consist of hunting, gathering, and fishing, and introduces the use of ceramics and the cultivation of plants.

### **3.1.2.1 Early Archaic (10,000–8000 B.P.)**

In many respects, Native American adaptive strategies during the Early Archaic (10,000–8000 B.P.) more closely resembled those of their Paleoindian predecessors than those of the later Middle and Late Archaic periods. Like their Paleoindian counterparts, the early Native American Groups of the Early Archaic were hunter-gatherers who incorporated a great deal of mobility into their subsistence-settlement systems. However, the Early Archaic Period is generally seen as a transitional period when regional populations more fully adapted to the changing environmental conditions that were taking shape during the Early Holocene (Jefferies 1996). By this time, the megafaunal species had become extinct and modern game species such as whitetail deer and turkey had become more established (Jefferies 2008). Likewise, important subsistence plant species like the nut-bearing oak, hickory, and chestnut trees of the spreading deciduous forest replaced the Late Pleistocene fauna and flora (Jefferies 2008:1996).

The lithic toolkits of the Early Archaic were like those utilized by during the Paleoindian Period. However, there is evidence for increased regionalization during the Early Archaic, an intensification of trends first observed during the Late Paleoindian Period. While these early groups continued to be highly mobile, their seasonal settlement systems were more regionalized, with different bands and macro-bands restricting the seasonal mobility to specific drainages (Anderson et al. 2010). Several factors seem to indicate that Early Archaic peoples lived in small, highly mobile bands (Jefferies 1996:40). These factors include the presence of tools from nonlocal materials and the absence of features, such as burials and middens. Early Archaic peoples also used rockshelters, often repeatedly yet only temporarily, as indicated at Modoc Rockshelter in Illinois, and Cloudsplitter and Deep Shelter Rockshelters in Kentucky (Styles et al. 1983:278; Jefferies 1996:42).

Artifact type markers for the early portion of the Early Archaic include Kirk Corner-notched points and Thebes Side-notched points (Jefferies 1996; Justice 1987). Later Early Archaic point types include Kirk Stemmed points and bifurcate-based LeCroy and Kanawha points (Jefferies 1996; Justice 1987).

### **3.1.2.2 Middle Archaic (8000–5000 B.P.)**

By the onset of the Middle Archaic Period (8000–5000 B.P.), early Native American populations had begun to settle down into increasingly regionalized settlement ranges. Janzen (1977) has suggested that Middle-Late Archaic hunter gatherers showed a tendency to settle near the junction of differing physiographic zones to maximize resource diversity and minimize the need for seasonal relocation. The recovery of deep middens and burials, as well as a highly diverse tool kit, suggest that settlements during the Middle Archaic Period were being used on a long term or year-round basis (Jefferies 2008). These changes in settlement strategy coincided with the long warm, dry spell referred to as the Hypsithermal Climatic Interval. During this climatic period, most of Kentucky was covered in arid grasslands, and the distribution of subsistence game and plant resources was more restricted than in previous periods (Jefferies 2008).

The Middle Archaic economy became more varied, retaining the emphasis on deer hunting, but including use of an ever-wider variety of plant foods (Cleland 1966:92–93). An influx of grasses and the decrease of arboreal communities changed the sorts of plant resources available, thus affecting Middle Archaic subsistence practices (Jefferies 1990:151). Hickory nuts were utilized, as were other nuts, fruits, seeds, and greens (Jefferies 1988:102). Specialization in certain activities generated a more sedentary lifestyle, which in turn increased the complexity of the social structure within the band network (Jefferies 1995:76).

Though the Middle Archaic Period is poorly defined in Kentucky, it is generally recognized as a period of intensive regionalization when groups began to exploit a wider range of local subsistence resources. Middle Archaic artifact assemblages include the appearance of groundstone tools and pecking stones generally attributed to plant food processing. Middle Archaic groups could access a variety of subsistence resources and were able to limit their residential mobility (Jefferies 1988).

The material remnants of the Middle Archaic culture expanded to reflect an increasingly sophisticated technology adapted to the intensive exploitation of forest and riverine biomes. The Early Archaic bifurcate point types were being replaced by a widespread tradition of large side notched points (Fitzhugh 1972:8), as well as corner notched and stemmed points like Morrow Mountain, Stanley, and Big Sandy II.

The Middle Archaic Period was also marked by the appearance of various specialized tools, indicating new processing techniques of plant resources (Jefferies 1990:151). There was an increase in ground and polished stone tools including full grooved axes, pendants, and winged and cylindrical atlatl weights. Bone tools also appear in the artifact assemblage (Anslinger 1996:5; Jefferies 1996:48). The common occurrence of mortars, pestles, manos, metates, grinding slabs, nutting stones, grooved axes, and celts at Middle Archaic sites suggests a harvesting economy (Boisvert 1977:12).

### **3.1.2.3 Late Archaic (5000–3000 B.P.)**

During the Late Archaic Period (5000–3000 B.P.), the number of Pre-contact sites scattered across the Kentucky landscape increased dramatically. The diversity of those sites present in the landscape increased as well. Late Archaic subsistence-settlement strategies emphasized generalized hunter-gatherer strategies, and these groups intensively exploited a range of subsistence resources in a variety of environmental settings. The river systems had reached their configuration, and the dense forests, sloughs, and oxbows that surrounded these rivers provided hunter-gatherers with reliable and consistent food sources (Collins and Driskell 1979; Jefferies 1996).

During the Late Archaic, the subsistence focus was still on hunting and gathering a diverse array of wild resources (Jefferies 1990:153). Some Late Archaic groups scheduled their procurement activities to take full advantage of variously available resources, which resulted in the archaeological record showing camps in a variety of environments (Kerr 1996:7). These groups traveled in a yearly cycle, exploiting the seasonally available resources of various areas as they became accessible (Granger 1988:107). This cycle affected the nature of the groups, in that they were organized and structured to move seasonally, and efficiently collect these foodstuffs (Jefferies 1990:153). In the central Bluegrass Region, the sites found are of small, short-term base camps and specialized activity locations (Jefferies 1990:197). Much of the area provided equal access to many resources; thus, there were more suitable site locations in this region than in the others (Jefferies 1996:62). The Glacken Site at Big Bone Lick appears to be one such type of base camp, used intermittently by family groups (Boisvert 1986:77).

Late Archaic sites have been located adjacent to riverine habitats suitable for mussel propagation (Marquardt and Watson 2005; Muller 1986:72). The presence of huge quantities of shell in the form of shell mounds suggests a very specialized adaptation to the local environment. However, these shell mound sites were probably occupied for several seasons of the year, rather than the entire year (Jefferies 1996:60). Due to repeated disturbance by humans, as well as continued alluvial deposits, these floodplain sites became very receptive to colonization by the food plants of the Eastern Agricultural Complex (EAC). With minimal direct human intervention, plants such as chenopodium, goosefoot, sumpweed, sunflower, and squash were cultivated and domesticated (Smith 1992:102). These cultigens served as supplements to a diet of diverse wild animal and plant resources, especially nuts (Watson 1989:562 and 563). This “dump heap” model of domestication served as a steppingstone to the development of horticulture during the Woodland Period (Jefferies 1996:74).

In the Late Archaic, Native Americans began to utilize horticulture as a method of subsistence, supplementing their efforts at foraging (Ison 1991:1). Upland, hillside garden plots possessed several advantages over floodplain locations, especially when the cultivation involved was not very labor-intensive (Ison 1991:9). Evidence for early cultigens has been found at Cloudsplitter Rockshelter in eastern Kentucky, as well as at the Koster site in central Illinois, and Carlson Annis

and Bowles in west-central Kentucky (Anslinger 1996:8). Certain plants were domesticated but were still not used as widely as they would be in the Woodland Period.

There is evidence for increased sedentism at numerous sites based on the recovery of human and dog burials, as well as large trash pits and hearths (Anslinger 1996). By the end of the Archaic Period, there is evidence for incipient horticulture, basket weaving, and a variety of tools for woodworking and food processing (Watson 1974). Late Archaic site types included large base camp sites on floodplains as well as the interior lowlands. These sites yielded diverse artifact assemblages indicative of long-term residential activities. Smaller resource extraction sites also are scattered throughout the full range of geographic settings in the region. The presence of nonlocal materials such as copper and marine shell suggest some sort of long-distance trade network had been implemented by the Late Archaic (Jefferies 2008). Projectile points indicative of Late Archaic occupation includes an assemblage of straight, expanding and contracting stemmed points such as the McWhinney stemmed, Merom-Trimble Cluster, and Brewerton points (Jefferies 1996).

### **3.1.3 Woodland Period (3000–1000 B.P.)**

The adoption of ceramic vessels by essentially Late Archaic groups marks the transition into the Woodland Period. While there are several other criteria separating Late Archaic and Early Woodland populations, the presence of ceramics is the most archaeologically visible (Railey 1996:81). The development of pottery improved methods of food processing, especially the cooking of grains (Seeman 1986:564). Other factors indicating the progression to Early Woodland from Late Archaic are the emergence of stemmed projectile points, the deliberate construction of mortuary earthworks, and the increased use of cultigens (Emerson 1986:622). In addition, bone beamers began to be used instead of chipped stone endscrapers, and ungrooved celts replaced grooved axes (Railey 1990:248).

The Woodland Period was characterized by the formation of increasingly sedentary communities who transformed wild seeds into garden-grown domesticates and built earthen mounds predominantly on ridgetops overlooking the community hamlet. As James Brown wrote, “the appearance of permanent habitations, food storage, domestication of plants, multi-regional exchange of valuables, cemeteries, intragroup ranking of individuals, and the elaboration of art in a social context” was part of a broader regional change in Midwest riverine societies (Brown 1985:201). The Woodland stage appears to represent a cultural expansion of the Late Archaic Period, characterized by a greater tendency toward territorial permanence and an increasing elaboration of ceremonial exchange and mortuary rituals. Traits that were once considered innately Woodland are now known to have originated in the Archaic (Dragoo 1976:16).

#### **3.1.3.1 Early Woodland (3000–2200 B.P.)**

During the Early Woodland period (3000–2200 B.P.), Late Archaic lowland base camps saw reduced use as people moved into smaller settlements such as rockshelters (Railey 1996:87). The use of horticulture increased during the Early Woodland, which, contrary to what is commonly



assumed, did not necessitate larger settlements (Railey 1991b:99). This does not indicate higher mobility; rather, it only means that the Early Woodland peoples may have been just as sedentary as those of the Late Archaic, but that they chose to live in smaller, more scattered groups. The increased use of horticulture contributed to more territorial behaviors, as well (Railey 1991a:58). Ison (1991:9) points out the advantages of upland ridge horticulture over cultivation on floodplain localities, especially for smaller groups.

The division of the Early Woodland Period from the preceding Late Archaic is marked by the appearance of ceramic wares around 3000 B.P. The earliest ceramic type identified in Kentucky is known as Fayette Thick. Ceramic wares of this type are generally coarse grit- and rock-tempered, thick-walled vessels that were cordmarked, plain, or fabric-impressed (Railey 1996:81). Many Early Woodland projectile point types are of a notched or stemmed variety and include the Kramer, Wade, Savannah River, Gary, Turkeytail, Saratoga Stemmed, and Buck Creek Barbed types, as well as other various stemmed points (Justice 1987; Railey 1996). Early Woodland sites are similar in type and distribution to those during the Late Archaic. Large midden sites are located in the alluvial valleys and smaller resource procurement sites are found scattered throughout the landscape. The earliest presence of distinct ceremonial rituals has been associated with Early Woodland Period sites. There is also evidence for widespread horticulture of such domesticated plants as gourds and sunflowers (Jones and Johnson 1999:9).

The inclination towards territoriality influenced the advance of the Adena culture. The term Adena was initially synthesized by Webb and Snow in 1945 as an Early Woodland phenomenon. Although Adena is an important component of the Early Woodland Period in the region, the terms are not synonymous (Seeman 1986:566). The Adena sphere of influence was quite far reaching. Encompassing not only Kentucky, its heartland, and surrounding states, it extended to some degree to the northeast through parts of southern New England, to the north through the Upper Great Lakes, and to the south as far as the Florida panhandle, as evidenced by the presence of Adena Stemmed projectile points (Justice 1987:196). The actual Adena culture, however, was limited to the central Ohio River Valley and its tributaries.

The Adena culture did not remain constant through time. The mortuary facilities increase in size and complexity from the Early to Late Adena phase (Railey 1996:98). The best expression of Adena culture in Kentucky is found in the Bluegrass Region. Adena mounds are found in the Eastern Mountains region, but they are restricted to the lower Levisa Fork drainage and are absent from the Kentucky and Licking drainages (Niquette and Henderson 1984:44). However, Adena artifacts from these sites suggest that local rockshelter inhabitants were influenced by the Adena culture and had similar mortuary rituals (Railey 1990:316).

Sophisticated mortuary practices suggest the appearance of hierarchical social organization and long-range trade (Railey 1996:88). Though hunting and gathering continued to be the major source of subsistence food, the use of horticulture intensified, and permanent settlements were firmly established along river bottoms (Prufer and McKenzie 1965). A number of plants were

domesticated including sunflower, maygrass, knotweed, little barley, and goosefoot. Other plants included maize, squash, and gourds (Railey 1996:90).

The Adena culture thrived along the middle Ohio River valley from 2500 to 1750 B.P. Artifacts associated with the Adena culture include distinctive ceramic and point types as well as exotic material types. The ceramic type associated with Adena is Adena Plain (Johnson Plain), which is usually a limestone- or sandstone-tempered jar with rims that are straight or outflaring (Railey 1990:253). Associated burial goods included Robbins and Adena points, gorgets, pipes, celts, tablets, and galena (Railey 1990:253). Cultural practices associated with the Adena include the development of the separation of domestic and mortuary sites. During the Early Adena Period (2500 to 2150 B.P.), mortuary sites consisted of a small mound with few individuals. Larger mounds and mound complexes developed during the Middle Adena Period (2150–2000 B.P.). Some of these mounds, such as Robbins (15Be03), contained as many as 100 individuals. Also, during this period structural remains of circular “mortuary camps” are often associated with the mounds. By the Late Adena Period (2000–1750 B.P.), mortuary centers became more permanent.

Adena culture continued until about 1750 B.P., when the construction of large burial mounds ceased (Railey 1996:100). This places Adena partially in the Middle Woodland Period. The Middle Woodland Period stretches from about 2200 to 1500 B.P. Most of the Early Middle Woodland is very similar to the Late Early Woodland culture, with Adena and Hopewell being predominant (Railey 1996:91). Most likely, these groups lived in small, scattered settlements with ritual spaces and earthworks providing territorial markers and focal points (Railey 1990:251). During the Late Middle Woodland, most burial mound construction stopped in much of the Bluegrass and the Eastern Mountains, and what continued often utilized stone (Railey 1990:252). Settlements in this time period tend toward nucleated villages. The subsistence strategies were still based on hunting and gathering, but there was an increase in the use of cultigens (Railey 1990:252).

### **3.1.3.2 Middle Woodland (2200–1500 B.P.)**

In the eastern woodlands, in general, the Middle Woodland Period (2200–1500 B.P.) represents a period of complex sociocultural integration across regional boundaries via trade networks. This concept has been described as the Hopewell Interaction Sphere by Caldwell (1964) and Struever (1964). The designation Hopewell is applied to a particular archaeological assemblage that has been found from western New York to Kansas City and from the Gulf of Mexico to Lake Huron. It is estimated that at the time of European contact, at least 27 separate languages were spoken across the regions where Hopewell-style artifacts are found (Seaman 1995:124). The transition from Adena to Hopewell culture has been documented to be linear in Ohio, but in Kentucky it seems that the two were contemporaneous for a time (Railey 1990:252).

Hopewell is characterized by elaborate geometric earthworks, enclosures, and mounds that are often associated with multiple burials and a wide array of exotic ceremonial goods. Ceremonially,

the Hopewell appears to represent a continuation of the Adena, but on a more expanded and elaborate scale (Dragoo 1962:13). However, Railey suggests another characterization of the relationship between the two, at least relating to Kentucky: “Adena should be viewed as an early regional expression of Hopewell rather than as its predecessor” (1996:10). Hopewellian trade networks were apparently extensive, since materials used in the manufacture of ceremonial objects were acquired from diverse regions of North America. Copper and silver came from the upper Great Lakes, quartz crystals and mica from the Lower Allegheny regions, obsidian and grizzly bear teeth from the west, and shark and alligator teeth, marine shell, and pearls came from the Gulf Coast (Prufer 1964:75). Some of the ceremonial artifacts manufactured included knives and blades of obsidian; stone platform pipes with human and animal effigies; breast plates, ear spools, and celts of copper; zoomorphic and geometric shapes of mica; and highly decorated ceramic vessels (Railey 1990:254). Artifact types attributed to the Hopewell are Snyder’s points, Hopewell leaf-shaped blades, small side-notched points, prismatic blades and associated polyhedral cores, and flake knives, most of which were manufactured from Flint Ridge flint, another important trade commodity (Chapman and Otto 1976:23; Mayer-Oakes 1955:15). Hopewell mounds often contained architecturally complex sub-mound structures, instead of the simpler Adena circular, single-room structures (Clay 1986:584).

The Hopewell culture represented the climax of the Woodland Period in much of the Ohio Valley. Lasting only about 200 years, its influence waned after about 550 B.P. Ceremonial centers were abandoned, trade networks dissipated, and less emphasis was placed on burial ceremonialism. This decline marked the beginning of the Late Woodland Period, and a return to the more mundane, generalized characteristics of the Woodland Tradition with an increased reliance on domesticated plants supplemented by hunting and intensive gathering. The invention and use of the bow and arrow was an important development in hunting and warfare technology (Railey 1996:111).

### **3.1.3.3 Late Woodland (1500–1000 B.P.)**

In the Late Woodland (1500–1000 B.P.), many groups moved from the Ohio River Valley into the areas surrounding upland tributaries, with an emphasis on rockshelters, as well as to the tributaries’ floodplains (Niquette 1992:16). Both the Rogers and Haystack Rockshelters contained Newtown ceramics. In the mountains of Kentucky, few sites from the early Late Woodland time period have been found in the bottomlands (Railey 1996:117). Most of the material from Late Woodland sites can be identified with the Newtown Phase (Railey 1996:115). Newtown settlements were primarily semi-permanent nucleated villages located on the upper terraces of major stream drainages (Kreinbrink 1992:100; Railey 1991a:66). Often, burial mounds were located adjacent to the village.

The Late Woodland Period (1500–1000 B.P.) brought a major technological change with the introduction of the bow and arrow (Railey 1996:111). This was indicated in the archaeological record by the appearance and proliferation of small triangular points. Other chipped stone tools diagnostic of the Late Woodland includes Jacks Reef Corner Notched, Commissary knives, and small triangular

Madison points believed to be arrowheads (Railey 1996). Increasing regional variability of stylistic motifs on ceramic pottery became increased throughout the Late Woodland. Subsistence-settlement strategies continued the trend toward increased sedentism. Small nucleated circular villages with circular central plazas appeared in some locations of the state by the Late Woodland (Railey 1996:111–112). The appearance of aggregated settlement may, in part have resulted from an increased population density and shrinking settlement ranges. Along with aggregating into central village locations, Late Woodland populations adopted intensive horticulture of maize and domesticated plant seed plants. Terminal Late Woodland settlement patterns continued to be dispersed and remained so through the early Fort Ancient Period.

The Terminal Woodland Period (1300–1000 B.P.) marked the end of the Newtown Phase, and a return to a dispersed settlement pattern in northeastern and central Kentucky (Railey 1996:116). After 1300 B.P., maize horticulture increased in importance, changing the lifestyles of Late Woodland groups (Railey 1991a:70). The use of maize had been diffusing through the southeast since about 1600 B.P., with varying degrees of acceptance and levels of use (Cobb and Nassaney 1995:209). The adoption of maize is one of the characteristics indicating the end of the Woodland Period.

### **3.1.4 Late Pre-contact Period**

#### **3.1.4.1 Fort Ancient Culture (1000–300 B.P.)**

Fort Ancient is the dominant late Pre-contact archaeological complex of the Central Ohio Valley in general, and north central and eastern Kentucky in particular. Encompassing the area between southeastern Indiana and western West Virginia, this complex spans a period between 1000 and 300 B.P. with some evidence of occupation during Contact times (Henderson et al. 1992:253; Turnbow and Jobe 1992; Turnbow 1992; Pollack and Jobe 1992).

Village sites from the Fort Ancient Period are larger, often palisaded, and located in valley bottoms that would accommodate agricultural activities (Sharp 1996:161). These towns were the first permanent settlements in the middle Ohio Valley, and were inhabited by several hundred people at any one time (Cowan 1987:2). Maize, squash, gourds, and beans were grown in fields and gardens adjacent to the village, and other indigenous food plants were mostly disregarded (Smith 1992:112; Watson 1989:563). The greatest importance was placed on maize, which made up the majority of the Fort Ancient diet (Cowan 1987:19; Smith 1992:112; Wagner 1984:65). Hickory nuts, walnuts, and beans were also found at Fort Ancient sites in northern Kentucky (Wagner 1984:65). Hunting and foraging were also important and evidenced by camps and seasonally occupied rockshelter sites found throughout tributary drainages (Sharp 1996:161).

In the early part of the Fort Ancient Period, the basic community was made of the family hamlet, but the villages grew larger as time passed and different families grew interdependent to each other on the cultivation of maize, squash, and beans (Pollack and Henderson 1992:284; Sharp 1996:181). In the Middle Fort Ancient Period, the dependence on corn became even more pronounced, as the culture became one of “true farmers” (Sharp 1996:170). Hunting was still



important to supplement the diet, however. By 600 B.P., the Madisonville horizon was spreading, influencing changes in pottery and projectile point styles (Sharp 1996:171). These trends were still continuing at the time of European contact, as evidenced by the presence of Euro-American materials at late Fort Ancient sites (Sharp 1990:471). Such cultural changes throughout the Fort Ancient Period reflect adaptations to an increasing population, increasing warfare, and changes in technology and ideology (Pollack and Henderson 1992:282). Trade and warfare both played important roles in Fort Ancient Society, as many exotic artifacts appear in assemblages in Kentucky and throughout the region, and many burials show evidence of mortal wounds (Sharp 1996:180).

The material culture of Fort Ancient culture includes shell-tempered pottery and a variety of ceramic vessel forms including jars, bowls, and pans (Sharp 1996). Lithic artifact assemblages were typically limited to simple tools such as small triangular points (Justice 1987), as well as scrapers, knives, and drills. The presence of marine shell and catlinite disk pipes at Fort Ancient sites suggest participation in long-distance exchange networks and interaction spheres (Sharp 1996).

### **3.1.4.2 Mississippian Culture (1000–300 B.P.)**

The Mississippian cultural sequence can be described as a period of Mesoamerican-influenced cultural development built on a very effective, agricultural subsistence base. These societies “had a ranked form of social organization, and had developed a specific complex adaptation to linear, environmentally circumscribed floodplain habitat zones” (Fagan 1995:432 quoting Smith 1978). Cahokia, a developing Mississippian center near St. Louis, controlled a sphere of influence that extended well into the central Ohio River Valley.

The Mississippian Period in Kentucky is limited to the Jackson Purchase, the Green River, and Upper Cumberland management areas and a portion of the Salt River Management Area (Pollack 2008b:605). Mississippian groups shared the same motifs and political organization as chiefdoms. Administrative settlements consisted of “planned administrative centers with plazas flanked by substructure mounds” (Pollack 2008b:605). The Mississippian stage is also characterized by permanent fortified villages, shell-tempered ceramics displaying a variety of utilitarian and ceremonial forms, and the intensive utilization of agriculturally based subsistence strategies. Maize (*Zea mays*), beans (*Phaseolus vulgaris*), and squash (*Cucurbits* sp.) were the principal crops intensively utilized by Mississippian peoples (Dragoo 1976:22).

The settlement system during the Mississippian Period was geared toward sedentism and intensive agriculture. Large villages were in bottomlands and on alluvial terraces to take advantage of the fertile soils in these topographic settings. These villages were often fortified and contained platform mounds and other earthworks. Smaller hamlets and farmsteads were in outlying areas and acted to further supplement the economic produce of the larger villages. Major river drainages were the focus of Mississippian settlement (Dragoo 1976:20).

### **3.1.5 Contact and Early Historic Period (AD 1540–1750)**

The Contact Period refers to the beginning of a time when the first effects of a European presence were felt by native cultures. Hudson (1997) points out that this impact was both direct and indirect. Direct consequences resulted from warfare, the disruption of agricultural activities, and the appropriation of agricultural produce and other goods. The indirect consequences were shifts in the balance of power between rival polities, disruption of exchange and alliance systems, and possibly the introduction of Old War diseases for which aboriginal populations had no immunity.

By the beginning of the sixteenth century, the Ohio Valley was populated by many apparently sedentary aboriginal groups. It is assumed that as early as 200 years before direct contact with Europeans was established in the Ohio Valley, their presence in the New World affected an ecological system that had existed over many millennia (Sharp 1996:181). Through indirect exchange, the Fort Ancient/Shawnee peoples of the Ohio Valley obtained European trade goods and also caught European diseases (Cowan 1987: 30–31; Sharp 1996:181). Etiological studies of disease have shown that contagion follows the same routes along which goods and information are transmitted. Diseases that remained muted as endemic forms in Europe raged in epidemic proportions in the New World, devastating the aboriginal inhabitants.

After 1680, aboriginal groups in the Ohio Valley were disrupted by stress created in the wake of shifting fur trade patterns, as tribes from the Northeast such as the Iroquois forced the local groups out to utilize the territory to hunt for beaver pelts (Cowan 1987:31; Sharp 1996:181). The economics of fur trading demanded a reorganization of territories that had previously been exploited only for hunting and gathering. In 1672, the Iroquois conquered the Shawnee and forced them from Ohio and Kentucky to Illinois, South Carolina, and Alabama. The consequences of this, coupled with the increasing westward displacement of eastern aboriginal groups, resulted in the region being “repopulated by Indian groups whose original homes lay beyond its borders” (Hunter 1978:588).

In the 1750s, the Shawnee returned to the central Ohio Valley, only to face the Europeans rather than the Iroquois (Cowan 1987:31). Although most of the Shawnee lived north of the Ohio River, there were numerous small settlements throughout Kentucky by 1750, in addition to the large Shawnee trading centers of Lower Shawneetown and Eskipakithiki along the Warriors Trail (Jobe et al. 1980:36). Shawnee villages were semi-permanent settlements composed of bark-covered lodges, sweathouses, and central structures used for ritual and secular celebrations (Clark 1974:85–90). During the summer months, crops were tended in fields near the towns, and in the fall, the inhabitants dispersed to winter camps in sheltered valleys to hunt and trap as the fur trade had become part of the Shawnee economy (Muller 1986:264). By 1795, when the Treaty of Greenville absorbed the previously aboriginal land of Ohio into the United States, very few Native American communities remained in the area (Henderson et al. 1992:270).

The central Ohio Valley was one of the last areas of eastern North American explored by the Europeans. Euro-American artifacts recovered at Fort Ancient and Mississippian sites suggest the native populations felt the influence of the immigration well before the Euro-Americans physically arrived in the valley (Sharp 1996). By the time the first historical accounts of immigration into the region were written down in the eighteenth century, few Native American populations inhabited the central Ohio Valley region.

Disease increasingly reduced native populations all over the central and eastern parts of the continent during this period. Epidemics are documented from the last decades of the 1500s and into the mid-1600s. By the late 1720s, various Native American groups such as the Shawnee and Delaware are documented as re-inhabiting the Ohio River Valley (McBride and McBride 2008). At that time, these groups maintained trade relations through the Iroquois as well as with British trading posts further east. As trade progressed, the British began establishing trading posts west into the valley.

During the French and Indian War (1754–1763), there were few military maneuvers in Kentucky or the central Ohio River Valley. The French controlled trade in the valley up until 1758, when they abandoned the area after the fall of Fort Duquesne in Pittsburgh. With the Treaty of Paris in 1763 and the end of the French and Indian War, land speculators and settlers flooded into the area pushing Native American groups further west (McBride and McBride 2008). By the late 1760s, groups known as “Long Hunters” were entering Kentucky. These “Long Hunters” came through the Cumberland Gap or via the Ohio River; they stayed from months to years at a time, extensively exploring the river valleys and investigating land conditions. These hunters paved the way for later Kentucky settlements.

## **3.2 HISTORIC CONTEXT**

### **3.2.1 Early Settlement**

The earliest Euro-American settlements in Kentucky occurred as early as the mid-1770s (McBride and McBride 1996, 2008). These early settlements generally clustered around forts or “stations,” due to the threat of attack from the local Native American populations (McBride and McBride 1996). The time of the Revolutionary War was especially turbulent, as the Native Americans in the Ohio River Valley, such as the Shawnee, allied with the British. By the end of the war in 1783, the settlement population in Kentucky was low, with only 8,000 people living in the area (McBride and McBride 2008).

Most influential in the early settlement in Kentucky was an order passed in 1789 that gave all the land between the Green and Cumberland rivers to the soldiers of the Continental Army. As a result of this order, a group of former soldiers and their families soon came into the area from various counties in Virginia. They were followed by other settlers, and soon, counties began to form. By 1790, over 73,000 people resided in Kentucky (McBride and McBride 1996). Due to an over-exploitation of native resources, there was an added emphasis on farming for subsistence,

particularly corn, tobacco, hemp, flax, and wheat (McBride and McBride 2008). Trade of furs, livestock and surplus crops was also emphasized. Early industries in the area included grist mills, small salt works, potteries, and blacksmith shops.

Simpson County, Kentucky was founded in 1819, becoming the state's 62nd county. The land making up the county was taken from Warren Logan and Allen counties. Simpson County was named in honor of Captain John Simpson (Moody 2021). Captain Simpson was born in Virginia and later migrated to Kentucky with his family as a child, settling in Lincoln County. Simpson attended school in Danville, Kentucky and studied law, later moving to Shelby County. While in Shelby County, Simpson joined the Kentucky Militia under the command of General Anthony Wayne. While in the militia Simpson fought in the Battle of Fallen Timbers on August 20, 1794, in present day Ohio and Indiana, helping to stop attacks by Native Americans on U.S. settlers.

After his service in the militia and as an attorney in Shelby County, Simpson transitioned to politics in 1806 when he was elected to the Kentucky House of Representatives. There he served as a representative of Shelby County for four terms. In 1810 and 1811 he was selected for the position of Speaker of the House. When the War of 1812 started, Simpson was called into service with the militia. Due to his political notoriety, Simpson was made Captain of the First Rifle Regiment commanded by Col. John Allen. During the Battle of River Basin on January 22, 1813, Simpson was killed during a British counterattack. After his death, Simpson County and Simpsonville in Shelby County were named in his honor. Nine other counties were named in honor of Kentucky residents that fought and died in the War of 1812 (Talbot 2021).

### **3.2.2 Nineteenth Century**

During the nineteenth century, Simpson County became noted for having several famous duels. Located along the southern border of the county is an area where the Kentucky border dips into Tennessee. Known as Blackjack corner, this area was home to the Linkumpinch Dueling Grounds. During the 1820s, many duels were fought here. Dueling was illegal in many states, including Tennessee; however, duels were still legal in Kentucky, making the area very popular for disagreements to be settled by both residents of Kentucky and Tennessee (Kentucky Department of Fish and Wildlife Resources 2014).

The most famous duel to take place in Simpson County was between Sam Houston and William White. Due to a disagreement about a political appointment, the two decided to settle their dispute at the Linkumpinch Dueling Grounds in September of 1826. Houston and White chose to use pistols in the duel, firing at each other from a distance of 15 feet. During the fight, Houston shot White in the groin, causing him to be confined to his bed for four months, however, both men survived. Duels continued in the area until the late nineteenth century, and slowly fell out of favor (Talbot 2021).



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By the beginning of the Civil War (1861–1865), large plantations grew in Kentucky. In 1861, approximately 20 percent of Kentucky’s population was comprised of slaves. Kentuckians had a unique view, wanting to remain a part of the Union, but also wanting to retain their slaves. Although it tried to remain neutral, the state ended up being occupied by Union troops in the north and Confederate troops in the south (McBride and McBride 1996).

During the war, approximately 140,000 soldiers from Kentucky fought, with 100,000 fighting for the Union and 40,000 fighting for the Confederacy. One of the most famous military units composed of soldiers from Kentucky was the First Kentucky “Orphan” Brigade. The unit was commanded by Benjamin H. Helm, brother-in-law of President Abraham Lincoln, until his death at the Battle of Chickamauga (Adelman and Woodside 2010).

During the initial stages of the war, armies on both sides of the conflict did not enter the state. That was ended in September 1861, when General Leonida Polk invaded Columbus, Kentucky, located along the Mississippi River, to prevent a Union occupation. This led to a Union invasion by General Ulysses S. Grant, capturing Paducah and Smithland, also located on the Mississippi. These military actions led to a struggle between the Union and Confederacy to gain control of the state, with the Union invading from the north and Confederate troops invading from the south (Adelman and Woodside 2010).

