Case No. 2021-00235
Russellville Solar LLC
Responses to Siting Board's First Request for Information

1. Submit a copy of the lease or purchase agreements, including options, separate agreements, or deeds, that Russellville Solar has entered into in connection with the real estate footprint for the proposed solar facility, including the agreements for each of the parcels of the project. To the extent that these documents will be provided under a petition for confidential treatment, provide the unredacted copies of each agreement under seal of confidentiality, in accordance with 807 KAR 5:110, Section 5.

Response: Russellville Solar has entered into four real estate lease agreements in connection with the real estate footprint for the proposed solar facility. Redacted agreements have been attached and unredacted agreements have been submitted separately in conjunction with a petition for confidentiality.

Witness: Stefan Eckmann

SOLAR ENERGY LEASE AGREEMENT

This SOLAR ENERGY LEASE AGREEMENT ("***Lease***") is entered into effective as of the Effective Date set forth below, by and between (i) Russellville Solar LLC a Delaware limited liability company (the "***Company***"), and (ii) the landowner(s) set forth below ("***Landowner***"). Landowner and Company may be referred to below together as the "***Parties***" and each a "***Party***."

1. **Effective Date:** September 10, 2019
2. **Landowner(s):** Marguerite M. Statton Family Trust
   Lila Montgomery Family Trust
3. **Leased Property:** The real property located in Logan County, Kentucky, generally depicted on Exhibit B. See §1.1.
4. **Development Feasibility Term:** [redacted]
5. **Commercial Term:** Commences on the Commercialization Date and ends thirty (30) years thereafter, subject to options to extend. See §4.3.
6. **Rent:**
   Development Feasibility Term: [redacted]
   Commercial Term: [redacted]

The following Exhibits are attached and incorporated herein by reference:

Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

[Signatures on following page]

Signatures to SOLAR ENERGY LEASE AGREEMENT

Company:

Russellville Solar LLC

By:_____

Name:_____

Title:_____

Landowner(s):

Marguerite M. Statton Family Trust

By:_____
Keith Cox, Trustee

By:_____
Jennifer Clayton

By:_____
Michele Statton Gossett

By:_____
Christopher Michael Statton

Jennifer J Miller - Guardian for Christopher Michael Statton

By:_____
Elizabeth Statton

Lila Montgomery Family Trust

By:_____
Keith Cox, Trustee

By:_____
Jennifer Clayton

By:_____
Michele Statton Gossett

By:_____
Christopher Michael Statton

Jennifer J Miller Guardian for Christopher Michael Statton

Signatures to SOLAR ENERGY LEASE AGREEMENT

Company:

Russellville Solar LLC

By: _____

Name: Brent Beerley

Title: Manager

Landowner(s):

Marguerite M. Statton Family Trust

By: _____
Keith Cox, Trustee

By: _____
Jennifer Clayton

By: _____
Michele Statton Gossett

By: _____
Christopher Michael Statton

By: _____
Elizabeth Statton

Lila Montgomery Family Trust

By: _____
Keith Cox, Trustee

By: _____
Jennifer Clayton

By: _____
Michele Statton Gossett

By: _____
Christopher Michael Statton

EXHIBIT A

– STANDARD TERMS AND CONDITIONS –

PAGE

1. Grant of Lease.

1.1. General. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Landowner(s) identified on the Cover page hereto (generally, "***Landowner***") hereby leases to Company, and Company hereby leases from Landowner, the real property depicted in the drawing attached hereto and incorporated herein as Exhibit "B" (the "***Leased Property***").

1.2. Development Feasibility Term. During the Development Feasibility Term, Company shall use the Leased Property to evaluate and determine the feasibility of development of an electrical generating facility for the conversion of solar energy into electrical energy (the "***Solar Facility***"). By way of example only, during the Development Feasibility Term, Company may install solar energy monitoring equipment on the Leased Property.

Landowner expressly reserves the right to use the Leased Property during the Development Feasibility Term for uses that do not and will not interfere with Company's operations hereunder or enjoyment of the rights hereby granted, specifically including, but not limited to farming, provided, however, that:

a. Landowner may not use the Leased Property in a manner inconsistent with Company's use of any access roads;

b. any such use of the Leased Property by Landowner shall not include solar energy development or the installation or use of any facilities related to solar energy development or generation (which rights and uses are exclusively granted to Company in this Lease);

c. any easements or leases entered into by Landowner with respect to the Leased Property after the date of this Lease shall expressly provide that they are subject and subordinate in all respects to this Lease and to the rights of Company and any assignee hereunder;

d. use of the Leased Property by Landowner for commercially reasonable farming, cultivation of crops, and/or timbering activities (collectively, "***Agriculture and Forestry Activities***") shall be deemed not to interfere with Company's operations hereunder or enjoyment of the rights hereby granted; and

e. Landowner shall not be required by Company to limit Agriculture and Forestry Activities on the Leased Property unless and until Company and Landowner agree upon compensation due from Company to Landowner for Landowner's loss of Agriculture and Forestry Activities on the Leased Property.

1.3. Commercial Term. During the Commercial Term, Company shall use the Leased Property for the development, construction, ownership, operation, maintenance and repair of the Solar Facility. In connection with such use, Company shall have the exclusive right:

a. to construct, install and operate on the Leased Property multiple solar panels and inverters;

b. to erect, construct and use all the necessary and requisite devices, fixtures, appurtenances and facilities for the Solar Facility, as determined in the sole and absolute discretion of Company, including but not limited to: foundations, supports, concrete pads and footings; fences, and roads for ingress and egress of construction and maintenance vehicles; the physical preparation of the sites on which the Solar Facility will be installed and the preparation of access routes thereto (whether located on the Leased Property or, if necessary, on the Adjacent Property); power collection facilities, including underground or above ground distribution and collection lines between Solar Facility Equipment and from Solar Facility Equipment to one or more substations and points of interconnection with the power grid, wires and cables, conduit and above-ground transformers for the Solar Facility; substations or interconnection and switching facilities which Company may connect to a utility transmission system or the transmission system of another purchaser of electrical energy; underground or above ground control, communications and telecommunications equipment, including underground fiber, wires, cables and conduit; erosion

control facilities; signs, gates and other safety and protection facilities; control and administration buildings; and other improvements, facilities, appliances, machinery and equipment in any way related to or associated with any of the foregoing (all of the foregoing, including the solar panels and inverters, collectively referred to herein as the "***Solar Facility Equipment***");

c. to maintain, clean, repair, replace and dispose of part or all of the Solar Facility Equipment;

d. to allow and control access of third parties to the Leased Property. The Company may invite third parties upon the Leased Property without permission from the Landowner so long as the terms of this Lease are not violated;

e. to trim or cut down trees, shrubs or any other landscaping and vegetation on the Leased Property or Adjacent Property as may be necessary for the exercise of rights granted to Company pursuant to this Lease, with Owner to receive the proceeds of any marketable timber removed by or on behalf of Company pursuant to this Section 1.3(e); and

f. to gate or otherwise secure any access roads on or to the Leased Property, provided that Company shall work with Landowner to ensure Landowner's commercially reasonable access to same consistent with industry standard practices.

1.4. General Powers of Company. The rights granted to Company in this Lease permit Company, without limitation, to undertake all activities that Company determines are necessary, useful, appropriate or convenient in connection with, or incidental to the development, construction and operation of the Solar Facility or for the benefit thereof, including conducting surveys and environmental, biological, cultural and other tests and studies and conducting site tours to demonstrate the generation of electricity from solar power for educational and commercial purposes.

1.5. Design and Placement of Solar Facility Equipment. Company shall have sole and absolute discretion as to the location of Solar Facility Equipment on the Leased Property and the extent of construction activity required in connection with such Solar Facility Equipment. Prior to Company's construction of the Solar Facility, however, Company shall consult with Landowner for informational purposes only. Landowner acknowledges that a portion of the Solar Facility Equipment to be constructed by Company on the Leased Property may include buried and/or above ground electrical and communications lines among Solar Facility Equipment, and from the Solar Facility to electrical substations and other points of interconnection on the power grid serving the Solar Facility.

1.6. Roads. Company shall have the right to use the existing roads on the Leased Property and to construct or improve, from time to time and at any time, one or more additional roads over, across and through the Leased Property as suitable for Tenant's use thereof.

1.7 Repowering. The Parties recognize that (1) power generation technologies are improving at a rapid rate and that Company may (but shall not be obligated to) from time to time replace or repair Solar Facility Equipment on the Leased Property with newer (and potentially

smaller or larger) models and types of Solar Facility Equipment, and (2) the activities contemplated by this Lease may be accomplished by Company or by one or more third parties authorized by Company.

1.8. Defined Terms. As used herein, the term **"*Adjacent Property*"** shall mean any and all property or properties owned at any time during the Development Feasibility Term and the Commercial Term by Landowner, and/or the Affiliates of Landowner, that are contiguous with the Leased Property. As used herein, the term **"*Affiliate*"** means any other person or entity that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with the Landowner. The term **"*control*"** as used with respect to any person or entity, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person or entity, whether through the ownership of voting securities or partnership interests, by contract or otherwise.

2. Easements.

2.1. Grant. Without limiting the rights set forth elsewhere in this Lease, Landowner hereby grants to Company the following easements during the Development Feasibility Term and the Commercial Term of this Lease (collectively, the "***Easements***"):

a. an exclusive easement to use, convert, maintain and capture the free and unobstructed flow of solar energy resources over and across the Leased Property and the Adjacent Property;

b. the right to utilize, on a nonexclusive basis, any access, utility, water, communication, sewer, septic, transmission or other easements, rights of way or licenses already held by Landowner over the Adjacent Property, or any other property in the vicinity of the Leased Property, which Company determines could be used for the benefit of the Solar Facility, as permitted by the instruments evidencing such rights and other applicable laws;

c. nonexclusive easements on, over, across, under and through the Adjacent Property to install and maintain power, water, communications, sewer, transmission and other such lines that Company determines could be used for the benefit of the Solar Facility;

d. nonexclusive easements for access to the Leased Property, over and across the Adjacent Property, including for vehicular and pedestrian ingress, egress and access to and from the Solar Facility Equipment, whether by means of roads and lanes previously existing on the Adjacent Property or otherwise by such route(s) as Company may construct from time to time;

e. an easement over the Adjacent Property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Solar Facility; and

f. an easement over the Adjacent Property to evaluate and determine the feasibility of the solar facility on Landowner's Property in a location that varies from the Leased Property, as depicted in Exhibit B.

2.2. Terms and Conditions. With respect to each Easement:

a. to the extent permitted by applicable federal, state and local laws, statutes, ordinances, orders, rules and regulations, such Easement shall be appurtenant to the Leased Property;

b. such Easement shall run with and benefit the Leased Property (and such other lands, as applicable) and inure to the benefit of and be binding upon Landowner and the holder of the Easement and their respective successors and assigns, and all persons claiming under them;

c. no act or failure to act on the part of Company or the holder of the Easement shall be deemed to constitute an abandonment, surrender or termination thereof, except (i) upon recordation by such holder of a quitclaim deed specifically conveying the Easement back to Landowner or (ii) the termination of this Lease pursuant to Sections 4.2(b), 4.3(b) and 12.1(b) hereof;

d. non-use of the Easement shall not prevent the future use of the entire scope thereof; and

e. no use of or improvement to the Leased Property or any lands benefited by the Easement, and no assignment or sublease hereof or thereof, shall, separately or in the aggregate, constitute an overburdening of the Easement.

2.3. Stand-Alone Agreements. Upon Company's request from time to time, Landowner shall grant to Company (or a party designated by Company), in recordable form and containing such terms and provisions as may reasonably be requested by Company for no additional consideration:

a. stand-alone easements for any of the Easements granted hereunder; or

b. in the case of Easements already held by Landowner, subeasements, the term of which shall run concurrently with the Development Feasibility Term and the Commercial Term (or for a shorter period of time as may be requested by Company) and shall terminate upon the expiration or termination of this Lease.

3. Survey. Prior to the Commercialization Date (as defined below), Company shall cause to be conducted, at Company's sole expense, a survey of the Leased Property and the Easements. Landowner shall cooperate therewith. Company shall provide a copy of such survey to Landowner. Following the completion of the survey, the Parties shall amend this Lease to include a metes-and-bounds description of the Leased Property, the Easements, and the Adjacent Property, as described in the Lease and on which Company has certain rights set forth in the Lease.

4. Lease Term.

4.1. Commercialization Date. The "***Commercialization Date***" for the Solar Facility means the date on which "Groundbreaking" occurs. As used herein, "Groundbreaking" shall mean the earlier of (a) when earth is moved for the improvement of the Leased Property for the construction of the Solar Facility, (b) when the first Solar Facility support structure is installed below grade at the Leased Property, or (c) when Company elects to make the first annual Commercial Term rent payment in the amount set forth in Section 5.2(a). Movement of earth for evaluation of the Leased Property shall not be considered Groundbreaking and shall not cause the Commercialization Date to occur. Company shall notify Landowner promptly if and when the Commercialization Date occurs.

4.2. Development Feasibility Term.

a. [redacted]

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Development Feasibility Term, effective upon at least seven (7) days written notice to Landowner. Upon such termination, Company will be obligated to satisfy the obligations set forth in Section 7.

4.3. Commercial Term.

a. The Commercial Term shall commence on the Commercialization Date, and shall end thirty (30) years thereafter, provided that Company shall have the right to extend the Commercial Term for up to two (2) additional periods of five (5) years each (each, an "***Extended Term***"), by notice to Landowner before the expiration of the Commercial Term or the Extended Term. Company may elect to exercise its option to extend the Commercial Term by giving Landowner written notice of such election not earlier than eighteen (18) months and not later than six (6) months prior to the expiration of the then-current term of this Lease. Upon satisfaction of the notice requirements to Landowner, this Lease shall be extended for such Extended Term upon the same terms, conditions and covenants as are contained in this Lease, subject to Section 5.2(b) below.

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Commercial Term, effective upon at least ninety (90) days written notice to Landowner. Upon such termination, (i) Company will be obligated to satisfy the obligations set forth in Section 7, and (ii) Company shall pay to Landowner all Commercial Term Rent (as defined below) payable for a period of seven (7) Commercial Operation Years following the Commercial Operation Year in which this Lease is terminated (the "***Commercial Term Termination Payment***"), with the Commercial Term Termination Payment to be reduced by one (1) Commercial Operation Year of Commercial Term Rent for each Commercial Operation

Year that has been completed as of the effective date of the termination, such that at the end of the seventh (7^{th}) Commercial Operation Year and for the remainder of the Commercial Term, the Commercial Term Termination Payment shall be zero.

5. Landowner Rent, Consideration and Other Terms.

5.1. Rent During the Development Feasibility Term. During the Development Feasibility Term, Company shall pay to Landowner [redacted] per acre of Leased Property per year. The rent for the first year of the Development Feasibility Term shall be due within thirty (30) days after the Effective Date. The rent for each subsequent year of the Development Feasibility Term will be payable within thirty (30) days of the anniversary of the Effective Date. Any rent payable for less than a full twelve (12) month period shall be prorated on the basis of a 365-day year. The prorated amount of rent applicable to any remaining portion of the year of the Development Feasibility Term in which the Commercialization Date occurs shall operate as a setoff against the amount of rent Company owes Landowner for the first year of the Commercial Term.

5.2. Rent During the Commercial Term.

a. During the first thirty (30) years of the Commercial Term, Company shall pay to Landowner, on an annual basis, at the beginning of each Commercial Operation Year, rent payments equal to [redacted] per acre of Leased Property per year (the "***Commercial Term Rent***"). Any rent payable for less than a full 12-month period shall be prorated on the basis of a 365-day year. The first "***Commercial Operation Year***" shall begin on the Commercialization Date, and shall expire twelve (12) months thereafter, and each subsequent Commercial Operation Year shall commence upon the expiration of the prior Commercial Operation Year and expire twelve (12) months thereafter.

b. Rent for each Extended Term (if any) shall be [redacted] per acre of Leased Property per year.

5.3. Additional Consideration and Other Terms.

a. In the event Company's activities during the Development Feasibility Term damage any crops in commercial cultivation on the Leased Property or in the event the Commercialization Date occurs during the commercial cultivation of crops on the Leased Property, Company shall pay to Landowner, or Landowner's tenant as applicable, a one-time payment equaling the then-current fair market value of any crops damaged by Company.

b. For each month it takes Company to accomplish the tasks listed in Sections 7.1. a-c below, Company shall pay Landowner pro-rated rent in a manner and amount commensurate with the rent applicable to the Leased Property in the last year of the Commercial Term.

c. Landowner shall furnish Company with a signed, completed form W-9 by the Effective Date, and thereafter within thirty (30) 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 Landowner's interest in the Lease. Without limiting Company's obligation to pay Rent or other amounts due to Landowner hereunder, Company shall be entitled to delay making any such payments to Landowner until Landowner has provided such W-9. For convenience, the W-9 form is attached as Exhibit C.

d. In the event Company's activities during the Development Feasibility Term damage any assets located on the Leased Property and owned by Landowner, including but not limited to structures, drainage facilities, fencing, and equipment, Company shall reimburse Landowner for the reasonable costs of repairs directly related to such damage and incurred by Landowner. On or after the Commercialization Date, in the event Company determines in its sole discretion to dismantle, destroy, remove or relocate from the Leased Property any structures, drainage facilities, or fencing located on the Leased Property and owned by Landowner as of the Effective Date, Company shall pay Landowner for such structures, drainage facilities, and/or fencing in an amount to be mutually agreed and negotiated between the parties in good faith, with such amount not to exceed [redacted] in the aggregate for all such structures, drainage facilities, and/or fencing.

6. Property Taxes. Company shall pay any personal property taxes assessed or levied against the Solar Facility Equipment. Company shall pay to the taxing authority all real property taxes levied against the Leased Property during the Commercial Term, including any "roll-back" taxes directly related to the reclassification of the Leased Property as a result of the Solar Facility or this Lease. Company shall not be liable for taxes attributable to facilities installed by Landowner or others on the Leased Property. It is a condition to Landowner's right to payment or reimbursement of any such taxes hereunder that Landowner submit the real property tax bill to Company within twenty (20) days after Landowner receives the bill from the taxing authority. Landowner shall pay its portion of the real property taxes, and if Landowner fails to do so, Company shall be entitled (but not obligated) to make payments in fulfillment of Landowner's obligations to the taxing authority and may offset the amount of such payments from any amounts due Landowner under this Lease. Landowner shall reasonably cooperate in any effort that Company undertakes to cause the leasehold estate of Company to be separately assessed for property tax purposes.

7. Removal of Solar Equipment and Restoration of Property.

7.1. Upon Termination. As soon as reasonably practicable but in no event later than six (6) months following the expiration or earlier termination of this Lease, Company shall, at Company's sole cost and expense,

a. remove all above-ground Solar Facility Equipment,

b. remove all Solar Facility Equipment installed below-grade, and

c. use commercially reasonable efforts to restore the soil surface of the Leased

Property and any affected area of the Adjacent Property to a condition equal to or better than its original condition, including the replacement of any topsoil that has been removed with soil of the same quality, the removal of all graveled roadways unless Landowner agrees for same to remain and the correction of any material changes in grade that have been made to the Leased Property.

7.2. Landowner Right to Perform. If Company fails to so remove the Solar Facility Equipment within six (6) months after the termination or expiration of this Lease, Landowner may do so and Company shall reimburse Landowner for the reasonable and actual costs of removal incurred by Landowner, less any salvage value received by Landowner, within thirty (30) days after receipt of an invoice from Landowner.

7.3. Decommissioning Cost. No more than 90 days in advance of the Commercialization Date, Company shall provide to Landowner an estimate of the cost, calculated by a reputable, mutually agreed-upon third-party engineer not associated with the engineer or engineering firm that prepared the site plan or construction plans for the Solar Facility, for the removal of the Solar Facility Equipment from the Leased Property (the "Decommissioning Cost Estimate"). The estimated market value of scrap or recyclable materials shall be considered in calculating the Decommissioning Cost Estimate. The Decommissioning Cost Estimate shall be updated every five (5) years.

7.4. Posting of Security. [redacted]

8. Company's Representations, Warranties and Covenants.

8.1. Company's Authority. Company represents to Landowner that Company has the unrestricted right and authority to sign this Lease, and when signed by Company, this Lease constitutes a valid and binding agreement enforceable against Company in accordance with its terms.

8.2. Requirements and Governmental Agencies. Company shall comply in all material respects with valid laws applicable to the Solar Facility Equipment, but shall have the right, in its sole discretion and expense, in its name or Landowner's name, to contest the validity or applicability to the Leased Property and/or the Solar Facility Equipment of any law, ordinance, order, rule or regulation of any governmental agency or entity. Company shall control any such contest and Landowner shall cooperate with Company in every reasonable way in such contest, at no out-of-pocket expense to Landowner.

8.3. Mechanic's Liens. Company shall keep the Leased Property and the Adjacent Property free and clear of all liens and claims of liens for labor and services performed on, and materials, supplies or equipment furnished to, the Leased Property in connection with Company's use of the Leased Property pursuant to this Lease.

8.4. Hazardous Materials. Company shall indemnify Landowner against Company's violation on the Leased Property or Adjacent Property of any applicable law or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any substance, material or waste which is now or hereafter classified as hazardous or toxic, or which is regulated under current or future federal, state or local laws or regulations, on or under the Leased Property or the Adjacent Property.

8.5. Safety Measures. Company shall take reasonable safety and security measures to reduce the risk of damage to the Solar Facility or the risk that the Solar Facility will cause damage, injury or death to people, livestock and other animals and property, as Company deems necessary or appropriate.

8.6. Damage to Fences and Gates. Company shall repair any damage caused by Company, at no cost to Landowner, to any fences, gates, buildings and other fixtures located on the Leased Property or within the area of any Easements (the "***Landowner Improvements***") to the extent caused by the construction or operation of the Solar Facility provided the Landowner Improvements do not conflict with the ongoing construction, operation and maintenance of the Solar Facility.

8.7. Electric Lines. Company shall use commercially reasonable efforts to install any electrical lines so that, following installation of the electrical lines, the land surrounding such lines may be used by the Parties in accordance with the terms of this Lease.

8.8. Maintenance of Leased Property and Access Roads. Company shall maintain the Leased Property in a manner consistent with returning the same back to its original condition as required by section 7 above, including, but not limited to erosion and weed control measures, as and when reasonably deemed necessary by Company. Company shall maintain all access roads serving the Leased Property, including erosion and weed control measures, as and when reasonably deemed necessary by Company.

9. Landowner's Representations, Warranties and Covenants. Landowner hereby represents, warrants and covenants as follows:

9.1. Landowner's Authority. Landowner has good title to the Leased Property in fee simple absolute, subject only to those matters shown on any title report or abstract provided to Company pursuant to Section 9.10 below, and has full right and authority to make this Lease and to perform as required hereunder, and this Lease does not conflict with, and its execution by Landowner will not result in a default or event of default under, any other agreement to which Landowner is bound. Landowner will furnish to Company upon request evidence reasonably satisfactory to Company of its title to the Leased Property and authority to execute this Lease. When signed by Landowner, this Lease constitutes a valid and binding agreement enforceable against Landowner in accordance with its terms. No rights to convert the solar resources of the Leased Property or to otherwise use the Leased Property for solar energy purposes have been granted to or are held by any other party other than Company. There are no covenants, restrictions, rights of way, easements or other encumbrances on the Leased Property that will prevent Company's use of the Leased Property as contemplated herein.

9.2. Ownership of Solar Facility; Not a Fixture; Lien Rights of Landowner. Company, or its nominee, is the exclusive owner and operator of the Solar Facility. Landowner shall have no ownership or other interest in any Solar Facility Equipment installed on the Leased Property or on the Adjacent Property, and Company shall at all times retain title to the Solar Facility Equipment, with the right, at any time and in its sole discretion, to remove, replace or repair one or more components of Solar Facility Equipment. The Solar Facility and the Solar Facility Equipment are not fixtures, and Landowner may not sell, lease, assign, mortgage, pledge or otherwise alienate or encumber (collectively, a "***Transfer***") the Solar Facility or any Solar Facility Equipment together with its fee interest or leasehold rights to the Leased Property. Landowner warrants and represents that it shall keep the Solar Facility Equipment free from all liens, except that the Solar Facility Equipment shall be subject to a landlord lien in favor of Landowner for up to twelve (12) months of delinquent rent under this Lease; provided, however, in all instances such landlord lien shall automatically be subordinate and subject to the rights of any Solar Facility Mortgagee in the Solar Facility Equipment, this Lease, and/or the Solar Facility Estate and Landowner agrees to execute any reasonable documentation of the same reasonably approved by Landowner and requested by any Solar Facility Mortgagee. Should any liens other than landlord liens be filed against the Solar Facility Equipment by reason of the acts of Landowner, Landowner shall cause the lien to be cancelled or otherwise discharged within thirty (30) days of receiving notice of such lien.

9.3. Notice of Transfers. Landowner shall give Company at least thirty (30) days written notice prior to any Transfer of all or a portion of the Leased Property or the Adjacent Property identifying the transferee, the portion of Landowner's property to be transferred and the proposed date of Transfer. This Lease shall run with the Leased Property and survive any Transfer thereof.

9.4. No Interference. Company shall have the sole and exclusive right to convert all of the solar resources of the Leased Property. Landowner's activities and any grant of rights Landowner makes to any third party, whether located on the Leased Property, the Adjacent Property or elsewhere, shall not, now or in the future, interfere in any way with Company's use of the Leased Property, or the rights granted under this Lease or the Easements. In furtherance of the

foregoing, Landowner shall not interfere with the solar resource or otherwise construct or permit to be constructed any structure that prevents, inhibits or impairs the solar resource over the Leased Property, or engage in any activity on the Leased Property or any Adjacent Property that might cause a decrease in the output or efficiency of the Solar Facility Equipment, as determined by Company in its sole and absolute discretion, including, without limitation, the construction of structures or planting of trees that would interfere with the free and unobstructed access to solar resources. Landowner shall not allow any activity to take place on the Adjacent Property that, in Company's reasonable determination, would adversely impact the development, construction and operation of the Solar Facility or the use of any easements across the Adjacent Property.

9.5. Estoppel Certificates. From time to time, within fifteen (15) days after written request from Company, Landowner shall execute and deliver an estoppel certificate certifying as to the status of this Lease and each Party's performance thereunder.