In 1862, the Civil War made its way to Simpson County. During the summer of 1862, an initial raid, led by Confederate Commander John Hunt Morgan, was sent to the area. Morgan’s raid was met with little resistance, and this information was passed to General Braxton Bragg. In September 1862, the Confederate army moved into Kentucky. During this advance, Bragg ordered General Nathan Bedford Forrest, later the first Grand Wizard of the Ku Klux Klan, to move in advance of the main Confederate force to harass and slow the retreating Union Army. During this advance, Forrest’s men stopped in the eastern part of Simpson County to gather food and rest before moving farther north. In October of the same year, the Union Army, under the Command of General Grant, recaptured Frankfort, causing Confederate General Bragg to withdraw from the state, not feeling confident of a decisive victory (Talbot 2021).

### 3.2.3 Twentieth Century

Following the Civil War, Kentucky’s population continued to grow, particularly in the areas around Louisville and Covington/Newport (McBride and McBride 1996). Agriculture recovered quickly from the effects of the war, with wine and tobacco becoming the main cash crops. River traffic declined, although the Ohio River continued to be an important transportation route. An increase in railroad use also occurred during this period.

The industrialization of Kentucky and growth of large cities continued into the early twentieth century. During World War I (1914–1918), the economy flourished, especially the coal industry. The tobacco and whiskey industries also boomed, though the enactment of Prohibition affected

this aspect of the economy. Although there was widespread unemployment and little economic growth during the Great Depression, civil works under the New Deal program soon benefited Kentucky in the form of infrastructural improvements and rural electrification (Encyclopedia Britannica 2021).

After WWII, new technology and infrastructure improvements came to the state. The age of the automobile saw the construction of the interstate highway system through the state. In Simpson County, Interstate 65 was constructed through the county with several exits in the county. During the segregation era, the first African American school was constructed in the town of Franklin in Simpson County. The school was opened in 1940 and served the community until it was desegregated in 1965 (Talbot 2021). Today, Simpson County boasts a large agricultural economy with a population of approximately 17,500 residents. Outside of agriculture, the economy of the county is dependent upon several industries located in the area, as well as recreational activities such as the Kentucky Downs Race Course (City of Franklin 2021).

### 3.3 BACKGROUND RESEARCH

#### 3.3.1 Previously Recorded Cultural Resources

In May and August 2020, Mara Daleen, M.S. and Bill Green, M.A. contacted the Kentucky Historical Commission (KHC) and the Kentucky Office of State Archaeology (OSA) via e-mail to request background research for the project area. A 1.5-mile search radius was used. Based on this research, there were 19 archaeological sites and 18 archaeological projects within 1.5 miles of the total project area (Figure 4, Table 3).

**Table 3. Previously recorded archaeological resources within a 1.5-mile radius of the project area\*.**

Resource ID	Description	NRHP Eligibility	Source
15Si7	Early Archaic and Early Woodland artifact scatter	Eligible	KY OSA
15Si13	Pre-contact lithic scatter	Not Eligible	KY OSA
<b>15Si17</b>	<b>Pre-contact lithic scatter; Mid-19<sup>th</sup> to mid-20<sup>th</sup> c. farm site</b>	<b>Not Eligible</b>	<b>KY OSA</b>
15Si19	Pre-contact lithic scatter; 20 <sup>th</sup> c. farm site	Not Eligible	KY OSA
15Si21	Archaic lithic scatter	Not Eligible	KY OSA
15Si26	Pre-contact lithic scatter	Not Eligible	KY OSA
15Si28	Pre-contact lithic scatter	Not Eligible	KY OSA
15Si30	19 <sup>th</sup> and early 20 <sup>th</sup> c. historic site	Not Eligible	KY OSA
<b>15Si31</b>	<b>Pre-contact lithic scatter</b>	<b>Not assessed</b>	<b>KY OSA</b>
15Si36	Middle Archaic lithic scatter	Not Eligible	KY OSA
15Si37	Pre-contact lithic scatter	Not Eligible	KY OSA
15Si38	Late Archaic and Early Woodland artifact scatter	Not Eligible	KY OSA
15Si39	Pre-contact lithic scatter	Not Eligible	KY OSA
15Si40	Pre-contact lithic scatter; 20 <sup>th</sup> c. farm site	Not Eligible	KY OSA
15Si41	20 <sup>th</sup> c. farm site	Not Eligible	KY OSA

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Table 3 continued.

Resource ID	Description	NRHP Eligibility	Source
15Si42	Pre-contact lithic scatter	Not Eligible	KY OSA
15Si43	Pre-contact lithic scatter	Not Eligible	KY OSA
15Si44	Pre-contact lithic scatter and 20 <sup>th</sup> c. farm site	Not Eligible	KY OSA
<b>15Si327</b>	<b>Archaic and Mississippian artifact scatter</b>	<b>Not assessed</b>	<b>KY OSA</b>

\*Resources in bold are located within the project area.

### 3.3.2 Historic Map Research

In addition to the records review, eighteenth through twentieth century maps were examined to determine whether historic resources were likely to be present within the proposed project area. On Symonds' 1794 *Map of the State of Kentucky: With the Adjoining Territories* there are no structures located within the project area; however, two unnamed roads pass through the northern portion of the project area (Figure 5). The location of the project area is shown again on Mergell's 1874 *Map of Middle Tennessee and Parts of East* (Figure 6). During this period, the project area is parallel to a railroad line traveling between Franklin, Kentucky and Richland, Tennessee. Intersecting the project is one unnamed road in Kentucky and one unnamed road and railroad line in Tennessee. During the twentieth century, the project area is depicted on the 1951 Franklin, Kentucky and the 1956 Nashville, Tennessee USGS topographic quadrangles. Nine historic structures are located within the project area during this time, with six of these being depicted as outbuildings and three being shown as primary structures. Two of these structures have archaeological sites associated with them (15Si60 and 16Si62). The 1951 Franklin map indicates the solar site has one unnamed road passing through the center of the project area and the Louisville and Nashville Line bordering it to the east (Figure 7). No archaeological sites were found near the other structure locations. The 1956 Nashville, Tennessee USGS topographic quadrangle (Figure 8) depicts the existing transmission line (TL L5402) extending south from Franklin, Kentucky to Portland, Tennessee. The project area crosses Highway 100 and Interstate 65 in Kentucky before crossing the border into Tennessee. During this time, a school is located within the project area, near the bend in Tyree Chapel Road, however no archaeological site was identified in this area.

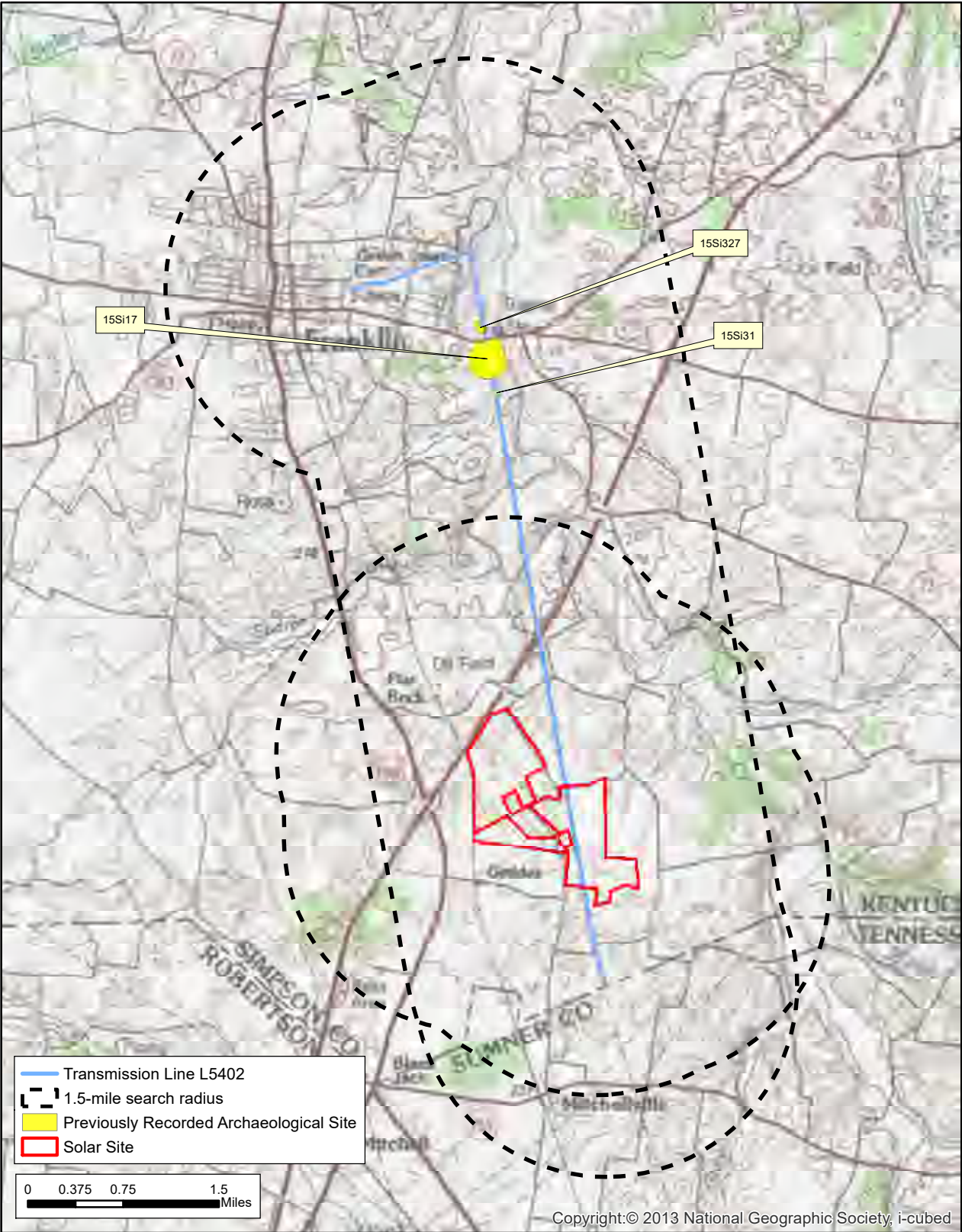
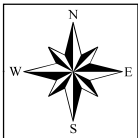


Figure 4. Previously recorded archaeological sites within the project APE.  
Base Map: Franklin (1979) and Portland (1976) 7.5'  
USGS topographic quadrangles.





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**Terracon**

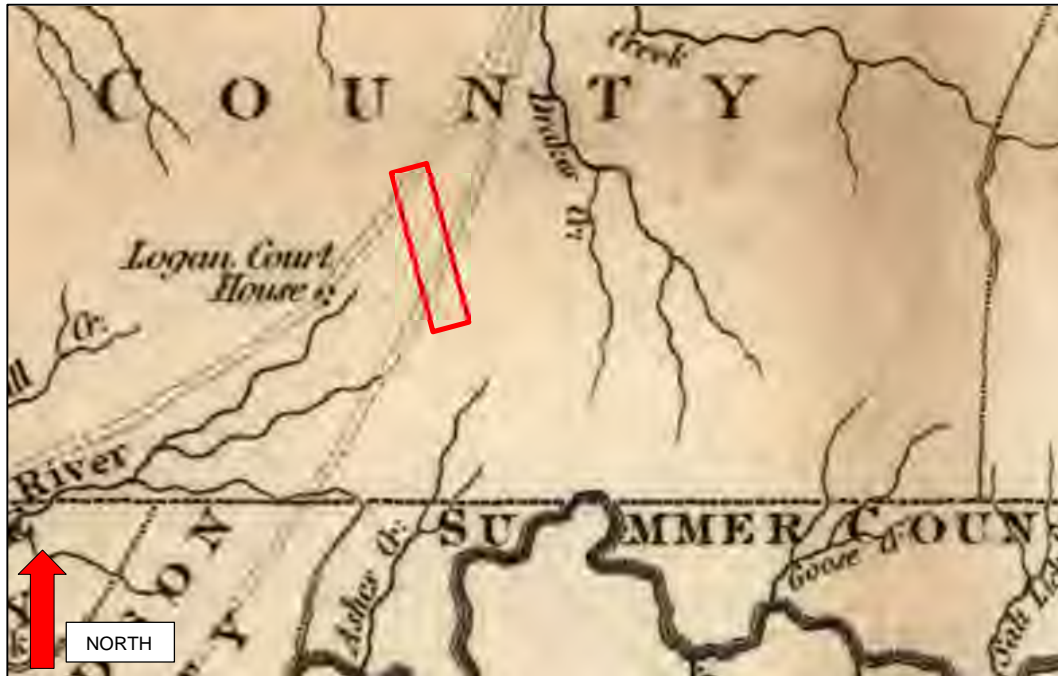


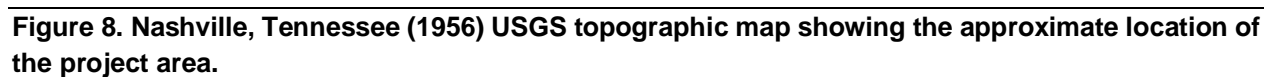
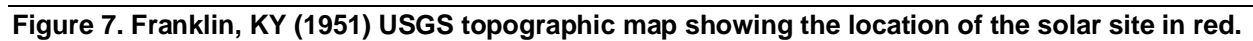
Figure 5. (1794) *Map of the State of Kentucky With the Adjoining Territories* showing the approximate location of the project area.



Figure 6. Mergell's (1874) *Military Map of Middle Tennessee and Parts of East Tennessee* showing the approximate location of the project area.



# Terracon



## 4.0 METHODS

### 4.1 ARCHAEOLOGICAL FIELD METHODS

Terracon performed a Phase I Archaeological Survey of approximately 530 acres at the Horus Kentucky 1 Solar Site and along 6.85 miles of TL L5402. Fieldwork was conducted in four sessions: May 26 and 27, 2020; October 12 to 22, 2020; November 30 to December 4, 2020; and January 11 to 22, 2021. The Phase I survey included a pedestrian survey of agricultural fields at the solar site as these fields had surface visibility of approximately 80–100 percent (Figure 2). Pedestrian survey transects were spaced 15-meters apart in all agricultural fields. This was supplemented by the excavation of 124 shovel tests excavated at 31 boring locations (four surrounding each boring location), and the excavation of 107 shovel tests at 20-meter intervals along transects spaced 20 meters apart in two wooded areas of the solar site portion of the project area, an additional 36 shovel tests were excavated within the solar site portion of the project as part of site delineations. A total of 885 shovel tests were excavated at 20-meter intervals along two transects spaced 20-meters apart within the L5402 transmission line corridor, this included the excavation of 28 site delineation shovel tests (Figures 9a–i). A total of four auger tests were placed in areas of deep alluvial deposits. These were placed just north of the West Fork Drakes Creek at Jim Roberts Community Park, as well as on either side of a different portion of the West Fork Drakes Creek, south of Turner Ford Road. If artifacts were found, additional shovel tests were excavated at 10-meter intervals in orthogonal directions to help define site boundaries. Archaeological sites found during the survey were recorded with OSA upon conclusion of the fieldwork so that permanent state site numbers could be obtained.

Each shovel test excavated during the project was at least 30 cm in diameter and excavated to a depth of at least 80 cm below surface (cmbs) or until culturally sterile subsoil, the water table, bedrock, or an impenetrable obstacle was encountered. In areas of substantial alluvial, colluvial or aeolian soil deposition, where archaeological deposits may be found at depths greater than 70 cm, Terracon excavated four cores to approximately 1.75 meters below the ground surface using a 4-inch bucket auger. Soil from all tests was screened through 1/4-inch wire mesh. Information for each test regarding artifact content, shovel test depth, soil texture and color (using the Munsell soil color chart) and other relevant environmental factors was kept in a field journal.

Artifacts recovered during the survey were bagged by site and relative provenience within each site. Sites were located using a Garmin GPSMAP78 receiver (using UTM Zone 16, NAD 27) and plotted on USGS 7.5-minute topographic maps. Sites were recorded in the field using field journals, detailed site maps, and Terracon site forms, and photographed using a high-resolution digital camera (10 megapixel or higher resolution).

For the purposes of this project, an archaeological site is defined as an area yielding three or more Pre-contact or historic artifacts within a 20-meter radius and/or an area with visible features such as shell middens, cemeteries, rock shelters, chimney falls, and earthworks.





Figure 9a. Shovel test locations with cultural resources within the project area.  
Base Map: ESRI World Imagery.



Figure  
9a



Phase I Archaeological Survey

Horus Kentucky 1 Solar ■ Simpson Co., Kentucky  
July 2021 ■ Terracon Project No. 7320P073

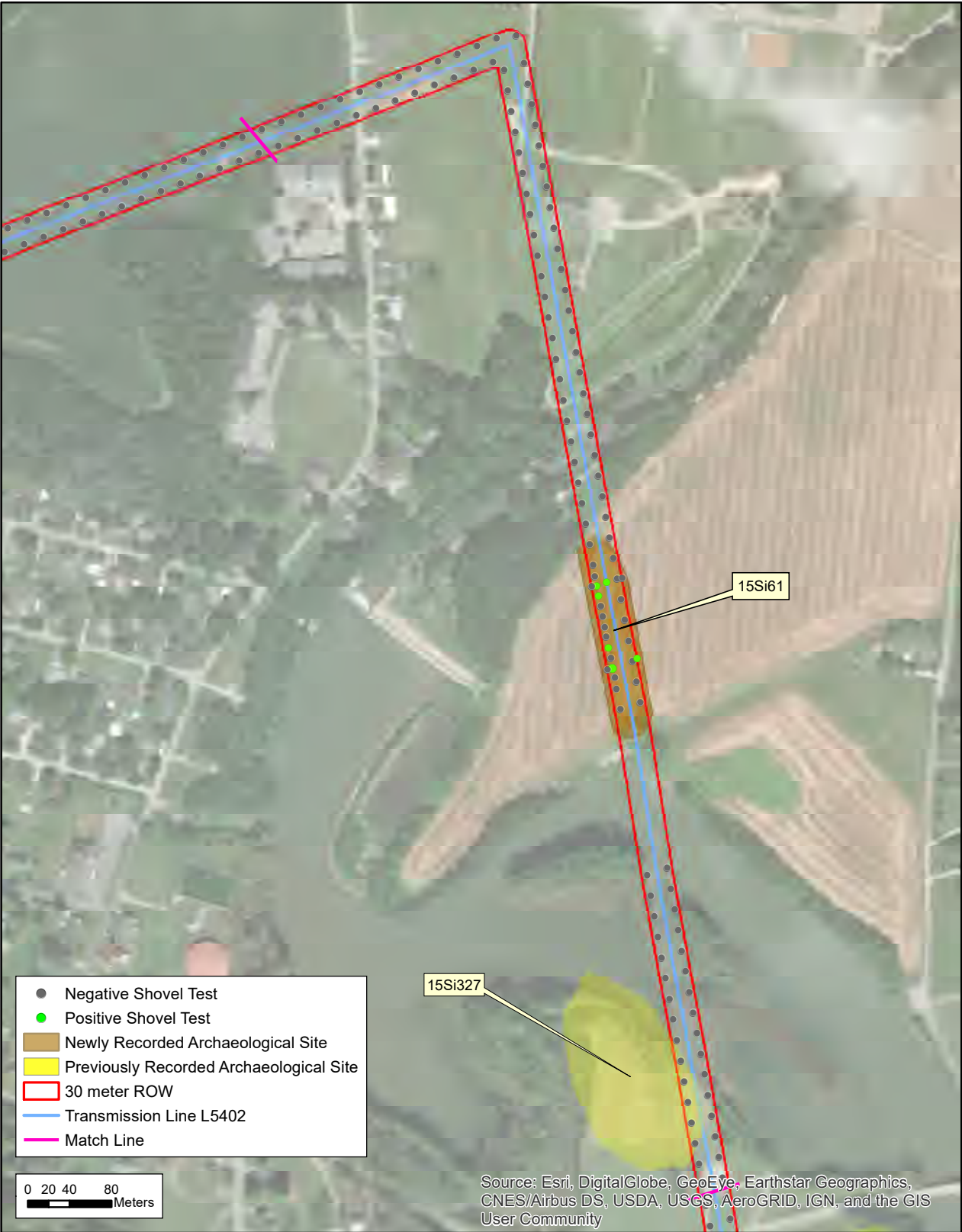


Figure 9b. Shovel test locations with cultural resources within the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable



Figure  
**9b**

Phase I Archaeological Survey

Horus Kentucky 1 Solar ■ Simpson Co., Kentucky  
July 2021 ■ Terracon Project No. 7320P073

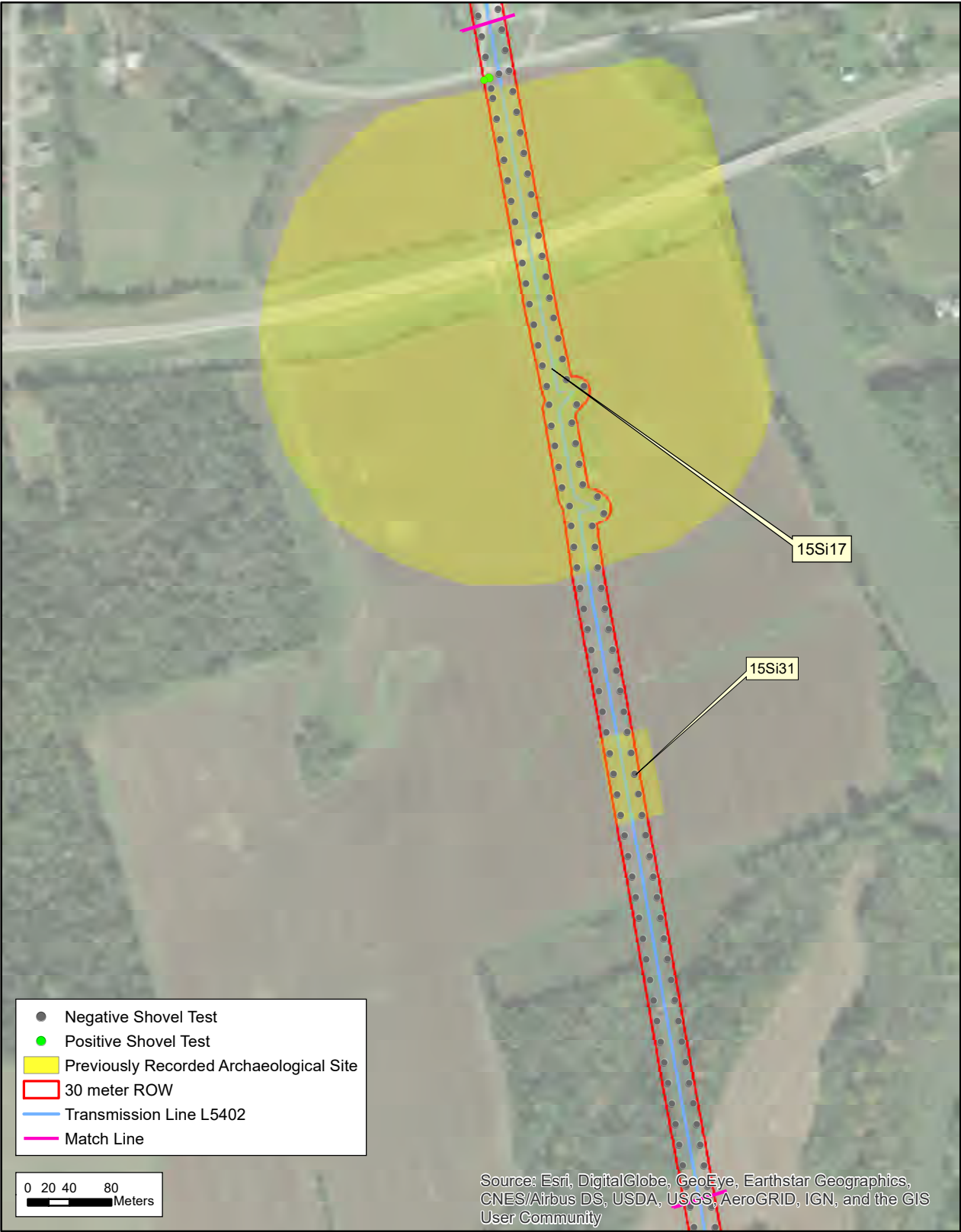


Figure 9c. Shovel test locations with cultural resources within the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable

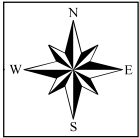


Figure  
9c

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Figure 9d. Shovel test locations within the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable



Figure  
9d





Figure 9e. Shovel test locations within the project area.  
Base Map: ESRI World Imagery.



Figure  
9e



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Figure 9f. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.



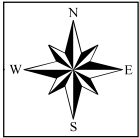
Figure  
9f

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Figure 9g. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.



Phase I Archaeological Survey

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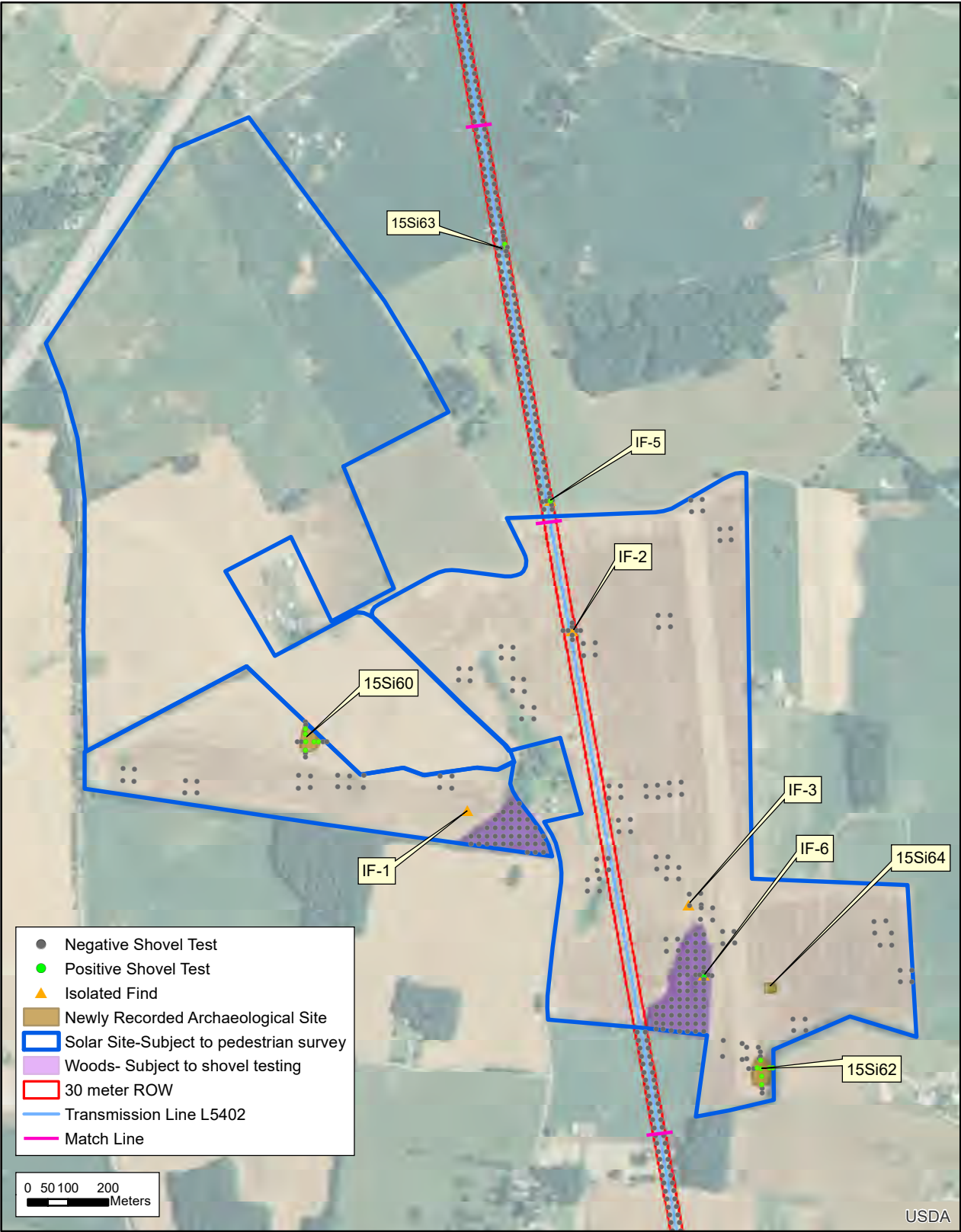


Figure 9h. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable

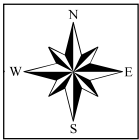


Figure  
**9h**



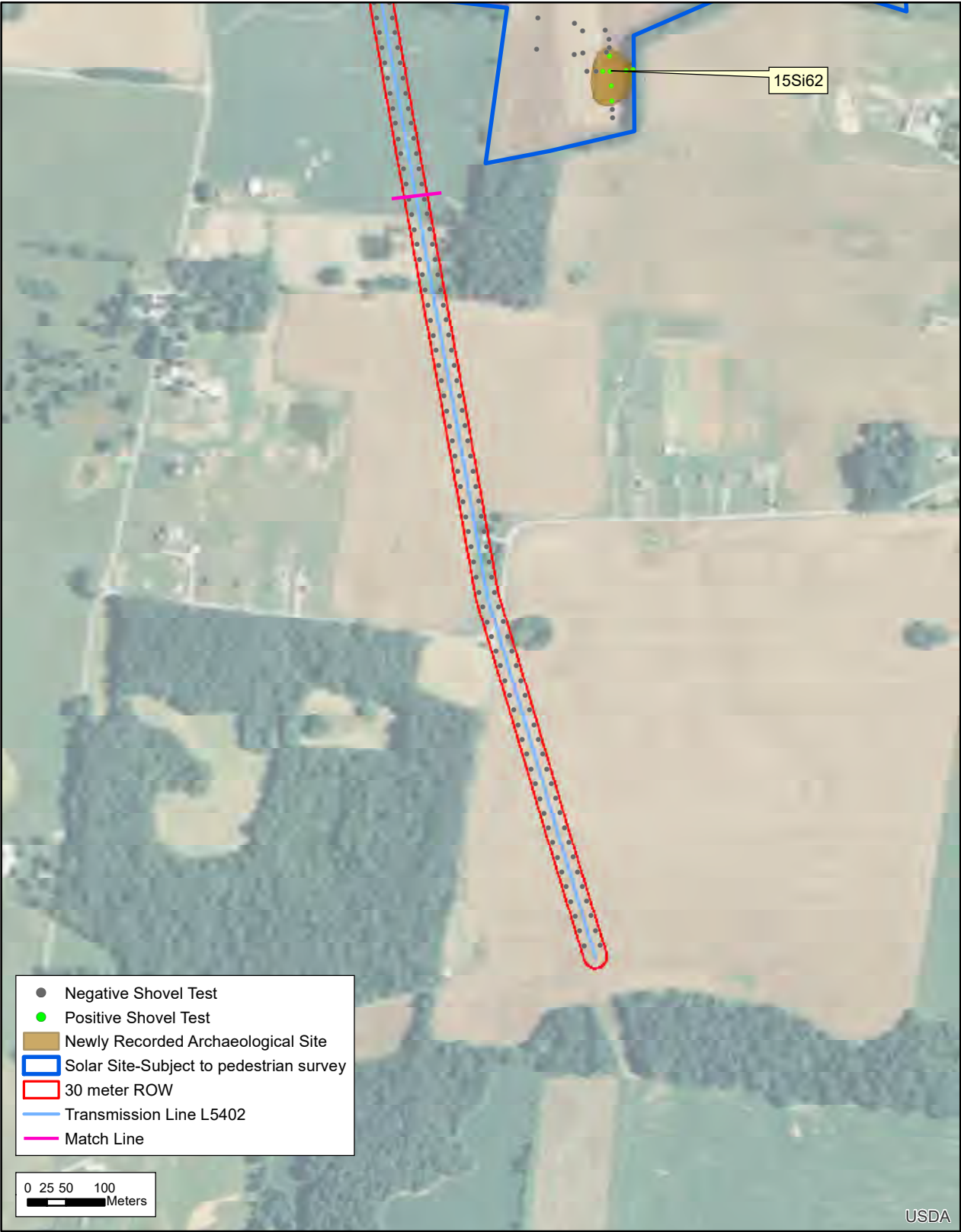


Figure 9i. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.







Figure 9a. Shovel test locations with cultural resources within the project area.  
Base Map: ESRI World Imagery.



Figure  
9a

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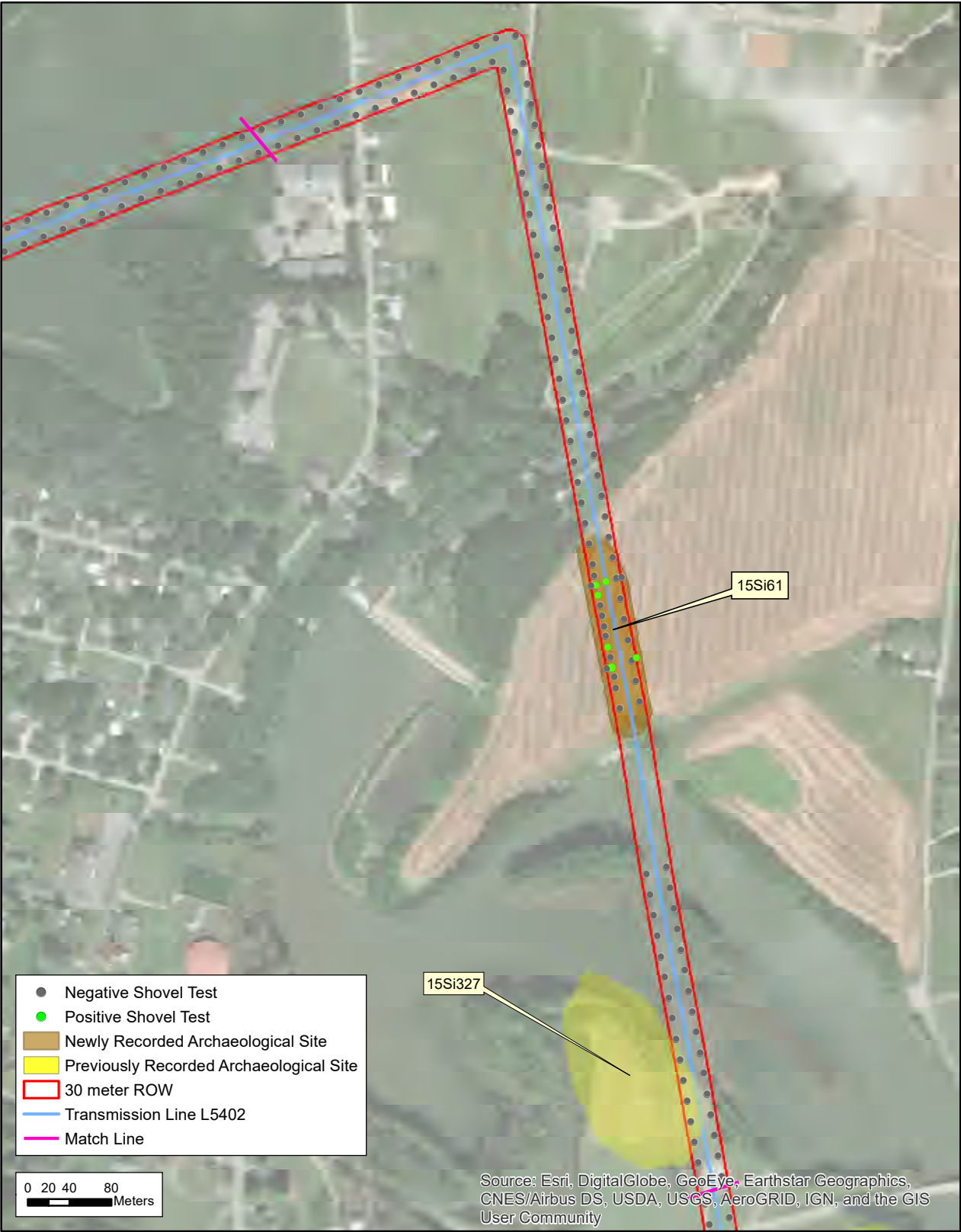


Figure 9b. Shovel test locations with cultural resources within the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable



Figure  
**9b**

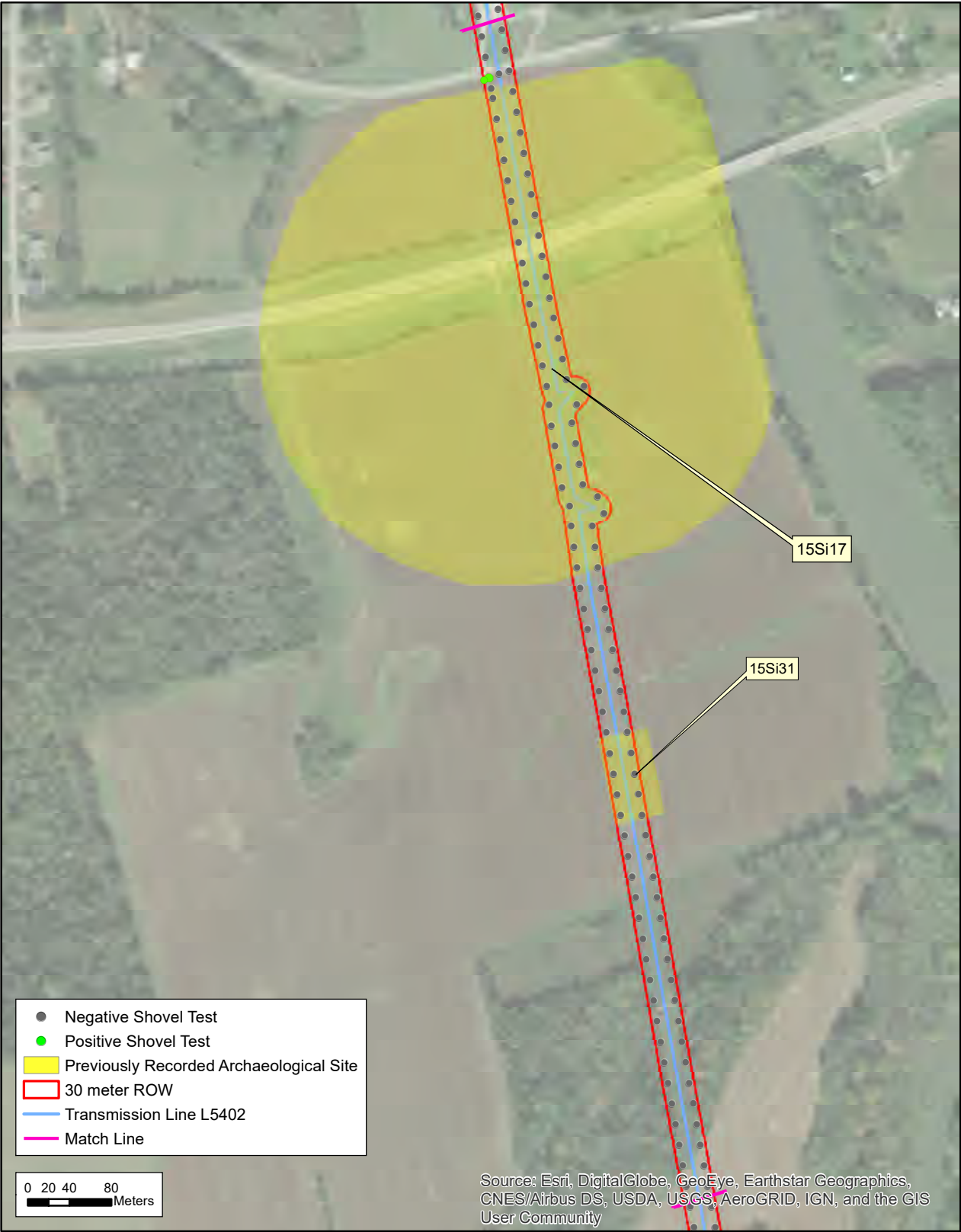


Figure 9c. Shovel test locations with cultural resources within the project area.  
Base Map: ESRI World Imagery.





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Figure 9d. Shovel test locations within the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable



Figure  
9d





Figure 9e. Shovel test locations within the project area.  
Base Map: ESRI World Imagery.



Figure  
9e

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Figure 9f. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.

Responsive ■ Resourceful ■ Reliable

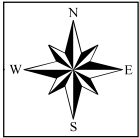


Figure  
**9f**

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Figure 9g. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.





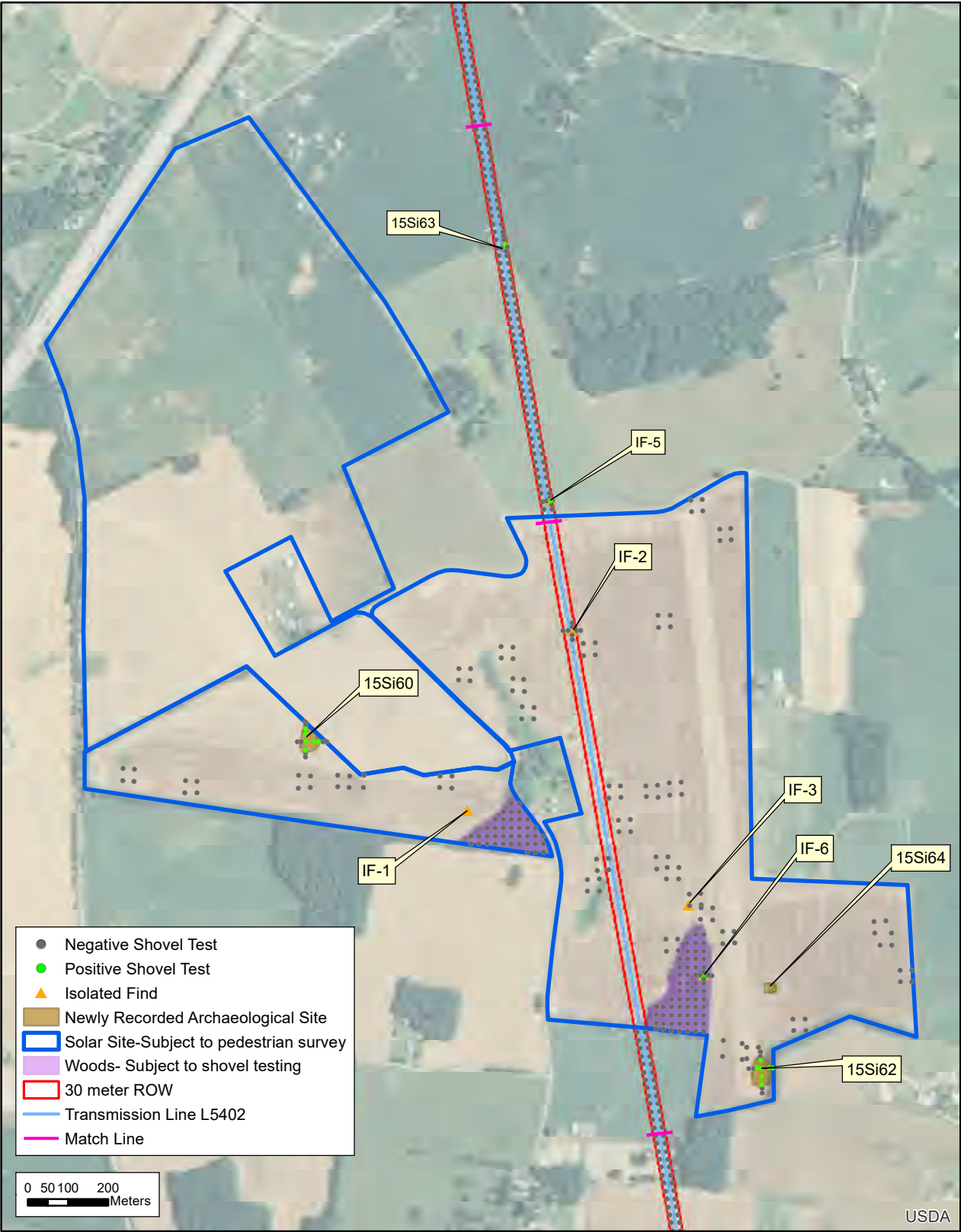


Figure 9h. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.





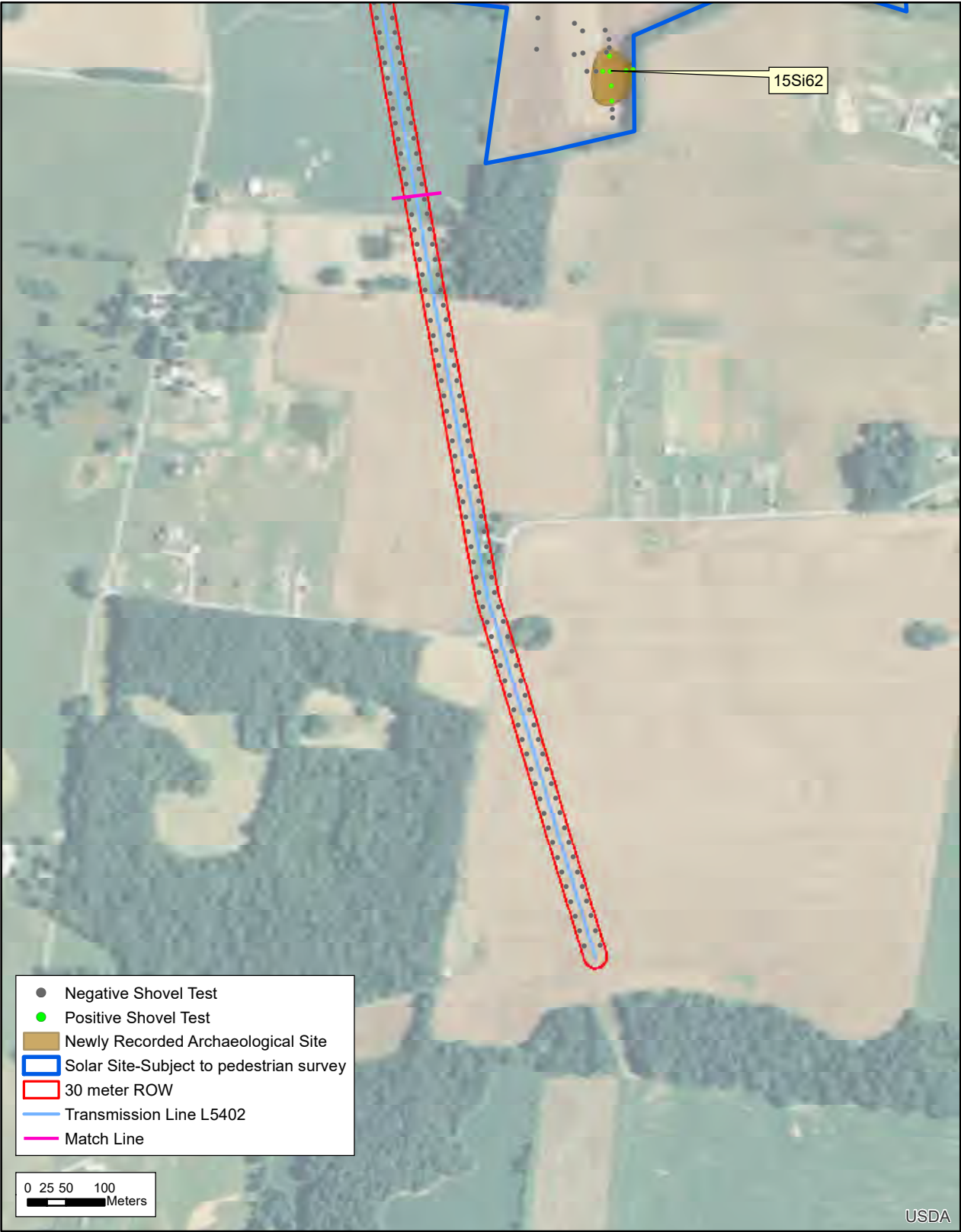


Figure 9i. Shovel test locations in the project area.  
Base Map: ESRI World Imagery.



## **4.2 LABORATORY METHODS AND CURATION**

Artifacts recovered during the survey were cleaned, identified, and analyzed using the methods summarized below. Following completion of the analyses, artifacts were bagged according to site, provenience, and catalog number and the information was entered into an Excel spreadsheet (Appendix A). Acid-free plastic bags and artifact tags were used for curation purposes.

Lithic artifacts were initially identified as either debitage (flakes and shatter) or tools. Debitage was sorted by raw material type, presence/absence of cortex, and size graded using a modified form of the mass analysis method described by Ahler (1989). Tools were classified as either being flaked or ground stone, with flaked tools being subdivided into bifaces, unifaces, or expedient tools (i.e., retouched or utilized flakes). Where possible, formal tools were classified by type, and the length, width, and thickness were recorded for each unbroken tool. Projectile point typology generally followed those contained in Cambron and Hulse (1975), Justice (1987), McNutt (2008), and Sherwood et al. (2004).

Historic artifacts were first sorted by material (e.g., ceramics, glass, and metal), and then into classes (e.g., earthenware, container glass, nails) and types (e.g., whiteware, amethyst, hand wrought). Technological attributes, decorations, maker's marks, and other chronologically sensitive indicators were then used to help establish a temporal framework for the artifacts using such references as Miller (1991), Noel Hume (1970), and South (1977), as well as the Florida Museum of Natural History's on-line digital type collection ([http://www.flmnh.ufl.edu/histarch/gallery\\_types/](http://www.flmnh.ufl.edu/histarch/gallery_types/)).

The artifacts, notes, maps, photographs, and other materials generated as a result of this project will be temporarily curated at the Terracon office in Columbia, South Carolina. After conclusion of the project, these materials will be returned to the landowners per their request.

## **4.3 NATIONAL REGISTER ELIGIBILITY EVALUATION**

For a property to be considered eligible for the NRHP, it must retain integrity of location, design, setting, materials, workmanship, feeling, and association (National Register Bulletin 15:2). In addition, there are four evaluative criteria for determining the significance of a resource and its eligibility for inclusion in the NRHP (36 CFR Part 60.4). Any building, structure, site, object, or district may be eligible if it:

- A. is associated with events that have made a significant contribution to the broad patterns of our history; or
- B. is associated with the lives of persons significant in our past; or

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C. embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. has yielded or may be likely to yield information important in history or prehistory.

A resource may be eligible under one or more of these criteria. Criteria A, B, and C are most frequently applied to historic buildings, structures, objects, non-archaeological sites (e.g., battlefields, cemeteries, natural features, and designed landscapes), or districts. Also, a general guide of 50 years of age is used to define "historic" in the NRHP evaluation process. A resource may, however, be eligible for the National Register even if it is less than 50 years of age but has exceptional significance.

The most frequently used criterion for assessing the significance of an archaeological site is Criterion D, although other criteria were considered where appropriate. For an archaeological site to be considered significant, it must have potential to add to the understanding of the area's history or prehistory. A commonly used standard to determine a site's research potential is based on a number of characteristics including artifact variety and quantity, site integrity, clarity, and environmental context (Glassow 1977). Another important factor is the uniqueness of the site. Sites that are commonly found should exhibit exceptional integrity and research potential to be eligible for inclusion in the NRHP. Site types that are rarely found (e.g., Clovis Period sites), or those that have strong cultural significance to descendant populations (e.g., burial mounds), may have less stringent requirements for inclusion in the NRHP.

## 5.0 RESULTS

Fieldwork for the Phase I Archaeological Survey was conducted in five intermittent sessions between May 26, 2020, and April 28, 2021, by Principal Investigator William Green, Archaeologist Barbara Gengenbach, Architectural Historian Mills Dorn, Crew Chiefs Cristy Abbott and Samantha Hunt, and Archaeological Field Technicians Angela D'Ambrosio, Erin Kislan, Kristi Bodine, and Ryan Thomas. Approximately 57 person days (456 hours) were spent conducting the survey. In total, 1,165 shovel tests were excavated within the project areas (Figures 9a–i). As a result of the survey, four archaeological sites, —15Si60, 15Si61, 15Si62, and 15Si63—, one family cemetery (15Si64) and four isolated finds were identified.

### 5.1 HORUS KENTUCKY 1 SOLAR SITE

The Horus Kentucky 1 Solar Site is located approximately three miles south of Franklin, Kentucky. The proposed solar farm is bisected by Tyree Chapel Road and TL L5402 and is bounded by Hendricks Road and I-65 to the north, the Louisville and Nashville Railroad to the west, and private property to south and east. Surveys for this section of the project area took place over four site visits in May, October, and December 2020, and again in January 2021. At the time of the initial survey in May 2020, vegetation in the project area included agricultural fields in the initial stages of planting and had minimal ground surface visibility. Therefore, 124 shovel tests were excavated at 31 proposed boring locations (Figure 9h). No archaeological resources were identified during this visit. The second visit in October 2020 consisted of a pedestrian survey at 15-meter intervals in the northwestern portion (approximately 250 acres) of the solar site (Figure 9h). No shovel testing was conducted as surface visibility was approximately 90 percent at the time of survey. Again, no cultural resources were identified at this time. The third visit in December 2020 consisted of a pedestrian survey of the remaining southern portion of the solar site within agricultural fields (Figure 9h). During this visit sites 15Si60 and 15Si62, and 15Si64 (Kitchens Cemetery) and three isolated finds (IFs 1–3) were identified. The fourth visit in January 2021 included shovel testing of the two largest wooded areas at the solar site (Figure 9h). One isolated find (IF-6) was identified during this portion of the investigation. Smaller wooded areas on the property had slopes greater than 15 percent and/ or contained sinkholes making shovel testing unnecessary or unsafe. On April 28, 2021, Crew Chief Samantha Hunt and field technician Kristi Bodine shovel tested the portion of a field near site 15Si62 (Figure 9h). This supplemental shovel testing was conducted to address concerns raised by an adjacent landowner who claimed to have collected projectile points from this area. Terracon archaeologists did not identify pre-contact cultural materials or features during this additional shovel testing. Additionally, Terracon did not identify any surface finds during previous visits to this location.

In total, 280 shovel tests were excavated within the solar site. Of these, 14 shovel tests contained artifacts resulting in a total of two archaeological sites and four isolated finds. No shovel testing was conducted at the Kitchens Cemetery (15Si64).



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### Site 15Si60

<b>Site Number:</b> 15Si60	<b>NRHP Recommendation:</b> Not Eligible
<b>Site Type:</b> House site	<b>Elevation:</b> 770 ft. AMSL
<b>Components:</b> 19 <sup>th</sup> –20 <sup>th</sup> century	<b>Landform:</b> Knoll
<b>UTM Coordinates:</b> E540787, N4057299 (NAD 27)	<b>Soil Type:</b> Baxter gravelly silt loam
<b>Site Dimensions:</b> 70 m N/S x 50 m E/W	<b>Vegetation:</b> Agricultural field
<b>Artifact Depth:</b> 0–25 cmbs	<b>No. of STPs/Positive STPs:</b> 14/6

Site 15Si60 is a nineteenth to twentieth century house site located on a knoll within an agricultural field approximately 470 meters west of Tyree Chapel Road (Figures 1 and 10). The house associated with this site appears on the 1951 Franklin USGS topographic map but is gone by the time the 1979 Franklin topographic map was made. Surface visibility at the site was approximately 95 percent (Figure 11). Based on shovel testing and the extent of the surface scatter, the site measures approximately 70 meters north/south x 50 meters east/west and is bounded by two negative shovel tests excavated at 10-meter intervals in each cardinal direction. Deed research at the Simpson County Clerk's Office showed that the parcel of land this site is on has changed hands several times since 1889. The earliest record found was from 1889, when Henry Wade sold the property to a Eugene Crafton. No earlier records were available as all records burned in 1880. Other families that owned this property into the mid- twentieth century include: V.D. Hammond (1913-1922), S.C. Mitchell (1922-19244), L. Mitchell (widow, 1944-1947), and lastly, R. Nesvarba (1944-1978). Based on archival research at the Simpson County Historical Society and History Center, none of these families were locally significant (Simpson County Historical Society 1989).

During the survey, 14 shovel tests were excavated in and around site 15Si60. Six shovel tests contained a total of 19 artifacts found in the plowzone between 0–25 cmbs (Table 4); an additional 12 artifacts were recovered from the ground surface. Two general soil profiles were observed at the site. The first, located on the top of the knoll, was eroded and consisted of approximately 10 cm of dark reddish brown (5YR 3/4) silty clay loam (Ap horizon), overlying 10 cm (10–20 cmbs) of red (10R 4/6) clay subsoil (Bt horizon) (Figure 12). The second profile was located on the edges of site, downslope from the knoll. This profile consisted of approximately 25 cm of strong brown (7.5YR 4/6) silt loam (Ap horizon), overlying 10 cm (25–35 cmbs) of red (2.5YR 5/8) clay subsoil (Bt horizon).

A total of 31 artifacts were recovered from the site between 0 and 25 cmbs (Appendix A). These include: nine pieces of container glass (three milk, two colorless, two aqua, and two light green glass); six whiteware sherds (five plain and one black transfer-print); two pieces of light pink tableware glass; one blue decorative glass, one porcelain sherd, one ironstone sherd; one pearlware sherd; one brown coarse earthenware sherd; one brown stoneware, one piece of window glass; one brown painted tile, two cut nails; one possible metal staple; one plastic piece, and two brick fragments.

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**Table 4. Site 15Si60 STP results.**

Provenience	Depth (cmbs)	Count
STP 1	0-10	3
STP 1+20S	0-10	1
STP 1+20E	0-25	5
STP 1+20N	0-10	6
STP 1+30E	0-20	1
STP 1+30N	0-10	3

Site 15Si60 is a small, late nineteenth to twentieth century house site located in the western portion of the project area. The site contains a moderate number of historic artifacts recovered from the surface and the plowzone between 0 and 25 cmbs.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

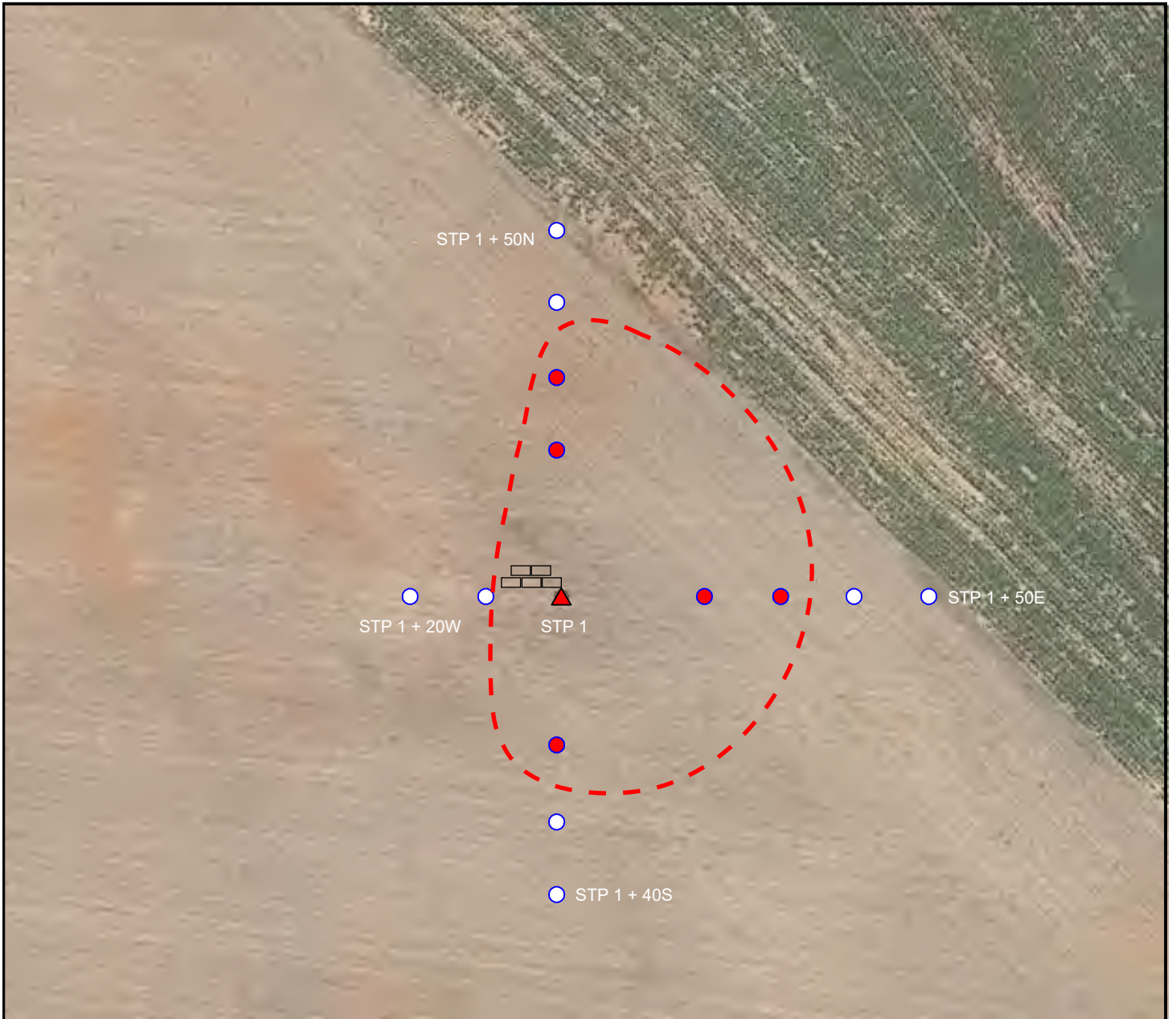
**Criterion A** – Based on archival research, this resource has no association with significant events or periods in our history's past.

**Criterion B** – Based on archival research, this resource has no known association with the lives of significant persons in our past.

**Criterion C** – The site contains no architectural or other aboveground remains. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.

**Criterion D** – The site contains a moderate number of common artifacts types found either on the surface or in the plowzone. There was little architectural debris and the site is unlikely to contain intact features. Based on these factors, the site does not have the potential to yield significant information about the history of the area.

Site 15Si60 has little potential for significant intact deposits or features, is a common site type, and is unlikely to contain intact features. Based on these factors, the site is recommended as being ineligible for inclusion in the NRHP.



KEY	
	SITE DATUM / POSITIVE STP
	POSITIVE STP
	NEGATIVE STP
	SITE BOUNDARY
	RIGHT-OF-WAY
	BRICKS

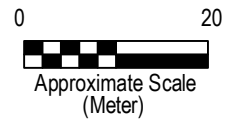


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**Terracon**  
Consulting Engineers and Scientists

521 CLEMSON ROAD COLUMBIA, SC 29229  
PH. (803) 741-9000 FAX. (803) 741-9900

Project Mngn:	BEG
Drawn By:	BEG
Drafted By:	MAD
Approved By:	BGG

Project No.	7320P073
Scale:	AS SHOWN
File No.	7320P073
Date:	December 2020

SITE MAP
HOFFMAN SOLAR
15SI60
SIMPSON CO., KENTUCKY

Figure
10



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**Figure 11. Site 15Si60 from datum facing north.**



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**Figure 12. Site 15Si60 shovel test 1.**



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### Site 15Si62

<b>Site Number:</b> 15Si62	<b>NRHP Recommendation:</b> Not Eligible
<b>Site Type:</b> House Site	<b>Elevation:</b> 750 ft. AMSL
<b>Components:</b> Late 19 <sup>th</sup> to mid-20 <sup>th</sup> century	<b>Landform:</b> Ridge
<b>UTM Coordinates:</b> E541908, N4056486 (NAD 27)	<b>Soil Type:</b> Mountainview silt loam
<b>Site Dimensions:</b> 80 m N/S x 60 m E/W	<b>Vegetation:</b> Agricultural field
<b>Artifact Depth:</b> 0–50 cmbs	<b>No. of STPs/Positive STPs:</b> 13/7

Site 15Si62 is a late nineteenth to mid-twentieth century house site located in an agricultural field approximately 520 meters east of Tyree Chapel Road (Figures 1 and 13). The house associated with this site appears on the 1951 Franklin USGS topographic map but is gone by the time the 1979 Franklin topographic map was made. Surface visibility at the site was approximately 95 percent (Figure 14). Based on shovel testing and the extent of a surface scatter, the site measures approximately 80 meters north/south x 60 meters east/west, and is bounded by two negative shovel tests excavated at 10-meter intervals to the north, south, and west, and by the project boundary to the east. Deed research conducted at the Simpson County Clerk's Office showed that the parcel of land this site sits on has changed hands several times since 1889. The earliest record found was from 1889, when Henry Wade sold the property to Eugene Crafton. No earlier records were available as all records burned in 1880. Other families that owned this property into the mid-twentieth century include V.D. Hammond (1913–1922); S.C. Mitchell (1922–1924); L. Mitchell (widow, 1944–1947); and R. Nesvarba (1944–1978). Based on archival research at the Simpson County Historical Society and History Center, none of these families were historically significant (Simpson County Historical Society 1989).

During the investigation, 13 shovel tests were excavated in cardinal directions from the center of the surface scatter. Seven of these contained 13 artifacts recovered from the plowzone between 0 and 50 cmbs (Table 5); an additional 12 artifacts were recovered from the ground surface. A typical soil profile consisted of approximately 15 cm of strong brown (7.5YR 4/6) silty clay loam (Ap horizon) followed by 10 cm (15–25 cmbs) of yellowish red (5YR 4/6) clay loam subsoil (Figure 15).