9.6. Requirements of Governmental Agencies. Landowner shall assist and fully cooperate with Company, at no out-of-pocket expense to Landowner, in applying for (including signing in Landowner's name, if necessary), complying with, completing or obtaining, as applicable, any land use permits and approvals, building permits, zoning variances, subdivision requirements, environmental impact reviews or any other approvals required for the financing, construction, installation, replacement, relocation, maintenance, operation or removal of the Solar Facility Equipment. Landowner shall make available to Company copies of all field surveys, environmental, geological and other site assessments, surveys, plans and other such records of Landowner related to the Leased Property and the Adjacent Property.

9.7. Zoning. Should zoning or other property-use regulations be proposed that might require property-line setbacks or other burdens more restrictive in nature than those in existence on the Effective Date, Landowner shall cooperate with Company in resisting or obtaining exemption from such regulations for the Solar Facility.

9.8. Hazardous Materials. Landowner represents and warrants to Company that, to the best of Landowner's knowledge:

a. there are no abandoned wells, solid waste disposal sites, hazardous wastes or substances, or underground storage tanks located on the Leased Property;

b. the Leased Property does not contain levels of petroleum or hazardous substances which require remediation under applicable environmental laws or regulations;

c. the Leased Property is not subject to any pending or threatened judicial or administrative action, investigation or order under any applicable environmental laws or regulations;

d. Landowner has not caused or contributed to a release or threatened release of hazardous substances or waste to, at, on, in or from the Leased Property, except in compliance with applicable environmental laws and regulations.

9.9. Landowner's Lenders.

a. Landowner shall promptly notify its lenders or any other party holding a mortgage, deed of trust or other security interest in the Leased Property of this Lease and Company's rights herein, and shall request that such lender, trustee or security interest holder simultaneously send any notice of Landowner's default to Landowner and Company. Regardless, Landowner agrees to promptly provide Company with a copy of any default notices that Landowner receives from any of its lenders or other party holding a mortgage, deed of trust or security interest in the Leased Property.

b. Company shall, at its own cost, procure a current abstract of title or preliminary title report for the Leased Property, showing all liens and other exceptions to title to the Leased Property and Landowner shall reasonably cooperate therewith. Upon request by Company, Landowner shall obtain a nondisturbance and subordination agreement from each mortgagee of the Leased Property and the Easements, or any portion thereof, under which the relevant lienholders agree not to disturb Company's possession or rights under this Lease or terminate this Lease so long as Landowner is not entitled to terminate this Lease under its terms.

c. If Landowner fails to pay any of its obligations secured by a mortgage, deed of trust or other security interest on the Leased Property when due, Company may, at its option, pay such amount and deduct it from the amount owed to Landowner under this Lease.

d. Landowner expressly acknowledges and agrees that any contractual, statutory or common law lien rights in favor of any mortgage or deed of trust granted by Landowner subsequent to the date of this Lease are and shall be expressly made subordinate and inferior to Company's right, title and interest in this Lease, any sublease permitted hereunder and/or the Easements granted by this Lease and to any liens and security interests granted by Company in favor of any Solar Facility Mortgagee (as defined below). Landowner agrees to execute or cause its mortgagee to execute any further documentation that may be requested by Company or a Solar Facility Mortgagee of any of the foregoing to evidence such subordination.

9.10. Quiet Enjoyment. Landowner agrees that Company shall quietly and peaceably hold, possess and enjoy the Leased Property pursuant to the terms of this Lease, and for the Development Feasibility Term and the Commercial Term of this Lease, and any extension thereof, without any hindrance or molestation caused by Landowner or any party claiming by, through or under Landowner. Landowner shall defend title to the Leased Property, and the use and occupancy of the same, against the claims of all persons, except those claiming by or through Company. Landowner shall not enter into or modify any documents, including any declarations, easements, restrictions or other similar instruments, which may materially affect the Leased Property, or the rights and/or obligations of Company hereunder, without first obtaining the prior written consent of Company.

9.11. Landowner Consent. Except as otherwise expressly provided herein, where pursuant to the terms of this Lease or in connection with the administration of this Lease, the consent or approval of Landowner will be required, requested, or appropriate, Landowner covenants and agrees that its consent or approval will not be unreasonably or unduly withheld,

delayed, or conditioned, and that Company will not be charged for such consent or approval. To the extent this Lease provides for the requirement of Landowner's consent, if within twenty (20) days after Landowner's receipt of Company's written request for such consent, Landowner does not give notice of its reasons for not consenting to Company's request, Landowner shall conclusively be deemed to have given its consent. If within such twenty (20) day period, Landowner gives notice of its reasons for not consenting to Company's request, then Landowner and Company shall promptly meet to discuss Landowner's comments and concerns, and Landowner and Company shall use their respective best efforts to address such comments and concerns in a reasonable manner. In the event a resolution is not reached, Company and Landowner shall be entitled to pursue all of their respective rights and remedies contained herein.

10. Solar Facility Financing.

10.1. Mortgage by Company. Company may, from time to time and at any time, without the consent of Landowner, hypothecate, mortgage, collaterally assign, pledge or alienate the Solar Facility Equipment, the Solar Facility, Company's leasehold, the Easements and/or the rights granted to Company under this Lease (collectively, the "***Solar Facility Estate***"). Each holder of any such instrument or lien, as to which Landowner has been notified of identity and address, is hereinafter referred to as a "***Solar Facility Mortgagee***." Nothing herein shall be deemed to permit a Solar Facility Mortgagee to take title to, or otherwise encumber, Landowner's fee title to the Leased Property.

10.2. Rights.

a. A Solar Facility Mortgagee or its assigns may enforce its lien and acquire title to the Solar Facility Estate in any lawful way. Pending foreclosure of such lien, any Solar Facility Mortgagee may take possession of and operate the Solar Facility Estate. Upon foreclosure of such lien by power of sale, judicial foreclosure or acquisition of the Solar Facility Estate by deed in lieu of foreclosure, a Solar Facility Mortgagee may, upon notice to Landowner, sell and assign the Solar Facility Estate. As long as there is a Solar Facility Mortgagee or a subtenant, tax credit investor and any other third party with an interest in the Solar Facility as to which Landowner has been notified of identity and address (each an "***Interested Party***"), neither the bankruptcy nor the insolvency of Company shall operate to terminate, nor permit Landowner to terminate, this Lease as long as all rent and other charges payable by Company continue to be paid in accordance with the terms of this Lease and for as long as the Company is in compliance with all other terms and conditions of this Lease.

b. During the period that a Solar Facility Mortgagee or an Interested Party may be in possession of the Solar Facility Estate and/or during the pendency of any foreclosure proceedings instituted by a Solar Facility Mortgagee and an Interested Party, the Solar Facility Mortgagee or Interested Party shall pay or cause to be paid all rent and other charges payable by Company which have accrued and are unpaid during said period and shall comply with all other terms and provisions of this Lease. Following the acquisition of the Solar Facility Estate by a Solar Facility Mortgagee, an Interested Party or their designee as set forth above, the Solar Facility Mortgagee, Interested Party or other person acquiring title to the Solar Facility Estate shall (i) cure all defaults by Company as to payment of rent and cure all other defaults by the Company, and (ii)

assume and commence performance of all of Company's obligations under this Lease thereafter arising, whereon Landowner's right to terminate this Lease based upon the default in question shall be deemed waived.

10.3. Notice. When giving notice to Company of any default by Company under this Lease, Landowner shall also serve a copy of such notice upon (i) each Solar Facility Mortgagee, and (ii) each Interested Party. No such notice shall be effective against a Solar Facility Mortgagee or Interested Party unless and until served on such Solar Facility Mortgagee or Interested Party. If Company shall default in the performance of any of its obligations under this Lease following the giving of notice of such default to Company, then Landowner shall give each Solar Facility Mortgagee and Interested Party a second written notice of such default, specifying in detail the alleged default and required remedy.

10.4. Right to Cure.

a. Each Solar Facility Mortgagee and Interested Party shall have the right to cure any default by Company (i) within thirty (30) days after receipt of the second notice referenced above, if the default is in the payment of rent or is otherwise reasonably curable within such 30-day period, or (ii) within such longer period (not to exceed 90 days in total) as may reasonably be necessary to cure such default, if such default is not reasonably curable within 30 days, provided that the cure is commenced within such 30-day period and thereafter diligently continued to completion. Landowner shall accept such cure and performance as though the same had been done or performed by Company. Any Solar Facility Mortgagee and Interested Party shall have the right to do any act or thing required to be performed by Company or any assignee under this Lease, and such act or thing performed by a Solar Facility Mortgagee or Interested Party shall be effective to prevent a default under this Lease as if done by Company or the assignee itself. No Solar Facility Mortgagee or Interested Party shall have liability for any act or omission by Company under this Lease.

b. The time available to a Solar Facility Mortgagee or an Interested Party to cure any default by Company shall be extended by (i) such number of days as may be necessary for such Solar Facility Mortgagee or Interested Party to obtain a receiver, or to initiate and complete foreclosure proceedings, if possession of the Leased Property is necessary to cure such default, and (ii) the number of days of delay occasioned by bankruptcy stay or other judicial restriction that legally prevented the Solar Facility Mortgagee or Interested Party from being able to take action against such remedies or occasioned by other circumstances beyond such Solar Facility Mortgagee's or Interested Party's reasonable control.

10.5. Modification of Lease. Upon the request of any Solar Facility Mortgagee, Landowner and Company shall amend this Lease to include any reasonable provision(s) requested by such Solar Facility Mortgagee to implement the protective provisions contained in this Lease for the benefit of such Solar Facility Mortgagee, or to allow such Solar Facility Mortgagee reasonable means to protect or preserve the Solar Facility Estate or the lien of its leasehold mortgage on the occurrence of a default under this Lease; *provided, however*, that Landowner shall not be required to amend this Lease in any way that would extend the Development Feasibility

Term or the Commercial Term, decrease the rent or otherwise in any material respect adversely affect any rights of Landowner.

10.6. Intentionally Omitted.

10.7. Consent to Collateral Assignment. The Parties agree that Company may assign this Agreement, in whole or in part to a Solar Facility Mortgagee and/or Interested Party as collateral, and in connection with any such assignment, Landowner agrees to execute a consent to assignment in customary form and reasonably acceptable to the Solar Facility Mortgagee and/or Interested Party.

11. Assignment and Subletting.

11.1. Assignments Not Requiring Landowner's Consent. Company and any assignee shall have the right, at any time, to assign or grant a sub-easement to all or part of the Solar Facility Estate without Landowner's consent, to a parent, subsidiary, or affiliate of Company, or to a company that has been merged or consolidated with Company. In no event shall any assignment or grant of sub-easement by Company pursuant to this section exceed the Development Feasibility Term and the Commercial Term of this Lease.

11.2. Assignments Requiring Landowner's Consent. Landowner's consent to any proposed assignment of this Lease to a company acquiring all or substantially all of Company's physical assets or parties un-related to Company or granting of sub-easement of the Leased Property to parties un-related to Company, shall be required, but shall not be unreasonably withheld, conditioned or delayed, provided however, that Landowner may withhold consent thereto if in the exercise of its reasonable judgement it determines that:

a. The financial condition of the proposed assignee or sub-easement holder is insufficient to meet the obligation being undertaken by the proposed assignee or sub-easement holder; or

b. The proposed use of the Leased Property is not permitted by this Lease.

11.3. By Landowner. Landowner may assign this Lease to any party in connection with any Transfer of the Leased Property by Landowner; *provided, however*, that any such Transfer shall be subject to this Lease.

12. Default and Remedies.

12.1. [redacted]

[redacted]

12.2. [redacted]

12.3. [redacted]

13. Indemnity and Insurance

13.1. Company Indemnity. Company shall indemnify, defend and hold harmless Landowner, its agents and employees (the "***Landowner Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of Company or Landowner, or other loss or damage incurred by Landowner, arising out of (a) negligent acts or omissions or willful misconduct of Company, its agents, officers, directors, employees or contractors; (b) the breach by Company of any of its obligations under this Lease, (c) any occurrence on the Leased Property during the Commercial Term arising out of Company's use and occupancy thereof, or (d) nuisance claims made against the Solar Facility by owners of property contiguous to the Leased Property. The obligation to indemnify shall extend to and encompass all costs incurred by Landowner and any Landowner Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Notwithstanding the foregoing, Company's obligations pursuant to this Section 13.1 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Landowner, Landowner Indemnitees, or their respective contractors, successors or assigns, or to the acts of third parties (excepting those that arise out of

Company's use and occupancy of the Leased Property), nor any manner of claim arising from or related to disqualification from or ineligibility for any governmental farm or conservation program.

13.2. Landowner Indemnity. Landowner shall indemnify, defend and hold harmless Company, its officers, agents and employees (the "***Company Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of either Company or Landowner, or other loss or damage incurred by Company, arising out of (a) negligent acts or omissions or willful misconduct of Landowner, its agents, officers, directors, employees or contractors; (b) the breach by Landowner of any of its obligations under this Lease; (c) any release or presence of hazardous substances, waste or materials to, at, on, in or from the Leased Property to the extent not caused directly by Company; (d) any occurrence on the Leased Property during the Commercial Term arising out of Landowner's use and occupancy thereof; or (e) the breach of any representation or warranty made by the Landowner on or after the Effective Date under this Agreement. The obligation to indemnify shall extend to and encompass all costs incurred by Company and any Company Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Landowner's obligations pursuant to this Section 13.2 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Company, Company Indemnitees, or their respective contractors, successors or assigns, or the acts of third parties.

13.3 Company Insurance. During the Development Feasibility Term and the Commercial Term, the Company will maintain or cause to be maintained at all times, with financially responsible insurers approved to do business in the state in which the Leased Property is located (i) commercial general liability insurance in the amount of $1,000,000 each occurrence and $2,000,000 aggregate, (ii) umbrella liability insurance in the amount of $5,000,000, written on an umbrella basis in excess over the foregoing general liability insurance coverage amounts, and (iii) with respect to the improvements related to the Solar Facility, during such time periods that material construction activities are being conducted by Company on the Property, "all risk" builder's risk insurance and after all testing and commissioning has been completed, commercial property insurance. Any insurance required under this Section 13.3 may be subject to reasonable deductibles as are usually carried by companies of similar financial condition operating similar properties. Company's commercial property insurance may be included under a blanket policy or policies covering the Solar Facility and other property and assets not located on the Leased Property.

14. Tax Credits and Environmental Attributes.

14.1. Tax Benefits. Company and its assigns shall be entitled to all depreciation, tax credits and other tax benefits arising out of the construction, ownership and operation of the Solar Facility and the production of solar energy therefrom. If under applicable law the holder of a lease becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure or production established by any local, state or federal government, then, at Company's option,

Landowner and Company shall amend this Lease or replace it with a different instrument so as to convert (to the extent practicable) Company's interest in the Leased Property to a substantially similar interest that makes Company eligible for such tax credit, benefit or incentive.

14.2. Environmental Benefits. Landowner acknowledges that Company or its assignee is the exclusive owner of electricity (kWh) generated by the Solar Facility and owner of all renewable energy credits and other Environmental Attributes and Environmental Incentives of the Solar Facility. "***Environmental Attributes***" means all environmental and other attributes that differentiate the Solar Facility or the energy output from the Solar Facility from energy generated by certain other generation units, fuels or resources, including those attributable to the avoidance of environmental impacts on air, soil or water, such as the emission of any oxides of nitrogen, sulfur or carbon or of mercury, or other gas or chemical, soot, particulate matter or other substances attributable to the Solar Facility or the compliance of the Solar Facility and/or the energy output of the Solar Facility with the law, rules and standards of any governmental authority, the United Nations Framework Convention on Climate Change (the "***UNFCCC***") or the Kyoto Protocol to the UNFCCC or crediting "early action" with a view thereto, the Clean Air Markets Division of the Environmental Protection Agency or successor administrator or any state or federal entity given jurisdiction over a program involving transferability of environmental attributes or the right of Company to report to any federal, state, or local agency, authority or other party that Company owns the environmental attributes associated with the energy output from the Solar Facility. "***Environmental Incentives***" include, but are not limited to, all credits (including tax credits), rebates, benefits, reductions, offsets, and allowances and entitlements of any kind, howsoever entitled, resulting from the Environmental Attributes. Landowner shall not make or publish any public statement or notice regarding any Environmental Incentive, any Environmental Attribute, the energy output or the Gross Revenues from the Solar Facility.

15. Condemnation. As used herein, the term "Taking" means the taking or damaging of the Leased Property, the Solar Facility Equipment, the rights granted to Company pursuant to this Lease, the Easements or any part thereof (including severance damage) by eminent domain, condemnation or for any public or quasi-public use. A Party who receives any notice of a Taking shall promptly give the other Party a copy of the notice, and each Party shall provide to the other Party copies of all subsequent notices or information received with respect to such Taking. If a Taking occurs, then the compensation payable therefor, whether pursuant to a judgment, by agreement or otherwise, including any damages and interest, shall be distributed proportionally to Company and Landowner based on the values of their respective interests and rights in this Lease, the Leased Property and the uses thereof, taking into account:

a. with respect to Company, (i) the Taking of or injury to the rights granted to Company pursuant to this Lease, the Easements or the Solar Facility Equipment, (ii) any cost or loss that Company may sustain in the removal and/or relocation of the Solar Facility Equipment, or Company's chattels and fixtures, and (iii) Company's anticipated or lost profits, damages because of deterrent to Company's business and any special damages of Company; and

b. with respect to Landowner, (i) the Taking of the fee title, (ii) any cost or loss that Landowner may sustain in the removal of Landowner's chattels and fixtures from the

Leased Property, and (iii) Landowner's anticipated or lost rent under the Lease.

16. Dispute Resolution.

16.1. Dispute Resolution. The Parties agree to first attempt to settle any dispute arising out of or in connection with this Lease by good-faith negotiation. If the Parties are unable to resolve amicably any dispute arising out of or in connection with this Lease, such dispute shall be resolved by binding arbitration in Logan County, Kentucky before a single arbitrator under the rules and auspices of the American Arbitration Association, which arbitrator shall not be from, reside in, or have a place of business in Logan County, Kentucky. The cure periods for any alleged default(s) under this Lease disputed in good faith by Company shall be tolled until arbitration of the dispute is completed and the period for any appeal has lapsed.

16.2. Governing Law. This Lease shall be governed by and interpreted in accordance with the laws of the state in which the Leased Property is located.

16.3. Specific Performance. Landowner and Company recognize that monetary damages for any breach of this Lease may not be sufficient to compensate Company or Landowner fully for such breach. Accordingly, without derogation of Company's and Landowner's other rights under this Lease, in the event of any default by Landowner or Company hereunder, the other party shall be entitled to specific performance hereof, without bond, from any court of competent jurisdiction.

16.4. **LIMITATION ON LIABILITY/WAIVER OF JURY TRIAL. IN NO EVENT, SHALL ANY PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, PUNITIVE, EXEMPLARY, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR IN CONNECTION WITH, THIS LEASE. TO THE EXTENT ENFORCEABLE UNDER APPLICABLE LAW, EACH PARTY HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH, THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN), OR ACTIONS OF EITHER PARTY. THIS PROVISION IS A MATERIAL INDUCEMENT FOR COMPANY TO ENTER INTO THIS LEASE.**

16.5. Expenses. The non-prevailing Party shall pay the costs of any arbitration or other legal proceedings related to this Lease, including the fees and costs of the arbitrator and the legal fees and other out-of-pocket costs of the prevailing Party.

17. Miscellaneous.

17.1. Confidentiality. Landowner shall maintain in the strictest confidence, for the sole benefit of Company, all information pertaining to the terms and conditions of this Lease, including, without limitation, the financial terms of, and payments under, this Lease, Company's site design and product design, methods of operation, methods of construction, power production or availability of the Solar Facility Equipment, and the like, whether disclosed by Company or discovered by Landowner, unless such information is in the public domain by reason of prior

publication. Landowner shall not use such information for its own benefit, publish or otherwise disclose it to others, or permit its use by others. This provision shall survive the termination or expiration of this Lease.

17.2. Brokerage Commissions. Each of Landowner and Company warrants and represents to the other that there are no brokers' commissions, finders' fees or any other charges due to any broker, agent or other party in connection with the negotiation or execution of this Lease, or on behalf of either of them. Each Party shall indemnify, defend, protect and hold the other Party harmless from and against all damages, losses, costs, expenses (including reasonable attorneys' fees), liabilities and claims with respect to any claims made by any broker or finder based upon such broker's or finder's representation or alleged representation of such indemnifying Party.

17.3. Waiver of Nuisance. Landowner has been informed by Company and understands that the presence and operations of the improvements on the Leased Property and the Adjacent Property will potentially result in some nuisance to Landowner, such as higher noise levels than currently occur at the Leased Property and the Adjacent Property and the surrounding area and visual impact. Landowner hereby accepts such nuisance and waives any right that Landowner may have to object to such nuisance (and Landowner releases Company from any claims Landowner may have with respect to any such nuisance).

17.4. Successors and Assigns. This Lease shall burden the Leased Property and shall run with the land. All of the provisions hereof shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors, assigns, subtenants, and licensees. Unless expressly provided herein, no third party, other than such heirs, legal representatives, successors, assigns, subtenants, and licensees will be entitled to enforce any or all of the provisions of this Lease or will have any rights hereunder whatsoever.

17.5. Memorandum of Lease. Landowner hereby grants to Company a power of attorney to execute and record a memorandum of this Lease in form and substance satisfactory to Company, or an amendment to any such memorandum of this Lease, which power of attorney is coupled with an interest and therefore shall be irrevocable for the Development Feasibility Term and the Commercial Term of this Lease. In the event of any inconsistency between the terms and provisions of this Lease and those contained in such Memorandum of Lease, the terms and provisions of this Lease shall control. Landowner further consents to the recordation of the interest of any Solar Facility Mortgagee, Interested Party or assignee of Company's interest in this Lease.

17.6. Notices. All notices pursuant to this Lease shall be in writing and shall be sent only by the following methods: (i) personal delivery, (ii) mail (first-class, certified, return-receipt requested, postage prepaid), or (iii) delivery by an overnight courier service which keeps records of deliveries (such as, by way of example but not limitation, Federal Express and United Parcel Service). For purposes of giving notice hereunder, the respective addresses of the parties are, until changed as hereinafter provided, the following:

To Landowner:

Marguerite M. Statton Family Trust
Lila Montgomery Family Trust
c/o Keith Cox
First Southern National Bank
88 S. Bethel St
Russellville, KY 42276

To Company:

Russellville Solar LLC
c/o Community Energy Solar, LLC
Attn: Controller
Three Radnor Corporate Center, Suite 300
100 Matsonford Rd.
Radnor, PA 19087

Any Party may change its address at any time by giving written notice of such change to the other Party in the manner provided herein. All notices shall be deemed given on the date of personal delivery or, if mailed by certified mail or overnight courier, on the delivery date or attempted delivery date shown on the return-receipt.

17.7. Entire Agreement/Amendments. This Lease and the attached Exhibits constitute the entire agreement between Landowner and Company regarding its subject matter, and replace and supersede any prior agreements and understandings between the Parties relating thereto whether written, verbal or otherwise. This Lease shall not be modified or amended except in a writing signed by both Parties or their lawful successors in interest.

17.8. Interpretation. The Parties agree that any rule of construction to the effect that ambiguities are to be resolved in favor of either Party shall not be employed in the interpretation of this Lease.

17.9. Partial Invalidity. Should any provision of this Lease be held, in a final and unappealable decision by a court of competent jurisdiction, to be invalid, void or unenforceable, the remaining provisions hereof shall remain in full force and effect, unimpaired by the holding. Notwithstanding any other provision of this Lease, in no event shall the combined Development Feasibility Term and Commercial Term be for longer periods than permitted by applicable law.

17.10. Time of Essence. Time is of the essence with regard to the terms and conditions of this Lease.

17.11. Waiver. No provision of the Lease will be deemed waived by either party unless expressly waived in writing signed by the waiving party. No waiver will be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease will be deemed a waiver of such provision with respect to any subsequent matter relating to such

provision.

17.12. Survival. Whether or not specifically noted within any section or provision of this Lease, any provision of this Lease which must survive termination of this Lease in order to be effective will so survive such termination.

17.13 Counterparts. This Lease may be executed in counterparts, which taken together shall constitute one agreement, binding on all the parties hereto even though all the parties are not signatories to the original or the same counterpart.

* * * * * * * * *

EXHIBIT B
- DESCRIPTION OF LEASED PROPERTY -

Landowner owns the real property located at 1969 Joe Montgomery Rd., Russellville, KY 42276 in Logan County, more specifically described by Logan County as:

Parcel ID 055-00-00-016-00 468.40 acres ("***Landowner's Property***").

Landowner desires to lease to Company all of Landowner's Property, as depicted in the drawing below (the "***Leased Property***").

EXHIBIT C
FORM W-9

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

► Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ► _____

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

___ - ___ - ____

or

Employer identification number

__ - _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ► Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Cat. No. 10231X Form **W-9** (Rev. 10-2018)

SOLAR ENERGY LEASE AGREEMENT

This SOLAR ENERGY LEASE AGREEMENT ("***Lease***") is entered into effective as of the Effective Date set forth below, by and between (i) Russellville Solar LLC a Delaware limited liability company (the "***Company***"), and (ii) the landowner(s) set forth below ("***Landowner***"). Landowner and Company may be referred to below together as the "***Parties***" and each a "***Party***."

1. **Effective Date:** September 13, 2019
2. **Landowner(s):** Daniel W. Kemp, Edith Aline Kemp
3. **Leased Property:** The real property located in Logan County, Kentucky, generally depicted on Exhibit B. See §1.1.
4. **Development Feasibility Term:** [redacted]
5. **Commercial Term:** Commences on the Commercialization Date and ends thirty (30) years thereafter, subject to options to extend. See §4.3.
6. **Rent:**
   Development Feasibility Term: [redacted]
   Commercial Term: [redacted]

The following Exhibits are attached and incorporated herein by reference:

Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

Company:

By: _____

Name: Brent Beerley

Title: Manager

Landowner(s):

By: _____
Daniel W. Kemp

By: _____
Edith Aline Kemp

SOLAR ENERGY LEASE AGREEMENT

This SOLAR ENERGY LEASE AGREEMENT ("***Lease***") is entered into effective as of the Effective Date set forth below, by and between (i) Russellville Solar LLC a Delaware limited liability company (the "***Company***"), and (ii) the landowner(s) set forth below ("***Landowner***"). Landowner and Company may be referred to below together as the "***Parties***" and each a "***Party***."