**Table 5. Site 15Si62 STP results.**

Provenience	Depth (cmbs)	Count
STP 3-8+10E	0-20	2
STP 4-4	0-20	1
STP 4-4+10E	0-20	1
STP 4-4+10S	0-20	1
STP 4-7	0-50	3
STP 4-8	0-45	5

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A total of 23 historic artifacts were recovered from the site (Appendix A). These include; five pieces of container glass (two amethyst, three aqua, and one colorless); five pieces of window glass; three sherds of Bristol-slipped stoneware; two pieces of milk glass; one sherd of Albany-slip stoneware; two ironstone sherds; one plain whiteware sherd; one cut nail; one unidentified nail; and one brick fragment. A colorless bottle glass base was embossed with "H.J. Heinz" and etched with the number 30. This dates the artifact to between 1880 and 1898 (Society for Historical Archaeology, <https://sha.org/bottle/pdffiles/Heinzbottlecodes.pdf>).

Site 15Si62 is a small, late nineteenth to mid-twentieth century house site located in the western portion of the solar farm. The site contains a moderate number of historic artifacts recovered from the surface and the plowzone between 0 and 20 cmbs. In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

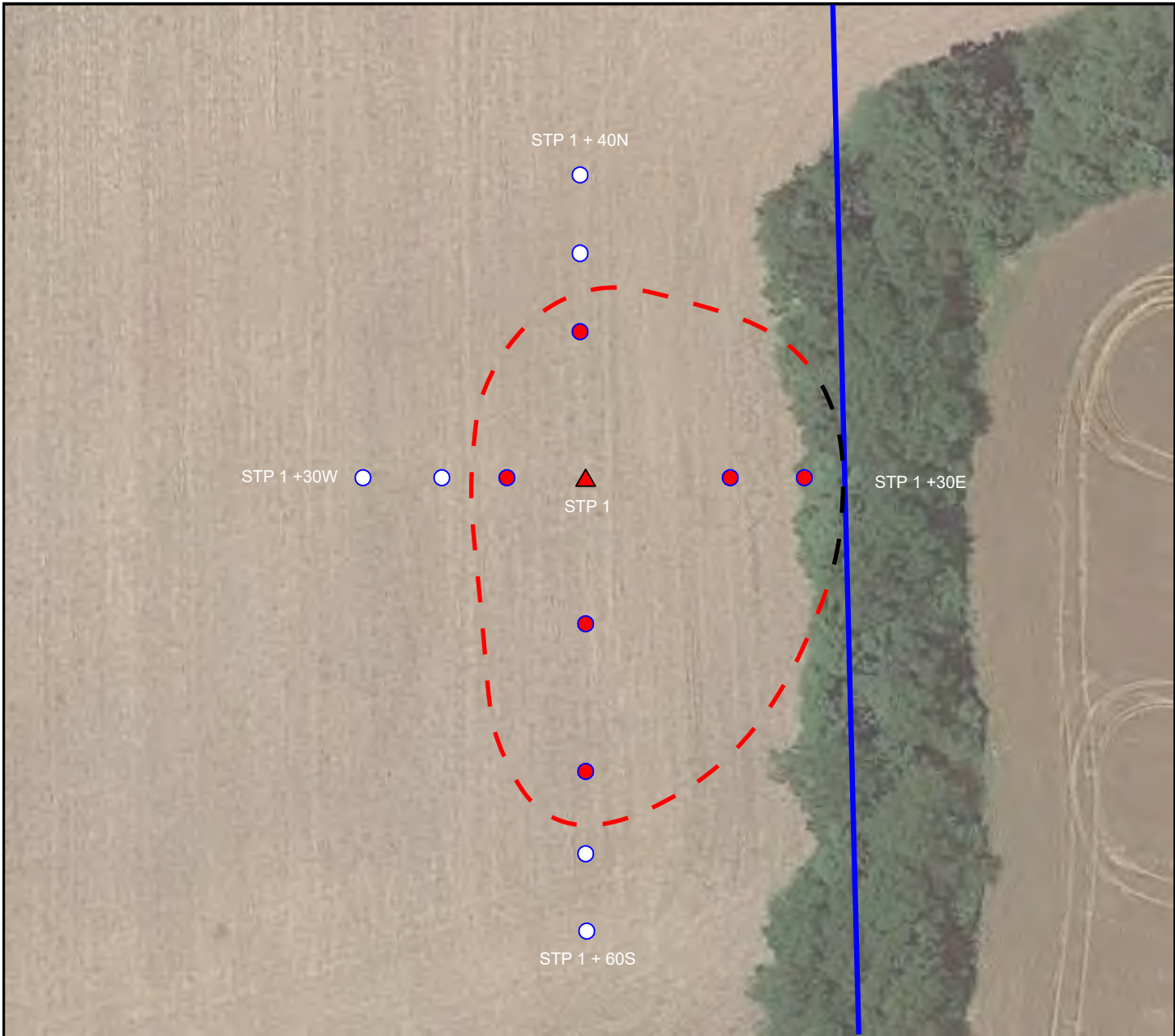
**Criterion A** – Based on archival research, this resource has no association with significant events or periods in our history's past.

**Criterion B** – Based on archival research, this resource has no known association with the lives of significant persons in our past

**Criterion C** – The site contains no architectural or other aboveground remains. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.

**Criterion D** – The site contains few artifacts and all the artifacts were found either on an eroded ground surface or in the plowzone between 0 and 20 cmbs. There was little architectural debris and the site is unlikely to contain intact features. Based on these factors, the site does not have the potential to yield significant information about the history of the area.

Site 15Si62 contains few artifacts, has little potential for significant intact deposits or features, is a common site type, and is unlikely to contain intact features. Based on these factors, the site is recommended as being ineligible for inclusion in the NRHP.



# **KEY**



**SITE DATUM / POSITIVE STP**



**POSITIVE STP**



**NEGATIVE STP**



**KNOWN SITE BOUNDARY**



**UNKNOWN SITE BOUNDARY**



**RIGHT-OF-WAY**

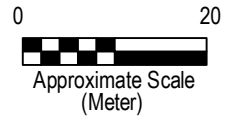
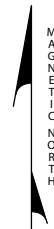


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**Figure 14. Site 15Si62 from datum facing north.**



**Figure 15. Typical shovel test at site 15Si62 (STP 1).**



## 15Si64 / Resource No. SI 536 – The Kitchens Cemetery

Site 15Si64, the Kitchens Cemetery (Architectural Resource No. SI 536) is a ca. 1920's rural cemetery located off of Tyree Chapel Road, within the project boundary (Figures 1, 9h, and 16–18). The resource consists of a small, rectangular, planned cemetery consisting of five identified burials with headstones. Headstones located in the cemetery consist of upright and die-in-socket marble headstones facing the west. The cemetery is located within an agricultural field enclosed by a wire fence. Several small trees are located within the cemetery and it is severely overgrown. Some headstones and/ or burials may be obscured by vegetation. Table 6 provides a list of known headstones with names and dates of birth and death as provided in *Simpson County, Kentucky Cemeteries* (1983).

**Table 6. Kitchens Cemetery burials.**

Grave No.	Name	Birth	Death
1	Thomas Asher Kitchens	November. 14, 1895	July 29, 1922
2	Lula Bell Kitchens Morris	July 17, 1891	January 25, 1923
3	Narcissa Mittie Huffines Kitchens and Thomas Monroe Kitchens*	August 11, 1867 June 17, 1869	August 7, 1951* December 24, 1945
4	Lena Kitchens	August 8, 1899	January 25, 1916
5	David Kitchens	July 6, 1945	July 6, 1945
6	Mink, Infant daughter of Thomas Mink (no marker)		

Deed research at the Simpson County Clerk's Office showed that the parcel of land this site is on has changed hands several times since 1889. The earliest record found was from 1889, when Henry Wade sold the property to a Eugene Crafton. No earlier records were available as all records burned in 1880. Other families that owned this property into the mid-twentieth century include V.D. Hammond (1913–1922); S.C. Mitchell (1922–1924); L. Mitchell (widow, 1944–1947); and R. Nesvarba (1944–1978). Based on archival research at the Simpson County Historical Society and History Center, none of these families or any of the families buried within the cemetery were historically significant (Simpson County Historical Society 1989).

This cemetery retains a majority of its original design and materials and retains a rural workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes the feeling of a rural cemetery. Therefore, it has retained integrity in location, setting, feeling, design, materials, and workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – Based on archival research, this resource has no association with significant events or periods in our history's past.

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**Criterion B** – Based on archival research, this resource has no known association with the lives of significant persons in our past

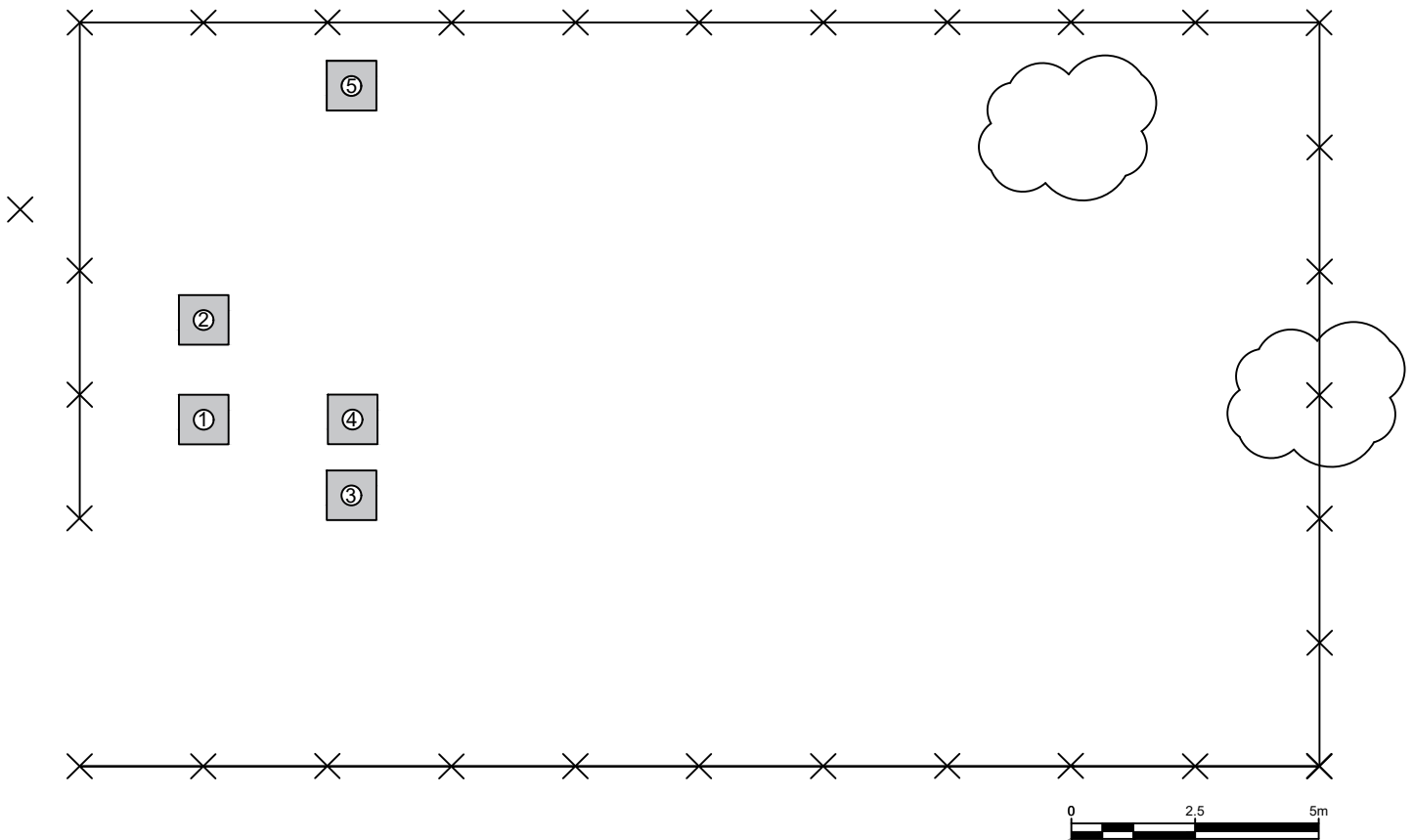
**Criterion C** – The Kitchens Cemetery embodies some characteristics of a late nineteenth century rural cemetery through retention of its rural workmanship style, along with its original materials and design.

**Criterion D** – Given that the cemetery dates to the twentieth century, it is unlikely to yield significant information important in understanding the history of the area.


Cemeteries and graves do not qualify for NRHP listing unless they are associated with persons of exceptional significance (and is the only or best physical representation associated with that person); of outstanding age within its geographic and cultural context; feature distinctive design features; or were part of noteworthy historic events (Potter and Boland 1992, National Register Bulletin 41). The Kitchens Cemetery is not associated with a significant historic figure or event and is unlikely to yield information important to the history of the area. The Kitchens Cemetery does represent distinctive characteristics of a type, period, and method of construction; however, the cemetery is not the best example of an early twentieth century rural cemetery. For these reasons, Resource No. SI 536 – Kitchens Cemetery is recommended ineligible for inclusion in the NRHP.





Figure 16. Site 15Si64, facing northwest



**LEGEND**

 HEADSTONE

 TREE

 FENCING

Project Mng'r:	BGG	Project No.	7320P073	<div>SITE MAP</div> <div>HOFFMAN SOLAR</div> <div>15Si64</div> <div>SIMPSON COUNTY, KENTUCKY</div>		Figure	
Drawn By:	MFG	Scale:	AS SHOWN				
Checked By:	BEG	File No.	N/A	<div>17</div>			
Approved By:	BGG	Date:	JULY 2021				
		<div><div>Terracon</div><div>Consulting Engineers and Scientists</div></div>		<div>521 CLEMSON ROAD</div> <div>PH. (803) 741-9000</div> <div>COLUMBIA, SC 29229</div> <div>FAX. (803) 741-9900</div>			



**Figure 18. Site 15Si64, Headstone 3.**

## **ISOLATED FINDS**

Isolated Find 1 (IF-1) consists of one utilized chert flake found on the ground surface near UTM coordinates E541179, N4057123 (NAD 27) in the south-central portion of the Horus Kentucky 1 Solar project area. It is located on an eroded slope approximately 150 meters west of Tyree Chapel Road. Due to the slope and eroded soils, no shovel tests were excavated. A visual inspection of the surrounding area at 5-meter intervals did not identify any additional cultural material. This isolated find has little research potential and is recommended as being ineligible for inclusion in the NRHP.

Isolated Find 2 (IF-2) consists of one polyhedral chert core found on the ground surface near UTM coordinates E541439, N4057571 (NAD 27) in the northeastern portion of the Horus Kentucky 1 Solar project area. It was found in a low-lying area approximately 200 meters southeast of a bend in Tyree Chapel Road. Nine shovel tests were excavated around isolated find; however, none of these contained artifacts (Figure 9h). In addition, a visual inspection of the surrounding area at 5-meter intervals did not identify any additional cultural material. This isolated find has little research potential and is recommended as being ineligible for inclusion in the NRHP.

Isolated Find 3 (IF-3) consists of one freehand chert core found on the ground surface near UTM coordinates E541729, N4056889 (NAD 27) in the central portion of the Horus Kentucky 1 Solar project area. It is located on an eroded slope approximately 330 meters east of Tyree Chapel



Road. Due to the slope and eroded soils, no shovel tests were excavated at the time it was identified; however, previous shovel tests for a nearby boring location did not identify any artifacts (Figure 9h). Similarly, a visual inspection of the surrounding area at 5-meter intervals did not identify any additional cultural material. This isolated find has little research potential and is recommended as being ineligible for inclusion in the NRHP.

Isolated Find 6 (IF-6) consists of one chert flake found in a shovel test between 0 and 30 cmbs near UTM coordinates E541766, N4056715 (NAD27) in the southern portion of the Horus Kentucky 1 Solar project area. It is located in a wooded area approximately 380 meters east of Tyree Chapel Road. Eight additional shovel tests were excavated at 10-meter intervals around the initial positive shovel test; however, none of these contained artifacts (Figure 9h). This isolated find has little research potential and is recommended as being ineligible for inclusion in the NRHP.

## **5.2 TRANSMISSION LINE L5402**

Transmission Line L5402 is located in Simpson County, Kentucky. It begins at the Franklin TVA Substation on East Cedar Street in the Town of Franklin. The portion of TL L5402 within Kentucky continues south for approximately 6.85 miles. An additional four miles of the transmission line is located in Tennessee and is described in a separate report (Gengenbach and Green 2021a). This portion of the project area was surveyed in January 2021. During the survey, one previously recorded archaeological site, 15Si17, was revisited and two new archaeological sites, 15Si61 and 15Si63, and two isolated finds were identified. In total, 895 shovel tests were excavated within the TL L5402 ROW. Of these, 12 shovel tests were positive across three archaeological sites and two isolated finds. Previously recorded sites 15Si31 and 15Si327 were not re-identified during the current survey.

**Site 15Si31** was identified in April 2009 by TRC and recorded in the following report: *Phase I Survey of the Proposed East Simpson 161 kV Transmission Line Project* (McKee et al. 2010). During the 2009 survey, site 15Si31 was only assessed within the TVA ROW (approximately 100-ft wide). The crew excavated a single shovel test within the site and a light lithic scatter of artifacts was noted over a broad area (3,300 m<sup>2</sup>). The 2009 survey did not assess the NRHP eligibility of the site but suggested that the site might extend outside of the project area. As Terracon was unable to locate site 15Si31 during this survey, the NRHP eligibility of this site remains unassessed.

**Site 15Si327** was initially identified in December 1988 by Jack Schock of Arrow Enterprises and recorded in the following report: *A Cultural Reconnaissance of Approximately 50 Acres for the Proposed Six Feet Elevation of the City Dam at Franklin, in Simpson County, Kentucky* (Schock 1989). The report stated that typical ground surface visibility was between 50 and 90 percent; however, there were tall weeds which were mechanically removed along with approximately 0.1–0.2 feet of topsoil to improve ground surface visibility along a low ridge in the northwest portion of the site. Six test units were excavated; however, it is unclear if any of these or the mechanical

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stripping occurred within the current project boundary. The 1988 report states that the northeast portion of the site would be flooded by the dam project. Schock recommended that the site was not eligible for the NRHP and no further work was required at that time.

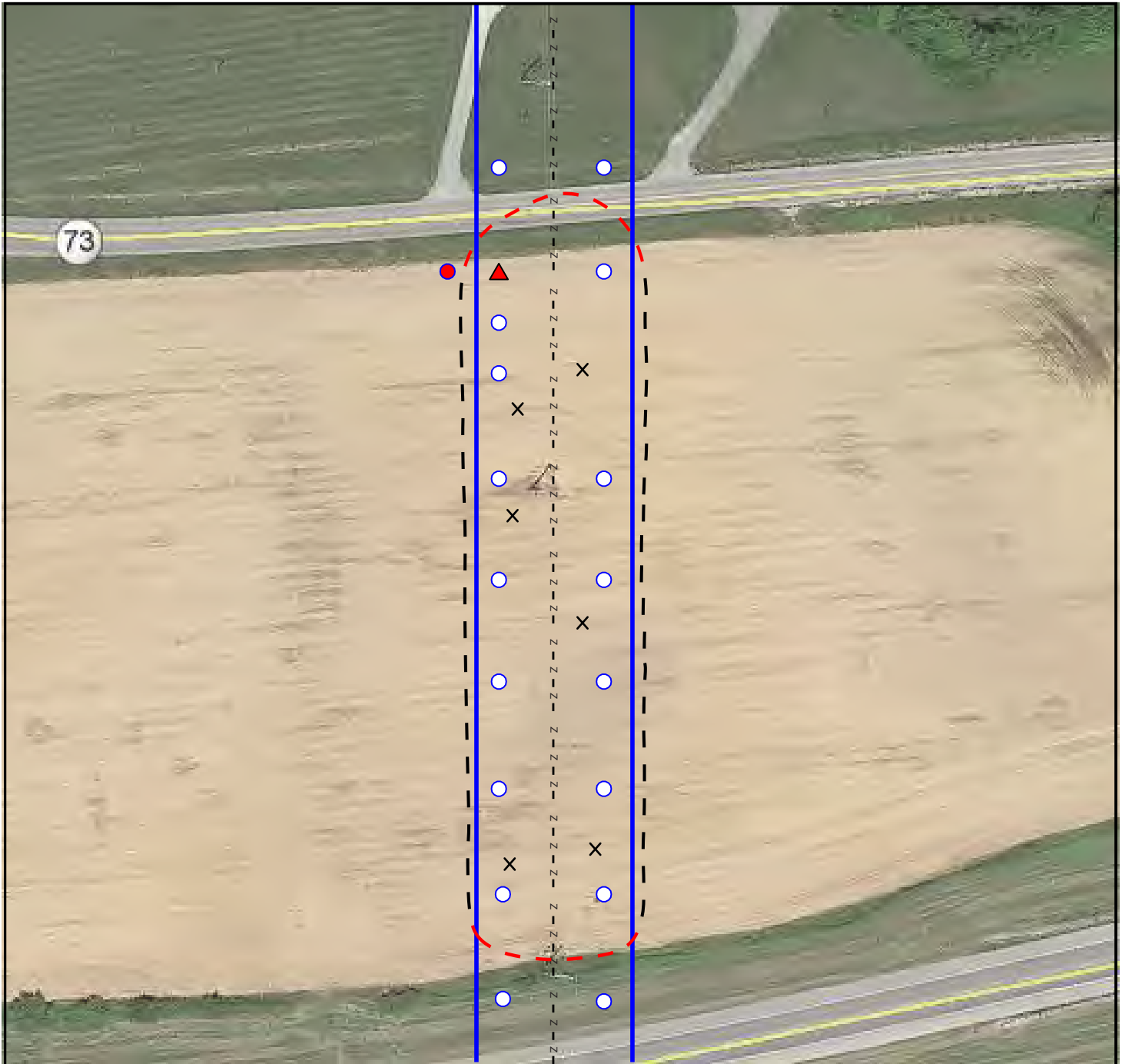
### Site 15Si17

<b>Site Number:</b> 15Si17	<b>NRHP Recommendation:</b> Not Eligible
<b>Site Type:</b> Lithic scatter	<b>Elevation:</b> 595 ft. AMSL
<b>Components:</b> Unidentified Pre-contact	<b>Landform:</b> Undissected uplands
<b>UTM Coordinates:</b> E540366, N4063499, (NAD 27)	<b>Soil Type:</b> Elk silt loam
<b>Site Dimensions:</b> 140 m N/S x 30 m E/W*	<b>Vegetation:</b> Agricultural field
<b>Artifact Depth:</b> 0–20 cmbs *	<b>No. of STPs/Positive STPs:</b> 55/2

\* Based on the current survey only.

Site 15Si17 was initially identified in 1976 by a staff member with the Kentucky Transportation Cabinet (KYTC, Division of Environmental Analysis), as part of a reconnaissance survey of the ROW for the Kentucky Highway 100 relocation project. The site was revisited in 1989 by Janzen Inc. and Frank Bodkin in the spring of 1989 as part of the KY 100 Relocation Project (Janzen 2008). In 1989, Janzen conducted a Phase II archaeological investigation of the site. This included 18 hand excavated 1-x-2-meter units, three mechanically excavated trenches (no dimensions were provided), and 11 10-x-10-meter graded areas. This investigation identified artifacts with dates ranging from the Archaic, Early Woodland, and Late Woodland periods. Based on the results, site 15Si17 had a low artifact density distributed over approximately 50 acres. The various methods of excavation did not reveal any archaeological features. It was determined that “while there are undisturbed cultural deposits on a portion of 15Si17, there is a low probability that these deposits will yield any significant archaeological data.” The site was recommended as being not eligible for the NRHP at this time.

During the current survey, Terracon re-located site 15Si17 in an agricultural field between Gold City Road/ Highway 73 and Scottsville Road/Highway 100 (Figures 1 and 19). Surface visibility at the time of the survey was approximately 40–50 percent and a small lithic scatter was noted in the field (Figure 20). Additionally, 55 shovel tests were excavated within the original boundaries of the site as part of the current survey. Of these, two shovel tests located immediately adjacent to Gold City Road contained a total of two chert flakes found between 0 and 20 cmbs (Appendix A). A typical soil profile consisted of approximately 25 cm of brown (7.5YR 4/4) silty clay loam (Ap horizon) followed by 10+ cm (25–35+ cmbs) of red (2.5YR4/6) clay loam subsoil (Bt horizon) (Figure 21).



<b>KEY</b>	
	<b>SITE DATUM / POSITIVE STP</b>
	<b>POSITIVE STP</b>
	<b>NEGATIVE STP</b>
	<b>SURFACE ARTIFACT</b>
	<b>KNOWN SITE BOUNDARY</b>
	<b>UNKNOWN SITE BOUNDARY</b>
	<b>RIGHT- OF- WAY</b>
	<b>TRANSMISSION LINE</b>

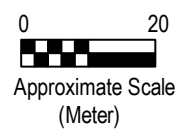


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 521 CLEMSON ROAD COLUMBIA, SC 29229 PH. (803) 741-9000 FAX. (803) 741-9900	Project Mngnr: <b>BEG</b> Drawn By: <b>BEG</b> Drafted By: <b>MAD</b> Approved By: <b>BGG</b>	Project No. <b>7320P073</b> Scale: <b>AS SHOWN</b> File No. <b>7320P073</b> Date: <b>December 2020</b>	<b>SITE MAP</b>  <b>HOFFMAN SOLAR</b> <b>15SI17</b> <b>SIMPSON CO., KENTUCKY</b>	<b>Figure</b>  <b>19</b>

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**Table 7. Site 15Si17 STP results.**

Provenience	Depth (cmbs)	Count
STP 2-1	0-20	1
STP 2-1+10W	0-20	1

Only two artifacts were recovered from the site during the current investigation (both from the previously mentioned shovel tests). A surface collection was not made as the only artifacts on the surface were pieces of chert debitage. This debitage surface scatter was noted between Gold City Road/ Highway 73 and Scottsville Road/Highway 100. Although the site was originally recorded as having a historic component, no historic artifacts were identified during the current survey either on the surface or within any shovel tests. The site as delineated in the current survey, measures approximately 140 meters N/S by 30 meters E/W and is bounded by Gold City Road to the north, Scottsville Road to the south, and the project area to the east and west.

Based on the current survey, site 15Si17 is a small, temporally non-diagnostic lithic scatter located in the central portion of TL L5402. The site contains a small number of temporally non-diagnostic artifacts recovered from the plowzone between 0 and 20 cmbs. In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – The site has no known association with events that have made a significant contribution to the broad patterns of our history.

**Criterion B** – The site has no known association with the lives of significant persons in our past.

**Criterion C** – The site contains no architectural or other aboveground remains. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.

**Criterion D** – The site contains few artifacts, has no temporally diagnostic artifacts, and has no artifact diversity. Additionally, all of the artifacts were found in shallow deposits between 0 and 20 cmbs and there is no archaeological integrity. Based on these factors, the site does not have the potential to yield significant information about the prehistory of the area.

Site 15Si17 contains few artifacts, none of which are temporally diagnostic, has no artifact diversity, and is a common site type. In addition, all the artifacts were found on the surface or in the plowzone showing that there is unlikely to be potential for significant intact deposits or features at the site. Based on these factors, Terracon agrees with the previous recommendation that the site is ineligible for inclusion in the NRHP.



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**Figure 20. Site 15Si17 facing north.**



**Figure 21. Site 15Si17 shovel test 2-1.**

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July 2021 ■ Terracon Project No. 7320P073



### Site 15Si61

<b>Site Number:</b> 15Si61	<b>NRHP Recommendation:</b> Potentially Eligible
<b>Site Type:</b> Base camp	<b>Elevation:</b> 605 ft. AMSL
<b>Components:</b> Middle or Late Archaic	<b>Landform:</b> Ridge
<b>UTM Coordinates:</b> E540272, N4064084, (NAD 27)	<b>Soil Type:</b> Mountview silt loam
<b>Site Dimensions:</b> 190 m N/S x 45 m E/W	<b>Vegetation:</b> Agricultural field
<b>Artifact Depth:</b> 0–50 cmbs	<b>No. of STPs/Positive STPs:</b> 27/6

Site 15Si61 is a Middle or Late Archaic base camp located in the northern portion of TL L5402 on a ridge that overlooks the West Fork of Drakes Creek (Figures 1 and 22). Vegetation at the site consists of an agricultural field that had been harvested prior to the survey. There was moderate to heavy ground cover with varying degrees of ground surface visibility and a pedestrian survey was conducted in addition to shovel testing (Figure 23).

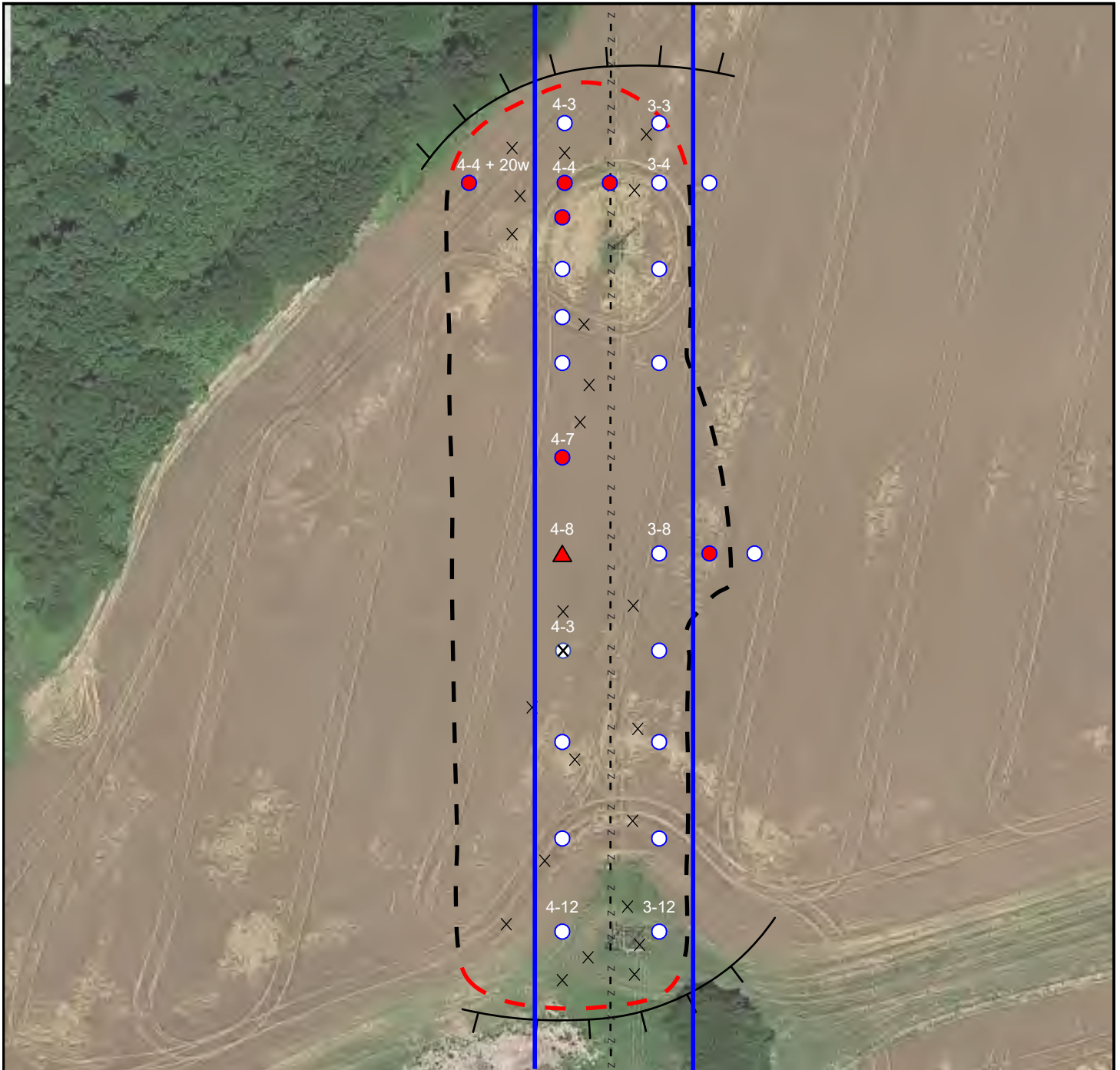
The site measures approximately 190 meters N/S by 45 meters E/W and extends north to south across a ridge. The site is bounded by two negative shovel tests and the edge of the landform to the north, and the limits of a surface scatter to the south. The site likely extends further east and west outside of the current project boundary. The site appears to have two loci, one at the northern end of the site that contained positive shovel tests and one on the eroded, southern edge of the site that contained a dense surface scatter of artifacts just before the slope to the creek.