1. **Effective Date:** September 13, 2019
2. **Landowner(s):** Daniel W. Kemp, Edith Aline Kemp
3. **Leased Property:** The real property located in Logan County, Kentucky, generally depicted on Exhibit B. See §1.1.
4. **Development Feasibility Term:** [redacted]
5. **Commercial Term:** Commences on the Commercialization Date and ends thirty (30) years thereafter, subject to options to extend. See §4.3.
6. **Rent:**
   Development Feasibility Term: [redacted]
   Commercial Term: [redacted]

The following Exhibits are attached and incorporated herein by reference:

Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

Company:

By:_____

Name:_____

Title:_____

Landowner(s):

By: Daniel W. Kemp
Daniel W. Kemp

By: Edith Aline Kemp
Edith Aline Kemp

EXHIBIT A

– STANDARD TERMS AND CONDITIONS –

PAGE

1. Grant of Lease.

1.1. General. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Landowner(s) identified on the Cover page hereto (generally, "***Landowner***") hereby leases to Company, and Company hereby leases from Landowner, the real property depicted in the drawing attached hereto and incorporated herein as Exhibit "B" (the "***Leased Property***").

1.2. Development Feasibility Term. During the Development Feasibility Term, Company shall use the Leased Property to evaluate and determine the feasibility of development of an electrical generating facility for the conversion of solar energy into electrical energy (the "***Solar Facility***"). By way of example only, during the Development Feasibility Term, Company may install solar energy monitoring equipment on the Leased Property.

Landowner expressly reserves the right to use the Leased Property during the Development Feasibility Term for uses that do not and will not interfere with Company's operations hereunder or enjoyment of the rights hereby granted, specifically including, but not limited to farming, provided, however, that:

a. Landowner may not use the Leased Property in a manner inconsistent with Company's use of any access roads;

b. any such use of the Leased Property by Landowner shall not include solar energy development or the installation or use of any facilities related to solar energy development or generation (which rights and uses are exclusively granted to Company in this Lease); and

c. any easements or leases entered into by Landowner with respect to the Leased Property after the date of this Lease shall expressly provide that they are subject and subordinate in all respects to this Lease and to the rights of Company and any assignee hereunder.

d. use of the Leased Property by Landowner for commercially reasonable farming, cultivation of crops, and/or timbering activities (collectively, "***Agriculture and Forestry Activities***") shall be deemed not to interfere with Company's operations hereunder or enjoyment of the rights hereby granted; and

e. Landowner shall not be required by Company to limit Agriculture and Forestry Activities on the Leased Property unless and until Company and Landowner agree upon compensation due from Company to Landowner for Landowner's loss of Agriculture and Forestry Activities on the Leased Property.

1.3. Commercial Term. During the Commercial Term, Company shall use the Leased Property for the development, construction, ownership, operation, maintenance and repair of the Solar Facility. In connection with such use, Company shall have the exclusive right:

a. to construct, install and operate on the Leased Property multiple solar panels and inverters;

b. to erect, construct and use all the necessary and requisite devices, fixtures, appurtenances and facilities for the Solar Facility, as determined in the sole and absolute discretion of Company, including but not limited to: foundations, supports, concrete pads and footings; fences, and roads for ingress and egress of construction and maintenance vehicles; the physical preparation of the sites on which the Solar Facility will be installed and the preparation of access routes thereto; power collection facilities, including underground or above ground distribution and collection lines between Solar Facility Equipment and from Solar Facility Equipment to one or more substations and points of interconnection with the power grid, wires and cables, conduit and above-ground transformers for the Solar Facility; substations or interconnection and switching facilities which Company may connect to a utility transmission system or the transmission system of another purchaser of electrical energy; underground or above ground control, communications and telecommunications equipment, including underground fiber, wires, cables and conduit; erosion control facilities; signs, gates and other safety and protection facilities; control and

administration buildings; and other improvements, facilities, appliances, machinery and equipment in any way related to or associated with any of the foregoing (all of the foregoing, including the solar panels and inverters, collectively referred to herein as the "***Solar Facility Equipment***");

c. to maintain, clean, repair, replace and dispose of part or all of the Solar Facility Equipment;

d. to allow and control access of third parties to the Leased Property. The Company may invite third parties upon the Leased Property without permission from the Landowner so long as the terms of this Lease are not violated;

e. to trim or cut down trees, shrubs or any other landscaping and vegetation on the Leased Property as may be necessary for the exercise of rights granted to Company pursuant to this Lease; and

f. to gate or otherwise secure any access roads on or to the Leased Property, provided that Company shall work with Landowner to ensure Landowner's commercially reasonable access to same consistent with industry standard practices.

1.4. General Powers of Company. The rights granted to Company in this Lease permit Company, without limitation, to undertake all activities that Company determines are necessary, useful, appropriate or convenient in connection with, or incidental to the development, construction and operation of the Solar Facility or for the benefit thereof, including conducting surveys and environmental, biological, cultural and other tests and studies and conducting site tours to demonstrate the generation of electricity from solar power for educational and commercial purposes.

1.5. Design and Placement of Solar Facility Equipment. Company shall have sole and absolute discretion as to the location of Solar Facility Equipment on the Leased Property and the extent of construction activity required in connection with such Solar Facility Equipment. Prior to Company's construction of the Solar Facility, however, Company shall consult with Landowner for informational purposes only. Landowner acknowledges that a portion of the Solar Facility Equipment to be constructed by Company on the Leased Property may include buried and/or above ground electrical and communications lines among Solar Facility Equipment, and from the Solar Facility to electrical substations and other points of interconnection on the power grid serving the Solar Facility.

1.6. Roads. Company shall have the right to use the existing roads on the Leased Property and to construct or improve, from time to time and at any time, one or more additional roads over, across and through the Leased Property as suitable for Tenant's use thereof.

1.7 Repowering. The Parties recognize that (1) power generation technologies are improving at a rapid rate and that Company may (but shall not be obligated to) from time to time replace or repair Solar Facility Equipment on the Leased Property with newer (and potentially smaller or larger) models and types of Solar Facility Equipment, and (2) the activities contemplated by this Lease may be accomplished by Company or by one or more third parties authorized by

Company.

1.8. Defined Terms. As used herein, the term **"*Adjacent Property*"** shall mean any and all property or properties owned at any time during the Term by Landowner, and/or the Affiliates of Landowner, that are contiguous with the Leased Property. As used herein, the term **"*Affiliate*"** means any other person or entity that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with the Landowner. The term **"*control*"** as used with respect to any person or entity, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person or entity, whether through the ownership of voting securities or partnership interests, by contract or otherwise.

2. Easements.

2.1. Grant. Without limiting the rights set forth elsewhere in this Lease, Landowner hereby grants to Company the following easements during the Term of this Lease (collectively, the "***Easements***"):

a. an exclusive easement to use, convert, maintain and capture the free and unobstructed flow of solar energy resources over and across the Leased Property and the Adjacent Property;

b. the right to utilize, on a nonexclusive basis, any access, utility, water, communication, sewer, septic, transmission or other easements, rights of way or licenses already held by Landowner over the Adjacent Property, or any other property in the vicinity of the Leased Property, which Company determines could be used for the benefit of the Solar Facility, as permitted by the instruments evidencing such rights and other applicable laws;

c. an easement over the Adjacent Property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Solar Facility; and

2.2. Terms and Conditions. With respect to each Easement:

a. to the extent permitted by applicable federal, state and local laws, statutes, ordinances, orders, rules and regulations, such Easement shall be appurtenant to the Leased Property;

b. such Easement shall run with and benefit the Leased Property (and such other lands, as applicable) and inure to the benefit of and be binding upon Landowner and the holder of the Easement and their respective successors and assigns, and all persons claiming under them;

c. no act or failure to act on the part of Company or the holder of the Easement shall be deemed to constitute an abandonment, surrender or termination thereof, except (i) upon recordation by such holder of a quitclaim deed specifically conveying the Easement back to Landowner or (ii) the termination of this Lease pursuant to Sections 4.2(b), 4.3(b) and 12.1(b) hereof;

d. non-use of the Easement shall not prevent the future use of the entire scope thereof; and

e. no use of or improvement to the Leased Property or any lands benefited by the Easement, and no assignment or sublease hereof or thereof, shall, separately or in the aggregate, constitute an overburdening of the Easement.

2.3. Stand-Alone Agreements. Upon Company's request from time to time, Landowner shall grant to Company (or a party designated by Company), in recordable form and containing such terms and provisions as may reasonably be requested by Company for no additional consideration:

a. stand-alone easements for any of the Easements granted hereunder; or

b. in the case of Easements already held by Landowner, subeasements, the term of which shall run concurrently with the Term (or for a shorter period of time as may be requested by Company) and shall terminate upon the expiration or termination of this Lease.

3. Survey. Prior to the Commercialization Date (as defined below), Company shall cause to be conducted, at Company's sole expense, a survey of the Leased Property and the Easements. Landowner shall cooperate therewith. Company shall provide a copy of such survey to Landowner. Following the completion of the survey, the Parties shall amend this Lease to include a metes-and-bounds description of the Leased Property, the Easements, and the Adjacent Property, as described in the Lease and on which Company has certain rights set forth in the Lease.

4. Lease Term.

4.1. Commercialization Date. The "***Commercialization Date***" for the Solar Facility means the date on which "Groundbreaking" occurs. As used herein, "Groundbreaking" shall mean the earlier of (a) when earth is moved for the improvement of the Leased Property for the construction of the Solar Facility, (b) when the first Solar Facility support structure is installed below grade at the Leased Property, or (c) when Company elects to make the first annual Commercial Term rent payment in the amount set forth in Section 5.2(a). Movement of earth for evaluation of the Leased Property shall not be considered Groundbreaking and shall not cause the Commercialization Date to occur. Company shall notify Landowner promptly if and when the Commercialization Date occurs.

4.2. Development Feasibility Term.

a. [redacted]

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Development Feasibility Term, effective upon at least seven (7) days written notice to Landowner. Upon such termination, Company will be obligated to satisfy the obligations set forth in Section 7.

4.3. Commercial Term.

a. The Commercial Term shall commence on the Commercialization Date, and shall end thirty (30) years thereafter, provided that Company shall have the right to extend the Commercial Term for up to two (2) additional periods of five (5) years each (each, an "*Extended Term*"), by notice to Landowner before the expiration of the Commercial Term or the Extended Term. Company may elect to exercise its option to extend the Term by giving Landowner written notice of such election not earlier than eighteen (18) months and not later than six (6) months prior to the expiration of the then-current term of this Lease. Upon satisfaction of the notice requirements to Landowner, this Lease shall be extended for such Extended Term upon the same terms, conditions and covenants as are contained in this Lease, subject to Section 5.2(b) below.

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Commercial Term, effective upon at least ninety (90) days written notice to Landowner. Upon such termination, Company will be obligated to satisfy the obligations set forth in Section 7, and (ii) Company shall pay to Landowner all Commercial Term Rent (as defined below) payable for a period of seven (7) Commercial Operation Years following the Commercial Operation Year in which this Lease is terminated (the "***Commercial Term Termination Payment***"), with the Commercial Term Termination Payment to be reduced by one (1) Commercial Operation Year of Commercial Term Rent for each Commercial Operation Year that has been completed as of the effective date of the termination, such that at the end of the fifth (5^{th}) Commercial Operation Year and for the remainder of the Commercial Term, the Commercial Term Termination Payment shall be zero.

4.4. Term. As used herein, the "***Term***" shall mean collectively the Development Feasibility Term (including any extension(s) thereof) and the Commercial Term (including any Extended Term(s)).

5. Landowner Rent, Consideration and Other Terms.

5.1. Rent During the Development Feasibility Term. During the Development Feasibility Term, Company shall pay to Landowner [redacted] per acre of Leased Property per year. The rent for the first year of the Development Feasibility Term shall be due within thirty (30) days after the Effective Date. The rent for each subsequent year of the Development Feasibility Term will be payable within thirty (30) days of the anniversary of the Effective Date. Any rent payable for less than a full twelve (12) month period shall be prorated on the basis of a 365-day year. The prorated amount of rent applicable to any remaining portion of the year of the Development Feasibility Term in which the Commercialization Date occurs shall operate as a setoff against the amount of rent Company owes Landowner for the first year of the Commercial Term.

5.2. Rent During the Commercial Term.

a. During the first thirty (30) years of the Commercial Term, Company shall pay to Landowner, on an annual basis, at the beginning of each Commercial Operation Year, rent payments equal to [redacted] per acre of Leased Property per year. Any rent payable for less than a full 12-month period shall be prorated on the basis of a 365-day year. The first "***Commercial Operation Year***" shall begin on the Commercialization Date, and shall expire twelve (12) months thereafter, and each subsequent Commercial Operation Year shall commence upon the expiration of the prior Commercial Operation Year and expire twelve (12) months thereafter.

b. Rent for each Extended Term (if any) shall be [redacted] per acre of Leased Property per year.

5.3. Additional Consideration and Other Terms.

a. In the event Company's activities during the Development Feasibility Term damage any crops in commercial cultivation on the Leased Property or in the event the Commercialization Date occurs during the commercial cultivation of crops on the Leased Property (either event a "***Crop Loss***"), Company shall pay to Landowner, or Landowner's tenant as applicable;

i. if such Crop Loss affects crops having reached marketable maturity, a one-time payment equaling the then-current fair market value of any such crops, or

ii. if such Crop Loss affects crops not having reached marketable maturity, a one-time payment in the amount equal to 1.20 multiplied by the direct costs incurred in the cultivation of such crops as of the date of Crop Loss, including but not limited to the cost of seeds, chemicals, fertilizer, machinery operation, and labor.

b. For each month it takes Company to accomplish the tasks listed in Sections 7.1. a-c below, Company shall pay Landowner pro-rated rent in a manner and amount commensurate with the rent applicable to the Leased Property in the last year of the Commercial Term.

c. Landowner shall furnish Company with a signed, completed form W-9 by the Effective Date, and thereafter within thirty (30) 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 Landowner's interest in the Lease. Without limiting Company's obligation to pay Rent or other amounts due to Landowner hereunder, Company shall be entitled to delay making any such payments to Landowner until Landowner has provided such W-9. For convenience, the W-9 form is attached as Exhibit C.

6. Property Taxes. Company shall pay any personal property taxes assessed or levied against the Solar Facility Equipment. Company shall reimburse Landowner for any real property taxes levied against the Leased Property, including any "roll-back" taxes directly related to the

reclassification of the Leased Property as a result of the Solar Facility or this Lease, to the extent that such taxes are not separately assessed to Company and paid directly by Company to the taxing authorities. Company shall not be liable for taxes attributable to facilities installed by Landowner or others on the Leased Property. It is a condition to Landowner's right to reimbursement of any taxes hereunder that Landowner shall have paid such taxes to the taxing authority, and shall have provided proof of such payment to Company within twenty (20) days of the payment, and shall have submitted the related tax bills to Company within twenty (20) days after Landowner receives such bills from the taxing authority. If Landowner fails to make such payment and provide proof thereof to the Company the Company shall be entitled (but not obligated) to make payments in fulfillment of Landowner's obligations to the taxing authority and may offset the amount of such payments from amounts due Landowner under this Lease. Further, Company shall have the right to pay its portion of the real property taxes directly to the taxing authority provided it provides proof of such payment to the Landowner. Landowner shall reasonably cooperate in any effort that Company undertakes to cause the leasehold estate of Company to be separately assessed for property tax purposes.

7. Removal of Solar Equipment and Restoration of Property.

7.1. Upon Termination. As soon as reasonably practicable but in no event later than six (6) months following the expiration or earlier termination of this Lease, Company shall, at Company's sole cost and expense,

a. remove all above-ground Solar Facility Equipment,

b. remove all Solar Facility Equipment installed below-grade, and

c. restore the soil surface of the Leased Property and any affected area of the Adjacent Property to a condition reasonably similar to its original condition.

7.2. Landowner Right to Perform. If Company fails to so remove the Solar Facility Equipment within six (6) months after the termination or expiration of this Lease, Landowner may do so and Company shall reimburse Landowner for the reasonable and actual costs of removal incurred by Landowner, less any salvage value received by Landowner, within thirty (30) days after receipt of an invoice from Landowner.

7.3. Decommissioning Cost. No more than 90 days in advance of the Commercialization Date, Company shall provide to Landowner an estimate of the cost, calculated by a reputable, mutually agreed-upon third-party engineer not associated with the engineer or engineering firm that prepared the site plan or construction plans for the Solar Facility, for the removal of the Solar Facility Equipment from the Leased Property (the "Decommissioning Cost Estimate"). The estimated market value of scrap or recyclable materials shall be considered in calculating the Decommissioning Cost Estimate. The Decommissioning Cost Estimate shall be

updated every five (5) years. Company shall provide a copy of the updated Decommissioning Cost Estimate to Landowner promptly when any such update occurs.

7.4. Posting of Security. [redacted]

8. Company's Representations, Warranties and Covenants.

8.1. Company's Authority. Company represents to Landowner that Company has the unrestricted right and authority to sign this Lease, and when signed by Company, this Lease constitutes a valid and binding agreement enforceable against Company in accordance with its terms.

8.2. Requirements and Governmental Agencies. Company shall comply in all material respects with valid laws applicable to the Solar Facility Equipment, but shall have the right, in its sole discretion and expense, in its name or Landowner's name, to contest the validity or applicability to the Leased Property and/or the Solar Facility Equipment of any law, ordinance, order, rule or regulation of any governmental agency or entity. Company shall control any such contest and Landowner shall cooperate with Company in every reasonable way in such contest, at no out-of-pocket expense to Landowner.

8.3. Mechanic's Liens. Company shall keep the Leased Property clear of all liens and claims of liens for labor and services performed on, and materials, supplies or equipment furnished to, the Leased Property in connection with Company's use of the Leased Property pursuant to this Lease.

8.4. Hazardous Materials. Company shall indemnify Landowner against Company's material violation on the Leased Property or Adjacent Property of any applicable law or regulation relating to the generation, manufacture, production, use, storage, release or threatened release,

discharge, disposal, transportation or presence of any substance, material or waste which is now or hereafter classified as hazardous or toxic, or which is regulated under current or future federal, state or local laws or regulations, on or under the Leased Property or the Adjacent Property.

8.5. Safety Measures. Company shall take reasonable safety and security measures to reduce the risk of damage to the Solar Facility or the risk that the Solar Facility will cause damage, injury or death to people, livestock and other animals and property, as Company deems necessary or appropriate.

8.6. Damage to Fences and Gates. Company shall repair any damage caused by Company, at no cost to Landowner, to any fences, gates, buildings and other fixtures located on the Leased Property or within the area of any Easements (the "***Landowner Improvements***") to the extent caused by the construction or operation of the Solar Facility provided the Landowner Improvements do not conflict with the ongoing construction, operation and maintenance of the Solar Facility.

8.7. Electric Lines. Company shall use commercially reasonable efforts to install any electrical lines so that, following installation of the electrical lines, the land surrounding such lines may be used by the Parties in accordance with the terms of this Lease.

8.8. Maintenance of Leased Property and Access Roads. Company shall maintain the Leased Property in a manner consistent with returning the same back to its original condition as required by section 7 above, including, but not limited to erosion and weed control measures, as and when reasonably deemed necessary by Company. Company shall maintain all access roads serving the Leased Property, including erosion and weed control measures, as and when reasonably deemed necessary by Company.

9. Landowner's Representations, Warranties and Covenants. Landowner hereby represents, warrants and covenants as follows:

9.1. Landowner's Authority. Landowner has good title to the Leased Property in fee simple absolute, subject only to those matters shown on any title report or abstract provided to Company pursuant to Section 9.10 below, and has full right and authority to make this Lease and to perform as required hereunder, and this Lease does not conflict with, and its execution by Landowner will not result in a default or event of default under, any other agreement to which Landowner is bound. Landowner will furnish to Company upon request evidence reasonably satisfactory to Company of its title to the Leased Property and authority to execute this Lease. When signed by Landowner, this Lease constitutes a valid and binding agreement enforceable against Landowner in accordance with its terms. No rights to convert the solar resources of the Leased Property or to otherwise use the Leased Property for solar energy purposes have been granted to or are held by any other party other than Company. There are no covenants, restrictions, rights of way, easements or other encumbrances on the Leased Property that will prevent Company's use of the Leased Property as contemplated herein.

9.2. Ownership of Solar Facility; Not a Fixture. Company, or its nominee, is the exclusive owner and operator of the Solar Facility. Landowner shall have no ownership or other

interest in any Solar Facility Equipment installed on the Leased Property or on the Adjacent Property, and Company shall at all times retain title to the Solar Facility Equipment, with the right, at any time and in its sole discretion, to remove, replace or repair one or more components of Solar Facility Equipment. The Solar Facility and the Solar Facility Equipment are not fixtures, and Landowner may not sell, lease, assign, mortgage, pledge or otherwise alienate or encumber (collectively, a "***Transfer***") the Solar Facility or any Solar Facility Equipment together with its fee interest or leasehold rights to the Leased Property. Landowner warrants and represents that it shall keep the Solar Facility Equipment free from all liens, specifically, including any and all landlord liens. Should any liens be filed against the Solar Facility Equipment by reason of the acts of Landowner, such Party shall cause the lien to be cancelled or otherwise discharged within thirty (30) days of receiving notice of such lien.

9.3. Notice of Transfers. Landowner shall give Company at least thirty (30) days written notice prior to any Transfer of all or a portion of the Leased Property or the Adjacent Property identifying the transferee, the portion of Landowner's property to be transferred and the proposed date of Transfer. This Lease shall run with the Leased Property and survive any Transfer thereof.

9.4. No Interference. Company shall have the sole and exclusive right to convert all of the solar resources of the Leased Property. Landowner's activities and any grant of rights Landowner makes to any third party, whether located on the Leased Property, the Adjacent Property or elsewhere, shall not, now or in the future, interfere in any way with Company's use of the Leased Property, or the rights granted under this Lease or the Easements. In furtherance of the foregoing, Landowner shall not interfere with the solar resource or otherwise construct or permit to be constructed any structure that prevents, inhibits or impairs the solar resource over the Leased Property, or engage in any activity on the Leased Property or any Adjacent Property that might cause a decrease in the output or efficiency of the Solar Facility Equipment, as determined by Company in its sole and absolute discretion, including, without limitation, the construction of structures or planting of trees that would interfere with the free and unobstructed access to solar resources. Landowner shall not allow any activity to take place on the Adjacent Property that, in Company's reasonable determination, would adversely impact the development, construction and operation of the Solar Facility or the use of any easements across the Adjacent Property.

9.5. Estoppel Certificates. From time to time, within fifteen (15) days after written request from Company, Landowner shall execute and deliver an estoppel certificate certifying as to the status of this Lease and each Party's performance thereunder.

9.6. Requirements of Governmental Agencies. Landowner shall assist and fully cooperate with Company, at no out-of-pocket expense to Landowner, in applying for (including signing in Landowner's name, if necessary), complying with, completing or obtaining, as applicable, any land use permits and approvals, building permits, zoning variances, subdivision requirements, environmental impact reviews or any other approvals required for the financing, construction, installation, replacement, relocation, maintenance, operation or removal of the Solar Facility Equipment. Landowner shall make available to Company copies of all field surveys,

environmental, geological and other site assessments, surveys, plans and other such records of Landowner related to the Leased Property and the Adjacent Property.

9.7. Zoning. Should zoning or other property-use regulations be proposed that might require property-line setbacks or other burdens more restrictive in nature than those in existence on the Effective Date, Landowner shall cooperate with Company in resisting or obtaining exemption from such regulations for the Solar Facility.

9.8. Hazardous Materials. Landowner represents and warrants to Company that, to the best of Landowner's knowledge:

a. there are no abandoned wells, solid waste disposal sites, hazardous wastes or substances, or underground storage tanks located on the Leased Property;

b. the Leased Property does not contain levels of petroleum or hazardous substances which require remediation under applicable environmental laws or regulations;

c. the Leased Property is not subject to any pending or threatened judicial or administrative action, investigation or order under any applicable environmental laws or regulations;

d. Landowner has not caused or contributed to a release or threatened release of hazardous substances or waste to, at, on, in or from the Leased Property, except in compliance with applicable environmental laws and regulations.

9.9. Landowner's Lenders.

a. Landowner shall promptly notify its lenders or any other party holding a mortgage, deed of trust or other security interest in the Leased Property of this Lease and Company's rights herein, and shall request that such lender, trustee or security interest holder simultaneously send any notice of Landowner's default to Landowner and Company. Regardless, Landowner agrees to promptly provide Company with a copy of any default notices that Landowner receives from any of its lenders or other party holding a mortgage, deed of trust or security interest in the Leased Property.

b. Company shall, at its own cost, procure a current abstract of title or preliminary title report for the Leased Property, showing all liens and other exceptions to title to the Leased Property and Landowner shall reasonably cooperate therewith. Upon request by Company, Landowner shall obtain a nondisturbance and subordination agreement from each mortgagee of the Leased Property and the Easements, or any portion thereof, under which the relevant lienholders agree not to disturb Company's possession or rights under this Lease or terminate this Lease so long as Landowner is not entitled to terminate this Lease under its terms.

c. If Landowner fails to pay any of its obligations secured by a mortgage, deed of trust or other security interest on the Leased Property when due, Company may, at its option, pay such amount and deduct it from the amount owed to Landowner under this Lease.

d. Landowner expressly acknowledges and agrees that any contractual, statutory or common law lien rights in favor of any mortgage or deed of trust granted by Landowner subsequent to the date of this Lease are and shall be expressly made subordinate and inferior to Company's right, title and interest in this Lease, any sublease permitted hereunder and/or the Easements granted by this Lease and to any liens and security interests granted by Company in favor of any Solar Facility Mortgagee (as defined below). Landowner agrees to execute or cause its mortgagee to execute any further documentation that may be requested by Company or a Solar Facility Mortgagee of any of the foregoing to evidence such subordination.

9.10. Quiet Enjoyment. Landowner agrees that Company shall quietly and peaceably hold, possess and enjoy the Leased Property pursuant to the terms of this Lease, and for the Term of this Lease, and any extension thereof, without any hindrance or molestation caused by Landowner or any party claiming by, through or under Landowner. Landowner shall defend title to the Leased Property, and the use and occupancy of the same, against the claims of all persons, except those claiming by or through Company. Landowner shall not enter into or modify any documents, including any declarations, easements, restrictions or other similar instruments, which may materially affect the Leased Property, or the rights and/or obligations of Company hereunder, without first obtaining the prior written consent of Company.

9.11. Landowner Consent. Except as otherwise expressly provided herein, where pursuant to the terms of this Lease or in connection with the administration of this Lease, the consent or approval of Landowner will be required, requested, or appropriate, Landowner covenants and agrees that its consent or approval will not be unreasonably or unduly withheld, delayed, or conditioned, and that Company will not be charged for such consent or approval. To the extent this Lease provides for the requirement of Landowner's consent, if within ten (10) days after Landowner's receipt of Company's written request for such consent, Landowner does not give notice of its reasons for not consenting to Company's request, Landowner shall conclusively be deemed to have given its consent. If within such ten (10) day period, Landowner gives notice of its reasons for not consenting to Company's request, then Landowner and Company shall promptly meet to discuss Landowner's comments and concerns, and Landowner and Company shall use their respective best efforts to address such comments and concerns in a reasonable manner. In the event a resolution is not reached, Company and Landowner shall be entitled to pursue all of their respective rights and remedies contained herein.

10. Solar Facility Financing.

10.1. Mortgage by Company. Company may, from time to time and at any time, without the consent of Landowner, hypothecate, mortgage, collaterally assign, pledge or alienate the Solar Facility Equipment, the Solar Facility, Company's leasehold, the Easements and/or the rights granted to Company under this Lease (collectively, the "***Solar Facility Estate***"). Each holder of any such instrument or lien, as to which Landowner has been notified of identity and address, is hereinafter referred to as a "***Solar Facility Mortgagee***." Nothing herein shall be deemed to permit a Solar Facility Mortgagee to take title to, or otherwise encumber, Landowner's fee title to the Leased Property.

10.2. Rights.

a. A Solar Facility Mortgagee or its assigns may enforce its lien and acquire title to the Solar Facility Estate in any lawful way. Pending foreclosure of such lien, any Solar Facility Mortgagee may take possession of and operate the Solar Facility Estate. Upon foreclosure of such lien by power of sale, judicial foreclosure or acquisition of the Solar Facility Estate by deed in lieu of foreclosure, a Solar Facility Mortgagee may, upon notice to Landowner, sell and assign the Solar Facility Estate. As long as there is a Solar Facility Mortgagee or a subtenant, tax credit investor and any other third party with an interest in the Solar Facility as to which Landowner has been notified of identity and address (each an "***Interested Party***"), neither the bankruptcy nor the insolvency of Company shall operate to terminate, nor permit Landowner to terminate, this Lease as long as all rent and other charges payable by Company continue to be paid in accordance with the terms of this Lease.

b. During the period that a Solar Facility Mortgagee or an Interested Party may be in possession of the Solar Facility Estate and/or during the pendency of any foreclosure proceedings instituted by a Solar Facility Mortgagee and an Interested Party, the Solar Facility Mortgagee or Interested Party shall pay or cause to be paid all rent and other charges payable by Company which have accrued and are unpaid during said period. Following the acquisition of the Solar Facility Estate by a Solar Facility Mortgagee, an Interested Party or their designee as set forth above, the Solar Facility Mortgagee, Interested Party or other person acquiring title to the Solar Facility Estate shall (i) cure all defaults by Company as to payment of rent, and (ii) assume and commence performance of all of Company's obligations under this Lease thereafter arising, whereon Landowner's right to terminate this Lease based upon the default in question shall be deemed waived.

10.3. Notice. When giving notice to Company of any default by Company under this Lease, Landowner shall also serve a copy of such notice upon (i) each Solar Facility Mortgagee, and (ii) each Interested Party. No such notice shall be effective against a Solar Facility Mortgagee or Interested Party unless and until served on such Solar Facility Mortgagee or Interested Party. If Company shall default in the performance of any of its obligations under this Lease following the giving of notice of such default to Company, then Landowner shall give each Solar Facility Mortgagee and Interested Party a second written notice of such default, specifying in detail the alleged default and required remedy.

10.4. Right to Cure.

a. Each Solar Facility Mortgagee and Interested Party shall have the right to cure any default by Company (i) within thirty (30) days after receipt of the second notice referenced above, if the default is in the payment of rent or is otherwise reasonably curable within such 30-day period, or (ii) within such longer period (not to exceed 90 days in total) as may reasonably be necessary to cure such default, if such default is not reasonably curable within 30 days, provided that the cure is commenced within such 30-day period and thereafter diligently continued to completion. Landowner shall accept such cure and performance as though the same had been done or performed by Company. Any Solar Facility Mortgagee and Interested Party shall have the right to do any act or thing required to be performed by Company or any assignee under this Lease, and such act or thing performed by a Solar Facility Mortgagee or Interested Party

shall be effective to prevent a default under this Lease as if done by Company or the assignee itself. No Solar Facility Mortgagee or Interested Party shall have liability for any act or omission by Company under this Lease.

b. The time available to a Solar Facility Mortgagee or an Interested Party to cure any default by Company shall be extended by (i) such number of days as may be necessary for such Solar Facility Mortgagee or Interested Party to obtain a receiver, or to initiate and complete foreclosure proceedings, if possession of the Leased Property is necessary to cure such default, and (ii) the number of days of delay occasioned by bankruptcy stay or other judicial restriction against such remedies or occasioned by other circumstances beyond such Solar Facility Mortgagee's or Interested Party's reasonable control.

10.5. Modification of Lease. Upon the request of any Solar Facility Mortgagee, Landowner and Company shall amend this Lease to include any reasonable provision(s) requested by such Solar Facility Mortgagee to implement the protective provisions contained in this Lease for the benefit of such Solar Facility Mortgagee, or to allow such Solar Facility Mortgagee reasonable means to protect or preserve the Solar Facility Estate or the lien of its leasehold mortgage on the occurrence of a default under this Lease; *provided, however*, that Landowner 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 Landowner.

10.6. New Lease to Solar Facility Mortgagee or Interested Party. If this Lease is terminated by Landowner on account of any default by Company, or terminates for any other reason prior to the originally scheduled expiration date hereof, then Landowner shall give prompt written notice thereof to each Solar Facility Mortgagee and Interested Party. Each Solar Facility Mortgagee and Interested Party, within sixty (60) days after receipt of written notice from Landowner, shall have the right to elect to enter into a new lease of the Leased Property as described below. Within thirty (30) days after receiving written request therefor from a Solar Facility Mortgagee or Interested Party, Landowner shall execute and deliver a new lease of the Leased Property to such Solar Facility Mortgagee, Interested Party, their nominee or to their purchaser, assignee or transferee, as the case may be, for the remainder of the Term of this Lease, containing the same covenants, agreements, terms, provisions and limitations as are contained in this Lease (other than those requirements which may have been satisfied or fulfilled by Company prior to the termination of this Lease), provided that the relevant Solar Facility Mortgagee or Interested Party shall pay to Landowner, simultaneously with the delivery of such new lease, all unpaid rent due under this Lease up to and including the date of the commencement of the term of such new lease.

10.7. Consent to Collateral Assignment. The Parties agree that Company may assign this Agreement, in whole or in part to a Solar Facility Mortgagee and/or Interested Party as collateral, and in connection with any such assignment, Landowner agrees to execute a consent to assignment in customary form and reasonably acceptable to the Solar Facility Mortgagee and/or Interested Party.

11. Assignment and Subletting.

11.1. Internal Assignments by Company. Company and any assignee shall have the right, at any time, to assign or grant a sub-easement to all or part of the Solar Facility Estate without Landowner's consent, to a parent, subsidiary, or affiliate of Company, to a company that has been merged or consolidated with Company, or to a company acquiring all or substantially all of Company's physical assets. In no event shall any assignment or grant of sub-easement by Company pursuant to this section exceed the Term of this Lease.

11.2. Outside Assignments by Company. Landowner's consent to any proposed assignment of this Lease to parties un-related to Company or granting of sub-easement of the Leased Property to parties un-related to Company, shall be required, but shall not be unreasonably withheld, conditioned or delayed, provided however, that Landowner may withhold consent thereto if in the exercise of its reasonable judgement it determines that:

a. The financial condition of the proposed assignee or sub-easement holder, as evidenced by audited financials or equivalent provided to Landowner, is insufficient to meet the obligation being undertaken by the proposed assignee or sub-easement holder; or

b. The proposed use of the Leased Property is not permitted by this Lease.

11.3. By Landowner. Landowner may assign this Lease to any party in connection with any Transfer of the Leased Property by Landowner; *provided, however*, that any such Transfer shall be subject to this Lease.

12. Default and Remedies.

12.1. [redacted]

b. [redacted]

[redacted]

12.2. [redacted]

13. Indemnity and Insurance

13.1. Company Indemnity. Company shall indemnify, defend and hold harmless Landowner, its agents and employees (the "***Landowner Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of Company or Landowner, or other loss or damage incurred by Landowner, arising out of (a) negligent acts or omissions or willful misconduct of Company, its agents, officers, directors, employees or contractors; (b) the breach by Company of any of its obligations under this Lease, or (c) any occurrence on the Leased Property during the Commercial Term arising out of Company's use and occupancy thereof. The obligation to indemnify shall extend to and encompass all costs incurred by Landowner and any Landowner Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Notwithstanding the foregoing, Company's obligations pursuant to this Section 13.1 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Landowner, Landowner Indemnitees, or their respective contractors, successors or assigns, or to the acts of third parties (excepting those that arise out of Company's use and occupancy of the Leased Property), nor any manner of claim arising from or related to disqualification from or ineligibility for any governmental farm or conservation program.

13.2. Landowner Indemnity. Landowner shall indemnify, defend and hold harmless Company, its officers, agents and employees (the "***Company Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of either Company or Landowner, or other loss or damage incurred by Company, arising out of (a) negligent acts or omissions or willful misconduct of Landowner, its agents, officers, directors, employees or contractors; (b) the breach by Landowner of any of its obligations under this Lease; (c) any release or presence of hazardous substances,

waste or materials to, at, on, in or from the Leased Property to the extent not caused directly by Company; (d) any occurrence on the Leased Property during the Commercial Term arising out of Landowner's use and occupancy thereof; or (e) the breach of any representation or warranty made by the Landowner on or after the Effective Date under this Agreement. The obligation to indemnify shall extend to and encompass all costs incurred by Company and any Company Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Landowner's obligations pursuant to this Section 13.2 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Company, Company Indemnitees, or their respective contractors, successors or assigns, or the acts of third parties.

13.3 Company Insurance. During the Term, the Company will maintain or cause to be maintained at all times, with financially responsible insurers approved to do business in the state in which the Leased Property is located (i) commercial general liability insurance in the amount of $1,000,000 each occurrence and $2,000,000 aggregate, (ii) umbrella liability insurance in the amount of $5,000,000, written on an umbrella basis in excess over the foregoing general liability insurance coverage amounts, and (iii) with respect to the improvements related to the Solar Facility, during such time periods that material construction activities are being conducted by Company on the Property, "all risk" builder's risk insurance and after all testing and commissioning has been completed, commercial property insurance. Any insurance required under this Section 13.3 may be subject to reasonable deductibles as are usually carried by companies of similar financial condition operating similar properties. Company's commercial property insurance may be included under a blanket policy or policies covering the Solar Facility and other property and assets not located on the Leased Property.

14. Tax Credits and Environmental Attributes.

14.1. Tax Benefits. Company and its assigns shall be entitled to all depreciation, tax credits and other tax benefits arising out of the construction, ownership and operation of the Solar Facility and the production of solar energy therefrom. If under applicable law the holder of a lease becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure or production established by any local, state or federal government, then, at Company's option, Landowner and Company shall amend this Lease or replace it with a different instrument so as to convert (to the extent practicable) Company's interest in the Leased Property to a substantially similar interest that makes Company eligible for such tax credit, benefit or incentive.

14.2. Environmental Benefits. Landowner acknowledges that Company or its assignee is the exclusive owner of electricity (kWh) generated by the Solar Facility and owner of all renewable energy credits and other Environmental Attributes and Environmental Incentives of the Solar Facility. "***Environmental Attributes***" means all environmental and other attributes that differentiate the Solar Facility or the energy output from the Solar Facility from energy generated by certain other generation units, fuels or resources, including those attributable to the avoidance of environmental impacts on air, soil or water, such as the emission of any oxides of nitrogen, sulfur or carbon or of mercury, or other gas or chemical, soot, particulate matter or other substances

attributable to the Solar Facility or the compliance of the Solar Facility and/or the energy output of the Solar Facility with the law, rules and standards of any governmental authority, the United Nations Framework Convention on Climate Change (the "***UNFCCC***") or the Kyoto Protocol to the UNFCCC or crediting "early action" with a view thereto, the Clean Air Markets Division of the Environmental Protection Agency or successor administrator or any state or federal entity given jurisdiction over a program involving transferability of environmental attributes or the right of Company to report to any federal, state, or local agency, authority or other party that Company owns the environmental attributes associated with the energy output from the Solar Facility. "***Environmental Incentives***" include, but are not limited to, all credits (including tax credits), rebates, benefits, reductions, offsets, and allowances and entitlements of any kind, howsoever entitled, resulting from the Environmental Attributes. Landowner shall not make or publish any public statement or notice regarding any Environmental Incentive, any Environmental Attribute, the energy output or the Gross Revenues from the Solar Facility.

15. Condemnation. As used herein, the term "Taking" means the taking or damaging of the Leased Property, the Solar Facility Equipment, the rights granted to Company pursuant to this Lease, the Easements or any part thereof (including severance damage) by eminent domain, condemnation or for any public or quasi-public use. A Party who receives any notice of a Taking shall promptly give the other Party a copy of the notice, and each Party shall provide to the other Party copies of all subsequent notices or information received with respect to such Taking. If a Taking occurs, then the compensation payable therefor, whether pursuant to a judgment, by agreement or otherwise, including any damages and interest, shall be distributed proportionally to Company and Landowner based on the values of their respective interests and rights in this Lease, the Leased Property and the uses thereof, taking into account:

a. with respect to Company, (i) the Taking of or injury to the rights granted to Company pursuant to this Lease, the Easements or the Solar Facility Equipment, (ii) any cost or loss that Company may sustain in the removal and/or relocation of the Solar Facility Equipment, or Company's chattels and fixtures, and (iii) Company's anticipated or lost profits, damages because of deterrent to Company's business and any special damages of Company; and

b. with respect to Landowner, (i) the Taking of the fee title, (ii) any cost or loss that Landowner may sustain in the removal of Landowner's chattels and fixtures from the Leased Property, and (iii) Landowner's anticipated or lost rent under the Lease.

16. Dispute Resolution.

16.1. Dispute Resolution. The Parties agree to first attempt to settle any dispute arising out of or in connection with this Lease by good-faith negotiation. If the Parties are unable to resolve amicably any dispute arising out of or in connection with this Lease, such dispute shall be resolved by binding arbitration in Logan County, Kentucky before a single arbitrator under the rules and auspices of the American Arbitration Association, which arbitrator shall not be from, reside in, or have a place of business in Logan County, Kentucky. The cure periods for any alleged default(s) under this Lease disputed in good faith by Company shall be tolled until arbitration of the dispute is completed and the period for any appeal has lapsed.

16.2. Governing Law. This Lease shall be governed by and interpreted in accordance with the laws of the state in which the Leased Property is located.

16.3. Specific Performance. Landowner recognizes that monetary damages for any breach of this Lease may not be sufficient to compensate Company fully for such breach. Accordingly, without derogation of Company's other rights under this Lease, in the event of any default by Landowner hereunder, Company shall be entitled to specific performance hereof, without bond, from any court of competent jurisdiction.

16.4. **LIMITATION ON LIABILITY/WAIVER OF JURY TRIAL. IN NO EVENT, SHALL ANY PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, PUNITIVE, EXEMPLARY, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR IN CONNECTION WITH, THIS LEASE. TO THE EXTENT ENFORCEABLE UNDER APPLICABLE LAW, EACH PARTY HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH, THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN), OR ACTIONS OF EITHER PARTY. THIS PROVISION IS A MATERIAL INDUCEMENT FOR COMPANY TO ENTER INTO THIS LEASE.**

16.5. Expenses. The non-prevailing Party shall pay the costs of any arbitration or other legal proceedings related to this Lease, including the fees and costs of the arbitrator and the legal fees and other out-of-pocket costs of the prevailing Party.

17. Miscellaneous.

17.1. Confidentiality. Landowner shall maintain in the strictest confidence, for the sole benefit of Company, all information pertaining to the terms and conditions of this Lease, including, without limitation, the financial terms of, and payments under, this Lease, Company's site design and product design, methods of operation, methods of construction, power production or availability of the Solar Facility Equipment, and the like, whether disclosed by Company or discovered by Landowner, unless such information is in the public domain by reason of prior publication. Landowner shall not use such information for its own benefit, publish or otherwise disclose it to others, or permit its use by others. This provision shall survive the termination or expiration of this Lease.

17.2. Brokerage Commissions. Each of Landowner and Company warrants and represents to the other that there are no brokers' commissions, finders' fees or any other charges due to any broker, agent or other party in connection with the negotiation or execution of this Lease, or on behalf of either of them. Each Party shall indemnify, defend, protect and hold the other Party harmless from and against all damages, losses, costs, expenses (including reasonable attorneys' fees), liabilities and claims with respect to any claims made by any broker or finder based upon such broker's or finder's representation or alleged representation of such indemnifying Party.

17.3. Waiver of Nuisance. Landowner has been informed by Company and understands that the presence and operations of the improvements on the Leased Property and the Adjacent Property will potentially result in some nuisance to Landowner, such as higher noise levels than currently occur at the Property and the surrounding area and visual impact. Landowner hereby accepts such nuisance and waives any right that Landowner may have to object to such nuisance (and Landowner releases Company from any claims Landowner may have with respect to any such nuisance).

17.4. Successors and Assigns. This Lease shall burden the Leased Property and shall run with the land. All of the provisions hereof shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors, assigns, subtenants, and licensees. Unless expressly provided herein, no third party, other than such heirs, legal representatives, successors, assigns, subtenants, and licensees will be entitled to enforce any or all of the provisions of this Lease or will have any rights hereunder whatsoever.

17.5. Memorandum of Lease. Landowner hereby grants to Company a power of attorney to execute and record a memorandum of this Lease in form and substance satisfactory to Company, or an amendment to any such memorandum of this Lease, which power of attorney is coupled with an interest and therefore shall be irrevocable for the Term of this Lease. In the event of any inconsistency between the terms and provisions of this Lease and those contained in such Memorandum of Lease, the terms and provisions of this Lease shall control. Landowner further consents to the recordation of the interest of any Solar Facility Mortgagee, Interested Party or assignee of Company's interest in this Lease.

17.6. Notices. All notices pursuant to this Lease shall be in writing and shall be sent only by the following methods: (i) personal delivery, (ii) mail (first-class, certified, return-receipt requested, postage prepaid), or (iii) delivery by an overnight courier service which keeps records of deliveries (such as, by way of example but not limitation, Federal Express and United Parcel Service). For purposes of giving notice hereunder, the respective addresses of the parties are, until changed as hereinafter provided, the following:

To Landowner:

Daniel W. Kemp
Edith Aline Kemp
258 Kemp Lane
Olmstead, KY 42265

To Company:

Russellville Solar LLC
c/o Community Energy Solar, LLC
Three Radnor Corporate Center, Suite 300
100 Matsonford Rd.
Radnor, PA 19087

Any Party may change its address at any time by giving written notice of such change to the other Party in the manner provided herein. All notices shall be deemed given on the date of personal delivery or, if mailed by certified mail or overnight courier, on the delivery date or attempted delivery date shown on the return-receipt.

17.7. Entire Agreement/Amendments. This Lease and the attached Exhibits constitute the entire agreement between Landowner and Company regarding its subject matter, and replace and supersede any prior agreements and understandings between the Parties relating thereto whether written, verbal or otherwise. This Lease shall not be modified or amended except in a writing signed by both Parties or their lawful successors in interest.

17.8. Interpretation. The Parties agree that any rule of construction to the effect that ambiguities are to be resolved in favor of either Party shall not be employed in the interpretation of this Lease.

17.9. Partial Invalidity. Should any provision of this Lease be held, in a final and unappealable decision by a court of competent jurisdiction, to be invalid, void or unenforceable, the remaining provisions hereof shall remain in full force and effect, unimpaired by the holding. Notwithstanding any other provision of this Lease, in no event shall the Term be for longer periods than permitted by applicable law.

17.10. Time of Essence. Time is of the essence with regard to the terms and conditions of this Lease.

17.11. Waiver. No provision of the Lease will be deemed waived by either party unless expressly waived in writing signed by the waiving party. No waiver will be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease will be deemed a waiver of such provision with respect to any subsequent matter relating to such provision.

17.12. Survival. Whether or not specifically noted within any section or provision of this Lease, any provision of this Lease which must survive termination of this Lease in order to be effective will so survive such termination.

17.13 Counterparts. This Lease may be executed in counterparts, which taken together shall constitute one agreement, binding on all the parties hereto even though all the parties are not signatories to the original or the same counterpart.

* * * * * * * * *

EXHIBIT B

- DESCRIPTION OF LEASED PROPERTY -

Landowner owns the real property located on A.P. Miller Rd., Russellville, KY 42265 in Logan County, more specifically described by Logan County as:

Parcel ID 055-00-00-008-00 103.80 acres + 10.29 acres
Parcel ID 055-00-00-009-01 72.69 acres
("***Landowner's Property***").

Landowner desires to lease to Company all of Landowner's Property, as depicted in the drawing below, comprising approximately 186.78 acres (the "***Leased Property***").

EXHIBIT C
FORM W-9

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

► Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from FATCA reporting code (if any)

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

___ – ___ – ____

or

Employer identification number

__ – _____

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ► Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Cat. No. 10231X Form **W-9** (Rev. 10-2018)

SOLAR ENERGY LEASE AGREEMENT

This SOLAR ENERGY LEASE AGREEMENT ("***Lease***") is entered into effective as of the Effective Date set forth below, by and between (i) Russellville Solar LLC a Delaware limited liability company (the "***Company***"), and (ii) the landowner(s) set forth below ("***Landowner***"). Landowner and Company may be referred to below together as the "***Parties***" and each a "***Party***."

1. **Effective Date:** September 11, 2019
2. **Landowner(s):** Dawson Family Farms, LLC
3. **Leased Property:** The real property located in Logan County, Kentucky, generally depicted on Exhibit B. See §1.1.
4. **Development Feasibility Term:** [redacted]
5. **Commercial Term:** Commences on the Commercialization Date and ends thirty (30) years thereafter, subject to options to extend. See §4.3.
6. **Rent:**
   Development Feasibility Term: [redacted]
   Commercial Term: [redacted]

The following Exhibits are attached and incorporated herein by reference:

Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

Company:

Russellville Solar LLC

By:_____

Name:_____

Title:_____

Landowner(s):

Dawson Family Farms, LLC

By: Karl Wayne Dawson, Member
Karl Wayne Dawson, Member

By:_____
Lynn Dawson, Member

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Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

Company:

Russellville Solar LLC

By:_____

Name:_____

Title:_____

Landowner(s):

Dawson Family Farms, LLC

By:_____
Karl Wayne Dawson, Member

By: Lynn Dawson
Lynn Dawson, Member

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1. **Effective Date:** September 11, 2019
2. **Landowner(s):** Dawson Family Farms, LLC
3. **Leased Property:** The real property located in Logan County, Kentucky, generally depicted on Exhibit B. See §1.1.
4. **Development Feasibility Term:** [redacted]
5. **Commercial Term:** Commences on the Commercialization Date and ends thirty (30) years thereafter, subject to options to extend. See §4.3.
6. **Rent:**
   Development Feasibility Term: [redacted]
   Commercial Term: [redacted]

The following Exhibits are attached and incorporated herein by reference:

Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

Company:

Russellville Solar LLC

By: _____

Name: Brent Beerley

Title: Manager

Landowner(s):

Dawson Family Farms, LLC

By: _____
Karl Wayne Dawson, Member

By: _____
Lynn Dawson, Member

EXHIBIT A

– STANDARD TERMS AND CONDITIONS –

PAGE

1. Grant of Lease.

1.1. General. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Landowner(s) identified on the Cover page hereto (generally, "***Landowner***") hereby leases to Company, and Company hereby leases from Landowner, the real property depicted in the drawing attached hereto and incorporated herein as Exhibit "B" (the "***Leased Property***").

1.2. Development Feasibility Term. During the Development Feasibility Term, Company shall use the Leased Property to evaluate and determine the feasibility of development of an electrical generating facility for the conversion of solar energy into electrical energy (the "***Solar Facility***"). By way of example only, during the Development Feasibility Term, Company may install solar energy monitoring equipment on the Leased Property.

Landowner expressly reserves the right to use the Leased Property during the Development Feasibility Term for uses that do not and will not interfere with Company's operations hereunder or enjoyment of the rights hereby granted, specifically including, but not limited to farming, provided, however, that:

a. Landowner may not use the Leased Property in a manner inconsistent with Company's use of any access roads;

b. any such use of the Leased Property by Landowner shall not include solar energy development or the installation or use of any facilities related to solar energy development or generation (which rights and uses are exclusively granted to Company in this Lease);

c. any easements or leases entered into by Landowner with respect to the Leased Property after the date of this Lease shall expressly provide that they are subject and subordinate in all respects to this Lease and to the rights of Company and any assignee hereunder;

d. use of the Leased Property by Landowner for commercially reasonable farming, cultivation of crops, and/or timbering activities (collectively, "***Agriculture and Forestry Activities***") shall be deemed not to interfere with Company's operations hereunder or enjoyment of the rights hereby granted; and

e. Landowner shall not be required by Company to limit Agriculture and Forestry Activities on the Leased Property unless and until Company and Landowner agree upon compensation due from Company to Landowner for Landowner's loss of Agriculture and Forestry Activities on the Leased Property.

1.3. Commercial Term. During the Commercial Term, Company shall use the Leased Property for the development, construction, ownership, operation, maintenance and repair of the Solar Facility. In connection with such use, Company shall have the exclusive right:

a. to construct, install and operate on the Leased Property multiple solar panels and inverters;

b. to erect, construct and use all the necessary and requisite devices, fixtures, appurtenances and facilities for the Solar Facility, as determined in the sole and absolute discretion of Company, including but not limited to: foundations, supports, concrete pads and footings; fences, and roads for ingress and egress of construction and maintenance vehicles; the physical preparation of the sites on which the Solar Facility will be installed and the preparation of access routes thereto (whether located on the Leased Property or, if necessary, on the Adjacent Property); power collection facilities, including underground or above ground distribution and collection lines between Solar Facility Equipment and from Solar Facility Equipment to one or more substations and points of interconnection with the power grid, wires and cables, conduit and above-ground transformers for the Solar Facility; substations or interconnection and switching facilities which Company may connect to a utility transmission system or the transmission system of another purchaser of electrical energy; underground or above ground control, communications and telecommunications equipment, including underground fiber, wires, cables and conduit; erosion

control facilities; signs, gates and other safety and protection facilities; control and administration buildings; and other improvements, facilities, appliances, machinery and equipment in any way related to or associated with any of the foregoing (all of the foregoing, including the solar panels and inverters, collectively referred to herein as the "***Solar Facility Equipment***");

c. to maintain, clean, repair, replace and dispose of part or all of the Solar Facility Equipment;

d. to allow and control access of third parties to the Leased Property. The Company may invite third parties upon the Leased Property without permission from the Landowner so long as the terms of this Lease are not violated;

e. to trim or cut down trees, shrubs or any other landscaping and vegetation on the Leased Property or Adjacent Property as may be necessary for the exercise of rights granted to Company pursuant to this Lease, with Owner to receive the proceeds of any marketable timber removed by or on behalf of Company pursuant to this Section 1.3(e); and

f. to gate or otherwise secure any access roads on or to the Leased Property, provided that Company shall work with Landowner to ensure Landowner's commercially reasonable access to same consistent with industry standard practices.