There were two soil profiles present at the site. The first, located on the northern end of the site, consisted of approximately 25 cm of strong brown (7.5YR 4/6) clay loam (Ap horizon) followed by 10+ cm (25–35+ cmbs) of yellowish red (5YR 4/6) clay subsoil (Bt horizon) (Figure 24). The second soil profile, located at the southern end of the site, consisted of approximately 10+ cm (0–10+) of red (10R 4/8) clay subsoil (Bt horizon) on the surface.

A total of 90 lithic artifacts were recovered from 15Si61 (Appendix A). Of these, 13 were recovered from six shovel tests (Table 8). These include one possible Elk River projectile point (Figure 24), one unidentified rounded point base made from oolitic chert, two projectile point fragments, one scraper, one broken and retouched biface, five amorphous cores, three utilized flakes, and 76 pieces of debitage (73 flakes and three pieces of shatter). All of the artifacts were made from chert. The possible Elk River point dates to the Middle or Late Archaic Period (ca. 5500–4000 B.P., Justice 1987:112), and the absence of pottery supports this date range.

Site 15Si61 is a Middle or Late Archaic lithic scatter located, on a ridge overlooking the West Fork of Drakes Creek in the northern portion of TL L5402. The site contains a large number and variety of artifacts found up to 50 cmbs. In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):





KEY	
	SITE DATUM / POSITIVE STP
	POSITIVE STP
	NEGATIVE STP
	SHOVEL TEST NOT EXCAVATED
	SURFACE ARTIFACT
	KNOWN SITE BOUNDARY
	UNKNOWN SITE BOUNDARY
	RIGHT- OF- WAY
	TRANSMISSION LINE
	CONTOUR LINE

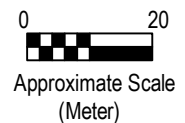


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**Terracon**  
Consulting Engineers and Scientists

521 CLEMSON ROAD COLUMBIA, SC 29229  
PH. (803) 741-9000 FAX. (803) 741-9900

Project Mng'r:	BEG
Drawn By:	BEG
Drafted By:	MAD
Approved By:	BGG

Project No.	7320P073
Scale:	AS SHOWN
File No.	7320P073
Date:	December 2020

SITE MAP
HOFFMAN SOLAR
15SI61
SIMPSON CO., KENTUCKY

Figure
22

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**Figure 23. Site 15Si61 facing north.**



**Figure 24. Site 15Si61, shovel test 4-7.**



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Figure 25. Possible Elk River Point, Cat. 1.01.

Table 8. Site 15Si61 STP results.

Provenience	Depth (cmbs)	Count
STP 3-8+10E	0-20	2
STP 4-4	0-20	1
STP 4-4+10E	0-20	1
STP 4-4+10S	0-20	1
STP 4-7	0-50	3
STP 4-8	0-45	5

**Criterion A** – The site has no known association with events that have made a significant contribution to the broad patterns of our history.

**Criterion B** – The site has no known association with the lives of significant persons in our past.

**Criterion C** – The site contains no architectural or other aboveground remains. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.

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**Criterion D** – The site contains a large number of both formal and expedient tools and has good artifact diversity (e.g., projectile points, scrapers, bifaces, expedient tools). The presence of five cores also indicates that primary lithic reduction activities were taking place at the site. Based on these factors, the site has the potential to yield significant information about the prehistory of the area.

Site 15Si61 contains a large number and variety of artifacts and at least one temporally diagnostic artifact (the Elk River point). While many of the artifacts were found in shallow deposits or on the ground surface, some were found beneath the plowzone in deposits up to 50 cm deep. Based on these factors, the site could contribute to information about the Middle or Late Archaic periods of the area and the site is recommended as being potentially eligible for inclusion in the NRHP.

### Site 15Si63

<b>Site Number:</b> 15Si63	<b>NRHP Recommendation:</b> Not Eligible
<b>Site Type:</b> Lithic scatter	<b>Elevation:</b> 680 ft. AMSL
<b>Components:</b> Unidentified Pre-contact	<b>Landform:</b> Flat
<b>UTM Coordinates:</b> E541265, N4058520, (NAD 27)	<b>Soil Type:</b> Baxter gravelly silt loam
<b>Site Dimensions:</b> 15 m N/S x 10 m E/W	<b>Vegetation:</b> Pasture/ grass
<b>Artifact Depth:</b> 0–44 cmbs	<b>No. of STPs/Positive STPs:</b> 9/2

Site 15Si63 is a small, temporally non-diagnostic lithic scatter located at the base of a slope within an agricultural field in the central portion of TL L5402 (Figure 1 and 26). Vegetation at the site consists of a pasture and a hayfield with no surface visibility (Figure 27). During the survey, nine shovel tests were excavated in and around site 15Si63. Two shovel tests contained a total of five artifacts found in the plowzone between 0 and 44 cmbs. Based on the shovel testing, site 15Si63 measures approximately 15 meters north/south by 10 meters east/west. The site is bounded by two negative shovel tests to the north, south, and west, and by one negative shovel test and the project boundary to the east. A typical soil profile consisted of approximately 40 cm of dark grayish brown (10YR 4/2) clay loam (Ap horizon), overlying 10+ cm (40–50+ cmbs) of yellowish brown (10YR 5/6) clay subsoil (Bt horizon). One shovel test contained 80 cm of dark grayish brown (10YR 4/2) clay loam colluvium, which likely washed down from the surrounding hills (Figure 28).

A total of five lithic artifacts were recovered from the site, including one utilized chert flake and four chert flakes (Appendix A). These artifacts were found in the plowzone at the base of a slope and are likely out of primary context. Two artifacts were found in STP 7-43 and three artifacts were recovered from STP 7-73+10N (Appendix A).

Site 15Si63 is a small, temporally non-diagnostic lithic scatter located in the central portion of TL L5402. The site contains a small number of non-diagnostic artifacts recovered from the plowzone between 0 and 44 cmbs. In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – The site has no known association with events that have made a significant contribution to the broad patterns of our history.

**Criterion B** – The site has no known association with the lives of significant persons in our past.

**Criterion C** – The site contains no architectural or other aboveground remains. It does not embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic value.

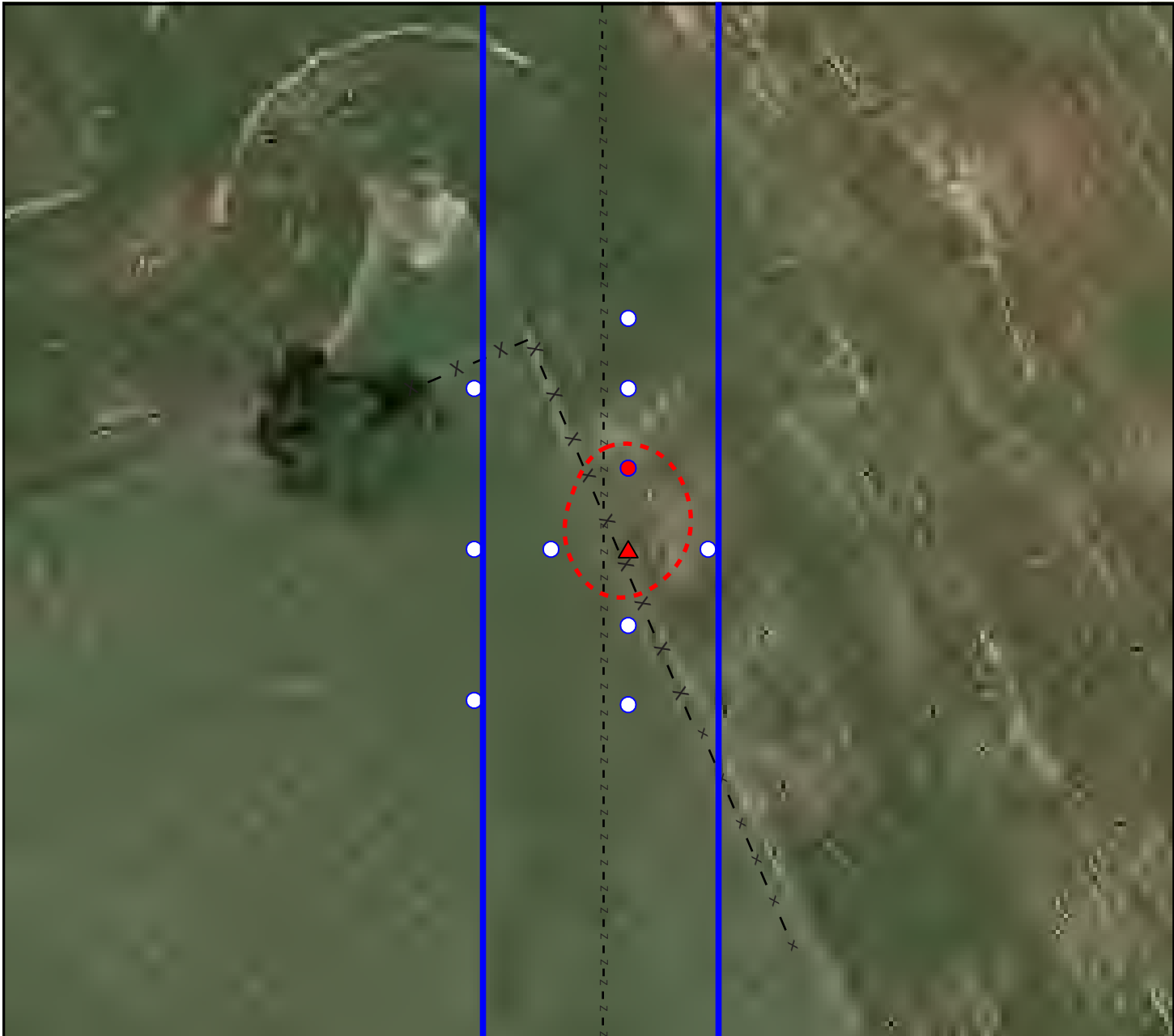
**Criterion D** – The site contains few artifacts, has no temporally diagnostic artifacts, and has little artifact diversity. Additionally, all of the artifacts were found in what appears to be plowzone and/or colluvium. Based on these factors, the site does not have the potential to yield significant information about the prehistory of the area.

Site 15Si63 contains few artifacts and is a common site type. In addition, all of the artifacts were found in the plowzone and/or colluvium at the base of a slope, indicating the possibility that they are not in primary context. Based on these factors, the site is recommended as being ineligible for inclusion in the NRHP.

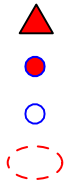
## **ISOLATED FINDS**

Isolated Find 4 (IF-4) consists of one very thin, finely serrated unidentified chert projectile point found in a shovel test between 0–25 cmbs near UTM coordinates E541102, N4059369 (NAD 27) (Figure 9f). The artifact was found on a slope approximately 110 meters west of Jim Carpenter Road. A visual inspection of the surrounding area at 5-meter intervals did not identify any additional artifacts. Although the type of point could not be identified with any degree of certainty, the workmanship and morphology suggest that it dates to the Early Archaic Period. This isolated find is probably a hunting loss and has little research potential. Therefore, it is recommended as being ineligible for inclusion in the NRHP.

Isolated Find 5 (IF-5) consists of one flake and one piece of chert shatter found in a shovel test between 0–30 cmbs in a pasture near UTM coordinates E541385, N4057894, approximately 15 meters north of Hendricks Road (Figure 9g). Seven additional shovel tests were excavated at 10-meter intervals around the initial positive; however, and no additional artifacts were recovered. This isolated find has little research potential and is recommended as being ineligible for inclusion in the NRHP.



# KEY



SITE DATUM

POSITIVE STP

NEGATIVE STP

KNOWN SITE BOUNDARY



RIGHT- OF- WAY

Z - Z - Z

X - X - X

TRANSMISSION LINE

FENCE

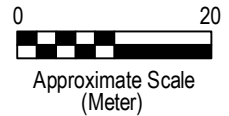


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**Terracon**



**Figure 27. Site 15Si63 facing north.**



**Figure 28. Site 15Si63 shovel test 7-43.**

## 6.0 MATERIALS RECOVERED

This chapter describes the artifacts collected from sites 15Si17, 15Si60, 15Si61, 15Si62, 15Si63, 15Si64, as well as the isolated finds (IF-1 through IF-6) recovered during the Phase I survey. During field investigations, the density and type of artifacts found was used to identify archaeological sites. Commonly recovered pre-contact artifacts included stone tools (projectile points, unifaces, hammerstones, etc.), lithic manufacturing debris, pre-contact pottery, and faunal material. Historic artifacts primarily consist of ceramics, glass, structural debris (brick, wood, and metal objects), and faunal remains (butchered animal bones, etc.). All of the data collected from the artifact analysis is compiled in the Artifact Catalog (Appendix A).

### 6.1 PRE-CONTACT ARTIFACTS

The pre-contact assemblages recovered from sites 15Si17, 15Si61, and 15Si63 and the isolated finds contained only lithic artifacts (n=104). All of the lithic artifacts found were made of chert. The pre-contact collection includes bifacial and unifacial tools, cores, and debitage (Table 9).

**Table 9. Pre-contact artifacts recovered during the project.**

	15Si17	15Si61	15Si63	IF-1	IF-2	IF-3	IF-4	IF-5	IF-6	Total
Biface		1								1
Core		5			1	1				7
Flake	2	73	4					1	1	81
Projectile Point		4					1			5
Scraper		1								1
Shatter		3						1		4
Utilized Flake		3	1	1						5
<b>Total</b>	2	90	5	1	1	1	1	2	1	<b>104</b>

The majority of the pre-contact assemblage recovered from this project consisted of temporally non-diagnostic lithic reduction debris. Sites 15Si17 and 15Si63 have both been classified as non-diagnostic lithic scatters based on these findings. Site 15Si61 contained a wide range of lithic artifacts including cores, unifacial and bifacial tools, and debitage of all size grades. The assemblage from this site depicts a wide range of lithic reduction activities, which supports its classification as a base camp.

Due to the relatively small collection of pre-contact artifacts recovered from this project area, there are not many conclusions about the pre-contact use of this land that can be made. The only potentially temporally diagnostic artifact recovered was a possible Elk River projectile point from

site 15Si61. Elk River points date from the Middle to Late Archaic periods. However, without a definitive point type and no other temporally diagnostic artifacts, the pre-contact usage of the project area cannot be dated. The presence of several cores and expedient tools, as well as all of the lithics recovered being made of chert, suggests that there is a reliable chert resource located near the project.

## 6.2 HISTORIC ARTIFACTS

The historic artifact assemblage was recovered from sites 15Si60 and 15Si62 and consists mainly of ceramic and glass artifacts (n=43). The majority of the historic artifacts collected can be attributed to the Kitchen and Architectural groups (Table 10).

**Table 10. Historic artifacts from the project.**

	Architectural				Kitchen			
	Brick	Nail	Tile	Window Glass	Container Glass	Refined Earthenware	Stoneware	Porcelain
15Si60	2	2	1	1	12	8	1	1
15Si62	1	2	0	5	8	3	4	0
<b>Total</b>	14				37			

Most of the ceramic and glass artifacts found at sites 15Si60 and 15Si62 were used for either food storage or tableware. The other collected artifacts include architectural materials such as brick, nails, and window glass. The combination of domestic and architectural artifacts aligns with the classification of both sites as nineteenth to twentieth century house sites (Table 11).

**Table 11. Date ranges of historic ceramics recovered.**

	Type	Date	Count
<b>15Si60</b>	Ironstone, Plain	1840 – Early 20 <sup>th</sup> century	1
	Pearlware, Plain	1780-1830	1
	Whiteware, Plain	1820+	5
	Whiteware, Transfer-printed, Black	1820-1915	1
<b>15Si62</b>	Ironstone, Plain	1840 – Early 20 <sup>th</sup> century	2
	Whiteware, Plain	1820	1
	Stoneware, Albany Slip	1880-1950	1
	Stoneware, Bristol Glaze	1880-1950	3

There are not many detailed conclusions that can be made about the historic use of the land because of the sparse historic assemblage recovered. The small number of artifacts and the absence of high status, expensive wares, suggests that both sites were inhabited by people of lower economic status. The nineteenth to twentieth century date range for the sites was determined by the temporally diagnostic artifacts recovered, such as the whiteware, cut nails, and a Heinz bottle fragment.

## 6.0 CONCLUSIONS

Terracon has completed a Phase I Archaeological Survey of approximately 530 acres at the proposed Horus Kentucky 1 Solar Project located in Franklin, Simpson County, Kentucky. The survey also included approximately 6.85 miles of a TVA transmission line starting at the Franklin, Kentucky TVA substation and extending south before crossing the Tennessee border. As a result of the survey, five archaeological sites (including one cemetery), 15Si17, 15Si60, 15Si61, 15Si62, 15Si63, and 15Si64 –the Kitchens Cemetery–, and six isolated finds (IFs 1–6) were identified (Figure 1). Previously recorded archaeological sites 15Si31 and 15Si267, believed to be in or near the project area, were not re-located.

The project contained Pre-contact occupations dating from Early Archaic and Middle or Late Archaic periods and historic occupations dating from the nineteenth and twentieth centuries. Of the identified cultural resources, site 15Si61, a Middle or Late Archaic base camp, is recommended as being potentially eligible for inclusion in the NRHP. The remaining sites and isolated finds are recommended as being ineligible for inclusion in the NRHP.

Based on these results, it is Terracon's recommendation that archaeological site 15Si61 be avoided by any ground disturbing activities. If this is not possible, then additional investigations may be required to determine the site's significance (i.e., eligible or not eligible). In addition, the Kitchens Cemetery, although not considered to be a historic property, should be avoided as it is protected by Kentucky state law. The remainder of the project area contains no significant archaeological resources and we recommend that no additional archaeological investigations are warranted in these areas.



## 7.0 REFERENCES CITED

Adelman, Garry and Mary Bays Woodside

2010 A House Divided: Civil War Kentucky, American Battlefield Trust, Electronic Document, <https://www.battlefields.org/learn/articles/house-divided-civil-war-kentucky>, accessed March 1, 2021

Adovasio, James M., J. Donahue, and R. Stuckenrath

1990 The Meadowcroft Rockshelter Radiocarbon Chronology, 1975–1990. *American Antiquity* 55(2):348–354.

Adovasio, James M., J.D. Gunn, J. Donahue, R. Stuckenrath, J.E. Guilday, and K. Lord

1979 Meadowcroft Rockshelter-Retrospective 1977: Part I. *North American Archaeologist* 1:3-44.

1980a Meadowcroft Rockshelter-Retrospective 1977: Part 2. *North American Archaeologist* 1(2):99–137.

Adovasio, James M., J.D. Gunn, J. Donahue, R. Stuckenrath, J.E. Guilday, and K. Volman

1980b Yes Virginia, It Really Is That Old: A Reply to Haynes and Mead. *American Antiquity* 45:588–595.

Ahler, Stanley A.

1989 Mass Analysis of Flaking Debris: Studying the Forest Rather than the Tree. In *Alternative Approaches to Lithic Analysis*, edited by D.O. Henry and George H. Odell, pp. 85–118. Archaeological Papers of the American Anthropological Association No. 1.

Anderson, David G.

1995 Recent Advances in Paleoindian and Archaic Research in the Southeastern United States. *Archaeology of eastern North America* 23: 145–176.

Anderson, David G., and Kenneth E. Sassaman

1996 *The Paleoindian and Early Archaic Southeast*. University of Alabama Press, Tuscaloosa.

Anderson, D. G., and G. T. Hanson.

1988. "Early Archaic settlement in the southeastern United States: A case study from the Savannah River Valley. *American Antiquity* 53: 262–286.

Anderson, David G., and J. W. Joseph

1988 Prehistory and History along the Upper Savannah River: Technical Synthesis of Cultural Resource Investigations. Richard B. Russell Multiple Resource Area. Russell Papers. Russell Papers. Atlanta:

## Phase I Archaeological Survey

Horus Kentucky 1 Project/ TVA TL L5402 ■ Simpson Co., KY

July 2021 ■ Terracon Project No. 7320P073



Braun, E. Lucy

1950 *Deciduous Forests of Eastern North America*. Free Press, New York.

Cambron, James W., and David C. Hulse

1975 *Handbook of Alabama Archaeology, Part I, Point Types*. Revised Edition.

Tuscaloosa: Archaeological Research Association of Alabama.

City of Franklin Kentucky

2021 Welcome to Franklin. Electronic document, <http://www.franklinky.org/visitors>, accessed March 1, 2021.

Delcourt, Paul. A., and Hazel. A. Delcourt

1985 *Quaternary Palynology and Vegetational History of the Southeastern United States*. In *Pollen Records of Late-Quaternary North American Sediments*, edited by V. M. Bryant Jr. and R. G. Holloway, pp. 1–37. American Association of Stratigraphic Palynologists Foundation.

Dillehay, Tom. C.

1989 *Monte Verde: A Late Pleistocene Settlement in Chile*. Smithsonian Press, Washington, D.C.

Dorn, Mills, and William Green

2021 *Architectural Survey for the Proposed 530 Acre Horus Kentucky 1 Solar Site, Simpson County, Kentucky*. Report prepared for Horus Renewables Corp., California, by Terracon Consultants, Inc., Columbia, South Carolina.

Dyer, James M.

2006 Revisiting the Deciduous Forests of Eastern North America. *Bioscience* 56(4):341–352.

Encyclopedia Britannica, Inc.

2021 Kentucky in the Early 20th Century. Electronic document, <http://www.britannica.com/EBchecked/topic/315026/Kentucky/279939/Kentucky-in-the-early-20th-century.htm>, accessed August 20, 2018.

Erlandson, Jon M., Michael H. Graham, Bruce J. Bourque, Debra Corbett, James A. Estes, and Robert S. Steneck

2007 The Kelp Highway Hypothesis: Marine Ecology, the Coastal Migration Theory, and the Peopling of the Americas. *Journal of Island & Coastal Archaeology* 2(2):161–174.

Fladmark, Knut R.

1979 Routes: Alternate Migration Corridors for Early Man in North America. *American Antiquity* 44(1):55–69.

## Phase I Archaeological Survey

Horus Kentucky 1 Project/ TVA TL L5402 ■ Simpson Co., KY

July 2021 ■ Terracon Project No. 7320P073



Gengenbach, Barbara, Mills Dorn, and William Green

2021 *Phase I Archaeological Survey of Approximately 14 Miles of TVA Transmission Lines L5402 and L5775 for the Horus Kentucky 1 Solar Project, Sumner and Wilson Counties, Tennessee*. Report prepared for Horus Renewables Corp., California, by Terracon Consultants, Inc., Columbia, South Carolina

Glassow, Michael A.

1977 Issues in Evaluating the Significance of Archaeological Resources. *American Antiquity* 41(3):413– 420.

Goodyear, Albert C., III

2005 Evidence of Pre-Clovis Sites in the Eastern United States. In *Paleoamerican Origins: Beyond Clovis*, edited by Robson Bonnichsen, Bradley Lepper, Dennis Stanford, and Michael Waters. Center for the Study of the First Americans, Department of Anthropology, Texas A&M University.

Hume, Ivor Noel

1970 *A Guide to Artifacts of Colonial America*. Alfred A. Knopf, New York.

1980 *If These Pots Could Talk*. Chipstone Foundation, London, England.

Justice, Noel

1995 Stone Age Spear and Arrow Points of the Midcontinental and Eastern United States: A Modern Survey and Reference. Bloomington: Indiana University Press

Kentucky Department of Fish and Wildlife Resources

2014 West Fork of Drakes Creek, Electronic document, <https://fw.ky.gov/Education/Pages/West-Fork-of-Drakes-Creek.aspx>, accessed March 2, 2021.

McAvoy, Joseph M., and Lynn McAvoy

1997 *Archaeological investigations of Site 44SX202, Cactus Hill, Sussex County, Virginia*. Research Report Series No.8. Virginia Department of Historic Resources, Richmond.

McBride, Kim A., and W. Stephen McBride

1996 From Colonization to the Twentieth Century. In *Kentucky Archaeology*, Edited by Barry Lewis, pp. 183-212. University of Kentucky Press.

McBride, W. Stephen, and Kim A. McBride

2008 Chapter 8: Historic Period. In *the Archaeology of Kentucky: An Update Volume One*, edited by David Pollack, pp. 109-192. State Historic Preservation Comprehensive Plan Report No. 3, Kentucky Heritage Council, Frankfort, Kentucky.

## Phase I Archaeological Survey

Horus Kentucky 1 Project/ TVA TL L5402 ■ Simpson Co., KY

July 2021 ■ Terracon Project No. 7320P073



McKee, Larry, Jared Barrett, and Ted Karpynek

2010 *Phase I Survey of the Proposed East Simpson 161 kV Transmission Line Project.*

Report prepared for Tennessee Valley Authority, Knoxville, Tennessee by TRC, Nashville, Tennessee.

Meltzer, David J., Donald K. Grayson, Gerardo Ardila, Alex W. Barker, Dena F. Dincauze, C. Vance Haynes, Franciso Mena, Lautaro Nunez, and Dennis Stanford

1997 On the Pleistocene Antiquity of Monte Verde, Southern Chile. *American Antiquity* 62(4):659–663.

Miller, George L.

1991 The Classification and Economic Scaling of 19<sup>th</sup> Century Ceramics. In *Approaches to Material Culture Research for Historical Archaeologists*, G.L. Miller, O.R. Jones, L.A. Ross, and T. Majewski, compilers, pp. 37–58. Society for Historical Archaeology, Ann Arbor, Michigan.

Moody, Tom

2021 The Founding of Franklin and Simpson County. Electronic document, <https://sites.rootsweb.com/~kyschs/pages/history.htm>, accessed March 1, 2021.

Schock, Jack, M.

1989 *A Cultural Reconnaissance of Approximately 50 Acres for the Proposed Six Feet Elevation of the City Dam at Franklin, in Simpson County, Kentucky.* Report prepared for Ms. Kristen M. Lowry, Mayes, Sudderth and Etheredge, Idnc., Lexington, Kentucky by Arrow Enterprises, Bowling Green, Kentucky.

Simpson County Historical Society

1983 *Simpson County, Kentucky Cemeteries.* Compiled by Simpson County Historical Society, Franklin Kentucky.

1989 *Simpson County, Kentucky: Families Past and Present.* Compiled by Simpson County Historical Society, Franklin Kentucky.

Sherwood, Sarah C., Boyce N. Driskell, Asa R. Randall, and Scott C. Meeks

2004 Chronology and Stratigraphy at Dust Cave, Alabama. *American Antiquity* 69(3):533-534.

Talbott, Tim

2021 Explore Simpson County, Kentucky, Electronic document, <https://explorekyhistory.ky.gov/tours/show/52>, accessed March 1, 2021.



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U.S. Environmental Protection Agency

2002 Level III ecoregions of the continental United States (revision of Omernik, 1987):  
Corvallis, Oregon, USEPA–National Health and Environmental Effects Research  
Laboratory, Map M-1, various scales

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## APPENDIX A - ARTIFACT CATALOG

Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Provenience	Depth (cmbs)	Count	Weight (g)	Class	Category	Subcategory
15SI17	1.01	STP 2-1	0-20	1	5.0	Lithic	Debitage	Flake
15SI17	2.01	STP 2-1+10W	0-20	1	0.1	Lithic	Debitage	Flake
15SI60	1.01	Surface	Surface	1	27.1	H. Ceramic	Refined Earthenware	Ironstone
15SI60	1.02	Surface	Surface	1	14.7	H. Ceramic	Refined Earthenware	Whiteware
15SI60	1.03	Surface	Surface	1	5.7	H. Ceramic	Stoneware	
15SI60	1.04	Surface	Surface	2	18.9	Glass	Container	
15SI60	1.05	Surface	Surface	2	19.0	Glass	Container	
15SI60	1.06	Surface	Surface	1	12.0	Glass	Container	
15SI60	1.07	Surface	Surface	1	3.6	Glass	Container	
15SI60	1.08	Surface	Surface	1	3.0	Glass	Container	
15SI60	1.09	Surface	Surface	1	3.0	Other	Other	
15SI60	1.10	Surface	Surface	1	187.4	Architectural	Brick	
15SI60	2.01	STP 1	0-10	2	2.5	H. Ceramic	Refined Earthenware	Whiteware
15SI60	2.02	STP 1	0-10	1	0.8	Metal		
15SI60	3.01	STP 1+20S	0-10	1	1.0	H. Ceramic	Refined Earthenware	Whiteware
15SI60	4.01	STP 1+20E	0-25	1	2.5	H. Ceramic	Refined Earthenware	Pearlware
15SI60	4.02	STP 1+20E	0-25	1	6.4	Glass	Decorative	
15SI60	4.03	STP 1+20E	0-25	1	5.4	Glass	Container	
15SI60	4.04	STP 1+20E	0-25	1	3.3	Metal	Nail	Cut Nail
15SI60	4.05	STP 1+20E	0-25	1	81.4	Architectural	Brick	
15SI60	5.01	STP 1+20N	0-10	1	0.9	H. Ceramic	Refined Earthenware	Whiteware
15SI60	5.02	STP 1+20N	0-10	1	1.0	H. Ceramic	Porcelain	
15SI60	5.03	STP 1+20N	0-10	2	10.9	Glass	Tableware	
15SI60	5.04	STP 1+20N	0-10	1	2.0	Glass	Window	
15SI60	5.05	STP 1+20N	0-10	1	11.7	Metal	Nail	Cut Nail
15SI60	6.01	STP 1+30E	0-20	1	1.0	H. Ceramic	Refined Earthenware	Whiteware
15SI60	7.01	STP 1+30N	0-10	1	17.3	H. Ceramic	Coarse Earthenware	
15SI60	7.02	STP 1+30N	0-10	1	65.1	H. Ceramic		Tile
15SI60	7.03	STP 1+30N	0-10	1	0.8	Glass	Container	
15SI61	1.01	Surface	Surface	1	10.3	Lithic	Chipped Stone	Projectile Point
15SI61	1.02	Surface	Surface	1	20.4	Lithic	Chipped Stone	Projectile Point

Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Description/Type	Pattern Group	Material	Portion	Size Grade	Cortex
15SI17	1.01			Chert		2	Absent
15SI17	2.01			Chert		3	Absent
15SI60	1.01	Plain	Kitchen		Base		
15SI60	1.02	Plain	Kitchen		Base		
15SI60	1.03	Brown	Kitchen		Body		
15SI60	1.04	Clear	Kitchen				
15SI60	1.05	Light Green	Kitchen				
15SI60	1.06	Aqua	Kitchen				
15SI60	1.07	Milk	Kitchen				
15SI60	1.08	Milk	Kitchen				
15SI60	1.09	Plastic					
15SI60	1.10		Architectural				
15SI60	2.01	Plain	Kitchen		Body		
15SI60	2.02	Staple?					
15SI60	3.01	Transfer-printed, black	Kitchen		Body		
15SI60	4.01	Plain	Kitchen		Rim		
15SI60	4.02	Blue					
15SI60	4.03	Aqua	Kitchen				
15SI60	4.04		Architectural				
15SI60	4.05		Architectural				
15SI60	5.01	Plain	Kitchen		Body		
15SI60	5.02	White	Kitchen		Rim		
15SI60	5.03	Lt. Pink	Kitchen				
15SI60	5.04		Architectural				
15SI60	5.05		Architectural				
15SI60	6.01	Plain	Architectural				
15SI60	7.01	Brown					
15SI60	7.02	Brown, painted	Architectural				
15SI60	7.03	Milk	Kitchen				
15SI61	1.01	Elk River?		Chert	Stem/Mid-section		
15SI61	1.02			Chert, oolitic			



Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Date	Notes
15SI17	1.01		
15SI17	2.01		
15SI60	1.01	1840-early 20th c.	Footring
15SI60	1.02	1820+	Footring
15SI60	1.03		Unglazed interior
15SI60	1.04		
15SI60	1.05		
15SI60	1.06		
15SI60	1.07	1880+	Mason jar liner
15SI60	1.08	1870+	
15SI60	1.09		Decorative?
15SI60	1.10		
15SI60	2.01	1820+	
15SI60	2.02		
15SI60	3.01	1820-1915	
15SI60	4.01	1780-1830	
15SI60	4.02		Sunburst design
15SI60	4.03		
15SI60	4.04	1810-early 20th c.	
15SI60	4.05		
15SI60	5.01	1820+	
15SI60	5.02		
15SI60	5.03		
15SI60	5.04		
15SI60	5.05	1810-early 20th c.	
15SI60	6.01	1820+	
15SI60	7.01		Unglazed interior
15SI60	7.02		
15SI60	7.03	1880+	Mason jar liner
15SI61	1.01	Middle-Late Archaic(?)	W=23.5, T=7.8; Stem W=15.6, L=13.6
15SI61	1.02		Rounded base, T=14.0

Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Provenience	Depth (cmbs)	Count	Weight (g)	Class	Category	Subcategory
15Si61	1.03	Surface	Surface	1	9.3	Lithic	Chipped Stone	Scraper
15Si61	1.04	Surface	Surface	2	6.9	Lithic	Chipped Stone	Projectile Point
15Si61	1.05	Surface	Surface	1	42.7	Lithic	Expedient Tool	Biface
15Si61	1.06	Surface	Surface	3	34.8	Lithic	Expedient Tool	Utilized Flake
15Si61	1.07	Surface	Surface	5	211.6	Lithic	Core	Amorphous Core
15Si61	1.08	Surface	Surface	1	18.1	Lithic	Debitage	Flake
15Si61	1.09	Surface	Surface	6	27.6	Lithic	Debitage	Flake
15Si61	1.10	Surface	Surface	3	2.6	Lithic	Debitage	Flake
15Si61	1.11	Surface	Surface	17	59.2	Lithic	Debitage	Flake
15Si61	1.12	Surface	Surface	31	22.4	Lithic	Debitage	Flake
15Si61	1.13	Surface	Surface	2	0.2	Lithic	Debitage	Flake
15Si61	1.14	Surface	Surface	3	43.9	Lithic	Debitage	Shatter
15Si61	2.01	STP 3-8+10E	0-20	2	0.2	Lithic	Debitage	Flake
15Si61	3.01	STP 4-4	0-20	1	0.4	Lithic	Debitage	Flake
15Si61	4.01	STP 4-4+10E	0-20	1	0.7	Lithic	Debitage	Flake
15Si61	5.01	STP 4-4+10S	0-20	1	0.2	Lithic	Debitage	Flake
15Si61	6.01	STP 4-7	0-50	1	3.8	Lithic	Debitage	Flake
15Si61	6.02	STP 4-7	0-50	1	0.5	Lithic	Debitage	Flake
15Si61	6.03	STP 4-7	0-50	1	0.1	Lithic	Debitage	Flake
15Si61	7.01	STP 4-8	0-45	1	2.4	Lithic	Debitage	Flake
15Si61	7.02	STP 4-8	0-45	3	1.6	Lithic	Debitage	Flake
15Si61	7.03	STP 4-8	0-45	1	0.1	Lithic	Debitage	Flake
90								
15Si62	1.01	Surface	Surface	2	55.6	H. Ceramic	Stoneware	Bristol-Slipped
15Si62	1.02	Surface	Surface	1	53.6	H. Ceramic	Stoneware	Bristol-Slipped
15Si62	1.03	Surface	Surface	1	3.2	H. Ceramic	Refined Earthenware	Whiteware
15Si62	1.04	Surface	Surface	2	34.2	H. Ceramic	Refined Earthenware	Ironstone
15Si62	1.05	Surface	Surface	2	6.0	Glass		
15Si62	1.06	Surface	Surface	1	20.2	Glass	Container	
15Si62	1.07	Surface	Surface	1	26.7	Glass	Container	
15Si62	1.08	Surface	Surface	1	10.0	Glass		
15Si62	1.09	Surface	Surface	1	11.0	Glass	Container	
15Si62	2.01	STP 1	0-10	1	15.9	Metal	Nail	Cut Nail

Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Description/Type	Pattern Group	Material	Portion	Size Grade	Cortex
15Si61	1.03			Chert			
15Si61	1.04			Chert			
15Si61	1.05			Chert			
15Si61	1.06			Chert			
15Si61	1.07			Chert			
15Si61	1.08			Chert		1	Present
15Si61	1.09			Chert		2	Present
15Si61	1.10			Chert		3	Present
15Si61	1.11			Chert		2	Absent
15Si61	1.12			Chert		3	Absent
15Si61	1.13			Chert		4	Absent
15Si61	1.14			Chert			
15Si61	2.01			Chert		4	Absent
15Si61	3.01			Chert		3	Absent
15Si61	4.01			Chert		3	Absent
15Si61	5.01			Chert		3	Present
15Si61	6.01			Chert		2	Absent
15Si61	6.02			Chert		3	Absent
15Si61	6.03			Chert		4	Absent
15Si61	7.01			Chert		2	Absent
15Si61	7.02			Chert		3	Absent
15Si61	7.03			Chert		4	Absent
15Si62	1.01		Kitchen		Rim		
15Si62	1.02		Kitchen		Shoulder		
15Si62	1.03	Plain	Kitchen		Body		
15Si62	1.04	Plain	Kitchen		Handle		
15Si62	1.05	Milk	Kitchen				
15Si62	1.06	Clear	Kitchen		Base		
15Si62	1.07	Aqua	Kitchen		Mouth/Neck		
15Si62	1.08	Aqua					
15Si62	1.09	Amethyst	Kitchen				
15Si62	2.01		Architectural				

# Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Date	Notes
15Si61	1.03		
15Si61	1.04		Projectile point fragments
15Si61	1.05		Made from a broken biface; Retouched and utilized edges
15Si61	1.06		
15Si61	1.07		
15Si61	1.08		
15Si61	1.09		
15Si61	1.10		
15Si61	1.11		
15Si61	1.12		
15Si61	1.13		
15Si61	1.14		
15Si61	2.01		
15Si61	3.01		
15Si61	4.01		
15Si61	5.01		
15Si61	6.01		
15Si61	6.02		
15Si61	6.03		
15Si61	7.01		
15Si61	7.02		
15Si61	7.03		
15Si62	1.01	1880-1950	
15Si62	1.02	1880-1950	Albany slip interior
15Si62	1.03	1820+	
15Si62	1.04	1840-early 20th c.	
15Si62	1.05	1880+	Mason jar liners
15Si62	1.06	1880-1898	Embossed "H.J. Heinz." Etched "30"
15Si62	1.07		Bead top
15Si62	1.08		Thick
15Si62	1.09	1880-1925	
15Si62	2.01	1810-early 20th c.	



Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Provenience	Depth (cmbs)	Count	Weight (g)	Class	Category	Subcategory
15Si62	3.01	STP 1+10W	0-15	1	83.2	H. Ceramic	Stoneware	Albany-slip
15Si62	4.01	STP 1+20N	0-5	1	1.2	Glass	Container	
15Si62	4.02	STP 1+20N	0-5	1	1.4	Architectural	Brick	
15Si62	5.01	STP 1+20S	0-20	1	3.9	Metal	Nail	
15Si62	5.02	STP 1+20S	0-20	2	3.9	Glass	Window	
15Si62	6.01	STP 1+20E	0-5	1	0.9	Glass	Window	
15Si62	7.01	STP 1+30E	0-5	1	3.0	Glass	Container	
15Si62	7.02	STP 1+30E	0-5	1	2.6	Glass	Window	
15Si62	8.01	STP 1+40S	0-10	1	0.3	Glass	Window	
15Si63	1.01	STP 7-43	0-44	1	35.3	Lithic	Expedient Tool	Utilized Flake
15Si63	1.02	STP 7-43	0-44	1	4.2	Lithic	Debitage	Flake
15Si63	2.01	STP 7-43+10N	0-30	1	10.5	Lithic	Debitage	Flake
15Si63	2.02	STP 7-43+10N	0-30	1	3.9	Lithic	Debitage	Flake
15Si63	2.03	STP 7-43+10N	0-30	1	0.3	Lithic	Debitage	Flake
IF-1	1.01	Surface	Surface	1	1.9	Lithic	Chipped Stone	Utilized Flake
IF-2	1.01	Surface	Surface	1	110.9	Lithic	Core	Polyhedral Core
IF-3	1.01	Surface	Surface	1	19.7	Lithic	Core	Freehand Core
IF-4	1.01	STP 8-1	0-25	1	1.8	Lithic	Chipped Stone	Projectile Point
IF-5	1.01	STP 7-74	0-40	1	9.7	Lithic	Debitage	Flake
IF-5	1.02	STP 7-74	0-40	1	3.7	Lithic	Debitage	Shatter
IF-6	1.01	STP 6-8	0-30	1	2.6	Lithic	Debitage	Flake

Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Description/Type	Pattern Group	Material	Portion	Size Grade	Cortex
15Si62	3.01		Kitchen		Rim		
15Si62	4.01	Aqua	Kitchen				
15Si62	4.02		Architectural				
15Si62	5.01						
15Si62	5.02		Architectural				
15Si62	6.01		Architectural				
15Si62	7.01	Amethyst	Kitchen				
15Si62	7.02		Architectural				
15Si62	8.01		Architectural				
15Si63	1.01			Chert			
15Si63	1.02			Chert		2	Absent
15Si63	2.01			Chert		1	Present
15Si63	2.02			Chert		2	Absent
15Si63	2.03			Chert		3	Absent
IF-1	1.01			Chert			Present
IF-2	1.01			Chert			Present
IF-3	1.01			Chert			Present
IF-4	1.01			Chert			
IF-5	1.01			Chert		2	Present
IF-5	1.02			Chert			
IF-6	1.01			Chert		2	Absent

Appendix A - Hoffman Solar Phase I Artifact Catalog

Site No.	Cat. No.	Date	Notes
15Si62	3.01	1880-1950	
15Si62	4.01		
15Si62	4.02		
15Si62	5.01		
15Si62	5.02		
15Si62	6.01		
15Si62	7.01	1880-1925	
15Si62	7.02		
15Si62	8.01		
15Si63	1.01		Large decortication flake. Heavily utilized on one edge.
15Si63	1.02		
15Si63	2.01		
15Si63	2.02		
15Si63	2.03		
IF-1	1.01		
IF-2	1.01		
IF-3	1.01		
IF-4	1.01		Finely serrated and very thin
IF-5	1.01		
IF-5	1.02		
IF-6	1.01		

## **TAB 4**



# **EXHIBIT F**

**Architectural Survey**

**(NOT FOR PUBLIC)**

# ARCHITECTURAL SURVEY FOR THE PROPOSED HORUS KENTUCKY 1 SOLAR SITE

**Simpson County, Kentucky**

**Terracon** Project No. 7320P073

June 2021



**Prepared For:**

Horus Renewables Corp.  
1030 Riverside Parkway, Suite 130  
West Sacramento, California 95605

**Prepared By:**

Terracon Consultants, Inc.  
521 Clemson Road  
Columbia, South Carolina 29229

[terracon.com](http://terracon.com)

**Terracon**

Environmental



Facilities



Geotechnical



Materials

**ARCHITECTURAL SURVEY FOR THE PROPOSED  
HORUS KENTUCKY 1 SOLAR SITE  
SIMPSON COUNTY, KENTUCKY**

**KHC Project Registration No. FY21-4058**

**FINAL REPORT**

Lead Federal Agency:  
Tennessee Valley Authority

Prepared For:

Horus Renewables Corp.  
1030 Riverside Parkway, Suite 130  
West Sacramento, California 95605

Prepared By:

**Terracon**

521 Clemson Road  
Columbia, South Carolina 29229  
(803) 741-9000

Project No. 7320P073

Authors:

Mills Dorn, M.H.P., and William Green, M.A.



William Green, M.A., RPA # 10387  
Principal Investigator



Mills Dorn, M.H.P.  
Architectural Historian

**June 2021**

## Architectural Survey

Horus Kentucky 1 Solar ■ Simpson Co., Kentucky

June 2021 ■ Terracon Project No. 7320P073

## MANAGEMENT SUMMARY

Terracon Consultants, Inc. (Terracon), on behalf of Horus Renewables Corp. (Client), has conducted an Architectural Survey at the proposed Horus Kentucky 1 Solar Project located along Tyree Chapel Road, approximately 3.75 miles (6.0 km) south of Franklin in Simpson County, Kentucky (KHC Project Registration No. FY21-4058). The purpose of the investigation was to identify and evaluate above-ground historic resources within the Area of Potential Effects (APE) that could be eligible for inclusion in the National Register of Historic Places (NRHP). The lead federal agency for the project is the Tennessee Valley Authority (TVA). Work was conducted under contract to Horus Renewables Corp. This work was conducted for partial compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101 et seq.) and in general accordance with Terracon Proposal P57207024, dated April 3, 2020, and under the terms and conditions of a Master Services Agreement (MSA) dated April 29, 2018.

The Architectural Survey was conducted on January 11, 2021. This survey included the identification of above-ground historic resources more than 50 years old within the 0.5-mile APE. As a result of the investigations, 26 resources were identified (Figures 1 and 2). One resource, SI 526, was unable to be evaluated due to its distance from the right-of-way or publicly accessible roads. Resource SI 526 is separated by I-65 and a wooded area from the project and the proposed solar farm will not be visible from the resource. This was confirmed by a viewshed analysis conducted in January 2021 (Figure 56). The remainder of the APE contains no significant above-ground historic resources and no additional work is recommended.

**Table 1. Historic Resources within the Area of Potential Effects.**

Resource ID	Description	NRHP Eligibility	Recommendations
SI 98	No longer extant	Not Eligible	No additional work
SI 129	Linear ranch house, ca. 1950s	Not Eligible	No additional work
SI 130	Vernacular house, ca. 1890s	Not Eligible	No additional work
SI 131	Hip roof bungalow, ca. 1920s	Not Eligible	No additional work
SI 135	Side gabled house, ca. 1940s	Not Eligible	No additional work
SI 136	No longer extant	Not Eligible	No additional work
SI 137	No longer extant	Not Eligible	No additional work
SI 138	Linear ranch house, ca. 1970s	Not Eligible	No additional work
SI 139	Central hallway house and dairy farm, ca. 1900s	Not Eligible	No additional work
SI 142	Central hallway house, ca. 1900s	Not Eligible	No additional work
SI 516	Agricultural complex, ca. 1920s	Not Eligible	No additional work
SI 517	Linear ranch house, ca. 1970s	Not Eligible	No additional work
SI 518	Linear ranch house, ca. 1940s	Not Eligible	No additional work
SI 519	Hipped roof church, ca. 1910	Not Eligible	No additional work
SI 520	Cross Gable Bungalow, ca. 1930s	Not Eligible	No additional work
SI 522	Linear ranch house, ca. 1970s	Not Eligible	No additional work
SI 523	Rural store, ca. 1920s	Not Eligible	No additional work
SI 524	Central hallway house, ca. 1910s	Not Eligible	No additional work
SI 525	Linear ranch house, ca. 1970s	Not Eligible	No additional work
<b>SI 526</b>	<b>Farm complex, ca. 1920s</b>	<b>Unevaluated</b>	<b>No effect</b>
SI 527	Side gabled bungalow, ca. 1930s	Not Eligible	No additional work



## Architectural Survey

Horus Kentucky 1 Solar ■ Simpson Co., Kentucky

June 2021 ■ Terracon Project No. 7320P073



SI 528	Courtyard ranch house, ca. 1970s	Not Eligible	No additional work
SI 529	Linear ranch house, ca. 1970s	Not Eligible	No additional work
SI 530	Linear ranch house, ca. 1970s	Not Eligible	No additional work
SI 531	Linear ranch house, ca. 1950s	Not Eligible	No additional work
SI 532	Rural cemetery, ca. 1860 – 1910	Not Eligible	No additional work
SI 533	Colonial Revival house, ca. 1960s	Not Eligible	No additional work
SI 535	Linear ranch house ca. 1970s	Not Eligible	No additional work
SI 536	Rural cemetery, ca. 1920s	Not Eligible	No additional work
SI 537	Railroad Line, ca. 1800s	Not Eligible	No additional work

---

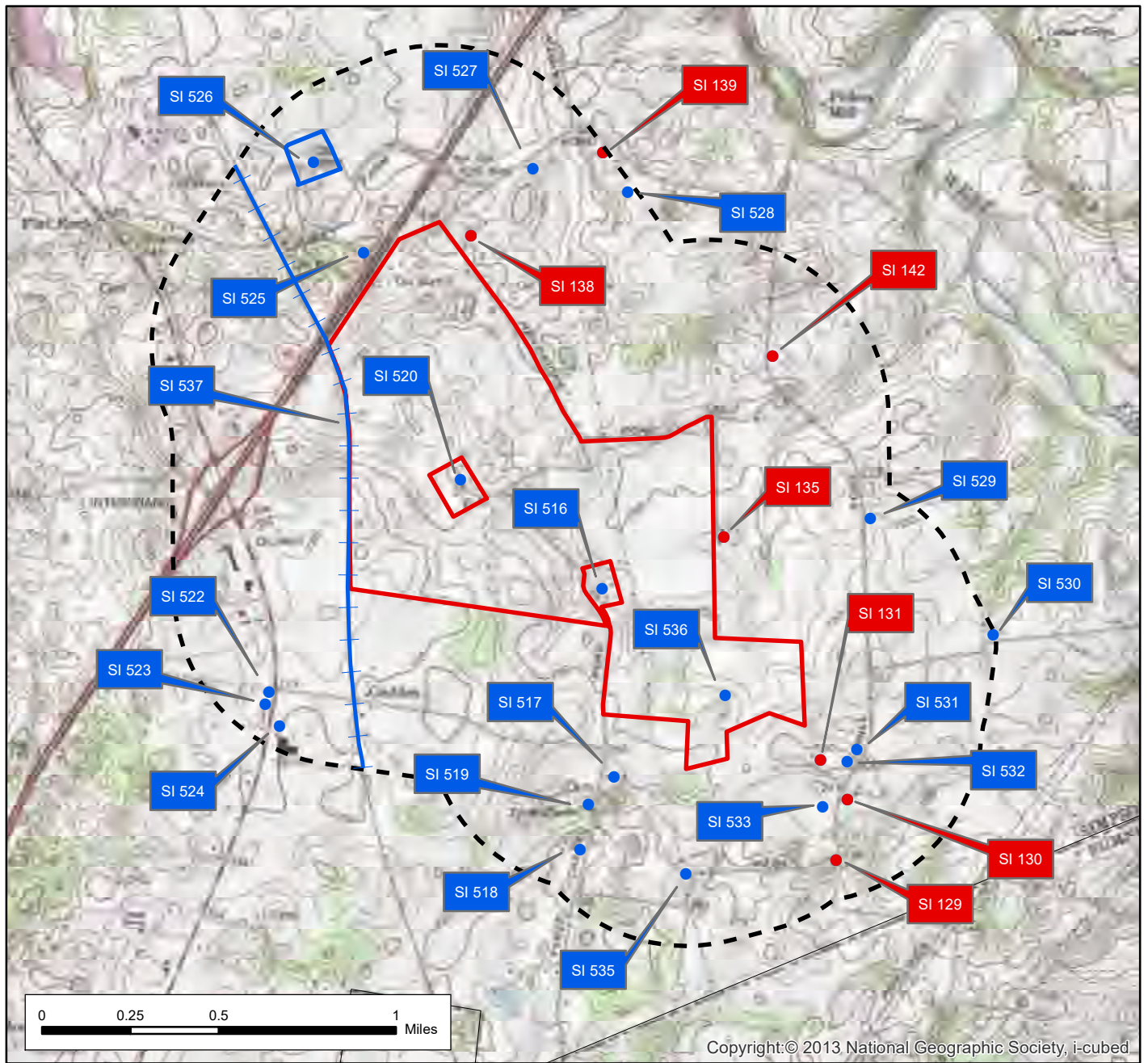
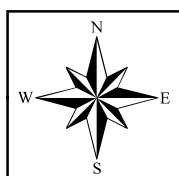
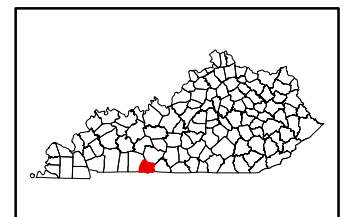
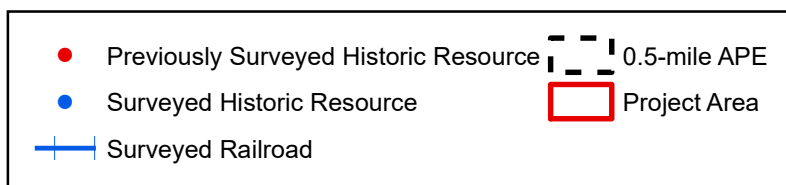


Figure 1. Project area and surveyed historic resources in the 0.5-mile APE.  
Base Map: Franklin (1979) USGS 7.5' topographic quadrangle.



Project No.	7320P073
Date:	May 2021
Drawn By:	BGG
Reviewed By:	BGG

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USGS TOPOGRAPHIC MAP

HOFFMAN SOLAR  
SIMPSON COUNTY, KENTUCKY

Figure

**1**

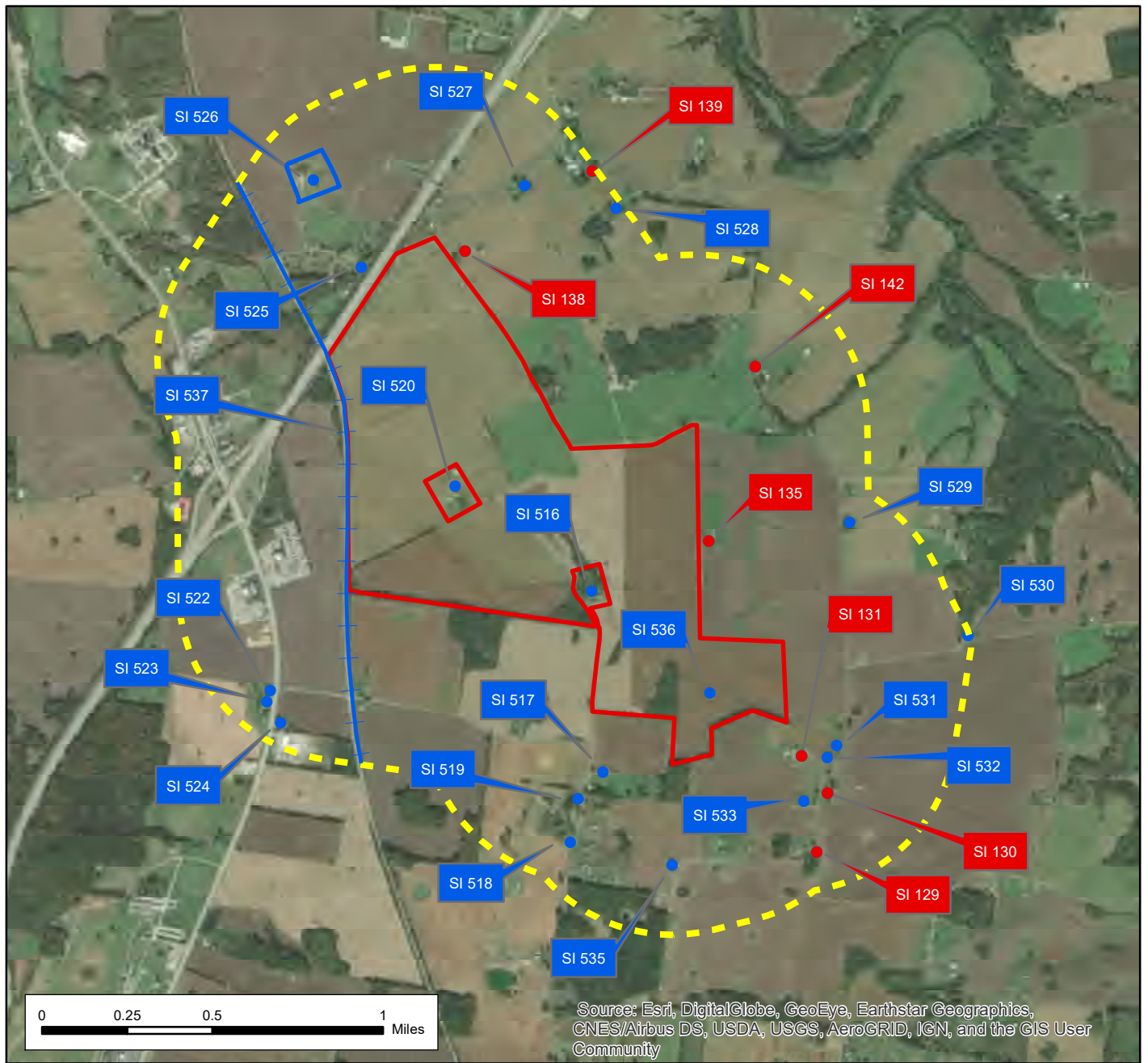
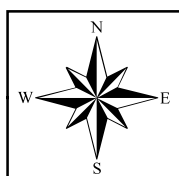
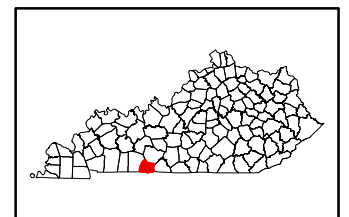
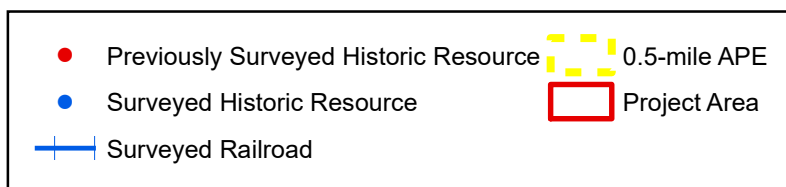


Figure 2. Aerial imagery showing the project area and surveyed historic resources in the 0.5-mile APE.  
Base Map: ESRI World Imagery.



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Date:	May 2021
Drawn By:	BGG
Reviewed By:	BGG

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AERIAL IMAGERY
HOFFMAN SOLAR SIMPSON COUNTY, KENTUCKY

Figure
<b>2</b>

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## Architectural Survey

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## **1.0 INTRODUCTION**

Terracon Consultants, Inc. (Terracon), on Horus Renewables Corp. (Client), has completed an Architectural Survey for the proposed Horus Kentucky 1 Solar Project located along Tyree Chapel Road, approximately 3.75 miles (6.0 km) south of Franklin in Simpson County, Kentucky (KHC Project Registration No. FY21-4058). The purpose of the investigation was to identify and evaluate above-ground historic resources within the Area of Potential Effects (APE) that could be eligible for inclusion in the National Register of Historic Places (NRHP). An archaeological survey is also being conducted for the project, with results of that investigation being included in a separate report (Gengenbach et al 2021).

This project was conducted for partial compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. § 300101 et seq.). The lead federal agency for the project is the Tennessee Valley Authority (TVA). This work was conducted under contract to Horus Renewables Corp. in general accordance with Terracon Proposal P57207024, dated April 3, 2020, and under the terms and conditions of a Master Services Agreement (MSA) dated April 29, 2018.

The project consists of a proposed 530-acre solar farm located in Simpson County, Kentucky. The project area is irregularly shaped and is bounded by Interstate 65 and private property to the north, a railroad line and Tyree Chapel Road to the west, Tyree Chapel Road and private property to the east, and private property to the south. The APE for the project is considered to be a 0.5-mile radius around the project area. Fieldwork for the Architectural Survey was conducted on January 11, 2021, by Architectural Historian Mills Dorn, M.H.P. William Green, M.A., RPA, was the Principal Investigator for the project.

The report was prepared by Mills Dorn and William Green. This report has been prepared in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA) (54 U.S.C. § 300101 et seq.). The investigation and report meet the qualifications outlined in the Secretary of the Interior Standards and Guidelines for Historic Preservation (Federal Register 48:44716–44742), and the Kentucky Heritage Council and SHPOs *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports* (2017). The Architectural Historian for the project meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61).



## **2.0 HISTORIC CONTEXT**

### **2.1.1 EARLY SETTLEMENT**

The earliest Euro-American settlements in Kentucky occurred as early as the mid-1770s (McBride and McBride 1996; 2008). These early settlements generally clustered around forts or “stations” due to the threat of attack from the local Native American populations (McBride and McBride 1996). The time of the Revolutionary War was especially turbulent, as Native Americans in the Ohio River Valley, such as the Shawnee, allied with the British. By the end of the war in 1783, the settlement population in Kentucky was low, with only 8,000 people noted as living in the area (McBride and McBride 2008).

Most influential in the early settlement in Kentucky was an order passed in 1789 that gave all land between the Green River and Cumberland River to the soldiers of the Continental Army. As a result of this order, a group of former soldiers and their families soon came into the area from various parts of Virginia. They were followed by other settlers, and soon, counties began to form. By 1790, over 73,000 people were noted as residing in Kentucky (McBride and McBride 1996). Due to an over-exploitation of natural resources, there was an added emphasis on farming for subsistence, particularly corn, tobacco, hemp, flax, and wheat (McBride and McBride 2008). Trade of furs, livestock, and surplus crops was also emphasized. Early industries in the area included grist mills, small salt works, potteries, and blacksmith shops.

Simpson County was founded in 1819, becoming the state’s 62nd county. The land making up the county was taken from Warren, Logan, and Allen counties. Simpson County was named in honor of Captain John Simpson (Moody 2021). Simpson was born in Virginia and later immigrated to Kentucky with his family as a child, settling in Lincoln County. Simpson attended school in Danville, Kentucky and studied law, moving to Shelby County. While in Shelby County, Simpson joined the Kentucky Militia under the command of General Anthony Wayne. While in the militia, Simpson fought in the Battle of Fallen Timbers on August 20, 1794, in present day Ohio and Indiana, helping to stop attacks by Native Americans on U.S. settlers (Talbot 2021).

After his service in the militia and as an attorney in Shelby County, Simpson transitioned to a profession as a politician in 1806 and was elected to the Kentucky House of Representatives. There he served as a representative of Shelby County for four terms. In 1810 and 1811, he was selected for the position of Speaker of the House. When the War of 1812 started, Simpson was called into service with the militia. During the war, due to his political notoriety, Simpson was made Captain of the First Rifle Regiment, commanded by Col. John Allen. During the Battle of River Basin on January 22, 1813, Simpson was killed during a British counterattack. After his death, Simpson County and Simpsonville in Shelby County were named in his honor. Nine other counties were named in honor of Kentucky residents that fought and died in the War of 1812 (Talbot 2021).

## **2.1.2 NINETEENTH CENTURY**

During the nineteenth century, Simpson County became noted for having several famous duels. Located along the southern border of the county is an area where the Kentucky border dips into Tennessee. Known as Blackjack corner, this area was home to the Linkumpinch Dueling Grounds. During the 1820s, many duels were fought here. Dueling was illegal in many states, including Tennessee; however, duels were still legal in Kentucky, making the area very popular for disagreements to be settled by both residents of Kentucky and Tennessee (Kentucky Department of Fish and Wildlife Resources 2014).

The most famous duel to take place in Simpson County was between Sam Houston and William White. Due to a disagreement about a political appointment, the two decided to settle their dispute at the Linkumpinch Dueling Grounds in September of 1826. Houston and White chose to use pistols in the duel, firing at each other from a distance of 15 feet. During the fight, Houston shot White in the groin, causing him to be confined to his bed for four months, however, both men survived. Duels continued in the area until the late nineteenth century, and slowly fell out of favor (Talbot 2021).

By the beginning of the Civil War (1861–1865), large plantations grew in Kentucky. In 1861, approximately 20 percent of Kentucky's population was comprised of slaves. Kentuckians had a unique view, wanting to remain a part of the Union, but also wanting to retain their slaves. Although it tried to remain neutral, the state ended up being occupied by Union troops in the north and Confederate troops in the south (McBride and McBride 1996).

During the war, approximately 140,000 soldiers from Kentucky fought, with 100,000 fighting for the Union and 40,000 fighting for the Confederacy. One of the most famous military units composed of soldiers from Kentucky was the First Kentucky "Orphan" Brigade. The unit was commanded by Benjamin H. Helm, brother-in-law of President Abraham Lincoln, until his death at the Battle of Chickamauga (Adelman and Woodside 2010).

During the initial stages of the war, armies on both sides of the conflict did not enter the state. That was ended in September 1861, when General Leonida Polk invaded Columbus, Kentucky, located along the Mississippi River, to prevent a Union occupation. This led to a Union invasion by General Ulysses S. Grant, capturing Paducah and Smithland, also located on the Mississippi. These military actions led to a struggle between the Union and Confederacy to gain control of the state, with the Union invading from the north and Confederate troops invading from the south (Adelman and Woodside 2010).

In 1862, the Civil War made its way to Simpson County. During the summer of 1862, an initial raid, led by Confederate Commander John Hunt Morgan, was sent to the area. Morgan's raid was met with little resistance, and this information was passed to General Braxton Bragg. In September 1862, the Confederate army moved into Kentucky. During this advance, Bragg

ordered General Nathan Bedford Forrest, later the first Grand Wizard of the Ku Klux Klan, to move in advance of the main Confederate force to harass and slow the retreating Union Army. During this advance, Forrest's men stopped in the eastern part of Simpson County to gather food and rest before moving farther north. In October of the same year, the Union Army, under the Command of General Grant, recaptured Frankfort, causing Confederate General Bragg to withdraw from the state, not feeling confident of a decisive victory (Talbot 2021).

### **2.1.3 TWENTIETH CENTURY**

Following the Civil War, Kentucky's population continued to grow, particularly in the areas around Louisville and Covington/Newport (McBride and McBride 1996). Agriculture recovered quickly from the effects of the war, with wine and tobacco becoming the main cash crops. River traffic declined, although the Ohio River continued to be an important transportation route. An increase in railroad use also occurred during this period.