1.4. General Powers of Company. The rights granted to Company in this Lease permit Company, without limitation, to undertake all activities that Company determines are necessary, useful, appropriate or convenient in connection with, or incidental to the development, construction and operation of the Solar Facility or for the benefit thereof, including conducting surveys and environmental, biological, cultural and other tests and studies and conducting site tours to demonstrate the generation of electricity from solar power for educational and commercial purposes.

1.5. Design and Placement of Solar Facility Equipment. Company shall have sole and absolute discretion as to the location of Solar Facility Equipment on the Leased Property and the extent of construction activity required in connection with such Solar Facility Equipment. Prior to Company's construction of the Solar Facility, however, Company shall consult with Landowner for informational purposes only. Landowner acknowledges that a portion of the Solar Facility Equipment to be constructed by Company on the Leased Property may include buried and/or above ground electrical and communications lines among Solar Facility Equipment, and from the Solar Facility to electrical substations and other points of interconnection on the power grid serving the Solar Facility.

1.6. Roads. Company shall have the right to use the existing roads on the Leased Property and to construct or improve, from time to time and at any time, one or more additional roads over, across and through the Leased Property as suitable for Tenant's use thereof.

1.7 Repowering. The Parties recognize that (1) power generation technologies are improving at a rapid rate and that Company may (but shall not be obligated to) from time to time replace or repair Solar Facility Equipment on the Leased Property with newer (and potentially

smaller or larger) models and types of Solar Facility Equipment, and (2) the activities contemplated by this Lease may be accomplished by Company or by one or more third parties authorized by Company.

1.8. Defined Terms. As used herein, the term **"*Adjacent Property*"** shall mean any and all property or properties owned at any time during the Development Feasibility Term and the Commercial Term by Landowner, and/or the Affiliates of Landowner, that are contiguous with the Leased Property. As used herein, the term **"*Affiliate*"** means any other person or entity that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with the Landowner. The term **"*control*"** as used with respect to any person or entity, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person or entity, whether through the ownership of voting securities or partnership interests, by contract or otherwise.

2. Easements.

2.1. Grant. Without limiting the rights set forth elsewhere in this Lease, Landowner hereby grants to Company the following easements during the Development Feasibility Term and the Commercial Term of this Lease (collectively, the "***Easements***"):

a. an exclusive easement to use, convert, maintain and capture the free and unobstructed flow of solar energy resources over and across the Leased Property and the Adjacent Property;

b. the right to utilize, on a nonexclusive basis, any access, utility, water, communication, sewer, septic, transmission or other easements, rights of way or licenses already held by Landowner over the Adjacent Property, or any other property in the vicinity of the Leased Property, which Company determines could be used for the benefit of the Solar Facility, as permitted by the instruments evidencing such rights and other applicable laws;

c. nonexclusive easements on, over, across, under and through the Adjacent Property to install and maintain power, water, communications, sewer, transmission and other such lines that Company determines could be used for the benefit of the Solar Facility;

d. nonexclusive easements for access to the Leased Property, over and across the Adjacent Property, including for vehicular and pedestrian ingress, egress and access to and from the Solar Facility Equipment, whether by means of roads and lanes previously existing on the Adjacent Property or otherwise by such route(s) as Company may construct from time to time;

e. an easement over the Adjacent Property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Solar Facility; and

f. an easement over the Adjacent Property to evaluate and determine the feasibility of the solar facility on Landowner's Property in a location that varies from the Leased Property, as depicted in Exhibit B.

2.2. Terms and Conditions. With respect to each Easement:

a. to the extent permitted by applicable federal, state and local laws, statutes, ordinances, orders, rules and regulations, such Easement shall be appurtenant to the Leased Property;

b. such Easement shall run with and benefit the Leased Property (and such other lands, as applicable) and inure to the benefit of and be binding upon Landowner and the holder of the Easement and their respective successors and assigns, and all persons claiming under them;

c. no act or failure to act on the part of Company or the holder of the Easement shall be deemed to constitute an abandonment, surrender or termination thereof, except (i) upon recordation by such holder of a quitclaim deed specifically conveying the Easement back to Landowner or (ii) the termination of this Lease pursuant to Sections 4.2(b), 4.3(b) and 12.1(b) hereof;

d. non-use of the Easement shall not prevent the future use of the entire scope thereof; and

e. no use of or improvement to the Leased Property or any lands benefited by the Easement, and no assignment or sublease hereof or thereof, shall, separately or in the aggregate, constitute an overburdening of the Easement.

2.3. Stand-Alone Agreements. Upon Company's request from time to time, Landowner shall grant to Company (or a party designated by Company), in recordable form and containing such terms and provisions as may reasonably be requested by Company for no additional consideration:

a. stand-alone easements for any of the Easements granted hereunder; or

b. in the case of Easements already held by Landowner, subeasements, the term of which shall run concurrently with the Development Feasibility Term and the Commercial Term (or for a shorter period of time as may be requested by Company) and shall terminate upon the expiration or termination of this Lease.

3. Survey. Prior to the Commercialization Date (as defined below), Company shall cause to be conducted, at Company's sole expense, a survey of the Leased Property and the Easements. Landowner shall cooperate therewith. Company shall provide a copy of such survey to Landowner. Following the completion of the survey, the Parties shall amend this Lease to include a metes-and-bounds description of the Leased Property, the Easements, and the Adjacent Property, as described in the Lease and on which Company has certain rights set forth in the Lease.

4. Lease Term.

4.1. Commercialization Date. The "***Commercialization Date***" for the Solar Facility means the date on which "Groundbreaking" occurs. As used herein, "Groundbreaking" shall mean the earlier of (a) when earth is moved for the improvement of the Leased Property for the construction of the Solar Facility, (b) when the first Solar Facility support structure is installed below grade at the Leased Property, or (c) when Company elects to make the first annual Commercial Term rent payment in the amount set forth in Section 5.2(a). Movement of earth for evaluation of the Leased Property shall not be considered Groundbreaking and shall not cause the Commercialization Date to occur. Company shall notify Landowner promptly if and when the Commercialization Date occurs.

4.2. Development Feasibility Term.

a. [redacted]

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Development Feasibility Term, effective upon at least seven (7) days written notice to Landowner. Upon such termination, Company will be obligated to satisfy the obligations set forth in Section 7.

4.3. Commercial Term.

a. The Commercial Term shall commence on the Commercialization Date, and shall end thirty (30) years thereafter, provided that Company shall have the right to extend the Commercial Term for up to two (2) additional periods of five (5) years each (each, an "***Extended Term***"), by notice to Landowner before the expiration of the Commercial Term or the Extended Term. Company may elect to exercise its option to extend the Commercial Term by giving Landowner written notice of such election not earlier than eighteen (18) months and not later than six (6) months prior to the expiration of the then-current term of this Lease. Upon satisfaction of the notice requirements to Landowner, this Lease shall be extended for such Extended Term upon the same terms, conditions and covenants as are contained in this Lease, subject to Section 5.2(b) below.

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Commercial Term, effective upon at least ninety (90) days written notice to Landowner. Upon such termination, (i) Company will be obligated to satisfy the obligations set forth in Section 7, and (ii) Company shall pay to Landowner all Commercial Term Rent (as defined below) payable for a period of seven (7) Commercial Operation Years following the Commercial Operation Year in which this Lease is terminated (the "***Commercial Term Termination Payment***"), with the Commercial Term Termination Payment to be reduced by one (1) Commercial Operation Year of Commercial Term Rent for each Commercial Operation

Year that has been completed as of the effective date of the termination, such that at the end of the seventh (7^{th}) Commercial Operation Year and for the remainder of the Commercial Term, the Commercial Term Termination Payment shall be zero.

5. Landowner Rent, Consideration and Other Terms.

5.1. Rent During the Development Feasibility Term. During the Development Feasibility Term, Company shall pay to Landowner [redacted] per acre of Leased Property per year. The rent for the first year of the Development Feasibility Term shall be due within thirty (30) days after the Effective Date. The rent for each subsequent year of the Development Feasibility Term will be payable within thirty (30) days of the anniversary of the Effective Date. Any rent payable for less than a full twelve (12) month period shall be prorated on the basis of a 365-day year. The prorated amount of rent applicable to any remaining portion of the year of the Development Feasibility Term in which the Commercialization Date occurs shall operate as a setoff against the amount of rent Company owes Landowner for the first year of the Commercial Term.

5.2. Rent During the Commercial Term.

a. During the first thirty (30) years of the Commercial Term, Company shall pay to Landowner, on an annual basis, at the beginning of each Commercial Operation Year, rent payments equal to [redacted] per acre of Leased Property per year (the "***Commercial Term Rent***"). Any rent payable for less than a full 12-month period shall be prorated on the basis of a 365-day year. The first "***Commercial Operation Year***" shall begin on the Commercialization Date, and shall expire twelve (12) months thereafter, and each subsequent Commercial Operation Year shall commence upon the expiration of the prior Commercial Operation Year and expire twelve (12) months thereafter.

b. Rent for each Extended Term (if any) shall be [redacted] acre of Leased Property per year.

5.3. Additional Consideration and Other Terms.

a. In the event Company's activities during the Development Feasibility Term damage any crops in commercial cultivation on the Leased Property or in the event the Commercialization Date occurs during the commercial cultivation of crops on the Leased Property, Company shall pay to Landowner, or Landowner's tenant as applicable, a one-time payment equaling the then-current fair market value of any crops damaged by Company.

b. For each month it takes Company to accomplish the tasks listed in Sections 7.1. a-c below, Company shall pay Landowner pro-rated rent in a manner and amount commensurate with the rent applicable to the Leased Property in the last year of the Commercial Term.

c. Landowner shall furnish Company with a signed, completed form W-9 by the Effective Date, and thereafter within thirty (30) 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 Landowner's interest in the Lease. Without limiting Company's obligation to pay Rent or other amounts due to Landowner hereunder, Company shall be entitled to delay making any such payments to Landowner until Landowner has provided such W-9. For convenience, the W-9 form is attached as Exhibit C.

d. In the event Company's activities during the Development Feasibility Term damage any assets located on the Leased Property and owned by Landowner, including but not limited to structures, drainage facilities, fencing, and equipment, Company shall reimburse Landowner for the reasonable costs of repairs directly related to such damage and incurred by Landowner. On or after the Commercialization Date, in the event Company determines in its sole discretion to dismantle, destroy, remove or relocate from the Leased Property any structures, drainage facilities, or fencing located on the Leased Property and owned by Landowner as of the Effective Date, Company shall pay Landowner for such structures, drainage facilities, and/or fencing in an amount to be mutually agreed and negotiated between the parties in good faith, with such amount not to exceed [redacted] in the aggregate for all such structures, drainage facilities, and/or fencing.

6. Property Taxes. Company shall pay any personal property taxes assessed or levied against the Solar Facility Equipment. Company shall pay to the taxing authority all real property taxes levied against the Leased Property during the Commercial Term, including any "roll-back" taxes directly related to the reclassification of the Leased Property as a result of the Solar Facility or this Lease. Company shall not be liable for taxes attributable to facilities installed by Landowner or others on the Leased Property. It is a condition to Landowner's right to payment or reimbursement of any such taxes hereunder that Landowner submit the real property tax bill to Company within twenty (20) days after Landowner receives the bill from the taxing authority. Landowner shall pay its portion of the real property taxes, and if Landowner fails to do so, Company shall be entitled (but not obligated) to make payments in fulfillment of Landowner's obligations to the taxing authority and may offset the amount of such payments from any amounts due Landowner under this Lease. Landowner shall reasonably cooperate in any effort that Company undertakes to cause the leasehold estate of Company to be separately assessed for property tax purposes.

7. Removal of Solar Equipment and Restoration of Property.

7.1. Upon Termination. As soon as reasonably practicable but in no event later than six (6) months following the expiration or earlier termination of this Lease, Company shall, at Company's sole cost and expense,

a. remove all above-ground Solar Facility Equipment,

b. remove all Solar Facility Equipment installed below-grade, and

c. use commercially reasonable efforts to restore the soil surface of the Leased

Property and any affected area of the Adjacent Property to a condition equal to or better than its original condition, including the replacement of any topsoil that has been removed with soil of the same quality, the removal of all graveled roadways unless Landowner agrees for same to remain and the correction of any material changes in grade that have been made to the Leased Property.

7.2. Landowner Right to Perform. If Company fails to so remove the Solar Facility Equipment within six (6) months after the termination or expiration of this Lease, Landowner may do so and Company shall reimburse Landowner for the reasonable and actual costs of removal incurred by Landowner, less any salvage value received by Landowner, within thirty (30) days after receipt of an invoice from Landowner.

7.3. Decommissioning Cost. No more than 90 days in advance of the Commercialization Date, Company shall provide to Landowner an estimate of the cost, calculated by a reputable, mutually agreed-upon third-party engineer not associated with the engineer or engineering firm that prepared the site plan or construction plans for the Solar Facility, for the removal of the Solar Facility Equipment from the Leased Property (the "Decommissioning Cost Estimate"). The estimated market value of scrap or recyclable materials shall be considered in calculating the Decommissioning Cost Estimate. The Decommissioning Cost Estimate shall be updated every five (5) years.

7.4. Posting of Security. [redacted]

8. Company's Representations, Warranties and Covenants.

8.1. Company's Authority. Company represents to Landowner that Company has the unrestricted right and authority to sign this Lease, and when signed by Company, this Lease constitutes a valid and binding agreement enforceable against Company in accordance with its terms.

8.2. Requirements and Governmental Agencies. Company shall comply in all material respects with valid laws applicable to the Solar Facility Equipment, but shall have the right, in its sole discretion and expense, in its name or Landowner's name, to contest the validity or applicability to the Leased Property and/or the Solar Facility Equipment of any law, ordinance, order, rule or regulation of any governmental agency or entity. Company shall control any such contest and Landowner shall cooperate with Company in every reasonable way in such contest, at no out-of-pocket expense to Landowner.

8.3. Mechanic's Liens. Company shall keep the Leased Property and the Adjacent Property free and clear of all liens and claims of liens for labor and services performed on, and materials, supplies or equipment furnished to, the Leased Property in connection with Company's use of the Leased Property pursuant to this Lease.

8.4. Hazardous Materials. Company shall indemnify Landowner against Company's violation on the Leased Property or Adjacent Property of any applicable law or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any substance, material or waste which is now or hereafter classified as hazardous or toxic, or which is regulated under current or future federal, state or local laws or regulations, on or under the Leased Property or the Adjacent Property.

8.5. Safety Measures. Company shall take reasonable safety and security measures to reduce the risk of damage to the Solar Facility or the risk that the Solar Facility will cause damage, injury or death to people, livestock and other animals and property, as Company deems necessary or appropriate.

8.6. Damage to Fences and Gates. Company shall repair any damage caused by Company, at no cost to Landowner, to any fences, gates, buildings and other fixtures located on the Leased Property or within the area of any Easements (the "***Landowner Improvements***") to the extent caused by the construction or operation of the Solar Facility provided the Landowner Improvements do not conflict with the ongoing construction, operation and maintenance of the Solar Facility.

8.7. Electric Lines. Company shall use commercially reasonable efforts to install any electrical lines so that, following installation of the electrical lines, the land surrounding such lines may be used by the Parties in accordance with the terms of this Lease.

8.8. Maintenance of Leased Property and Access Roads. Company shall maintain the Leased Property in a manner consistent with returning the same back to its original condition as required by section 7 above, including, but not limited to erosion and weed control measures, as and when reasonably deemed necessary by Company. Company shall maintain all access roads serving the Leased Property, including erosion and weed control measures, as and when reasonably deemed necessary by Company.

9. Landowner's Representations, Warranties and Covenants. Landowner hereby represents, warrants and covenants as follows:

9.1. Landowner's Authority. Landowner has good title to the Leased Property in fee simple absolute, subject only to those matters shown on any title report or abstract provided to Company pursuant to Section 9.10 below, and has full right and authority to make this Lease and to perform as required hereunder, and this Lease does not conflict with, and its execution by Landowner will not result in a default or event of default under, any other agreement to which Landowner is bound. Landowner will furnish to Company upon request evidence reasonably satisfactory to Company of its title to the Leased Property and authority to execute this Lease. When signed by Landowner, this Lease constitutes a valid and binding agreement enforceable against Landowner in accordance with its terms. No rights to convert the solar resources of the Leased Property or to otherwise use the Leased Property for solar energy purposes have been granted to or are held by any other party other than Company. There are no covenants, restrictions, rights of way, easements or other encumbrances on the Leased Property that will prevent Company's use of the Leased Property as contemplated herein.

9.2. Ownership of Solar Facility; Not a Fixture; Lien Rights of Landowner. Company, or its nominee, is the exclusive owner and operator of the Solar Facility. Landowner shall have no ownership or other interest in any Solar Facility Equipment installed on the Leased Property or on the Adjacent Property, and Company shall at all times retain title to the Solar Facility Equipment, with the right, at any time and in its sole discretion, to remove, replace or repair one or more components of Solar Facility Equipment. The Solar Facility and the Solar Facility Equipment are not fixtures, and Landowner may not sell, lease, assign, mortgage, pledge or otherwise alienate or encumber (collectively, a "***Transfer***") the Solar Facility or any Solar Facility Equipment together with its fee interest or leasehold rights to the Leased Property. Landowner warrants and represents that it shall keep the Solar Facility Equipment free from all liens, except that the Solar Facility Equipment shall be subject to a landlord lien in favor of Landowner for up to twelve (12) months of delinquent rent under this Lease; provided, however, in all instances such landlord lien shall automatically be subordinate and subject to the rights of any Solar Facility Mortgagee in the Solar Facility Equipment, this Lease, and/or the Solar Facility Estate and Landowner agrees to execute any reasonable documentation of the same reasonably approved by Landowner and requested by any Solar Facility Mortgagee. Should any liens other than landlord liens be filed against the Solar Facility Equipment by reason of the acts of Landowner, Landowner shall cause the lien to be cancelled or otherwise discharged within thirty (30) days of receiving notice of such lien.

9.3. Notice of Transfers. Landowner shall give Company at least thirty (30) days written notice prior to any Transfer of all or a portion of the Leased Property or the Adjacent Property identifying the transferee, the portion of Landowner's property to be transferred and the proposed date of Transfer. This Lease shall run with the Leased Property and survive any Transfer thereof.

9.4. No Interference. Company shall have the sole and exclusive right to convert all of the solar resources of the Leased Property. Landowner's activities and any grant of rights Landowner makes to any third party, whether located on the Leased Property, the Adjacent Property or elsewhere, shall not, now or in the future, interfere in any way with Company's use of the Leased Property, or the rights granted under this Lease or the Easements. In furtherance of the

foregoing, Landowner shall not interfere with the solar resource or otherwise construct or permit to be constructed any structure that prevents, inhibits or impairs the solar resource over the Leased Property, or engage in any activity on the Leased Property or any Adjacent Property that might cause a decrease in the output or efficiency of the Solar Facility Equipment, as determined by Company in its sole and absolute discretion, including, without limitation, the construction of structures or planting of trees that would interfere with the free and unobstructed access to solar resources. Landowner shall not allow any activity to take place on the Adjacent Property that, in Company's reasonable determination, would adversely impact the development, construction and operation of the Solar Facility or the use of any easements across the Adjacent Property.

9.5. Estoppel Certificates. From time to time, within fifteen (15) days after written request from Company, Landowner shall execute and deliver an estoppel certificate certifying as to the status of this Lease and each Party's performance thereunder.

9.6. Requirements of Governmental Agencies. Landowner shall assist and fully cooperate with Company, at no out-of-pocket expense to Landowner, in applying for (including signing in Landowner's name, if necessary), complying with, completing or obtaining, as applicable, any land use permits and approvals, building permits, zoning variances, subdivision requirements, environmental impact reviews or any other approvals required for the financing, construction, installation, replacement, relocation, maintenance, operation or removal of the Solar Facility Equipment. Landowner shall make available to Company copies of all field surveys, environmental, geological and other site assessments, surveys, plans and other such records of Landowner related to the Leased Property and the Adjacent Property.

9.7. Zoning. Should zoning or other property-use regulations be proposed that might require property-line setbacks or other burdens more restrictive in nature than those in existence on the Effective Date, Landowner shall cooperate with Company in resisting or obtaining exemption from such regulations for the Solar Facility.

9.8. Hazardous Materials. Landowner represents and warrants to Company that, to the best of Landowner's knowledge:

a. there are no abandoned wells, solid waste disposal sites, hazardous wastes or substances, or underground storage tanks located on the Leased Property;

b. the Leased Property does not contain levels of petroleum or hazardous substances which require remediation under applicable environmental laws or regulations;

c. the Leased Property is not subject to any pending or threatened judicial or administrative action, investigation or order under any applicable environmental laws or regulations;

d. Landowner has not caused or contributed to a release or threatened release of hazardous substances or waste to, at, on, in or from the Leased Property, except in compliance with applicable environmental laws and regulations.

9.9. Landowner's Lenders.

a. Landowner shall promptly notify its lenders or any other party holding a mortgage, deed of trust or other security interest in the Leased Property of this Lease and Company's rights herein, and shall request that such lender, trustee or security interest holder simultaneously send any notice of Landowner's default to Landowner and Company. Regardless, Landowner agrees to promptly provide Company with a copy of any default notices that Landowner receives from any of its lenders or other party holding a mortgage, deed of trust or security interest in the Leased Property.

b. Company shall, at its own cost, procure a current abstract of title or preliminary title report for the Leased Property, showing all liens and other exceptions to title to the Leased Property and Landowner shall reasonably cooperate therewith. Upon request by Company, Landowner shall obtain a nondisturbance and subordination agreement from each mortgagee of the Leased Property and the Easements, or any portion thereof, under which the relevant lienholders agree not to disturb Company's possession or rights under this Lease or terminate this Lease so long as Landowner is not entitled to terminate this Lease under its terms.

c. If Landowner fails to pay any of its obligations secured by a mortgage, deed of trust or other security interest on the Leased Property when due, Company may, at its option, pay such amount and deduct it from the amount owed to Landowner under this Lease.

d. Landowner expressly acknowledges and agrees that any contractual, statutory or common law lien rights in favor of any mortgage or deed of trust granted by Landowner subsequent to the date of this Lease are and shall be expressly made subordinate and inferior to Company's right, title and interest in this Lease, any sublease permitted hereunder and/or the Easements granted by this Lease and to any liens and security interests granted by Company in favor of any Solar Facility Mortgagee (as defined below). Landowner agrees to execute or cause its mortgagee to execute any further documentation that may be requested by Company or a Solar Facility Mortgagee of any of the foregoing to evidence such subordination.

9.10. Quiet Enjoyment. Landowner agrees that Company shall quietly and peaceably hold, possess and enjoy the Leased Property pursuant to the terms of this Lease, and for the Development Feasibility Term and the Commercial Term of this Lease, and any extension thereof, without any hindrance or molestation caused by Landowner or any party claiming by, through or under Landowner. Landowner shall defend title to the Leased Property, and the use and occupancy of the same, against the claims of all persons, except those claiming by or through Company. Landowner shall not enter into or modify any documents, including any declarations, easements, restrictions or other similar instruments, which may materially affect the Leased Property, or the rights and/or obligations of Company hereunder, without first obtaining the prior written consent of Company.

9.11. Landowner Consent. Except as otherwise expressly provided herein, where pursuant to the terms of this Lease or in connection with the administration of this Lease, the consent or approval of Landowner will be required, requested, or appropriate, Landowner covenants and agrees that its consent or approval will not be unreasonably or unduly withheld,

delayed, or conditioned, and that Company will not be charged for such consent or approval. To the extent this Lease provides for the requirement of Landowner's consent, if within twenty (20) days after Landowner's receipt of Company's written request for such consent, Landowner does not give notice of its reasons for not consenting to Company's request, Landowner shall conclusively be deemed to have given its consent. If within such twenty (20) day period, Landowner gives notice of its reasons for not consenting to Company's request, then Landowner and Company shall promptly meet to discuss Landowner's comments and concerns, and Landowner and Company shall use their respective best efforts to address such comments and concerns in a reasonable manner. In the event a resolution is not reached, Company and Landowner shall be entitled to pursue all of their respective rights and remedies contained herein.

10. Solar Facility Financing.

10.1. Mortgage by Company. Company may, from time to time and at any time, without the consent of Landowner, hypothecate, mortgage, collaterally assign, pledge or alienate the Solar Facility Equipment, the Solar Facility, Company's leasehold, the Easements and/or the rights granted to Company under this Lease (collectively, the "***Solar Facility Estate***"). Each holder of any such instrument or lien, as to which Landowner has been notified of identity and address, is hereinafter referred to as a "***Solar Facility Mortgagee***." Nothing herein shall be deemed to permit a Solar Facility Mortgagee to take title to, or otherwise encumber, Landowner's fee title to the Leased Property.

10.2. Rights.

a. A Solar Facility Mortgagee or its assigns may enforce its lien and acquire title to the Solar Facility Estate in any lawful way. Pending foreclosure of such lien, any Solar Facility Mortgagee may take possession of and operate the Solar Facility Estate. Upon foreclosure of such lien by power of sale, judicial foreclosure or acquisition of the Solar Facility Estate by deed in lieu of foreclosure, a Solar Facility Mortgagee may, upon notice to Landowner, sell and assign the Solar Facility Estate. As long as there is a Solar Facility Mortgagee or a subtenant, tax credit investor and any other third party with an interest in the Solar Facility as to which Landowner has been notified of identity and address (each an "***Interested Party***"), neither the bankruptcy nor the insolvency of Company shall operate to terminate, nor permit Landowner to terminate, this Lease as long as all rent and other charges payable by Company continue to be paid in accordance with the terms of this Lease and for as long as the Company is in compliance with all other terms and conditions of this Lease.

b. During the period that a Solar Facility Mortgagee or an Interested Party may be in possession of the Solar Facility Estate and/or during the pendency of any foreclosure proceedings instituted by a Solar Facility Mortgagee and an Interested Party, the Solar Facility Mortgagee or Interested Party shall pay or cause to be paid all rent and other charges payable by Company which have accrued and are unpaid during said period and shall comply with all other terms and provisions of this Lease. Following the acquisition of the Solar Facility Estate by a Solar Facility Mortgagee, an Interested Party or their designee as set forth above, the Solar Facility Mortgagee, Interested Party or other person acquiring title to the Solar Facility Estate shall (i) cure all defaults by Company as to payment of rent and cure all other defaults by the Company, and (ii)

assume and commence performance of all of Company's obligations under this Lease thereafter arising, whereon Landowner's right to terminate this Lease based upon the default in question shall be deemed waived.