The industrialization of Kentucky and growth of large cities continued into the early twentieth century. During World War I (1914–1918), the economy flourished, especially the coal industry. The tobacco and whiskey industries also boomed, though the enactment of Prohibition affected this aspect of the economy. Although there was widespread unemployment and little economic growth during the Great Depression, civil works under the New Deal program soon benefited Kentucky in the form of infrastructural improvements and rural electrification (Encyclopedia Britannica 2021).

After WWII, new technology and infrastructure improvements came to the state. The age of the automobile saw the construction of the interstate highway system through the state. In Simpson County, Interstate 65 was constructed through the county with several exits in the county. During the segregation era, the first African American school was constructed in the town of Franklin in Simpson County. The school was opened in 1940 and served the community until it was desegregated in 1965 (Talbot 2021). Today, Simpson County boasts a large agricultural economy with a population of approximately 17,500 residents. Outside of agriculture, the economy of the county is dependent upon several industries located in the area, as well as recreational activities such as the Kentucky Downs Race Course (City of Franklin 2021).

## **2.2 BACKGROUND RESEARCH**

### **2.2.1 Previously Recorded Historic Resources**

In May 2020, Mara Daleen, M.S. and Bill Green, M.A. contacted the Kentucky Historical Commission (KHC) via e-mail to request background research for the project area. A 1.5-mile search radius was used. Based on this research, there were 19 historic resources within 1.5-miles of the total project area (Figure 3; Table 2).

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**Figure 3. Map showing previously recorded cultural resources within a 1.5-mile radius.**



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**Table 2. Previously Recorded Cultural Resources within a 1.5-mile radius of the project area.**

Resource No.	Resource Name	Location	NRHP Eligibility
762	Linkunpinch Dueling Site	Gold City Village	Undetermined
74543	Commercial Structure	County Farm Road	Undetermined
74553	Unknown House	US 31 South	Undetermined
74568	Duncan Inn	US 31 West	Undetermined
74569	Old Duncan Cabin	US 31 West	Undetermined
74572	Brauner Place	Brauner Rd.	Undetermined
74573	Old Kitchens House	Off of Peden Mill Road	Undetermined
74574	Joe Brizendine Place	Peden Mill Road	Undetermined
74575	Asher Kitchens Place	Peden Mill Road	Undetermined
74576	Old Kitchens Place	End of Kitchens Road	Undetermined
74577	Kitchens Hay Barn	End of Kitchens Road	Undetermined
74578	Massey Place	Massey Road	Undetermined
74579	Sam Michell Place	Hendricks Road	Undetermined
74580	Hendricks Place	Hendrix Road	Undetermined
74581	Old Bryant House	Hendrix Road	Undetermined
74582	Clifton Ventree House	Off of Hendrix Road	Undetermined
74583	Old Bob Clark Place	Hayden Snider Road	Undetermined
74584	Hammond Place	Peden Mill Road	Undetermined
74585	Peden Mill Dam	End of Peden Mill Road	Undetermined
74586	Mins Hammond Place	Peden Mill Road	Undetermined

### 2.2.2 Historic Map Research

In addition to the records review, eighteenth through twentieth century maps of the project area were examined to determine whether historic resources were likely to be present within the proposed project area. Symonds (1794) *Map of the State of Kentucky: With the Adjoining Territories* shows the project area located southeast of the settlement of Logan Court House (Figure 4). During this period, there is one road passing through the approximate location of the project area. The project area is shown again on Mergell's 1874 *Map of Middle Tennessee and Parts of East* (Figure 5). At this time, Franklin, Kentucky is located north of the project area. Flanking the project area to the west is a railroad line (Resources No. SI 537). The Kentucky-Tennessee border is directly south of the project area, and one road is located near the southern boundary of the project. The 1951 Franklin, Kentucky USGS topographic quadrangle indicates the project area is located north of the Kentucky-Tennessee border (Figure 6). At this point, one unnamed road passes through the center of the project area. The railroad line (Resource No. SI 537) flanking the project area on the west is labeled during this period as the Louisville and Nashville Line. Nine historic structures are located within the project area during this time, with six of these being depicted as outbuildings and three being shown as primary structures.

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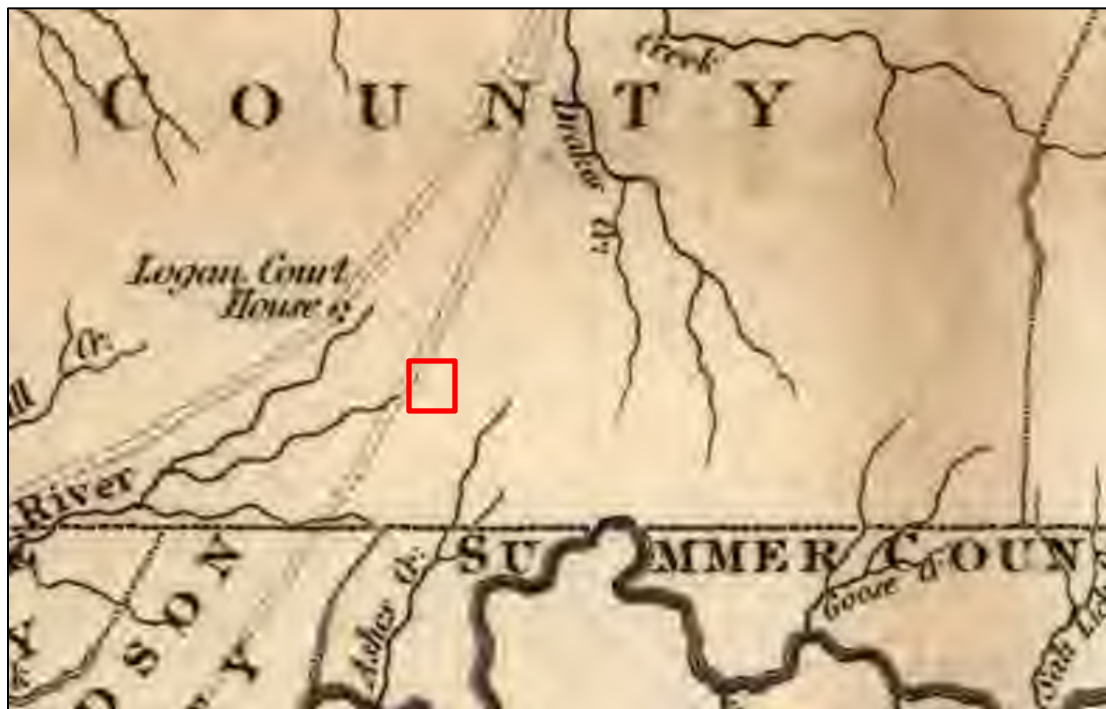


Figure 4. 1794 *Map of the State of Kentucky With the Adjoining Territories* showing the approximate location of the project area.

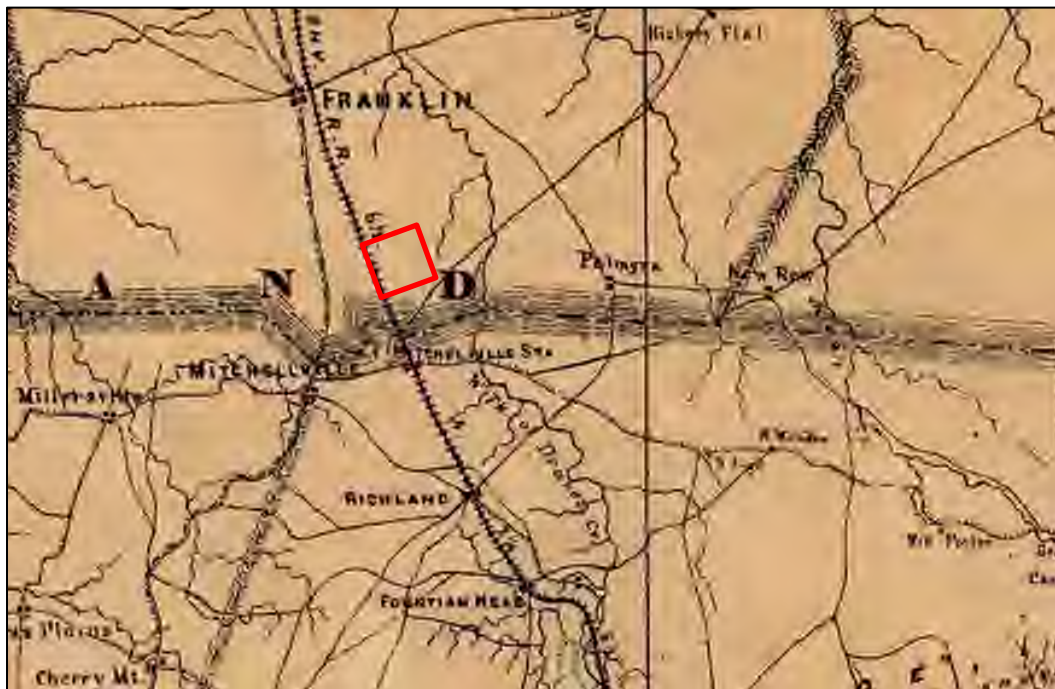


Figure 5. Mergell's (1874) *Military Map of Middle Tennessee and Parts of East Tennessee* showing the approximate location of the project area.

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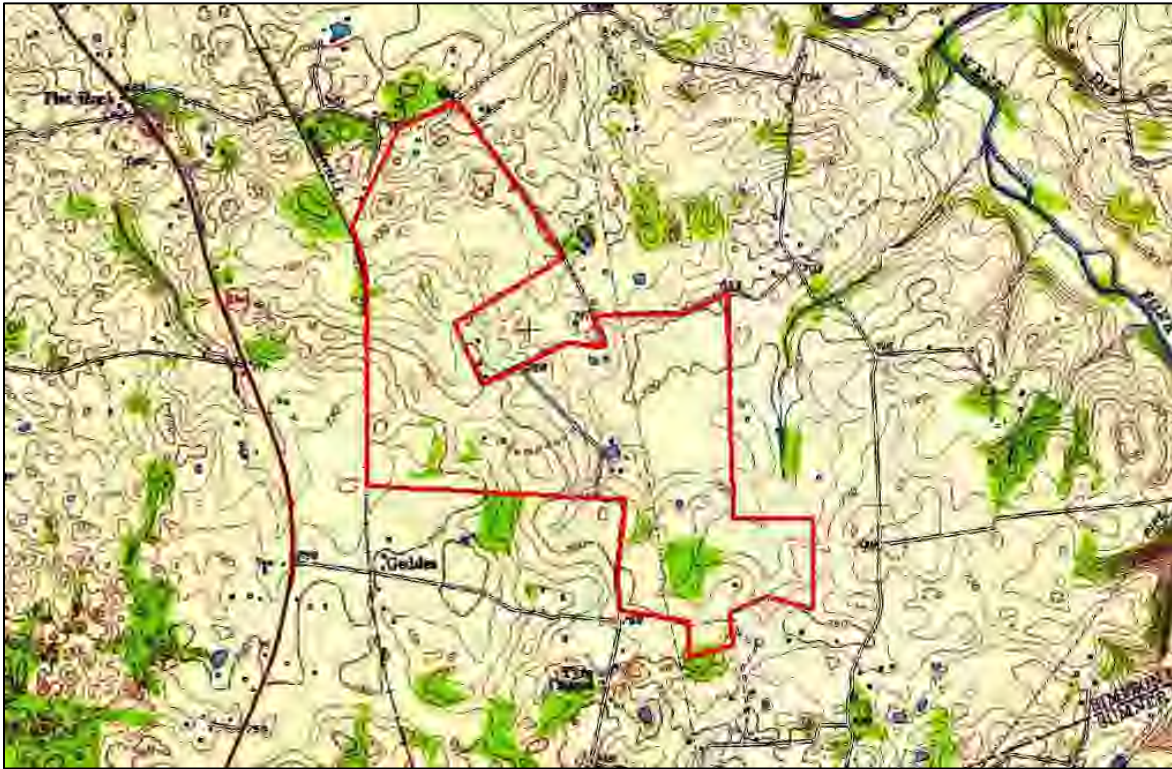


Figure 6. Franklin, KY (1951) USGS topographic map showing the location of the project area in red.





## **3.0 METHODS**

### **3.1 ARCHTECTURAL SURVEY FIELD METHODS**

On January 11, 2021, Terracon performed an Architectural Survey of the proposed Horus Kentucky 1 Solar Site. The architectural survey was conducted to determine whether the proposed project would affect above-ground historic resources within the proposed 0.5-mile APE. All publicly-accessible roads within the APE were driven to record structures more than 50 years old. Each identified resource was photographed using a high-resolution digital camera (10 megapixel or greater), marked on applicable USGS topographic maps, and assessed for National Register eligibility using the criteria established by the National Park Service (36 CFR Part 60.4). Photographs were also taken from each resource toward the project area to help assess possible visual effects caused by the undertaking. A Kentucky Historic Properties Survey Form was completed for each identified resource.

### **3.2 NATIONAL REGISTER ELIGIBILITY EVALUATION**

For a property to be considered eligible for the NRHP, it must retain integrity of location, design, setting, materials, workmanship, feeling, and association (National Register Bulletin 15:2). In addition, there are four evaluative criteria for determining the significance of a resource and its eligibility for inclusion in the NRHP (36 CFR Part 60.4). Any building, structure, site, object, or district may be eligible if it:

- A. is associated with events that have made a significant contribution to the broad patterns of our history; or
- B. is associated with the lives of persons significant in our past; or
- C. embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. has yielded or may be likely to yield information important in history or prehistory.

A resource may be eligible under one or more of these criteria. Criteria A, B, and C are most frequently applied to historic buildings, structures, objects, non-archaeological sites (e.g., battlefields, cemeteries, natural features, and designed landscapes), or districts. Also, a general guide of 50 years of age is used to define “historic” in the NRHP evaluation process. A resource may, however, be eligible for the National Register even if it is less than 50 years of age but has exceptional significance.



## **4.0 RESULTS**

Fieldwork for the Architectural Survey was conducted January 11, 2021, by Architectural Historian Mills Dorn, M.H.P. Approximately 1-person day (8 hours) was spent conducting the survey. During the survey, 26 historic resources were identified. Each of these resources is described below.

### **4.1 Resource No. SI 98**

Resource SI 98 was a ca. 1900-1924 commercial building located on County Farm Road, approximately 430 meters northwest of the project area (Figure 1). The resource has been demolished and is no longer extant. In it's location is a newer manufactured residential dwelling (Figure 7). Due to this, Resource SI 98 is recommended ineligible for inclusion in the NRHP.



**Figure 7. Original location of Resource No. SI 98, facing east.**

## **4.2 Resource No. SI 129 – Old Kitchens House**

Resource No. SI 129 – Old Kitchens House is a ca. 1950s ranch house located at 4011 Peden Mill Road, approximately 630 meters south of the project area (Figure 1, 8, and 9). The resource consists of an asymmetrical, rectangular plan, and the principal façade faces northeast. Located on the northeast façade is a partial veranda, covered by a shed roof supported by wooden porch supports. Beneath the veranda is a centrally located, front entry door flanked on the north by a front facing gable with a single non-historic one-over-one double hung sash window. Flanking the front entry door on the south is a non-historic two-over-two double hung sash window. Exterior materials on the house have been significantly altered and consist of non-historic vinyl siding and pressed sheet metal roofing. Centrally located along the ridgeline of the roof is a single brick chimney.

This resource no longer retains a majority of its original design and materials. Alterations, consisting of the addition of vinyl siding and pressed sheet metal roofing have obscured its historic fabric and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling, but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1950s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1950s linear ranch house. Based on this evaluation, Resource No. SI 129 – Old Kitchens House is recommended ineligible for inclusion in the NRHP.



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**Figure 8. Resource No. SI 129, facing southwest.**



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**Figure 9. Resource No. SI 129, facing south.**

### **4.3 Resource No. SI 130 – Joe Brizendine Place**

Resource No. SI 130 – Joe Brizendine Place is a ca. 1890s vernacular house located at 3880 Peden Mill Road, approximately 390 meters southeast of the project area (Figure 1 and 10). The resource consists of a rectangular plan. The principal façade faces west. Located on the west façade is a central front entry door with transom lights. Flanking the front entry door are paired non-historic nine-over-nine double hung sash windows. Covering the west façade is a partial veranda with a rusticated concrete block foundation. Covering the veranda is a shed roof supported by Doric columns over concrete block piers. Centrally located within the roof surface is a large non-historic gabled dormer window with a single non-historic six-over-six double hung sash window and rectangular gable vent. A non-historic side gabled addition is located off the north elevation of the resource with a single non-historic nine-over-nine double hung sash window. Exterior materials consist of non-historic vinyl siding and non-historic pressed sheet metal roofing covering a hip roof.

This resource no longer retains the majority of its original design and materials. Alterations have obscured its historic fabric, and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling, which is more in keeping with later alterations. Therefore, it has only retained integrity in location, and setting, but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1890s vernacular house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1890s vernacular house. Based on this evaluation, Resource No. SI 130 – Joe Brizendine Place is recommended ineligible for inclusion in the NRHP.





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**Figure 10. Resource No. SI 130, facing northeast.**

#### **4.4 Resource No. SI 131 – Asher Kitchens Place**

Resource No. SI 131 – Asher Kitchens Place is a ca. 1920s hip roof bungalow house located at 3835 Peden Mill Road, approximately 170 meters southeast of the project area (Figure 1 and 11). The resource consists of a heavily altered rectangular plan, with the principal facade facing south. Located on the south façade is a partially enclosed veranda with a front entry door offset to the east. Windows on the resource consist of non-historic six-over-six double hung sash windows. Located on the south façade and north elevation are non-historic gabled dormer windows, centrally located within the roof surface. Exterior materials have been significantly altered and consist of non-historic vinyl siding and asphalt shingle roofing.

This resource no longer retains the majority of its original design and materials. Alterations have obscured its historic fabric, and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes an early-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

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**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1920s hip roof bungalow.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1920s hip roof bungalow. Based on this evaluation, Resource No. SI 131 – Asher Kitchens Place is recommended ineligible for inclusion in the NRHP.



Figure 11. Resource No. SI 131, facing northwest.

### 4.5 Resource No. SI 135 – Sam Mitchell Place

Resource No. SI 135 – Sam Mitchell Place is a ca. 1940s side gabled house located off of Hendricks Road adjacent to the western boundary of the project area (Figure 1, 12, and 13). The resource consists of an asymmetrical, rectangular plan, with its principal facade facing west. Located on the west façade is a front entry door covered by a gabled stoop supported by wooden

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brackets. Windows on the resource have been removed. The resource appears abandoned and is in a deteriorated condition. Exterior materials consist of a concrete block foundation, asbestos siding, and asphalt shingle roofing. Located to the east of the resource are two ca. 1920s gabled barns. These barns consist of vertical board siding and pressed sheet metal roofing.

This resource no longer retains the majority of its original design and materials. Alterations have obscured its historic fabric and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1940s side gabled house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1940s side gabled house. Based on this evaluation, Resource No. SI 135 – Sam Mitchell Place is recommended ineligible for inclusion in the NRHP.



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Figure 12. Resource No. SI 135, facing east.



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Figure 13. Resource No. SI 138, facing northeast.



#### **4.6 Resource No. SI 136 – Hendricks Place**

Resource No. SI 136 was a ca. 1850–1874 Vernacular-Victorian house located off of Hendricks Road, approximately 125 meters southeast of the project area (Figure 1 and 14). The resource has been demolished and is no longer extant. Resource No. SI 136 – Hendricks Place is recommended ineligible for inclusion in the NRHP.



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**Figure 14. Location of Resource No. SI 136, facing northeast.**

#### **4.7 Resource No. SI 137 – Old Bryant House**

Resource No. SI 137 – Old Bryant House was a ca. 1875–1899 Vernacular house located on Hendricks Road, approximately 145 meters east of the project area (Figure 1 and 15). The resource has been demolished and is no longer extant. Resource No. SI 137 – Old Bryant House is recommended ineligible for inclusion in the NRHP.



**Figure 15. Location of Resource No. SI 137, facing northeast.**

#### **4.8 Resource No. SI 138 – Clifton Ventree House**

Resource No. SI 138 – Clifton Ventree House is a ca. 1970s linear ranch house located at 292 Tyree Chapel Road (Figures 1, 16 and 17), on the east side of Tyree Chapel Road adjacent to the project area. The resource consists of a rectangular, asymmetrical plan, with its principal façade facing northwest. Located on the northwest façade is a front entry door offset to the east. Flanking the front entry door is a non-historic single one-over-one double hung sash window and a large Chicago window. Flanking the front entry door on the east is an integral carport supported by scrolled mid-century metal supports. Exterior materials on the resource consist of brick veneer siding and asphalt shingle roofing.

This resource retains the majority of its original design and materials. The resource has remained on its original site of construction, is still located in a rural setting, exhibits a vernacular workmanship style, and evokes a mid-century rural residence feeling. Therefore, it has retained integrity in design, materials, workmanship style, location, setting, and feeling, but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our

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history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource is of a typical style to many houses in the region and does not represent a significance as a ca. 1970s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1970s linear ranch house. Based on this evaluation, Resource No. SI 138 is recommended ineligible for inclusion in the NRHP.



Figure 16. Resource SI 138, facing east.





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**Figure 17. Resource No. SI 138, facing northeast.**

#### **4.9 Resource No. SI 139 – Old Bob Clark Place**

Resource No. SI 139 – Old Bob Clark Place is a ca. 1900s central hallway house and dairy farm complex located at 1595 Peden Mill Road, approximately 770 meters northeast of the project area (Figures 1, 18, and 19). The resource consists of a rectangular, symmetrical plan with the principal facade facing northeast. Located on the northeast façade is a partial veranda covered by a gabled roof, likely added ca. 1930–1940. The roof is supported by wooden columns over brick piers. Beneath the veranda are two sets of paired six-over-six double hung sash windows. Between the windows was a front entry door that has since been enclosed. Exterior materials on the resource consist of non-historic concrete block foundation materials, non-historic vinyl siding, and asphalt shingle roofing. Located to the northeast of the house is a large farm complex, with the oldest structure dating from 1930. The dairy farm complex consists of four barns, five grain bins, and two concrete silos. Many of the barns have been significantly altered with additions and the replacement of exterior materials.

This resource no longer retains the majority of its original design and materials. Alterations have obscured its historic fabric, and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes an early twentieth century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.



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In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1900s central hallway house and dairy farm.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1900s central hallway house and dairy farm. Based on this evaluation, Resource No. SI 139 – Old Bob Clark Place is recommended ineligible for inclusion in the NRHP.



Figure 18. Resource No. SI 139, facing southwest.



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**Figure 19. Resource No. SI139, facing southwest.**

#### **4.10 Resource No. SI 142 – Minis Hammond Place**

Resource No. SI 142 – Minis Hammond Place is a ca. 1900s central hallway house located at 2538 Peden Mill Road, approximately 400 meters northeast of the project area (Figures 1, 20, and 21). The resource consists of a rectangular, symmetrical plan with the principal facade facing west. Located on the west façade is a partial veranda covered by a half-hipped roof supported by wooden supports. Beneath the veranda is a central front entry door with side lights. Flanking the front entry door to the north are paired three-over-one double hung sash windows; located south of the front entry door is a single three-over-one double hung sash window. Exterior materials consist of non-historic vinyl siding and asphalt shingle roofing. Located on the east elevation is a large non-historic gabled addition with a secondary entry door and veranda on the south elevation. Surrounding the resource are several landscape elements consisting of a paved driveway and walkway, as well as ornamental foundation plantings.

This resource no longer retains the majority of its original design and materials. Alterations have obscured its historic fabric and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes an early nineteenth century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

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In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1900s central hallway house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1900s central hallway house. Based on this evaluation, Resource No. SI 142 – Minis Hammond Place is recommended ineligible for inclusion in the NRHP.



Figure 20. Resource No. SI 142, facing northeast.



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**Figure 21. Resource No. SI 142, facing southeast.**

#### **4.11 Resource No. SI 516**

Resource No. SI 516 is a ca. 1920s agricultural complex located at 2198 Tyree Chapel Road that is surrounded by the project area (Figures 1, 22, and 23). The resource consists of two front gable barns dating from ca. 1920 and ca. 1950, respectively. Located south of the barns are three metal grain bins, with the earliest being a type manufactured between ca. 1940-1970 (United States Department of Agriculture 1975), and the second type being a modern style dating between ca. 1990-present day (AgCo 2020). The older of the two barns is a two-story front gabled barn with vertical board siding with the principal façade facing east. Located on the east façade is a rectangular gable vent. Extending off of the north elevation of the barn is a shed roof addition with a double door large entry bay. Covering the barn is a pressed sheet metal roof. The second barn, dating from the ca. 1950s, is a single-story front gable barn facing the east. Located on the east façade of the barn is a single-entry bay covered by a sliding door. Covering the barn is pressed sheet metal siding and roofing. Located to the south of the barns are three metal grain bins. The two smaller bins, dating as early as ca. 1940, are covered by corrugated steel sides and standing seam roofing. The third and largest bin, dating between the 1990s and present day, is constructed from the same materials with the addition of ladders for access and venting in the roof. All three bins are constructed on concrete slab foundations.



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This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, and it no longer exhibits a vernacular workmanship style. Due to the addition of modern structures, this resource no longer evokes an early twentieth century agricultural feeling. The resource has remained on its original site of construction and is still located in a rural setting. Therefore, it has only retained integrity in location and setting but does not retain integrity in design, materials, feeling, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1920s agricultural complex.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1920s agricultural complex. Based on this evaluation, Resource No. SI 516 is recommended ineligible for inclusion in the NRHP.

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**Figure 22. Resource No. SI 516, facing east.**



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**Figure 23. Resource No. SI 516, facing northeast.**

#### **4.12 Resource No. SI 517**

Resource No. SI 517 is a ca. 1970s linear ranch house located at 2391 Tyree Chapel Road, approximately 600 meters south of the project area (Figures 1, 24, and 25). The resource consists of an asymmetrical, rectangular plan facing the east. Located on the east façade are two front entry doors beneath a partial veranda, supported by scrolled metal porch supports. Part of the veranda has been enclosed with non-historic screening and vertical board siding. Located on the north end of the east façade is a front gable projection with a single non-historic one-over-one double hung sash window. On the south side of the east façade is an integral garage with a single-bay entry door, and a newer metal roof. Exterior materials on the resource consist of brick veneer siding, non-historic standing seam metal roofing, and a single corbeled internal brick chimney offset toward the north elevation. The resource has been heavily altered with a large shed roof addition on the west elevation, and the replacement of historic windows.

This resource no longer retains a majority of its original design and materials. Alterations consisting of replaced window sashes and roof materials have obscured its historic fabric and it no longer exhibits a vernacular workmanship style. It has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1970s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1970s linear ranch house. Based on this evaluation, Resource No. SI 517 is recommended ineligible for inclusion in the NRHP.

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Figure 24. Resource No. SI 517, facing east.



Figure 25. Resource No. SI 517, facing southeast.



#### **4.13 Resource No. SI 518**

Resource No. SI 518 is a ca. 1940s linear ranch house located at 2180 Tyree Chapel Road, approximately 275 meters south of the project area (Figures 1, 26, and 27). The resource consists of a rectangular plan facing the east. Located on the east façade is a central front entry door, flanked by non-historic one-over-one double hung sash windows. Located on the north elevation of the house is a gabled addition that was likely a garage or carport that has been enclosed. Exterior materials consist of non-historic vinyl siding, and pressed sheet metal roofing. Located within the roof surface is a single brick chimney, offset to the north elevation.

This resource no longer retains a majority of its original design and materials. Alterations, including the replacement of windows and roof materials have obscured its historic fabric and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1940s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1940s linear ranch house. Based on this evaluation, Resource No. SI518 is recommended ineligible for inclusion in the NRHP.

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**Figure 26. Resource No. SI 518, facing west.**



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**Figure 27. Resource No. SI 518, facing southwest.**

#### **4.14 Resource No. SI 519 – Tyree Chapel Church of Christ**

Resource No. SI 519 -Tyree Chapel Church of Crist is a ca. 1910 hipped roof church located at 1666 Tyree Chapel Road, approximately 430 meters south of the project area (Figures 1, 28, and 29). The resource consists of a rectangular, symmetrical plan with the principal facade facing east. Located on the east façade is a front gabled addition with a central double door entryway. Two non-historic additions are located on the north and south elevations, consisting of side-oriented gable structures with concrete block foundations and secondary single-entry doors. Windows consist of non-historic one-over-one double hung sash windows. The resource has been heavily altered with multiple additions and the replacement of exterior materials, consisting of vinyl siding and pressed sheet metal roofing.

Located north of the church building is a small cemetery (Figure 30). The cemetery consists of approximately 50 burials dating between 1898 and 2020. Tombstones in the cemetery consist of a combination of upright, die-in-socket, and horizontal monuments. The most common tombstone materials are marble and granite. All burials in the cemetery are oriented facing the east and are evenly spaced in rows running north to south. Common family names that appear in the cemetery are Tyree, Kitchens, Mayes, Hicks, Summers, and Langston.

These resources no longer retain a majority of their original design and materials. Alterations have obscured its historic fabric, consisting of replaced siding multiple additions, and it no longer exhibits a vernacular workmanship style. The resources have remained on their original site of construction is still located in a rural setting and evokes an early nineteenth century rural church and cemetery feeling. Therefore, the have only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1910 hip roofed church.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1910 hipped roof church.

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Cemeteries and graves do not normally qualify for NRHP listing unless they are associated with persons of exceptional significance and are the only or best physical representation associated with that person; of outstanding age within its geographic and cultural context; feature distinctive design features; or were part of noteworthy historic events (Potter and Boland 1992, National Register Bulletin 41). The Tyree Chapel Cemetery is not associated with a significant historic figure or event and is unlikely to yield information important to the history of the area. The Cemetery does represent distinctive characteristics of a type, period, and method of construction, however the cemetery is not the best example of a late nineteenth century rural cemetery. Based on this evaluation, Resource No. SI 519 – Tyree Chapel Church of Christ and Tyree Chapel Cemetery is recommended ineligible for inclusion in the NRHP.



**Figure 28. Resource No. SI 519 - Tyree Chapel Church of Christ, facing northwest.**



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Figure 29. Resource No. SI 519- Tyree Chapel Church of Christ, facing northeast.



Figure 30. Resource No. SI 519 - Tyree Chapel Church of Christ Cemetery, facing northwest.



#### **4.15 Resource No. SI 520**

Resource No. SI 520 consists of a ca. 1930s cross gabled bungalow located at 1271 Tyree Chapel Road and is surrounded by the project area on the north, south, and west (Figures 1, 31, and 32). The resource consists of an asymmetrical rectangular plan with the principal façade facing the southeast. Located on the southeast façade of the resource is a front facing gable offset to the east side of the front façade with paired one-over-one double hung sash windows and a front entry door covered by a gabled stoop. Flanking the front entry door to the west is a large non-historic single pane picture window. A secondary entry is located on the west façade covered by a gabled stoop with brick arched supports. Exterior materials consist of brick veneer and asphalt shingle roofing.

This resource retains a majority of its original design and materials and represents design characteristics of an early twentieth century residential structure. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has retained integrity in design, materials, workmanship style, location, setting, and feeling.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource does not represent a significant example of a ca. 1930s cross gable bungalow house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past and has no known association with the lives of significant persons. Although it retains a majority of its character defining features, it does not represent a significant example of a ca. 1930s cross gable bungalow house. Based on this evaluation, Resource No. SI 520 is recommended ineligible for inclusion in the NRHP.



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Figure 31. Resource No. SI 520, facing northwest.



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Figure 32. Resource No. SI 520, facing north.

**4.16 Resource No. SI 522**

Resource No. SI 522 is a ca. 1970s linear ranch house located at 4709 Nashville Road, approximately 650 meters southwest of the project area (Figures 1 and 33). The resource consists of a rectangular, asymmetrical plan with the principal facade facing east. Located on the east facade is a single front entry door offset to the north. Covering the front entry door is a small front gabled porch supported by scrolled mid-century metal supports. Covering the porch is a front gabled roof with non-historic vinyl siding in the gable. Flanking the front entry door are paired non-historic six-over-six double hung sash windows to the north and single non-historic six-over-six double hung sash windows to the south. A secondary entry door is located on the north elevation flanked by non-historic six-over-six double hung sash windows. Exterior materials on the resource consist of a painted brick veneer and non-historic pressed sheet metal roofing.

Located to the west of the resource is a ca. 1900s front gabled barn facing the north (Figure 34). On the north façade of the barn is a large painting that reads, "See Beautiful Rock City Atop Lookout Mt." Exterior materials on the barn consist of vertical board siding and pressed sheet metal roofing. Two shed roof additions are located on the east and west of the resource. The barn is heavily deteriorated and no longer retains integrity as a ca. 1900s front gabled barn.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, consisting of replaced windows, pressed sheet metal roofing, and the addition of vinyl siding in the gables, it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1970s linear ranch house. The Barn associated with the resource has deteriorated and no longer represents an example of a ca. 1900s front gabled barn.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character



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defining features, and no longer conveys significance as a ca. 1970s linear ranch house. Based on this evaluation, Resource No. SI 522 is recommended as being ineligible for inclusion in the NRHP.