10.3. Notice. When giving notice to Company of any default by Company under this Lease, Landowner shall also serve a copy of such notice upon (i) each Solar Facility Mortgagee, and (ii) each Interested Party. No such notice shall be effective against a Solar Facility Mortgagee or Interested Party unless and until served on such Solar Facility Mortgagee or Interested Party. If Company shall default in the performance of any of its obligations under this Lease following the giving of notice of such default to Company, then Landowner shall give each Solar Facility Mortgagee and Interested Party a second written notice of such default, specifying in detail the alleged default and required remedy.

10.4. Right to Cure.

a. Each Solar Facility Mortgagee and Interested Party shall have the right to cure any default by Company (i) within thirty (30) days after receipt of the second notice referenced above, if the default is in the payment of rent or is otherwise reasonably curable within such 30-day period, or (ii) within such longer period (not to exceed 90 days in total) as may reasonably be necessary to cure such default, if such default is not reasonably curable within 30 days, provided that the cure is commenced within such 30-day period and thereafter diligently continued to completion. Landowner shall accept such cure and performance as though the same had been done or performed by Company. Any Solar Facility Mortgagee and Interested Party shall have the right to do any act or thing required to be performed by Company or any assignee under this Lease, and such act or thing performed by a Solar Facility Mortgagee or Interested Party shall be effective to prevent a default under this Lease as if done by Company or the assignee itself. No Solar Facility Mortgagee or Interested Party shall have liability for any act or omission by Company under this Lease.

b. The time available to a Solar Facility Mortgagee or an Interested Party to cure any default by Company shall be extended by (i) such number of days as may be necessary for such Solar Facility Mortgagee or Interested Party to obtain a receiver, or to initiate and complete foreclosure proceedings, if possession of the Leased Property is necessary to cure such default, and (ii) the number of days of delay occasioned by bankruptcy stay or other judicial restriction that legally prevented the Solar Facility Mortgagee or Interested Party from being able to take action against such remedies or occasioned by other circumstances beyond such Solar Facility Mortgagee's or Interested Party's reasonable control.

10.5. Modification of Lease. Upon the request of any Solar Facility Mortgagee, Landowner and Company shall amend this Lease to include any reasonable provision(s) requested by such Solar Facility Mortgagee to implement the protective provisions contained in this Lease for the benefit of such Solar Facility Mortgagee, or to allow such Solar Facility Mortgagee reasonable means to protect or preserve the Solar Facility Estate or the lien of its leasehold mortgage on the occurrence of a default under this Lease; *provided, however*, that Landowner shall not be required to amend this Lease in any way that would extend the Development Feasibility

Term or the Commercial Term, decrease the rent or otherwise in any material respect adversely affect any rights of Landowner.

10.6. Intentionally Omitted.

10.7. Consent to Collateral Assignment. The Parties agree that Company may assign this Agreement, in whole or in part to a Solar Facility Mortgagee and/or Interested Party as collateral, and in connection with any such assignment, Landowner agrees to execute a consent to assignment in customary form and reasonably acceptable to the Solar Facility Mortgagee and/or Interested Party.

11. Assignment and Subletting.

11.1. Assignments Not Requiring Landowner's Consent. Company and any assignee shall have the right, at any time, to assign or grant a sub-easement to all or part of the Solar Facility Estate without Landowner's consent, to a parent, subsidiary, or affiliate of Company, or to a company that has been merged or consolidated with Company. In no event shall any assignment or grant of sub-easement by Company pursuant to this section exceed the Development Feasibility Term and the Commercial Term of this Lease.

11.2. Assignments Requiring Landowner's Consent. Landowner's consent to any proposed assignment of this Lease to a company acquiring all or substantially all of Company's physical assets or parties un-related to Company or granting of sub-easement of the Leased Property to parties un-related to Company, shall be required, but shall not be unreasonably withheld, conditioned or delayed, provided however, that Landowner may withhold consent thereto if in the exercise of its reasonable judgement it determines that:

a. The financial condition of the proposed assignee or sub-easement holder is insufficient to meet the obligation being undertaken by the proposed assignee or sub-easement holder; or

b. The proposed use of the Leased Property is not permitted by this Lease.

11.3. By Landowner. Landowner may assign this Lease to any party in connection with any Transfer of the Leased Property by Landowner; *provided, however*, that any such Transfer shall be subject to this Lease.

12. Default and Remedies.

12.1. [redacted]

[redacted]

12.2. [redacted]

12.3. Landowner's Default. [redacted]

13. Indemnity and Insurance

13.1. Company Indemnity. Company shall indemnify, defend and hold harmless Landowner, its agents and employees (the "***Landowner Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of Company or Landowner, or other loss or damage incurred by Landowner, arising out of (a) negligent acts or omissions or willful misconduct of Company, its agents, officers, directors, employees or contractors; (b) the breach by Company of any of its obligations under this Lease, (c) any occurrence on the Leased Property during the Commercial Term arising out of Company's use and occupancy thereof, or (d) nuisance claims made against the Solar Facility by owners of property contiguous to the Leased Property. The obligation to indemnify shall extend to and encompass all costs incurred by Landowner and any Landowner Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Notwithstanding the foregoing, Company's obligations pursuant to this Section 13.1 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Landowner, Landowner Indemnitees, or their respective contractors, successors or assigns, or to the acts of third parties (excepting those that arise out of

Company's use and occupancy of the Leased Property), nor any manner of claim arising from or related to disqualification from or ineligibility for any governmental farm or conservation program.

13.2. Landowner Indemnity. Landowner shall indemnify, defend and hold harmless Company, its officers, agents and employees (the "***Company Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of either Company or Landowner, or other loss or damage incurred by Company, arising out of (a) negligent acts or omissions or willful misconduct of Landowner, its agents, officers, directors, employees or contractors; (b) the breach by Landowner of any of its obligations under this Lease; (c) any release or presence of hazardous substances, waste or materials to, at, on, in or from the Leased Property to the extent not caused directly by Company; (d) any occurrence on the Leased Property during the Commercial Term arising out of Landowner's use and occupancy thereof; or (e) the breach of any representation or warranty made by the Landowner on or after the Effective Date under this Agreement. The obligation to indemnify shall extend to and encompass all costs incurred by Company and any Company Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Landowner's obligations pursuant to this Section 13.2 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Company, Company Indemnitees, or their respective contractors, successors or assigns, or the acts of third parties.

13.3 Company Insurance. During the Development Feasibility Term and the Commercial Term, the Company will maintain or cause to be maintained at all times, with financially responsible insurers approved to do business in the state in which the Leased Property is located (i) commercial general liability insurance in the amount of $1,000,000 each occurrence and $2,000,000 aggregate, (ii) umbrella liability insurance in the amount of $5,000,000, written on an umbrella basis in excess over the foregoing general liability insurance coverage amounts, and (iii) with respect to the improvements related to the Solar Facility, during such time periods that material construction activities are being conducted by Company on the Property, "all risk" builder's risk insurance and after all testing and commissioning has been completed, commercial property insurance. Any insurance required under this Section 13.3 may be subject to reasonable deductibles as are usually carried by companies of similar financial condition operating similar properties. Company's commercial property insurance may be included under a blanket policy or policies covering the Solar Facility and other property and assets not located on the Leased Property.

14. Tax Credits and Environmental Attributes.

14.1. Tax Benefits. Company and its assigns shall be entitled to all depreciation, tax credits and other tax benefits arising out of the construction, ownership and operation of the Solar Facility and the production of solar energy therefrom. If under applicable law the holder of a lease becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure or production established by any local, state or federal government, then, at Company's option,

Landowner and Company shall amend this Lease or replace it with a different instrument so as to convert (to the extent practicable) Company's interest in the Leased Property to a substantially similar interest that makes Company eligible for such tax credit, benefit or incentive.

14.2. Environmental Benefits. Landowner acknowledges that Company or its assignee is the exclusive owner of electricity (kWh) generated by the Solar Facility and owner of all renewable energy credits and other Environmental Attributes and Environmental Incentives of the Solar Facility. "***Environmental Attributes***" means all environmental and other attributes that differentiate the Solar Facility or the energy output from the Solar Facility from energy generated by certain other generation units, fuels or resources, including those attributable to the avoidance of environmental impacts on air, soil or water, such as the emission of any oxides of nitrogen, sulfur or carbon or of mercury, or other gas or chemical, soot, particulate matter or other substances attributable to the Solar Facility or the compliance of the Solar Facility and/or the energy output of the Solar Facility with the law, rules and standards of any governmental authority, the United Nations Framework Convention on Climate Change (the "***UNFCCC***") or the Kyoto Protocol to the UNFCCC or crediting "early action" with a view thereto, the Clean Air Markets Division of the Environmental Protection Agency or successor administrator or any state or federal entity given jurisdiction over a program involving transferability of environmental attributes or the right of Company to report to any federal, state, or local agency, authority or other party that Company owns the environmental attributes associated with the energy output from the Solar Facility. "***Environmental Incentives***" include, but are not limited to, all credits (including tax credits), rebates, benefits, reductions, offsets, and allowances and entitlements of any kind, howsoever entitled, resulting from the Environmental Attributes. Landowner shall not make or publish any public statement or notice regarding any Environmental Incentive, any Environmental Attribute, the energy output or the Gross Revenues from the Solar Facility.

15. Condemnation. As used herein, the term "Taking" means the taking or damaging of the Leased Property, the Solar Facility Equipment, the rights granted to Company pursuant to this Lease, the Easements or any part thereof (including severance damage) by eminent domain, condemnation or for any public or quasi-public use. A Party who receives any notice of a Taking shall promptly give the other Party a copy of the notice, and each Party shall provide to the other Party copies of all subsequent notices or information received with respect to such Taking. If a Taking occurs, then the compensation payable therefor, whether pursuant to a judgment, by agreement or otherwise, including any damages and interest, shall be distributed proportionally to Company and Landowner based on the values of their respective interests and rights in this Lease, the Leased Property and the uses thereof, taking into account:

a. with respect to Company, (i) the Taking of or injury to the rights granted to Company pursuant to this Lease, the Easements or the Solar Facility Equipment, (ii) any cost or loss that Company may sustain in the removal and/or relocation of the Solar Facility Equipment, or Company's chattels and fixtures, and (iii) Company's anticipated or lost profits, damages because of deterrent to Company's business and any special damages of Company; and

b. with respect to Landowner, (i) the Taking of the fee title, (ii) any cost or loss that Landowner may sustain in the removal of Landowner's chattels and fixtures from the

Leased Property, and (iii) Landowner's anticipated or lost rent under the Lease.

16. Dispute Resolution.

16.1. Dispute Resolution. The Parties agree to first attempt to settle any dispute arising out of or in connection with this Lease by good-faith negotiation. If the Parties are unable to resolve amicably any dispute arising out of or in connection with this Lease, such dispute shall be resolved by binding arbitration in Logan County, Kentucky before a single arbitrator under the rules and auspices of the American Arbitration Association, which arbitrator shall not be from, reside in, or have a place of business in Logan County, Kentucky. The cure periods for any alleged default(s) under this Lease disputed in good faith by Company shall be tolled until arbitration of the dispute is completed and the period for any appeal has lapsed.

16.2. Governing Law. This Lease shall be governed by and interpreted in accordance with the laws of the state in which the Leased Property is located.

16.3. Specific Performance. Landowner and Company recognize that monetary damages for any breach of this Lease may not be sufficient to compensate Company or Landowner fully for such breach. Accordingly, without derogation of Company's and Landowner's other rights under this Lease, in the event of any default by Landowner or Company hereunder, the other party shall be entitled to specific performance hereof, without bond, from any court of competent jurisdiction.

16.4. **LIMITATION ON LIABILITY/WAIVER OF JURY TRIAL. IN NO EVENT, SHALL ANY PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, PUNITIVE, EXEMPLARY, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR IN CONNECTION WITH, THIS LEASE. TO THE EXTENT ENFORCEABLE UNDER APPLICABLE LAW, EACH PARTY HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH, THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN), OR ACTIONS OF EITHER PARTY. THIS PROVISION IS A MATERIAL INDUCEMENT FOR COMPANY TO ENTER INTO THIS LEASE.**

16.5. Expenses. The non-prevailing Party shall pay the costs of any arbitration or other legal proceedings related to this Lease, including the fees and costs of the arbitrator and the legal fees and other out-of-pocket costs of the prevailing Party.

17. Miscellaneous.

17.1. Confidentiality. Landowner shall maintain in the strictest confidence, for the sole benefit of Company, all information pertaining to the terms and conditions of this Lease, including, without limitation, the financial terms of, and payments under, this Lease, Company's site design and product design, methods of operation, methods of construction, power production or availability of the Solar Facility Equipment, and the like, whether disclosed by Company or discovered by Landowner, unless such information is in the public domain by reason of prior

publication. Landowner shall not use such information for its own benefit, publish or otherwise disclose it to others, or permit its use by others. This provision shall survive the termination or expiration of this Lease.

17.2. Brokerage Commissions. Each of Landowner and Company warrants and represents to the other that there are no brokers' commissions, finders' fees or any other charges due to any broker, agent or other party in connection with the negotiation or execution of this Lease, or on behalf of either of them. Each Party shall indemnify, defend, protect and hold the other Party harmless from and against all damages, losses, costs, expenses (including reasonable attorneys' fees), liabilities and claims with respect to any claims made by any broker or finder based upon such broker's or finder's representation or alleged representation of such indemnifying Party.

17.3. Waiver of Nuisance. Landowner has been informed by Company and understands that the presence and operations of the improvements on the Leased Property and the Adjacent Property will potentially result in some nuisance to Landowner, such as higher noise levels than currently occur at the Leased Property and the Adjacent Property and the surrounding area and visual impact. Landowner hereby accepts such nuisance and waives any right that Landowner may have to object to such nuisance (and Landowner releases Company from any claims Landowner may have with respect to any such nuisance).

17.4. Successors and Assigns. This Lease shall burden the Leased Property and shall run with the land. All of the provisions hereof shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors, assigns, subtenants, and licensees. Unless expressly provided herein, no third party, other than such heirs, legal representatives, successors, assigns, subtenants, and licensees will be entitled to enforce any or all of the provisions of this Lease or will have any rights hereunder whatsoever.

17.5. Memorandum of Lease. Landowner hereby grants to Company a power of attorney to execute and record a memorandum of this Lease in form and substance satisfactory to Company, or an amendment to any such memorandum of this Lease, which power of attorney is coupled with an interest and therefore shall be irrevocable for the Development Feasibility Term and the Commercial Term of this Lease. In the event of any inconsistency between the terms and provisions of this Lease and those contained in such Memorandum of Lease, the terms and provisions of this Lease shall control. Landowner further consents to the recordation of the interest of any Solar Facility Mortgagee, Interested Party or assignee of Company's interest in this Lease.

17.6. Notices. All notices pursuant to this Lease shall be in writing and shall be sent only by the following methods: (i) personal delivery, (ii) mail (first-class, certified, return-receipt requested, postage prepaid), or (iii) delivery by an overnight courier service which keeps records of deliveries (such as, by way of example but not limitation, Federal Express and United Parcel Service). For purposes of giving notice hereunder, the respective addresses of the parties are, until changed as hereinafter provided, the following:

To Landowner:

Dawson Family Farms, LLC
c/o Karl Wayne Dawson
6039 Laurel Trail
Henderson, KY 42420

To Company:

Russellville Solar LLC
c/o Community Energy Solar, LLC
Attn: Controller
Three Radnor Corporate Center, Suite 300
100 Matsonford Rd.
Radnor, PA 19087

Any Party may change its address at any time by giving written notice of such change to the other Party in the manner provided herein. All notices shall be deemed given on the date of personal delivery or, if mailed by certified mail or overnight courier, on the delivery date or attempted delivery date shown on the return-receipt.

17.7. Entire Agreement/Amendments. This Lease and the attached Exhibits constitute the entire agreement between Landowner and Company regarding its subject matter, and replace and supersede any prior agreements and understandings between the Parties relating thereto whether written, verbal or otherwise. This Lease shall not be modified or amended except in a writing signed by both Parties or their lawful successors in interest.

17.8. Interpretation. The Parties agree that any rule of construction to the effect that ambiguities are to be resolved in favor of either Party shall not be employed in the interpretation of this Lease.

17.9. Partial Invalidity. Should any provision of this Lease be held, in a final and unappealable decision by a court of competent jurisdiction, to be invalid, void or unenforceable, the remaining provisions hereof shall remain in full force and effect, unimpaired by the holding. Notwithstanding any other provision of this Lease, in no event shall the combined Development Feasibility Term and Commercial Term be for longer periods than permitted by applicable law.

17.10. Time of Essence. Time is of the essence with regard to the terms and conditions of this Lease.

17.11. Waiver. No provision of the Lease will be deemed waived by either party unless expressly waived in writing signed by the waiving party. No waiver will be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease will be deemed a waiver of such provision with respect to any subsequent matter relating to such provision.

17.12. Survival. Whether or not specifically noted within any section or provision of this Lease, any provision of this Lease which must survive termination of this Lease in order to be effective will so survive such termination.

17.13 Counterparts. This Lease may be executed in counterparts, which taken together shall constitute one agreement, binding on all the parties hereto even though all the parties are not signatories to the original or the same counterpart.

* * * * * * * * *

EXHIBIT B

- DESCRIPTION OF LEASED PROPERTY -

Landowner owns the real property located off Watermelon Rd., Russellville, KY 42265 in Logan County, more specifically described by Logan County as:

Parcel ID 055-00-00-007-02	91.37 acres
Parcel ID 055-00-00-010-00	111.57 acres
Parcel ID 055-00-00-020-00	4.85 acres
Parcel ID 055-00-00-011-00	84.52 acres
Parcel ID 041-00-00-005-00	189.30 acres

("***Landowner's Property***").

Landowner desires to lease to Company all of Landowner's Property, as depicted in the drawing below, comprising approximately 481.61 acres (the "***Leased Property***").

EXHIBIT C
FORM W-9

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

► Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from FATCA reporting code (if any)

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

or

Employer identification number

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ► Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Cat. No. 10231X Form **W-9** (Rev. 10-2018)

SOLAR ENERGY LEASE AGREEMENT

This SOLAR ENERGY LEASE AGREEMENT ("***Lease***") is entered into effective as of the Effective Date set forth below, by and between (i) Russellville Solar LLC a Delaware limited liability company (the "***Company***"), and (ii) the landowner(s) set forth below ("***Landowner***"). Landowner and Company may be referred to below together as the "***Parties***" and each a "***Party***."

1. **Effective Date**: September 11, 2019
2. **Landowner(s):** James Cox, Daniel Cox
3. **Leased Property:** The real property located in Logan County, Kentucky, generally depicted on Exhibit B. See §1.1.
4. **Development Feasibility Term:** [redacted]
5. **Commercial Term:** Commences on the Commercialization Date and ends thirty (30) years thereafter, subject to options to extend. See §4.3.
6. **Rent:**
   Development Feasibility Term: [redacted]
   Commercial Term: [redacted]

The following Exhibits are attached and incorporated herein by reference:

Exhibit A - Standard Terms and Conditions
Exhibit B - Description of Leased Property
Exhibit C - Form W-9

Company:

Russellville Solar LLC

By: _____

Name: Brent Beerley

Title: Manager

Landowner(s):

By: _____
James Cox

_____
Juanita Cox, Spouse

By: _____
Daniel Cox

_____
Ruth Cox, Spouse

SOLAR ENERGY LEASE AGREEMENT

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Exhibit C - Form W-9

Company:

Russellville Solar LLC

By:_____

Name:_____

Title:_____

Landowner(s):

By: James Cox
James Cox

Juanita Cox
Juanita Cox, Spouse

By: Daniel Cox
Daniel Cox

Ruth Cox
Ruth Cox, Spouse

EXHIBIT A

– STANDARD TERMS AND CONDITIONS –

PAGE

1. Grant of Lease.

1.1. General. For good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Landowner(s) identified on the Cover page hereto (generally, "***Landowner***") hereby leases to Company, and Company hereby leases from Landowner, the real property depicted in the drawing attached hereto and incorporated herein as Exhibit "B" (the "***Leased Property***").

1.2. Development Feasibility Term. During the Development Feasibility Term, Company shall use the Leased Property to evaluate and determine the feasibility of development of an electrical generating facility for the conversion of solar energy into electrical energy (the "***Solar Facility***"). By way of example only, during the Development Feasibility Term, Company may install solar energy monitoring equipment on the Leased Property.

Landowner expressly reserves the right to use the Leased Property during the Development Feasibility Term for uses that do not and will not interfere with Company's operations hereunder or enjoyment of the rights hereby granted, specifically including, but not limited to farming, provided, however, that:

a. Landowner may not use the Leased Property in a manner inconsistent with Company's use of any access roads;

b. any such use of the Leased Property by Landowner shall not include solar energy development or the installation or use of any facilities related to solar energy development or generation (which rights and uses are exclusively granted to Company in this Lease);

c. any easements or leases entered into by Landowner with respect to the Leased Property after the date of this Lease shall expressly provide that they are subject and subordinate in all respects to this Lease and to the rights of Company and any assignee hereunder;

d. use of the Leased Property by Landowner for commercially reasonable farming, cultivation of crops, and/or timbering activities (collectively, "***Agriculture and Forestry Activities***") shall be deemed not to interfere with Company's operations hereunder or enjoyment of the rights hereby granted; and

e. Landowner shall not be required by Company to limit Agriculture and Forestry Activities on the Leased Property unless and until Company and Landowner agree upon compensation due from Company to Landowner for Landowner's loss of Agriculture and Forestry Activities on the Leased Property.

1.3. Commercial Term. During the Commercial Term, Company shall use the Leased Property for the development, construction, ownership, operation, maintenance and repair of the Solar Facility. In connection with such use, Company shall have the exclusive right:

a. to construct, install and operate on the Leased Property multiple solar panels and inverters;

b. to erect, construct and use all the necessary and requisite devices, fixtures, appurtenances and facilities for the Solar Facility, as determined in the sole and absolute discretion of Company, including but not limited to: foundations, supports, concrete pads and footings; fences, and roads for ingress and egress of construction and maintenance vehicles; the physical preparation of the sites on which the Solar Facility will be installed and the preparation of access routes thereto (whether located on the Leased Property or, if necessary, on the Adjacent Property); power collection facilities, including underground or above ground distribution and collection lines between Solar Facility Equipment and from Solar Facility Equipment to one or more substations and points of interconnection with the power grid, wires and cables, conduit and above-ground transformers for the Solar Facility; substations or interconnection and switching facilities which Company may connect to a utility transmission system or the transmission system of another purchaser of electrical energy; underground or above ground control, communications and telecommunications equipment, including underground fiber, wires, cables and conduit; erosion

control facilities; signs, gates and other safety and protection facilities; control and administration buildings; and other improvements, facilities, appliances, machinery and equipment in any way related to or associated with any of the foregoing (all of the foregoing, including the solar panels and inverters, collectively referred to herein as the "***Solar Facility Equipment***");

c. to maintain, clean, repair, replace and dispose of part or all of the Solar Facility Equipment;

d. to allow and control access of third parties to the Leased Property. The Company may invite third parties upon the Leased Property without permission from the Landowner so long as the terms of this Lease are not violated;

e. to trim or cut down trees, shrubs or any other landscaping and vegetation on the Leased Property or Adjacent Property as may be necessary for the exercise of rights granted to Company pursuant to this Lease, with Owner to receive the proceeds of any marketable timber removed by or on behalf of Company pursuant to this Section 1.3(e); and

f. to gate or otherwise secure any access roads on or to the Leased Property, provided that Company shall work with Landowner to ensure Landowner's commercially reasonable access to same consistent with industry standard practices.

1.4. General Powers of Company. The rights granted to Company in this Lease permit Company, without limitation, to undertake all activities that Company determines are necessary, useful, appropriate or convenient in connection with, or incidental to the development, construction and operation of the Solar Facility or for the benefit thereof, including conducting surveys and environmental, biological, cultural and other tests and studies and conducting site tours to demonstrate the generation of electricity from solar power for educational and commercial purposes.

1.5. Design and Placement of Solar Facility Equipment. Company shall have sole and absolute discretion as to the location of Solar Facility Equipment on the Leased Property and the extent of construction activity required in connection with such Solar Facility Equipment. Prior to Company's construction of the Solar Facility, however, Company shall consult with Landowner for informational purposes only. Landowner acknowledges that a portion of the Solar Facility Equipment to be constructed by Company on the Leased Property may include buried and/or above ground electrical and communications lines among Solar Facility Equipment, and from the Solar Facility to electrical substations and other points of interconnection on the power grid serving the Solar Facility.

1.6. Roads. Company shall have the right to use the existing roads on the Leased Property and to construct or improve, from time to time and at any time, one or more additional roads over, across and through the Leased Property as suitable for Tenant's use thereof.

1.7 Repowering. The Parties recognize that (1) power generation technologies are improving at a rapid rate and that Company may (but shall not be obligated to) from time to time replace or repair Solar Facility Equipment on the Leased Property with newer (and potentially

smaller or larger) models and types of Solar Facility Equipment, and (2) the activities contemplated by this Lease may be accomplished by Company or by one or more third parties authorized by Company.

1.8. Defined Terms. As used herein, the term **"*Adjacent Property*"** shall mean any and all property or properties owned at any time during the Development Feasibility Term and the Commercial Term by Landowner, and/or the Affiliates of Landowner, that are contiguous with the Leased Property. As used herein, the term **"*Affiliate*"** means any other person or entity that directly or indirectly, through one or more intermediaries, controls, is controlled by or is under common control with the Landowner. The term **"*control*"** as used with respect to any person or entity, means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of such person or entity, whether through the ownership of voting securities or partnership interests, by contract or otherwise.