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**Figure 33. Resource No. SI 522, facing northwest.**



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**Figure 34. Resource No. SI 522, facing southwest.**

**4.17 Resource No. SI 523**

Resource No. SI 523 is a ca. 1920s rural store located at 4785 Nashville Road, approximately 650 meters southwest of the project area (Figures 1, 35, and 36). The resource consists of an asymmetrical, rectangular plan with the principal facade facing east. Centrally located on the east façade is a front entry door flanked by paired historic three-over-one double hung sash windows. Covering the front entry door is a front gabled porte-cochere supported by wooden supports. Exterior materials consist of a non-historic concrete block foundation, wooden clapboard siding, and non-historic asphalt shingle roofing. Located southwest of the resource is a small side gabled outbuilding. The building consists of two central entry doors, wooden clapboard siding, and pressed sheet metal roofing.

This resource retains a majority of its original design and materials and represents design characteristics of an early twentieth century commercial structure. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has retained integrity in design, materials, workmanship style, location, setting, and feeling.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource does not represent a significant example of a ca. 1920s rural store.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1920s rural store. Based on this evaluation, Resource No. SI 523 is recommended ineligible for inclusion in the NRHP.

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Figure 35. Resource No. SI 523, facing west.



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Figure 36. Resource No. SI 523, facing southwest.

**4.18 Resource No. SI 524**

Resource No. SI 524 is a ca. 1910s central hallway house located at 4806 Nashville Road, approximately 700 meters southwest of the project area (Figures 1, 37, and 38). The resource consists of a symmetrical, rectangular plan facing the west. Located on the west façade is a partial veranda covered by a shed roof and supported by non-historic mid-century metal porch supports over brick piers. Located between the brick piers are low brick screen walls serving as guard rails on the veranda. Beneath the veranda is a central entry door, flanked by non-historic paired one-over-one double hung sash windows on the north and a single non-historic one-over-one double hung sash window on the south. Directly above the front entry door, a gabled dormer has been added to the resource with paired, non-historic one-over-one double hung sash windows. A side gabled addition is located on the north elevation of the resource with a secondary entry door facing the west, covered by a small gabled roof. Exterior materials consist of a non-historic concrete block foundation, non-historic asbestos shingle siding, and non-historic asphalt shingle roofing. Landscape features surrounding the resource consist of large old-growth trees and ornamental foundation plantings.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, consisting of replaced windows, the addition of concrete block infill on the foundation, and the addition of asbestos siding. The resource has remained on its original site of construction, is still located in a rural setting, and evokes an early nineteenth century rural residence feeling. Therefore, it has only retained integrity in

location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1910s central hallway house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character



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defining features, and no longer conveys significance as a ca. 1910s central hallway house. Based on this evaluation, Resource No. SI 524 is recommended ineligible for inclusion in the NRHP.



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**Figure 37. Resource No. SI 524, facing east.**



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**Figure 38. Resource No. SI 524, facing southeast.**

**4.19 Resource No. SI 525**

Resource No. SI 525 is a ca. 1970s linear ranch house located at 155 Old County Farm Road, approximately 95 meters northwest of the project area (Figures 1 and 39). The resource consists of a rectangular, asymmetrical façade with the principal facade facing northwest. Located on the northwest façade is a partial veranda covered by a half-hipped roof and supported by metal porch supports. Beneath the veranda is a front entry door, flanked on the east by a Chicago window. Flanking the entry door to the west is an integral carport that is covered in non-historic vinyl siding. Exterior materials on the resource consist of a poly-chromatic brick veneer, non-historic vinyl siding, and asphalt shingle roofing.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, consisting of the replacement of historic windows and the addition of vinyl siding, it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1970s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1970s linear ranch house. Based on this evaluation, Resource No. SI 525 is recommended ineligible for inclusion in the NRHP.

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**Figure 39. Resource No. SI 525, facing southwest.**

### **4.20 Resource No. SI 526**

Resource No. SI 526 is a ca. 1920s farm complex located at 570 Peden Mill Road, approximately 520 meters northwest of the project area (Figures 1 and 40). The resource consists of a one-story side gabled house and several historic and non-historic outbuildings set back from the right-of-way. Due to the resources long distance from the right-of-way, Resource No. SI 526 was not able to be assessed. However, the project area is separated from the resource by I-65 and a wooded area, and the proposed solar farm will not be visible from this resource (Figure 41). Along with this a viewshed analysis conducted in January 2021 shows that the proposed solar farm will not be visible from the resource (Figure 56).



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Figure 40. Resource No. SI 526, facing northeast.



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Figure 41. View from Resource No. SI 526 back to the project area, facing southeast.



**4.21 Resource No. SI 527**

Resource No. SI 527 is a ca. 1930s cross gabled bungalow located at 1325 Peden Mill Road, approximately 470 meters northeast of the project area (Figures 1 and 42). The resource consists of a rectangular, symmetrical plan with the principal facade facing northwest. Located on the northwest façade of the resource is a central front door flanked by non-historic one-over-one double hung sash windows. The front entry door is covered by a front gable roof supported by wooden supports. This resource has been heavily altered with a small gable addition located on the east elevation and a shed roof addition on the south elevation. Most of the exterior materials have been replaced and consist of non-historic vinyl siding and non-historic asphalt shingle roofing.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, consisting of the replacement of historic window and addition of vinyl siding. The resource has remained on its original site of construction is still located in a rural setting, and evokes an early twentieth century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1930s side gabled bungalow.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1930s cross gabled bungalow. Based on this evaluation, Resource No. SI 527 is recommended ineligible for inclusion in the NRHP.



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**Figure 42. Resource No. SI 527, facing southeast.**

#### **4.22 Resource No. SI 528**

Resource No. SI 528 is a ca. 1970s courtyard ranch house located at 1743 Peden Mills Road, approximately 760 meters northeast of the project area (Figures 1, 43, and 44). The resource consists of a U-shaped plan with the principal facade facing northeast. Located on the northeast façade is a front entry door off set to the north side of the recessed area. Flanking the entry door to the south are two paired six-over-nine double hung sash windows. Located on either end of the front façade are two front facing gables with non-historic single six-over-six double hung sash windows. Exterior materials consist of a poly-chromatic brick veneer and asphalt shingle roofing. Located within the roof surface is a large three flued chimney.

This resource retains a majority of its original design and materials representing design characteristics of a late twentieth century residential structure. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has retained integrity in design, materials, workmanship style, location, setting, and feeling.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our

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history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource does not represent a significant example of a ca. 1970s courtyard ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, and retains a majority of its character defining features, but does not represent a significant example of a ca. 1970s courtyard ranch house. Based on this evaluation, Resource No. SI 528 is recommended ineligible for inclusion in the NRHP.



**Figure 43. Resource No. SI 528, facing east.**

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**Figure 44. Resource No. SI 528, facing northeast.**

### 4.23 Resource No. SI 529

Resource No. SI 529 is a ca. 1970s linear ranch house located at 3070 Peden Mill Road, approximately 700 meters east of the project area (Figures 1 and 45). The resource consists of an asymmetrical, rectangular plan with the principal facade facing west. Located on the west façade is a front entry door offset to the south, flanked by non-historic one-over-one double hung sash windows. Covering the house is a projecting hip roof along the five bays around the front-entry door. Exterior materials consist of a poly-chromatic brick veneer and non-historic pressed sheet metal roofing, with a large brick chimney located within the roof surface. Landscape features surrounding the resource consist of a paved driveway and large trees.

This resource retains a majority of its original design and materials and represents design characteristics of a mid-century residential structure. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has retained integrity in design, materials, workmanship style, location, setting, and feeling.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.



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**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource does not represent a significant example of a ca. 1970s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past and has no known association with the lives of significant persons. Although it retains a majority of its character defining features, it does not represent a significant example of a ca. 1970s linear ranch house. Based on this evaluation, Resource No. SI 529 is recommended ineligible for inclusion in the NRHP.



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**Figure 45. Resource No. 529, facing east.**

### 4.24 Resource No. SI 530

Resource No. SI 530 is a ca. 1970s cross-gable ranch house located at 380 Kitchens Road, approximately 900 meters east of the project area (Figures 1 and 46). The resource consists of an asymmetric, rectangular plan with the principal facade facing south. Located on the south

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façade is a front gable projection located on the east side of the south façade. Centrally located on the south façade is a porch, covered by a shed roof supported by turned wooden porch supports. Flanking the front entry door to the west is a large 12 pane fixed window. Other windows on the house consist of non-historic one-over-one double hung sash windows. Located on the rear elevation is a large gabled two-bay garage sheathed in non-historic vinyl siding. Exterior materials on the original plan of the house consist of a poly-chromatic brick veneer and asphalt shingle roofing. Located within each gable is a small rectangular gable vent. Landscape features surrounding the resource consist of ornamental foundation plantings.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a late twentieth century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling, but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1970s cross gable ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1970s linear ranch house. Based on this evaluation, Resource No. SI 530 is recommended ineligible for inclusion in the NRHP.

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**Figure 46. Resource No. SI 530, facing north.**

### **4.25 Resource No. SI 531**

Resource No. SI 531 is a ca. 1950s linear ranch house located at 3735 Peden Mill Road, approximately 270 meters southeast of the project area (Figures 1, 47, and 48). The resource consists of an asymmetrical, rectangular plan with the principal façade facing southeast. Located on the southeast façade is a front entry door, flanked on the south by a non-historic Chicago Window. Other windows on the southeast façade consist of non-historic six-over-six double hung sash windows. The side elevations consist of two bays with non-historic six-over-six double hung sash windows. Exterior materials consist of a painted brick veneer siding and asphalt shingle roofing.

Two non-historic outbuildings are located to the north and west of the resource and consist of a prefabricated carport and a shed roof outbuilding with one-over-one windows and vinyl siding.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, and it no longer exhibits a vernacular workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

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**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1950s linear ranch house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1950s linear ranch house. Based on this evaluation, Resource No. SI 531 is recommended ineligible for inclusion in the NRHP.



**Figure 47. Resource No. SI 531, facing west.**





**Figure 48. Resource No. SI 531, facing southwest.**

#### **4.26 Resource No. SI 532 – Briant Cemetery**

Resource No. SI 532 is a ca. 1860–1910 rural cemetery located on Peden Mill Road, approximately 260 meters southeast of the project area (Figures 1, 49, and 50). The resource consists of a small, rectangular cemetery containing approximately 25 burials. Grave markers in the cemetery consist of a variety of upright, die-in-socket, gothic, and cross-vault markers. Burials are oriented facing the east, and headstone materials consist of granite, limestone, and marble. The oldest marked grave in the cemetery dates to 1864. Landscape elements located within the cemetery consist of several large old growth cedar trees.

This cemetery retains a majority of its original design and materials, and retains a rural workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes the feeling of a rural cemetery. Therefore, it has retained integrity in location, setting, feeling, design, materials, and workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

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**Criterion B** – This resource has no known association with the lives of significant persons in our past

**Criterion C** – The Briant Cemetery embodies some characteristics of a mid to late nineteenth century rural cemetery through retention of its rural workmanship style along with its original materials and design.

**Criterion D** – Given that most of the cemetery dates to the late nineteenth and twentieth centuries, it is unlikely to yield significant information important in understanding the history of the area.

Cemeteries and graves do not qualify for NRHP listing unless they are associated with persons of exceptional significance (and is the only or best physical representation associated with that person); of outstanding age within its geographic and cultural context; feature distinctive design features; or were part of noteworthy historic events (Potter and Boland 1992, National Register Bulletin 41). The Briant Cemetery is not associated with a significant historic figure or event and is unlikely to yield information important to the history of the area. The Briant Cemetery does represent distinctive characteristics of a type, period, and method of construction; however, the cemetery is not the best example of a late nineteenth rural cemetery. For these reasons, Resource No. SI 532 – Briant Cemetery is recommended ineligible for inclusion in the NRHP.



Figure 49. Resource No. SI 532 - Briant Cemetery, facing southwest.



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**Figure 50. Resource No. SI 532 – Briant Cemetery, facing northwest.**

#### **4.27 Resource No. SI 533**

Resource No. SI 533 is a ca. 1960s Colonial Revival house located at 3965 Peden Mill Road, approximately 380 meters southeast of the project area (Figures 1 and 51). The resource consists of a large two-story rectangular plan with the principal facade facing east. Located on the east façade is a central non-historic front door and handicap ramp with concrete lintel and key stone framing the entry. Flanking the front door are non-historic single nine-over-nine double hung sash windows with concrete keystones over vertical brick lintels. The original plan consists of a five-bay front façade and two-bay side elevations. Located on the south elevation is a two-story gabled addition with single non-historic nine-over-nine double hung sash windows. The addition houses a single bay garage on the first story, opening to the south.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric, consisting of replaced windows. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling, but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):



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**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1960s Colonial Revival house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1960s Colonial Revival house. Based on this evaluation, Resource No. SI 533 is recommended ineligible for inclusion in the NRHP.



Figure 51. Resource No. SI 533, facing northwest.



**4.28 Resource No. SI 535**

Resource No. SI 535 is a ca. 1950s front gabled bungalow house located at 394 Blue Door Church Road, approximately 490 meters south of the project area (Figures 1 and 52). The resource consists of an asymmetrical, rectangular plan with the principal facade facing east. Located on the east facade is a partial veranda supported by synthetic Doric columns. Beneath the veranda is a front entry door, flanked on the north by a Chicago window. Other windows on the front facade consist of non-historic six-over-six double hung sash windows. Located on the north side of the east facade is an integral carport that has been enclosed with vinyl siding and paired six-over-six windows. The south elevation consists of two single non-historic six-over-six double hung sash windows on the first story and the addition of a window to the gable. Exterior materials have been significantly altered and consist of non-historic vinyl siding and pressed sheet metal roofing.

This resource no longer retains a majority of its original design and materials. Alterations have obscured its historic fabric consisting of replacement windows and the addition of vinyl siding. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a mid-century rural residence feeling. Therefore, it has only retained integrity in location, setting, and feeling, but does not retain integrity in design, materials, or workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource has been significantly altered and no longer conveys significance as a ca. 1950s front gabled bungalow house.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past, has no known association with the lives of significant persons, no longer retains a majority of its character defining features, and no longer conveys significance as a ca. 1950s front gabled bungalow house. Based on this evaluation, Resource No. SI 535 is recommended ineligible for inclusion in the NRHP.



**Figure 52. Resource No. SI 535, facing west.**

#### **4.29 Resource No. SI 536 – Kitchens Cemetery**

Resource No. SI 536 – Kitchens Cemetery (Archeological Site No. 15Si64) is a ca. 1920s rural cemetery located off of Tyree Chapel Road, within the project boundary (Figures 1, 53, and 54). The resource consists of a small, rectangular, planned cemetery consisting of approximately 10 burials. Headstones located in the cemetery consist of upright and die-in-socket headstones facing the west. Headstone materials consist of marble. The cemetery is located within an agricultural field enclosed by a wire fence. Several small trees are located within the cemetery and it is severely overgrown. Some headstones may be obscured by vegetation.

This cemetery retains a majority of its original design and materials, and retains a rural workmanship style. The resource has remained on its original site of construction, is still located in a rural setting, and evokes the feeling of a rural cemetery. Therefore, it has retained integrity in location, setting, feeling, design, materials, and workmanship style.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.

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**Criterion B** – This resource has no known association with the lives of significant persons in our past

**Criterion C** – The Kitchens Cemetery embodies some characteristics of a late nineteenth century rural cemetery through retention of its rural workmanship style, along with its original materials and design.

**Criterion D** – Given that the cemetery dates to twentieth century, it is unlikely to yield significant information important in understanding the history of the area.

Cemeteries and graves do not qualify for NRHP listing unless they are associated with persons of exceptional significance (and is the only or best physical representation associated with that person); of outstanding age within its geographic and cultural context; feature distinctive design features; or were part of noteworthy historic events (Potter and Boland 1992, National Register Bulletin 41). The Kitchens Cemetery is not associated with a significant historic figure or event and is unlikely to yield information important to the history of the area. The Kitchens Cemetery does represent distinctive characteristics of a type, period, and method of construction; however, the cemetery is not the best example of an early twentieth century rural cemetery. For these reasons, Resource No. SI 536 – Kitchens Cemetery is recommended ineligible for inclusion in the NRHP.



Figure 53. Resource No. SI 536, facing east.



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Figure 54. Resource No. SI 536, facing east.

### 4.30 Resource No. SI 537

Resource No. SI 537 is a nineteenth century railroad line located along the western boundary of the project area (Figures 1 and 55). The resource consists of two railroad tracks traveling north and south over a gravel bed. The railroad line appears in 1874, listed as the Louisville and Nashville Railroad (Figure 5). The line has been altered with the replacement of wooden railroad ties with modern concrete ties.

This resource retains a majority of its original design and materials and represents design characteristics of a mid-century residential structure. The resource has remained on its original site of construction, is still located in a rural setting, and evokes a nineteenth century transportation feeling. Therefore, it has retained integrity in design, materials, workmanship style, location, setting, and feeling.

In regard to the National Register Criteria for Evaluation (National Register Bulletin 15):

**Criterion A** – This resource has no association with significant events or periods in our history's past.



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**Criterion B** – This resource has no known association with the lives of significant persons in our past.

**Criterion C** – This resource does not represent a significant example of a nineteenth century railroad line.

**Criterion D** – This resource is unlikely to yield significant information about the history of Simpson County, Kentucky.

This property is not associated with significant events or periods in our history's past and has no known association with the lives of significant persons. Although it retains a majority of its character defining features, it does not represent a significant example of a nineteenth century railroad line. Based on this evaluation, Resource No. SI 537 is recommended ineligible for inclusion in the NRHP.



Figure 55. Resource No. SI 537, facing north.



## **5.0 CONCLUSIONS**

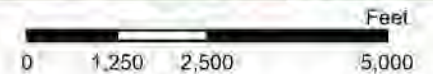
Terracon has completed an Architectural Survey of the proposed Horus Kentucky 1 Solar Site, located approximately 3.75 miles south of the town of Franklin in Simpson County, Kentucky. As a result of the survey, 26 historic resources were identified (Figure 1). These resources include 22 houses, two agricultural properties, and two cemeteries that range in age from ca. 1850 to ca. 2020. One resource, SI 526, was unable to be evaluated due to its distance from the right-of-way. Resource No. SI 526 is separated from the project area by I-65 and a wooded area, and the proposed solar farm will not be visible from this resource, as shown in a viewshed analysis conducted in January 2021 (Figure 56). An archaeological survey is also being conducted for the project, with results of that investigation being included in a separate report per Kentucky state guidelines (Gengenbach et al 2021).



- Project Site Boundary
- PV Panel Area
- APE (0.5-Mile Radius)
- SI 526 Boundary

- SI 526 House Location
- Visible
- Not Visible

### Viewshed Analysis



DATA SOURCES:  
ESRI WMS - World Aerial Imagery, OpenStreetMap

Project No.:  
5720P073  
Date:  
Jun 2021  
Drawn By:  
MDP  
Reviewed By:  
WGG

**Terracon**

611 Lunken Park Drive Cincinnati, OH 45228  
PH: (513) 321-5816 terracon.com

### Viewshed Analysis

Horus Renewables  
TVA Hoffman Solar  
Tyree Chapel Road  
Simpson County, Kentucky

### Exhibit

**A1**



## **6.0 REFERENCES CITED**

Adelman, Garry and Mary Bays Woodside

2010 A House Divided: Civil War Kentucky, American Battlefield Trust, Electronic Document, <https://www.battlefields.org/learn/articles/house-divided-civil-war-kentucky>, accessed March 1, 2021.

AgCo

2020 4020: Stiffened Bins, GSI, Electronic Document, <https://www.grainsystems.com/master/products/storage/grain-bins/4024.html>, accessed April 30, 2021.

City of Franklin Kentucky

2021 Welcome to Franklin. Electronic document, <http://www.franklinky.org/visitors>, accessed March 1, 2021.

Encyclopedia Britannica, Inc.

2021 Kentucky in the Early 20th Century. Electronic document, <http://www.britannica.com/EBchecked/topic/315026/Kentucky/279939/Kentucky-in-the-early-20th-century.htm>, accessed August 20, 2018.

Gengenbach, Barbara, Mills Dorn, William Green

2021 *Phase I Archaeological Survey of Approximately 530 Acres at the Horus Kentucky 1 Solar Site and Approximately 7 Miles of TVA Transmission Line*. Report prepared for Horus Renewables Corp., West Sacramento, California, by Terracon Consultants, Inc., Columbia, South Carolina.

Kentucky Department of Fish and Wildlife Resources

2014 West Fork of Drakes Creek, Electronic document, <https://fw.ky.gov/Education/Pages/West-Fork-of-Drakes-Creek.aspx>, accessed March 2, 2021.

McBride, Kim A., and W. Stephen McBride

1996 From Colonization to the Twentieth Century. In *Kentucky Archaeology*, edited by Barry Lewis, pp. 183-212. University of Kentucky Press.

McBride, W. Stephen, and Kim A. McBride

2008 Chapter 8: Historic Period. In *the Archaeology of Kentucky: An Update Volume One*, edited by David Pollack, pp. 109-192. State Historic Preservation Comprehensive Plan Report No. 3, Kentucky Heritage Council, Frankfurt, Kentucky.



## **Architectural Survey**

Horus Kentucky 1 Solar ■ Simpson Co., Kentucky

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Moody, Tom

2021 The Founding of Franklin and Simpson County. Electronic document,  
<https://sites.rootsweb.com/~kyschs/pages/history.htm>, accessed March 1, 2021.

Talbott, Tim

2021 Explore Simpson County, Kentucky, Electronic document, <https://explorekyhistory.ky.gov/tours/show/52>, accessed March 1, 2021.

United States Department of Agriculture

1975 History of CCC Bin Storage Program 1933 – 1975, Agriculture Stabilization and  
Conservation Service, Washington, D.C.

## **TAB 5**

**SITING BOARD STAFF'S SECOND REQUEST FOR  
INFORMATION TO HORUS KENTUCKY 1 LLC  
(with Confidential Information in Highlight)**

Horus Kentucky 1 LLC provides the following responses to the Siting Board Staff's Second Request for Information. The following exhibits are attached hereto as a part of this response:

- A. Preliminary Construction Schedule
- B. Revised Site Plan Layout Map
- C. Revised Sound Level Assessment Report
- D. Conditional Use Permit Applications
- E. Phase I Archaeological Survey
- F. Architectural Survey
- G. Digital Surface Model
- H. Kentucky Technical Advice Memorandum KY-TAM-21-01
- I. Lease Agreement Copies
- J. Returns of Service

1. Refer to Horus Kentucky 1's response to Staff's First Request for Information (Staff's First Request) Item 24 (a) and (b).

a. Provide a list of the different construction activities, or types of activities, required to complete the Project, in the order that they are likely to occur: Please refer to **Exhibit A for the Preliminary Construction Schedule Document** which details the anticipated construction activities with associated timelines. The general construction activities include the following: civil works, pile installation, tracker installation, modules installation, electrical installation (AC/DC works), and commissioning.

b. Provide a tentative or preliminary schedule for those activities, which according to the response to Item 24 (b), will occur sequentially: Please refer to **Exhibit A for the Preliminary Construction Schedule Document** which provides a tentative and preliminary schedule for anticipated construction activities. It should be noted that mechanical activities are anticipated to occur sequentially, but not across the entire project. Civil work and electrical installation are anticipated to take place at different times in different areas of the project.

c. Confirm the response to Item 24 (b) implies that individual construction activities for Horus Kentucky 1 will not overlap: Per the **Preliminary Construction Schedule Document** presented in **Exhibit A**, some activities will overlap as different trades are anticipated to be assigned to different project areas/locations. For example, civil work may be occurring in one area of the project while panel installation would be occurring in another area of the project where civil work may have already been completed. In addition,

were properly noticed as indicated within the conditional use permit applications (Exhibit D), the Applicant's representative, Braden Houston, was available to discuss the project as well as hear the concerns of both the Board and any other concerned individuals. The Applicant's history in this industry, including questions regarding past projects, was discussed. Further, responsibilities for certain repairs to affected roadways and/or damaged solar panels, as well as potential for exposure to hazardous materials, were discussed. Items relevant to the upcoming submission of the Development Plan were discussed as well, such as possible vegetative buffering, decommissioning, etc.

38. Refer to Horus Kentucky 1's response to Staff's First Request Item 55 (e).

a. Explain the revised estimate of labor income, which would amount to about \$9,600 of income per FTE for the noted 100 FTEs: The Applicant revised the estimate of data income using the IMPLAN system and attempted to revise using a more conservative estimate than the original 80 million as certain aspects of the initial estimate occur outside of the local area. The 6 million-dollar estimate was incorrectly transposed from a 60 million-dollar estimate based on the value of the costs associated with current projections of personal property. The current estimation is \$52,379,245.41 in value for use within the IMPLAN system.

b. If necessary, provide a revised estimate of labor income:

Impact	Employment	Labor Income	Value Added	Output
1 - Direct	100	\$8,005,846.91	\$19,216,095.36	\$52,379,245.41
2 - Indirect	36.17	\$1,561,842.45	\$2,901,959.62	\$5,285,115.14
3 - Induced	27.66	\$968,943.87	\$2,016,085.44	\$3,717,969.51
	163.82	\$10,536,633.22	\$24,134,140.41	\$61,382,330.06

c. Provide an updated table showing payroll taxes, by recipient agency: Using the figures from subpart (a) and (b) above, the IMPLAN analysis calculated the following estimates of payroll taxes:

State Payroll Taxation Estimate	
Social Insurance Tax- Employee Contribution	\$1,446.41
Social Insurance Tax- Employer Contribution	\$2,212.60
Personal Tax: Income Tax	\$259,889.65
	<u>\$263,548.66</u>

Federal Payroll Taxation Estimate	
Social Insurance Tax- Employee Contribution	\$477,465.11
Social Insurance Tax- Employer Contribution	\$128,058.98
Personal Tax: Income Tax	\$835,253.68



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**\$1,440,777.77**

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39. Refer to Horus Kentucky 1's response to Staff's First Request Item 55 (k). Explain whether it is possible to "take advantage of any Kentucky tax treatments specifically available to solar projects and businesses in general" without negotiating with the County for an IRB or PILOT agreement: The Applicant intends to comply with the sales and use taxes on equipment generating solar power as outlined within Kentucky Technical Advice Memorandum KY-TAM-21-01, attached hereto as Exhibit H. As outlined within the Memorandum, which was issued by the Kentucky Department of Revenue Office of Tax Policy and Regulation, The applicable code specifically contemplates certain exemptions and certain rates for real and personal property related to solar projects and the Applicant intends to fully comply with the relevant statutory and regulatory code related to this project.

40. Refer to Horus Kentucky 1's response to Staff's First Request Item 55 (l) and (m). Explain when the tax analysis will be available for review: As outlined within Exhibit H referenced in response to Request 39 above, a tax analysis requires a complete itemization of the values for the personal property by the categories designated within by KRS 132.200(4), KRS 132.020(1)(c)(1), and KRS 132.020(1)(h) and the corresponding definitional guidance, including a valuation of the impact of the exemptions available under KRS 139.480 to the overall analysis and depreciation methods. At this stage, the Applicant is currently compiling the information necessary to prepare the full tax analysis and will supplement its Application with that information once it is available.

41. Refer to Horus Kentucky 1's response to Staff's First Request Item 57 (d).

a. Confirm that the Applicant will be posting a decommissioning bond with individual landowners and a separate, larger bond with Simpson County: No, the Project company will be securing one decommissioning bond equal to the largest required amount among the three parties, which will almost certainly be the County. The landowners would then be named on that bond in addition to the County. Each landowner will be allowed to draw on the instrument, if needed. If for some reason, the County is not satisfied with the final site remediation but both landowners were, the County would then be able to draw against the instrument to remediate any items in the original Conditions of the Conditional Use Permit that were not completed.

b. Explain the purpose of issuing bonds with both the landowners and the County: Our option lease agreements with each landowner require that we post a decommissioning bond. For our option lease agreement with Mr. Hoffman, we are required to post a \$50,000 surety bond or Letter of Credit with a credit worthy financial institution for the entire length of the lease period of the agreement. For our option lease agreement with Mr. Summers, we are required to post a \$50,000 surety bond or Letter of Credit with a credit worthy financial institution for the entire length of the lease period of the agreement. The County is yet to settle on an amount, but we are expecting the total security to be well over \$100,000, in total. Any funds available would be utilized to return the site to its original

## **TAB 6**

**COMMONWEALTH OF KENTUCKY  
BEFORE THE KENTUCKY STATE BOARD  
ON ELECTRIC GENERATION AND TRANSMISSION SITING**

In the Matter of:

ELECTRONIC APPLICATION OF HORUS	)	
KENTUCKY 1 LLC FOR A CERTIFICATE OF	)	
CONSTRUCTION FOR AN APPROXIMATELY 69.3	)	
MEGAWATT MERCHANT ELECTRIC SOLAR	)	CASE NO. 2020-00417
GENERATING FACILITY IN SIMPSON COUNTY,	)	
KENTUCKY PURSUANT TO KRS 278.700 AND	)	
807 KAR 5:110	)	

**HORUS KENTUCKY 1 LLC’S RESPONSE TO SITING BOARD STAFF’S POST-  
HEARING REQUEST FOR INFORMATION TO HORUS KENTUCKY 1 LLC**

COMES NOW, Horus Kentucky 1 LLC, and hereby responds to the Siting Board Staff’s Post-Hearing Request for Information to Horus Kentucky 1 LLC. For its response, it states as follows:

Horus Kentucky 1 LLC provides the following responses to the Siting Board Staff’s Post-Hearing Request for Information. Pursuant to the previously filed and still pending motions for confidentiality, certain information has been redacted from public access and separately provided to the Siting Board.

1. Refer to the Application, Exhibit E, page 4, Tables IMPLAN Economic Indicators by Impact–Simpson County (IMPLAN Economic Indicators) and IMPLAN Tax Results–Simpson County (IMPLAN Tax Results). Also refer to Horus Kentucky 1’s response to Siting Board Staff’s First Request for Information (Staff’s First Request), Item 55(e), Table Economic Indicators by Impact (Economic Indicators by Impact).

a. Reconcile the difference between the economic impact amount provided in IMPLAN Economic Indicators and the revised economic impact amount provided in Horus Kentucky 1’s response to Staff’s First Request, Item 55(e).

As stated in response to Request 38 of the Siting Board Staff’s Second Request for Information to Horus Kentucky 1 LLC, following the submission of its application, the Applicant revised the estimate of output downward using a more precise estimate than the original \$80 million estimate as certain aspects of the initial estimate would likely occur outside of Simpson County, Kentucky and outside the Commonwealth. The 6 million-dollar estimate used in response to the Siting Board Staff’s First Request for Information to Horus Kentucky 1 LLC was incorrectly transposed from a further refined 60 million-dollar estimate. As the planning phase progressed, and as listed in response to the Siting Board Staff’s Second Request for Information to Horus Kentucky 1 LLC, the current estimation is \$52,379,245.41 in

output, which was submitted into the IMPLAN system for calculating the economic impact of the project during the construction phase.

b. Provide a line-by-line explanation of the assumptions and inputs used to calculate the economic impact of the proposed project in the original economic analysis contained in IMPLAN Economic Indicators and revised economic analysis in Economic Indicators by Impact, and the basis for the difference in the two amounts.

As stated in response to Request 1(a) above, the final figure of \$52,379,245.41 reflects the most up-to-date figure reflecting the value added to the Kentucky and Simpson County economy for the Project. This figure was calculated using the expected value (including soft costs, construction costs, etc.) associated with the specific aspects of the project as reflected here:

Item		Total (\$)
1	Solar Panels	\$31,856,460.00
2	Mounting systems	\$1,875,719.28
3	Trackers	\$9,448,950.00
4	DC system items	\$468,929.82
5	Inverters	\$3,599,600.00
6	Converters	N/A
7	Transformers	\$1,100,000.00
8	Substations	\$3,150,000.00
9	DC meters	N/A
10	DC regulators	N/A
11	Batteries	N/A
12	AC Meters and AC Regulators	\$4,500.00
13	Other AC system items	N/A
14	Electric transmission property	\$16,391,009.00
15	Monitoring system equipment	\$225,086.31
16	Security systems	\$350,000.00
17	Communication equipment	\$120,000.00
18	Conduits	\$180,000.00
Total (USD)		\$52,379,245.41

The final figure was submitted into the IMPLAN system as the “value” input for the purposes of its calculation of economic impact to Simpson County, Kentucky.

c. Explain whether the Siting Board should consider the calculations presented in Economic Indicators by Impact instead of the calculations presented in IMPLAN Economic Indicators in rendering a decision in this matter.