2. Easements.

2.1. Grant. Without limiting the rights set forth elsewhere in this Lease, Landowner hereby grants to Company the following easements during the Development Feasibility Term and the Commercial Term of this Lease (collectively, the "***Easements***"):

a. an exclusive easement to use, convert, maintain and capture the free and unobstructed flow of solar energy resources over and across the Leased Property and the Adjacent Property;

b. the right to utilize, on a nonexclusive basis, any access, utility, water, communication, sewer, septic, transmission or other easements, rights of way or licenses already held by Landowner over the Adjacent Property, or any other property in the vicinity of the Leased Property, which Company determines could be used for the benefit of the Solar Facility, as permitted by the instruments evidencing such rights and other applicable laws;

c. nonexclusive easements on, over, across, under and through the Adjacent Property to install and maintain power, water, communications, sewer, transmission and other such lines that Company determines could be used for the benefit of the Solar Facility;

d. nonexclusive easements for access to the Leased Property, over and across the Adjacent Property, including for vehicular and pedestrian ingress, egress and access to and from the Solar Facility Equipment, whether by means of roads and lanes previously existing on the Adjacent Property or otherwise by such route(s) as Company may construct from time to time;

e. an easement over the Adjacent Property for audio, visual, view, light, flicker, noise, vibration and any other effects attributable to the Solar Facility; and

f. an easement over the Adjacent Property to evaluate and determine the feasibility of the solar facility on Landowner's Property in a location that varies from the Leased Property, as depicted in Exhibit B.

2.2. Terms and Conditions. With respect to each Easement:

a. to the extent permitted by applicable federal, state and local laws, statutes, ordinances, orders, rules and regulations, such Easement shall be appurtenant to the Leased Property;

b. such Easement shall run with and benefit the Leased Property (and such other lands, as applicable) and inure to the benefit of and be binding upon Landowner and the holder of the Easement and their respective successors and assigns, and all persons claiming under them;

c. no act or failure to act on the part of Company or the holder of the Easement shall be deemed to constitute an abandonment, surrender or termination thereof, except (i) upon recordation by such holder of a quitclaim deed specifically conveying the Easement back to Landowner or (ii) the termination of this Lease pursuant to Sections 4.2(b), 4.3(b) and 12.1(b) hereof;

d. non-use of the Easement shall not prevent the future use of the entire scope thereof; and

e. no use of or improvement to the Leased Property or any lands benefited by the Easement, and no assignment or sublease hereof or thereof, shall, separately or in the aggregate, constitute an overburdening of the Easement.

2.3. Stand-Alone Agreements. Upon Company's request from time to time, Landowner shall grant to Company (or a party designated by Company), in recordable form and containing such terms and provisions as may reasonably be requested by Company for no additional consideration:

a. stand-alone easements for any of the Easements granted hereunder; or

b. in the case of Easements already held by Landowner, subeasements, the term of which shall run concurrently with the Development Feasibility Term and the Commercial Term (or for a shorter period of time as may be requested by Company) and shall terminate upon the expiration or termination of this Lease.

3. Survey. Prior to the Commercialization Date (as defined below), Company shall cause to be conducted, at Company's sole expense, a survey of the Leased Property and the Easements. Landowner shall cooperate therewith. Company shall provide a copy of such survey to Landowner. Following the completion of the survey, the Parties shall amend this Lease to include a metes-and-bounds description of the Leased Property, the Easements, and the Adjacent Property, as described in the Lease and on which Company has certain rights set forth in the Lease.

4. Lease Term.

4.1. Commercialization Date. The "***Commercialization Date***" for the Solar Facility means the date on which "Groundbreaking" occurs. As used herein, "Groundbreaking" shall mean the earlier of (a) when earth is moved for the improvement of the Leased Property for the construction of the Solar Facility, (b) when the first Solar Facility support structure is installed below grade at the Leased Property, or (c) when Company elects to make the first annual Commercial Term rent payment in the amount set forth in Section 5.2(a). Movement of earth for evaluation of the Leased Property shall not be considered Groundbreaking and shall not cause the Commercialization Date to occur. Company shall notify Landowner promptly if and when the Commercialization Date occurs.

4.2. Development Feasibility Term.

a. [redacted]

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Development Feasibility Term, effective upon at least seven (7) days written notice to Landowner. Upon such termination, Company will be obligated to satisfy the obligations set forth in Section 7.

4.3. Commercial Term.

a. The Commercial Term shall commence on the Commercialization Date, and shall end thirty (30) years thereafter, provided that Company shall have the right to extend the Commercial Term for up to two (2) additional periods of five (5) years each (each, an "***Extended Term***"), by notice to Landowner before the expiration of the Commercial Term or the Extended Term. Company may elect to exercise its option to extend the Commercial Term by giving Landowner written notice of such election not earlier than eighteen (18) months and not later than six (6) months prior to the expiration of the then-current term of this Lease. Upon satisfaction of the notice requirements to Landowner, this Lease shall be extended for such Extended Term upon the same terms, conditions and covenants as are contained in this Lease, subject to Section 5.2(b) below.

b. Company, in its sole and absolute discretion, shall have the right to terminate this Lease at any time during the Commercial Term, effective upon at least ninety (90) days written notice to Landowner. Upon such termination, (i) Company will be obligated to satisfy the obligations set forth in Section 7, and (ii) Company shall pay to Landowner all Commercial Term Rent (as defined below) payable for a period of seven (7) Commercial Operation Years following the Commercial Operation Year in which this Lease is terminated (the "***Commercial Term Termination Payment***"), with the Commercial Term Termination Payment to be reduced by one (1) Commercial Operation Year of Commercial Term Rent for each Commercial Operation

Year that has been completed as of the effective date of the termination, such that at the end of the seventh (7^{th}) Commercial Operation Year and for the remainder of the Commercial Term, the Commercial Term Termination Payment shall be zero.

5. Landowner Rent, Consideration and Other Terms.

5.1. Rent During the Development Feasibility Term. During the Development Feasibility Term, Company shall pay to Landowner [redacted] per acre of Leased Property per year. The rent for the first year of the Development Feasibility Term shall be due within thirty (30) days after the Effective Date. The rent for each subsequent year of the Development Feasibility Term will be payable within thirty (30) days of the anniversary of the Effective Date. Any rent payable for less than a full twelve (12) month period shall be prorated on the basis of a 365-day year. The prorated amount of rent applicable to any remaining portion of the year of the Development Feasibility Term in which the Commercialization Date occurs shall operate as a setoff against the amount of rent Company owes Landowner for the first year of the Commercial Term.

5.2. Rent During the Commercial Term.

a. During the first thirty (30) years of the Commercial Term, Company shall pay to Landowner, on an annual basis, at the beginning of each Commercial Operation Year, rent payments equal to [redacted] per acre of Leased Property per year (the "***Commercial Term Rent***"). Any rent payable for less than a full 12-month period shall be prorated on the basis of a 365-day year. The first "***Commercial Operation Year***" shall begin on the Commercialization Date, and shall expire twelve (12) months thereafter, and each subsequent Commercial Operation Year shall commence upon the expiration of the prior Commercial Operation Year and expire twelve (12) months thereafter.

b. Rent for each Extended Term (if any) shall be [redacted] per acre of Leased Property per year.

5.3. Additional Consideration and Other Terms.

a. In the event Company's activities during the Development Feasibility Term damage any crops in commercial cultivation on the Leased Property or in the event the Commercialization Date occurs during the commercial cultivation of crops on the Leased Property, Company shall pay to Landowner, or Landowner's tenant as applicable, a one-time payment equaling the then-current fair market value of any crops damaged by Company.

b. For each month it takes Company to accomplish the tasks listed in Sections 7.1. a-c below, Company shall pay Landowner pro-rated rent in a manner and amount commensurate with the rent applicable to the Leased Property in the last year of the Commercial Term.

c. Landowner shall furnish Company with a signed, completed form W-9 by the Effective Date, and thereafter within thirty (30) 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 Landowner's interest in the Lease. Without limiting Company's obligation to pay Rent or other amounts due to Landowner hereunder, Company shall be entitled to delay making any such payments to Landowner until Landowner has provided such W-9. For convenience, the W-9 form is attached as Exhibit C.

d. In the event Company's activities during the Development Feasibility Term damage any assets located on the Leased Property and owned by Landowner, including but not limited to structures, drainage facilities, fencing, and equipment, Company shall reimburse Landowner for the reasonable costs of repairs directly related to such damage and incurred by Landowner. On or after the Commercialization Date, in the event Company determines in its sole discretion to dismantle, destroy, remove or relocate from the Leased Property any structures, drainage facilities, or fencing located on the Leased Property and owned by Landowner as of the Effective Date, Company shall pay Landowner for such structures, drainage facilities, and/or fencing in an amount to be mutually agreed and negotiated between the parties in good faith, with such amount not to exceed [redacted] in the aggregate for all such structures, drainage facilities, and/or fencing.

6. Property Taxes. Company shall pay any personal property taxes assessed or levied against the Solar Facility Equipment. Company shall pay to the taxing authority all real property taxes levied against the Leased Property during the Commercial Term, including any "roll-back" taxes directly related to the reclassification of the Leased Property as a result of the Solar Facility or this Lease. Company shall not be liable for taxes attributable to facilities installed by Landowner or others on the Leased Property. It is a condition to Landowner's right to payment or reimbursement of any such taxes hereunder that Landowner submit the real property tax bill to Company within twenty (20) days after Landowner receives the bill from the taxing authority. Landowner shall pay its portion of the real property taxes, and if Landowner fails to do so, Company shall be entitled (but not obligated) to make payments in fulfillment of Landowner's obligations to the taxing authority and may offset the amount of such payments from any amounts due Landowner under this Lease. Landowner shall reasonably cooperate in any effort that Company undertakes to cause the leasehold estate of Company to be separately assessed for property tax purposes.

7. Removal of Solar Equipment and Restoration of Property.

7.1. Upon Termination. As soon as reasonably practicable but in no event later than six (6) months following the expiration or earlier termination of this Lease, Company shall, at Company's sole cost and expense,

a. remove all above-ground Solar Facility Equipment,

b. remove all Solar Facility Equipment installed below-grade, and

c. use commercially reasonable efforts to restore the soil surface of the Leased

Property and any affected area of the Adjacent Property to a condition equal to or better than its original condition, including the replacement of any topsoil that has been removed with soil of the same quality, the removal of all graveled roadways unless Landowner agrees for same to remain and the correction of any material changes in grade that have been made to the Leased Property.

7.2. Landowner Right to Perform. If Company fails to so remove the Solar Facility Equipment within six (6) months after the termination or expiration of this Lease, Landowner may do so and Company shall reimburse Landowner for the reasonable and actual costs of removal incurred by Landowner, less any salvage value received by Landowner, within thirty (30) days after receipt of an invoice from Landowner.

7.3. Decommissioning Cost. No more than 90 days in advance of the Commercialization Date, Company shall provide to Landowner an estimate of the cost, calculated by a reputable, mutually agreed-upon third-party engineer not associated with the engineer or engineering firm that prepared the site plan or construction plans for the Solar Facility, for the removal of the Solar Facility Equipment from the Leased Property (the "Decommissioning Cost Estimate"). The estimated market value of scrap or recyclable materials shall be considered in calculating the Decommissioning Cost Estimate. The Decommissioning Cost Estimate shall be updated every five (5) years.

7.4. Posting of Security. [redacted]

8. Company's Representations, Warranties and Covenants.

8.1. Company's Authority. Company represents to Landowner that Company has the unrestricted right and authority to sign this Lease, and when signed by Company, this Lease constitutes a valid and binding agreement enforceable against Company in accordance with its terms.

8.2. Requirements and Governmental Agencies. Company shall comply in all material respects with valid laws applicable to the Solar Facility Equipment, but shall have the right, in its sole discretion and expense, in its name or Landowner's name, to contest the validity or applicability to the Leased Property and/or the Solar Facility Equipment of any law, ordinance, order, rule or regulation of any governmental agency or entity. Company shall control any such contest and Landowner shall cooperate with Company in every reasonable way in such contest, at no out-of-pocket expense to Landowner.

8.3. Mechanic's Liens. Company shall keep the Leased Property and the Adjacent Property free and clear of all liens and claims of liens for labor and services performed on, and materials, supplies or equipment furnished to, the Leased Property in connection with Company's use of the Leased Property pursuant to this Lease.

8.4. Hazardous Materials. Company shall indemnify Landowner against Company's violation on the Leased Property or Adjacent Property of any applicable law or regulation relating to the generation, manufacture, production, use, storage, release or threatened release, discharge, disposal, transportation or presence of any substance, material or waste which is now or hereafter classified as hazardous or toxic, or which is regulated under current or future federal, state or local laws or regulations, on or under the Leased Property or the Adjacent Property.

8.5. Safety Measures. Company shall take reasonable safety and security measures to reduce the risk of damage to the Solar Facility or the risk that the Solar Facility will cause damage, injury or death to people, livestock and other animals and property, as Company deems necessary or appropriate.

8.6. Damage to Fences and Gates. Company shall repair any damage caused by Company, at no cost to Landowner, to any fences, gates, buildings and other fixtures located on the Leased Property or within the area of any Easements (the "***Landowner Improvements***") to the extent caused by the construction or operation of the Solar Facility provided the Landowner Improvements do not conflict with the ongoing construction, operation and maintenance of the Solar Facility.

8.7. Electric Lines. Company shall use commercially reasonable efforts to install any electrical lines so that, following installation of the electrical lines, the land surrounding such lines may be used by the Parties in accordance with the terms of this Lease.

8.8. Maintenance of Leased Property and Access Roads. Company shall maintain the Leased Property in a manner consistent with returning the same back to its original condition as required by section 7 above, including, but not limited to erosion and weed control measures, as and when reasonably deemed necessary by Company. Company shall maintain all access roads serving the Leased Property, including erosion and weed control measures, as and when reasonably deemed necessary by Company.

9. Landowner's Representations, Warranties and Covenants. Landowner hereby represents, warrants and covenants as follows:

9.1. Landowner's Authority. Landowner has good title to the Leased Property in fee simple absolute, subject only to those matters shown on any title report or abstract provided to Company pursuant to Section 9.10 below, and has full right and authority to make this Lease and to perform as required hereunder, and this Lease does not conflict with, and its execution by Landowner will not result in a default or event of default under, any other agreement to which Landowner is bound. Landowner will furnish to Company upon request evidence reasonably satisfactory to Company of its title to the Leased Property and authority to execute this Lease. When signed by Landowner, this Lease constitutes a valid and binding agreement enforceable against Landowner in accordance with its terms. No rights to convert the solar resources of the Leased Property or to otherwise use the Leased Property for solar energy purposes have been granted to or are held by any other party other than Company. There are no covenants, restrictions, rights of way, easements or other encumbrances on the Leased Property that will prevent Company's use of the Leased Property as contemplated herein.

9.2. Ownership of Solar Facility; Not a Fixture; Lien Rights of Landowner. Company, or its nominee, is the exclusive owner and operator of the Solar Facility. Landowner shall have no ownership or other interest in any Solar Facility Equipment installed on the Leased Property or on the Adjacent Property, and Company shall at all times retain title to the Solar Facility Equipment, with the right, at any time and in its sole discretion, to remove, replace or repair one or more components of Solar Facility Equipment. The Solar Facility and the Solar Facility Equipment are not fixtures, and Landowner may not sell, lease, assign, mortgage, pledge or otherwise alienate or encumber (collectively, a "***Transfer***") the Solar Facility or any Solar Facility Equipment together with its fee interest or leasehold rights to the Leased Property. Landowner warrants and represents that it shall keep the Solar Facility Equipment free from all liens, except that the Solar Facility Equipment shall be subject to a landlord lien in favor of Landowner for up to twelve (12) months of delinquent rent under this Lease; provided, however, in all instances such landlord lien shall automatically be subordinate and subject to the rights of any Solar Facility Mortgagee in the Solar Facility Equipment, this Lease, and/or the Solar Facility Estate and Landowner agrees to execute any reasonable documentation of the same reasonably approved by Landowner and requested by any Solar Facility Mortgagee. Should any liens other than landlord liens be filed against the Solar Facility Equipment by reason of the acts of Landowner, Landowner shall cause the lien to be cancelled or otherwise discharged within thirty (30) days of receiving notice of such lien.

9.3. Notice of Transfers. Landowner shall give Company at least thirty (30) days written notice prior to any Transfer of all or a portion of the Leased Property or the Adjacent Property identifying the transferee, the portion of Landowner's property to be transferred and the proposed date of Transfer. This Lease shall run with the Leased Property and survive any Transfer thereof.

9.4. No Interference. Company shall have the sole and exclusive right to convert all of the solar resources of the Leased Property. Landowner's activities and any grant of rights Landowner makes to any third party, whether located on the Leased Property, the Adjacent Property or elsewhere, shall not, now or in the future, interfere in any way with Company's use of the Leased Property, or the rights granted under this Lease or the Easements. In furtherance of the

foregoing, Landowner shall not interfere with the solar resource or otherwise construct or permit to be constructed any structure that prevents, inhibits or impairs the solar resource over the Leased Property, or engage in any activity on the Leased Property or any Adjacent Property that might cause a decrease in the output or efficiency of the Solar Facility Equipment, as determined by Company in its sole and absolute discretion, including, without limitation, the construction of structures or planting of trees that would interfere with the free and unobstructed access to solar resources. Landowner shall not allow any activity to take place on the Adjacent Property that, in Company's reasonable determination, would adversely impact the development, construction and operation of the Solar Facility or the use of any easements across the Adjacent Property.

9.5. Estoppel Certificates. From time to time, within fifteen (15) days after written request from Company, Landowner shall execute and deliver an estoppel certificate certifying as to the status of this Lease and each Party's performance thereunder.

9.6. Requirements of Governmental Agencies. Landowner shall assist and fully cooperate with Company, at no out-of-pocket expense to Landowner, in applying for (including signing in Landowner's name, if necessary), complying with, completing or obtaining, as applicable, any land use permits and approvals, building permits, zoning variances, subdivision requirements, environmental impact reviews or any other approvals required for the financing, construction, installation, replacement, relocation, maintenance, operation or removal of the Solar Facility Equipment. Landowner shall make available to Company copies of all field surveys, environmental, geological and other site assessments, surveys, plans and other such records of Landowner related to the Leased Property and the Adjacent Property.

9.7. Zoning. Should zoning or other property-use regulations be proposed that might require property-line setbacks or other burdens more restrictive in nature than those in existence on the Effective Date, Landowner shall cooperate with Company in resisting or obtaining exemption from such regulations for the Solar Facility.

9.8. Hazardous Materials. Landowner represents and warrants to Company that, to the best of Landowner's knowledge:

a. there are no abandoned wells, solid waste disposal sites, hazardous wastes or substances, or underground storage tanks located on the Leased Property;

b. the Leased Property does not contain levels of petroleum or hazardous substances which require remediation under applicable environmental laws or regulations;

c. the Leased Property is not subject to any pending or threatened judicial or administrative action, investigation or order under any applicable environmental laws or regulations;

d. Landowner has not caused or contributed to a release or threatened release of hazardous substances or waste to, at, on, in or from the Leased Property, except in compliance with applicable environmental laws and regulations.

9.9. Landowner's Lenders.

a. Landowner shall promptly notify its lenders or any other party holding a mortgage, deed of trust or other security interest in the Leased Property of this Lease and Company's rights herein, and shall request that such lender, trustee or security interest holder simultaneously send any notice of Landowner's default to Landowner and Company. Regardless, Landowner agrees to promptly provide Company with a copy of any default notices that Landowner receives from any of its lenders or other party holding a mortgage, deed of trust or security interest in the Leased Property.

b. Company shall, at its own cost, procure a current abstract of title or preliminary title report for the Leased Property, showing all liens and other exceptions to title to the Leased Property and Landowner shall reasonably cooperate therewith. Upon request by Company, Landowner shall obtain a nondisturbance and subordination agreement from each mortgagee of the Leased Property and the Easements, or any portion thereof, under which the relevant lienholders agree not to disturb Company's possession or rights under this Lease or terminate this Lease so long as Landowner is not entitled to terminate this Lease under its terms.

c. If Landowner fails to pay any of its obligations secured by a mortgage, deed of trust or other security interest on the Leased Property when due, Company may, at its option, pay such amount and deduct it from the amount owed to Landowner under this Lease.

d. Landowner expressly acknowledges and agrees that any contractual, statutory or common law lien rights in favor of any mortgage or deed of trust granted by Landowner subsequent to the date of this Lease are and shall be expressly made subordinate and inferior to Company's right, title and interest in this Lease, any sublease permitted hereunder and/or the Easements granted by this Lease and to any liens and security interests granted by Company in favor of any Solar Facility Mortgagee (as defined below). Landowner agrees to execute or cause its mortgagee to execute any further documentation that may be requested by Company or a Solar Facility Mortgagee of any of the foregoing to evidence such subordination.

9.10. Quiet Enjoyment. Landowner agrees that Company shall quietly and peaceably hold, possess and enjoy the Leased Property pursuant to the terms of this Lease, and for the Development Feasibility Term and the Commercial Term of this Lease, and any extension thereof, without any hindrance or molestation caused by Landowner or any party claiming by, through or under Landowner. Landowner shall defend title to the Leased Property, and the use and occupancy of the same, against the claims of all persons, except those claiming by or through Company. Landowner shall not enter into or modify any documents, including any declarations, easements, restrictions or other similar instruments, which may materially affect the Leased Property, or the rights and/or obligations of Company hereunder, without first obtaining the prior written consent of Company.

9.11. Landowner Consent. Except as otherwise expressly provided herein, where pursuant to the terms of this Lease or in connection with the administration of this Lease, the consent or approval of Landowner will be required, requested, or appropriate, Landowner covenants and agrees that its consent or approval will not be unreasonably or unduly withheld,

delayed, or conditioned, and that Company will not be charged for such consent or approval. To the extent this Lease provides for the requirement of Landowner's consent, if within twenty (20) days after Landowner's receipt of Company's written request for such consent, Landowner does not give notice of its reasons for not consenting to Company's request, Landowner shall conclusively be deemed to have given its consent. If within such twenty (20) day period, Landowner gives notice of its reasons for not consenting to Company's request, then Landowner and Company shall promptly meet to discuss Landowner's comments and concerns, and Landowner and Company shall use their respective best efforts to address such comments and concerns in a reasonable manner. In the event a resolution is not reached, Company and Landowner shall be entitled to pursue all of their respective rights and remedies contained herein.

10. Solar Facility Financing.

10.1. Mortgage by Company. Company may, from time to time and at any time, without the consent of Landowner, hypothecate, mortgage, collaterally assign, pledge or alienate the Solar Facility Equipment, the Solar Facility, Company's leasehold, the Easements and/or the rights granted to Company under this Lease (collectively, the "***Solar Facility Estate***"). Each holder of any such instrument or lien, as to which Landowner has been notified of identity and address, is hereinafter referred to as a "***Solar Facility Mortgagee***." Nothing herein shall be deemed to permit a Solar Facility Mortgagee to take title to, or otherwise encumber, Landowner's fee title to the Leased Property.

10.2. Rights.

a. A Solar Facility Mortgagee or its assigns may enforce its lien and acquire title to the Solar Facility Estate in any lawful way. Pending foreclosure of such lien, any Solar Facility Mortgagee may take possession of and operate the Solar Facility Estate. Upon foreclosure of such lien by power of sale, judicial foreclosure or acquisition of the Solar Facility Estate by deed in lieu of foreclosure, a Solar Facility Mortgagee may, upon notice to Landowner, sell and assign the Solar Facility Estate. As long as there is a Solar Facility Mortgagee or a subtenant, tax credit investor and any other third party with an interest in the Solar Facility as to which Landowner has been notified of identity and address (each an "***Interested Party***"), neither the bankruptcy nor the insolvency of Company shall operate to terminate, nor permit Landowner to terminate, this Lease as long as all rent and other charges payable by Company continue to be paid in accordance with the terms of this Lease and for as long as the Company is in compliance with all other terms and conditions of this Lease.

b. During the period that a Solar Facility Mortgagee or an Interested Party may be in possession of the Solar Facility Estate and/or during the pendency of any foreclosure proceedings instituted by a Solar Facility Mortgagee and an Interested Party, the Solar Facility Mortgagee or Interested Party shall pay or cause to be paid all rent and other charges payable by Company which have accrued and are unpaid during said period and shall comply with all other terms and provisions of this Lease. Following the acquisition of the Solar Facility Estate by a Solar Facility Mortgagee, an Interested Party or their designee as set forth above, the Solar Facility Mortgagee, Interested Party or other person acquiring title to the Solar Facility Estate shall (i) cure all defaults by Company as to payment of rent and cure all other defaults by the Company, and (ii)

assume and commence performance of all of Company's obligations under this Lease thereafter arising, whereon Landowner's right to terminate this Lease based upon the default in question shall be deemed waived.

10.3. Notice. When giving notice to Company of any default by Company under this Lease, Landowner shall also serve a copy of such notice upon (i) each Solar Facility Mortgagee, and (ii) each Interested Party. No such notice shall be effective against a Solar Facility Mortgagee or Interested Party unless and until served on such Solar Facility Mortgagee or Interested Party. If Company shall default in the performance of any of its obligations under this Lease following the giving of notice of such default to Company, then Landowner shall give each Solar Facility Mortgagee and Interested Party a second written notice of such default, specifying in detail the alleged default and required remedy.

10.4. Right to Cure.

a. Each Solar Facility Mortgagee and Interested Party shall have the right to cure any default by Company (i) within thirty (30) days after receipt of the second notice referenced above, if the default is in the payment of rent or is otherwise reasonably curable within such 30-day period, or (ii) within such longer period (not to exceed 90 days in total) as may reasonably be necessary to cure such default, if such default is not reasonably curable within 30 days, provided that the cure is commenced within such 30-day period and thereafter diligently continued to completion. Landowner shall accept such cure and performance as though the same had been done or performed by Company. Any Solar Facility Mortgagee and Interested Party shall have the right to do any act or thing required to be performed by Company or any assignee under this Lease, and such act or thing performed by a Solar Facility Mortgagee or Interested Party shall be effective to prevent a default under this Lease as if done by Company or the assignee itself. No Solar Facility Mortgagee or Interested Party shall have liability for any act or omission by Company under this Lease.

b. The time available to a Solar Facility Mortgagee or an Interested Party to cure any default by Company shall be extended by (i) such number of days as may be necessary for such Solar Facility Mortgagee or Interested Party to obtain a receiver, or to initiate and complete foreclosure proceedings, if possession of the Leased Property is necessary to cure such default, and (ii) the number of days of delay occasioned by bankruptcy stay or other judicial restriction that legally prevented the Solar Facility Mortgagee or Interested Party from being able to take action against such remedies or occasioned by other circumstances beyond such Solar Facility Mortgagee's or Interested Party's reasonable control.

10.5. Modification of Lease. Upon the request of any Solar Facility Mortgagee, Landowner and Company shall amend this Lease to include any reasonable provision(s) requested by such Solar Facility Mortgagee to implement the protective provisions contained in this Lease for the benefit of such Solar Facility Mortgagee, or to allow such Solar Facility Mortgagee reasonable means to protect or preserve the Solar Facility Estate or the lien of its leasehold mortgage on the occurrence of a default under this Lease; *provided, however*, that Landowner shall not be required to amend this Lease in any way that would extend the Development Feasibility

Term or the Commercial Term, decrease the rent or otherwise in any material respect adversely affect any rights of Landowner.

10.6. Intentionally Omitted.

10.7. Consent to Collateral Assignment. The Parties agree that Company may assign this Agreement, in whole or in part to a Solar Facility Mortgagee and/or Interested Party as collateral, and in connection with any such assignment, Landowner agrees to execute a consent to assignment in customary form and reasonably acceptable to the Solar Facility Mortgagee and/or Interested Party.

11. Assignment and Subletting.

11.1. Assignments Not Requiring Landowner's Consent. Company and any assignee shall have the right, at any time, to assign or grant a sub-easement to all or part of the Solar Facility Estate without Landowner's consent, to a parent, subsidiary, or affiliate of Company, or to a company that has been merged or consolidated with Company. In no event shall any assignment or grant of sub-easement by Company pursuant to this section exceed the Development Feasibility Term and the Commercial Term of this Lease.

11.2. Assignments Requiring Landowner's Consent. Landowner's consent to any proposed assignment of this Lease to a company acquiring all or substantially all of Company's physical assets or parties un-related to Company or granting of sub-easement of the Leased Property to parties un-related to Company, shall be required, but shall not be unreasonably withheld, conditioned or delayed, provided however, that Landowner may withhold consent thereto if in the exercise of its reasonable judgement it determines that:

a. The financial condition of the proposed assignee or sub-easement holder is insufficient to meet the obligation being undertaken by the proposed assignee or sub-easement holder; or

b. The proposed use of the Leased Property is not permitted by this Lease.

11.3. By Landowner. Landowner may assign this Lease to any party in connection with any Transfer of the Leased Property by Landowner; *provided, however*, that any such Transfer shall be subject to this Lease.

12. Default and Remedies.

12.1. [redacted]

[redacted]

12.2. [redacted]

12.3. Landowner's Default. [redacted]

13. Indemnity and Insurance

13.1. Company Indemnity. Company shall indemnify, defend and hold harmless Landowner, its agents and employees (the "***Landowner Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of Company or Landowner, or other loss or damage incurred by Landowner, arising out of (a) negligent acts or omissions or willful misconduct of Company, its agents, officers, directors, employees or contractors; (b) the breach by Company of any of its obligations under this Lease, (c) any occurrence on the Leased Property during the Commercial Term arising out of Company's use and occupancy thereof, or (d) nuisance claims made against the Solar Facility by owners of property contiguous to the Leased Property. The obligation to indemnify shall extend to and encompass all costs incurred by Landowner and any Landowner Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Notwithstanding the foregoing, Company's obligations pursuant to this Section 13.1 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Landowner, Landowner Indemnitees, or their respective contractors, successors or assigns, or to the acts of third parties (excepting those that arise out of

Company's use and occupancy of the Leased Property), nor any manner of claim arising from or related to disqualification from or ineligibility for any governmental farm or conservation program.

13.2. Landowner Indemnity. Landowner shall indemnify, defend and hold harmless Company, its officers, agents and employees (the "***Company Indemnitees***") of and from any claim, demand, lawsuit, or action of any kind for injury to or death of persons, including, but not limited to, employees of Company or Landowner, and damage or destruction of property, including, but not limited to, property of either Company or Landowner, or other loss or damage incurred by Company, arising out of (a) negligent acts or omissions or willful misconduct of Landowner, its agents, officers, directors, employees or contractors; (b) the breach by Landowner of any of its obligations under this Lease; (c) any release or presence of hazardous substances, waste or materials to, at, on, in or from the Leased Property to the extent not caused directly by Company; (d) any occurrence on the Leased Property during the Commercial Term arising out of Landowner's use and occupancy thereof; or (e) the breach of any representation or warranty made by the Landowner on or after the Effective Date under this Agreement. The obligation to indemnify shall extend to and encompass all costs incurred by Company and any Company Indemnitee in defending such claims, demands, lawsuits or actions, including, but not limited to, attorney, witness and expert witness fees, and any other litigation related expenses. Landowner's obligations pursuant to this Section 13.2 shall not extend to claims, demands, lawsuits or actions for liability to the extent attributable to the negligence or willful misconduct of Company, Company Indemnitees, or their respective contractors, successors or assigns, or the acts of third parties.

13.3 Company Insurance. During the Development Feasibility Term and the Commercial Term, the Company will maintain or cause to be maintained at all times, with financially responsible insurers approved to do business in the state in which the Leased Property is located (i) commercial general liability insurance in the amount of $1,000,000 each occurrence and $2,000,000 aggregate, (ii) umbrella liability insurance in the amount of $5,000,000, written on an umbrella basis in excess over the foregoing general liability insurance coverage amounts, and (iii) with respect to the improvements related to the Solar Facility, during such time periods that material construction activities are being conducted by Company on the Property, "all risk" builder's risk insurance and after all testing and commissioning has been completed, commercial property insurance. Any insurance required under this Section 13.3 may be subject to reasonable deductibles as are usually carried by companies of similar financial condition operating similar properties. Company's commercial property insurance may be included under a blanket policy or policies covering the Solar Facility and other property and assets not located on the Leased Property.

14. Tax Credits and Environmental Attributes.

14.1. Tax Benefits. Company and its assigns shall be entitled to all depreciation, tax credits and other tax benefits arising out of the construction, ownership and operation of the Solar Facility and the production of solar energy therefrom. If under applicable law the holder of a lease becomes ineligible for any tax credit, benefit or incentive for alternative energy expenditure or production established by any local, state or federal government, then, at Company's option,

Landowner and Company shall amend this Lease or replace it with a different instrument so as to convert (to the extent practicable) Company's interest in the Leased Property to a substantially similar interest that makes Company eligible for such tax credit, benefit or incentive.

14.2. Environmental Benefits. Landowner acknowledges that Company or its assignee is the exclusive owner of electricity (kWh) generated by the Solar Facility and owner of all renewable energy credits and other Environmental Attributes and Environmental Incentives of the Solar Facility. "***Environmental Attributes***" means all environmental and other attributes that differentiate the Solar Facility or the energy output from the Solar Facility from energy generated by certain other generation units, fuels or resources, including those attributable to the avoidance of environmental impacts on air, soil or water, such as the emission of any oxides of nitrogen, sulfur or carbon or of mercury, or other gas or chemical, soot, particulate matter or other substances attributable to the Solar Facility or the compliance of the Solar Facility and/or the energy output of the Solar Facility with the law, rules and standards of any governmental authority, the United Nations Framework Convention on Climate Change (the "***UNFCCC***") or the Kyoto Protocol to the UNFCCC or crediting "early action" with a view thereto, the Clean Air Markets Division of the Environmental Protection Agency or successor administrator or any state or federal entity given jurisdiction over a program involving transferability of environmental attributes or the right of Company to report to any federal, state, or local agency, authority or other party that Company owns the environmental attributes associated with the energy output from the Solar Facility. "***Environmental Incentives***" include, but are not limited to, all credits (including tax credits), rebates, benefits, reductions, offsets, and allowances and entitlements of any kind, howsoever entitled, resulting from the Environmental Attributes. Landowner shall not make or publish any public statement or notice regarding any Environmental Incentive, any Environmental Attribute, the energy output or the Gross Revenues from the Solar Facility.

15. Condemnation. As used herein, the term "Taking" means the taking or damaging of the Leased Property, the Solar Facility Equipment, the rights granted to Company pursuant to this Lease, the Easements or any part thereof (including severance damage) by eminent domain, condemnation or for any public or quasi-public use. A Party who receives any notice of a Taking shall promptly give the other Party a copy of the notice, and each Party shall provide to the other Party copies of all subsequent notices or information received with respect to such Taking. If a Taking occurs, then the compensation payable therefor, whether pursuant to a judgment, by agreement or otherwise, including any damages and interest, shall be distributed proportionally to Company and Landowner based on the values of their respective interests and rights in this Lease, the Leased Property and the uses thereof, taking into account:

a. with respect to Company, (i) the Taking of or injury to the rights granted to Company pursuant to this Lease, the Easements or the Solar Facility Equipment, (ii) any cost or loss that Company may sustain in the removal and/or relocation of the Solar Facility Equipment, or Company's chattels and fixtures, and (iii) Company's anticipated or lost profits, damages because of deterrent to Company's business and any special damages of Company; and

b. with respect to Landowner, (i) the Taking of the fee title, (ii) any cost or loss that Landowner may sustain in the removal of Landowner's chattels and fixtures from the

Leased Property, and (iii) Landowner's anticipated or lost rent under the Lease.

16. Dispute Resolution.

16.1. Dispute Resolution. The Parties agree to first attempt to settle any dispute arising out of or in connection with this Lease by good-faith negotiation. If the Parties are unable to resolve amicably any dispute arising out of or in connection with this Lease, such dispute shall be resolved by binding arbitration in Logan County, Kentucky before a single arbitrator under the rules and auspices of the American Arbitration Association, which arbitrator shall not be from, reside in, or have a place of business in Logan County, Kentucky. The cure periods for any alleged default(s) under this Lease disputed in good faith by Company shall be tolled until arbitration of the dispute is completed and the period for any appeal has lapsed.

16.2. Governing Law. This Lease shall be governed by and interpreted in accordance with the laws of the state in which the Leased Property is located.

16.3. Specific Performance. Landowner and Company recognize that monetary damages for any breach of this Lease may not be sufficient to compensate Company or Landowner fully for such breach. Accordingly, without derogation of Company's and Landowner's other rights under this Lease, in the event of any default by Landowner or Company hereunder, the other party shall be entitled to specific performance hereof, without bond, from any court of competent jurisdiction.

16.4. **LIMITATION ON LIABILITY/WAIVER OF JURY TRIAL. IN NO EVENT, SHALL ANY PARTY BE LIABLE TO THE OTHER PARTY FOR ANY SPECIAL, PUNITIVE, EXEMPLARY, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR IN CONNECTION WITH, THIS LEASE. TO THE EXTENT ENFORCEABLE UNDER APPLICABLE LAW, EACH PARTY HEREBY KNOWINGLY, VOLUNTARILY AND INTENTIONALLY WAIVES ANY RIGHTS IT MAY HAVE TO A TRIAL BY JURY IN RESPECT OF ANY LITIGATION BASED HEREON, OR ARISING OUT OF, UNDER OR IN CONNECTION WITH, THIS AGREEMENT OR ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER VERBAL OR WRITTEN), OR ACTIONS OF EITHER PARTY. THIS PROVISION IS A MATERIAL INDUCEMENT FOR COMPANY TO ENTER INTO THIS LEASE.**

16.5. Expenses. The non-prevailing Party shall pay the costs of any arbitration or other legal proceedings related to this Lease, including the fees and costs of the arbitrator and the legal fees and other out-of-pocket costs of the prevailing Party.

17. Miscellaneous.

17.1. Confidentiality. Landowner shall maintain in the strictest confidence, for the sole benefit of Company, all information pertaining to the terms and conditions of this Lease, including, without limitation, the financial terms of, and payments under, this Lease, Company's site design and product design, methods of operation, methods of construction, power production or availability of the Solar Facility Equipment, and the like, whether disclosed by Company or discovered by Landowner, unless such information is in the public domain by reason of prior

publication. Landowner shall not use such information for its own benefit, publish or otherwise disclose it to others, or permit its use by others. This provision shall survive the termination or expiration of this Lease.

17.2. Brokerage Commissions. Each of Landowner and Company warrants and represents to the other that there are no brokers' commissions, finders' fees or any other charges due to any broker, agent or other party in connection with the negotiation or execution of this Lease, or on behalf of either of them. Each Party shall indemnify, defend, protect and hold the other Party harmless from and against all damages, losses, costs, expenses (including reasonable attorneys' fees), liabilities and claims with respect to any claims made by any broker or finder based upon such broker's or finder's representation or alleged representation of such indemnifying Party.

17.3. Waiver of Nuisance. Landowner has been informed by Company and understands that the presence and operations of the improvements on the Leased Property and the Adjacent Property will potentially result in some nuisance to Landowner, such as higher noise levels than currently occur at the Leased Property and the Adjacent Property and the surrounding area and visual impact. Landowner hereby accepts such nuisance and waives any right that Landowner may have to object to such nuisance (and Landowner releases Company from any claims Landowner may have with respect to any such nuisance).

17.4. Successors and Assigns. This Lease shall burden the Leased Property and shall run with the land. All of the provisions hereof shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legal representatives, successors, assigns, subtenants, and licensees. Unless expressly provided herein, no third party, other than such heirs, legal representatives, successors, assigns, subtenants, and licensees will be entitled to enforce any or all of the provisions of this Lease or will have any rights hereunder whatsoever.

17.5. Memorandum of Lease. Landowner hereby grants to Company a power of attorney to execute and record a memorandum of this Lease in form and substance satisfactory to Company, or an amendment to any such memorandum of this Lease, which power of attorney is coupled with an interest and therefore shall be irrevocable for the Development Feasibility Term and the Commercial Term of this Lease. In the event of any inconsistency between the terms and provisions of this Lease and those contained in such Memorandum of Lease, the terms and provisions of this Lease shall control. Landowner further consents to the recordation of the interest of any Solar Facility Mortgagee, Interested Party or assignee of Company's interest in this Lease.

17.6. Notices. All notices pursuant to this Lease shall be in writing and shall be sent only by the following methods: (i) personal delivery, (ii) mail (first-class, certified, return-receipt requested, postage prepaid), or (iii) delivery by an overnight courier service which keeps records of deliveries (such as, by way of example but not limitation, Federal Express and United Parcel Service). For purposes of giving notice hereunder, the respective addresses of the parties are, until changed as hereinafter provided, the following:

To Landowner:

James Cox
Daniel Cox
c/o Keith Cox
First Southern National Bank
88 S. Bethel Street
Russellville, KY 42276

To Company:

Russellville Solar LLC
c/o Community Energy Solar, LLC
Attn: Controller
Three Radnor Corporate Center, Suite 300
100 Matsonford Rd.
Radnor, PA 19087

Any Party may change its address at any time by giving written notice of such change to the other Party in the manner provided herein. All notices shall be deemed given on the date of personal delivery or, if mailed by certified mail or overnight courier, on the delivery date or attempted delivery date shown on the return-receipt.

17.7. Entire Agreement/Amendments. This Lease and the attached Exhibits constitute the entire agreement between Landowner and Company regarding its subject matter, and replace and supersede any prior agreements and understandings between the Parties relating thereto whether written, verbal or otherwise. This Lease shall not be modified or amended except in a writing signed by both Parties or their lawful successors in interest.

17.8. Interpretation. The Parties agree that any rule of construction to the effect that ambiguities are to be resolved in favor of either Party shall not be employed in the interpretation of this Lease.

17.9. Partial Invalidity. Should any provision of this Lease be held, in a final and unappealable decision by a court of competent jurisdiction, to be invalid, void or unenforceable, the remaining provisions hereof shall remain in full force and effect, unimpaired by the holding. Notwithstanding any other provision of this Lease, in no event shall the combined Development Feasibility Term and Commercial Term be for longer periods than permitted by applicable law.

17.10. Time of Essence. Time is of the essence with regard to the terms and conditions of this Lease.

17.11. Waiver. No provision of the Lease will be deemed waived by either party unless expressly waived in writing signed by the waiving party. No waiver will be implied by delay or any other act or omission of either party. No waiver by either party of any provision of this Lease will be deemed a waiver of such provision with respect to any subsequent matter relating to such

provision.

17.12. Survival. Whether or not specifically noted within any section or provision of this Lease, any provision of this Lease which must survive termination of this Lease in order to be effective will so survive such termination.

17.13 Counterparts. This Lease may be executed in counterparts, which taken together shall constitute one agreement, binding on all the parties hereto even though all the parties are not signatories to the original or the same counterpart.

* * * * * * * * *

EXHIBIT B

- DESCRIPTION OF LEASED PROPERTY -

Landowner owns the real property located off Watermelon Rd., Russellville, KY 42276 in Logan County, more specifically described by Logan County as:

Parcel ID 055-00-00-006-00, 458.78 acres ("***Landowner's Property***").

Landowner desires to lease to Company a portion of Landowner's Property, as depicted in the drawing below, comprising approximately 432 acres (the "***Leased Property***").

EXHIBIT C
FORM W-9

Form **W-9**
(Rev. October 2018)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

► Go to *www.irs.gov/FormW9* for instructions and the latest information.

Give Form to the requester. Do not send to the IRS.

Print or type. See Specific Instructions on page 3.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ►

Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.

☐ Other (see instructions) ►

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any)

Exemption from FATCA reporting code (if any)

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.) See instructions.

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number

or

Employer identification number

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here Signature of U.S. person ► Date ►

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to *www.irs.gov/FormW9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following.

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding, *later.*

Cat. No. 10231X Form **W-9** (Rev. 10-2018)

2. Provide a detailed list of any contracts by which Russellville Solar has negotiated to pay, contracted to pay, or paid, any compensation, whether cash or otherwise, to non-participating landowners near the project. Include the terms of that agreement and which properties are involved in terms of distance to the project boundaries.

Response: Russellville Solar has not negotiated to pay, contracted to pay or paid, any compensation, whether cash or otherwise, to any non-participating landowners near the project.

Witness: Stefan Eckmann

3. Provide in specific detail the status of any applications for zoning changes or conditional use permits that are required for this project.

Response: There are no applications for zoning changes or conditional use permits required for this project. Ordinance No. 19-920-06 of the Logan County Fiscal was enacted on August 27th, 2019, establishing minimum setback requirements for solar farm installations in Logan County. Ordinance No. 22-920-03 of the Logan County Fiscal Court amended the previous ordinance and was enacted on February 22, 2022.

Witness: Stefan Eckmann

4. Provide in specific detail the status of any litigation involving this project in state or federal court, or before an administrative agency other than the Siting Board.

Response: This project is not involved in any litigation in state or federal court, or before an administrative agency other than the Siting Board.

Witness: Stefan Eckmann

5. Refer to the Russellville Solar Site Assessment Report (SAR) Exhibit E, Noise and Traffic Assessment. Set forth the distance from receptors to the nearest panel tracking motors and the anticipated dBA of tracking motor noise at the residential receptors nearest to the project, assuming 78 decibels at 50 feet, as described in Section 2.3.1 of the Noise Assessment.

Response: Please see response in the attached HDR Noise Memo

Witness: Tim Casey, HDR

Memo

Date:	Wednesday, April 27, 2022
Project:	Logan County Solar
To:	Stefan Eckmann and P.J. Saliterman, Russellville Solar LLC
From:	Patrick Buffington, Sanvisna Kogelen, and Tim Casey, HDR Engineering, Inc.
Subject:	Kentucky Siting Board RFI – Complete Noise Response

Introduction

This memorandum summarizes responses to the requests for information (RFIs) from the Kentucky State Board on Electric Generation and Transmission Siting (state siting board) pertaining to the solar photovoltaic (PV) facility known as Logan County Solar (Project), proposed to be located approximately two miles southwest of the city of Russellville in Logan County, Kentucky (Project site).

Question Numbers (Nos.) 7 through 11 in the RFIs are related to the noise study conducted by HDR Engineering, Inc. (HDR); responses to each question are outlined in the following sections. Question No. 5 is addressed in the response to Question No. 8.

Question No. 5

SET FORTH THE DISTANCE FROM RECEPTORS TO THE NEAREST PANEL TRACKING MOTORS AND THE ANTICIPATED DBA OF TRACKING MOTOR NOISE AT THE RESIDENTIAL RECEPTORS NEAREST TO THE PROJECT, ASSUMING 78 DECIBELS AT 50 FEET, AS DESCRIBED IN SECTION 2.3.1 OF THE NOISE ASSESSMENT.

Tracking motors operate for a few seconds at a time and are partially hidden by the solar panels themselves, which blocks some of the noise they create. HDR propagated noise from a tracking motor to the five nearest receptor locations. This calculation assumed a single tracking motor with a reference sound pressure level of 78 A-weighted decibels (dBA) at 50 feet. The calculation ignores the acoustical shielding provided by the solar panels and also the excess absorption provided by acoustically soft (absorptive) ground cover (grass, etc.). This results in conservatively high estimates of noise from a tracking motor. Table 1 presents these results.

Table 1. Estimated Daytime Tracking Motor Noise Levels

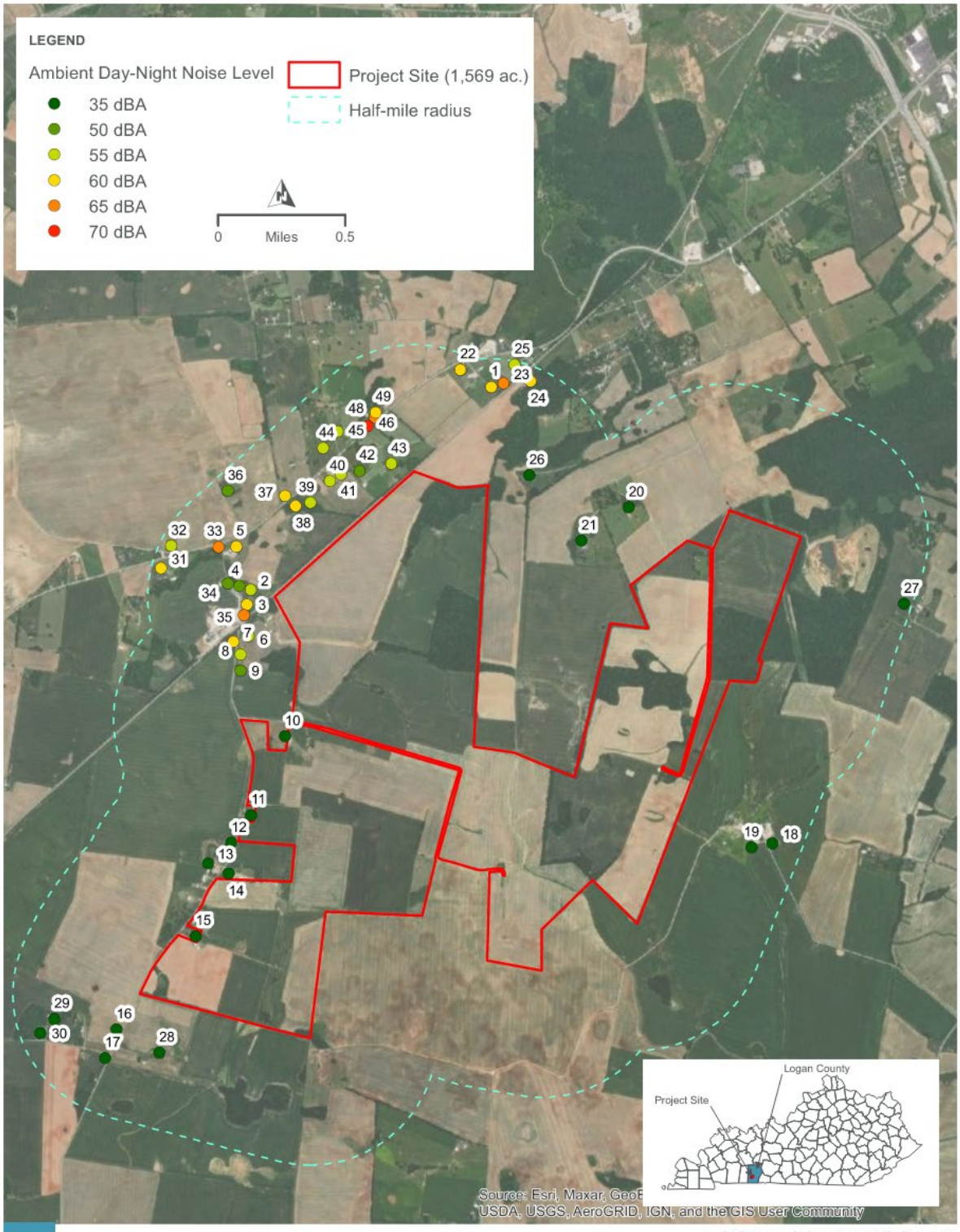
Tracking Motor Noise Levels		
Receptor ID	Distance from Property Line (feet)	Modeled Leq* (dBA)
1	194	69
2	218	68
3	236	68
4	239	68
5	493	63

Source: HDR 2022
*Average noise level during the noise measurement

Question No. 7

QUESTION NO. 7A. OF THE APPROXIMATELY 113 NOISE RECEPTORS WITHIN A HALF-MILE RADIUS OF THE PROJECT SITE, STATE HOW MANY ARE PARTICIPATING IN THE PROJECT.

The original application stated that there were 113 noise-sensitive receptors within 0.5 mile of the Project, consisting of residences, residential farm complexes, associated outbuildings, and nonresidential agricultural complexes. In re-evaluating the receptors per the state siting board RFIs, the Project team applied the standard definition that “noise-sensitive” refers to land uses where quiet-time is necessary to the function of the land use, such as residences, churches, schools, and hospitals. Areas where people work, such as offices, barns, or garages, are typically not considered noise-sensitive in environmental noise analyses. Therefore, HDR adjusted the number and location of noise-sensitive receptors per this standard definition to include the 49 residences surrounding the Project site. The locations of these receptors are scattered throughout the 0.5-mile surrounding the Project site. Receptors exist near State Highway 79 and the railroad corridor and in the more agricultural portions of Project vicinity. All 49 of the receptors are non-participating in the Project. Figure 1 shows location of the 49 receptors, as identified by their Receptor Identification Number (Receptor ID).



LOGAN COUNTY SOLAR

NOISE RECEPTOR MAP

FIGURE 1

PATH: Y:\RUSSELLVILLE\7.2_WIP\SPATIAL\VECTOR\NOISE MAP.MXD - USER: SKOGELEN - DATE: 4/27/2022

RFI NOISE RESPONSE

QUESTION NO. 7B. GIVEN THE TYPICAL EXISTING NOISE LEVELS, PROVIDE AN ESTIMATE OF THE AMBIENT NOISE LEVELS AT EACH OF THE NOISE RECEPTORS.

HDR estimated ambient outdoor noise levels at each of the 49 receptor locations using methods developed by the U.S. Environmental Protection Agency (USEPA) and published in Table 5-7 "Estimating Existing Noise Exposure for General Assessment" from the Federal Transit Administration's (FTA) *Transit Noise and Vibration Assessment* manual, May 2006 edition (FTA 2006). This methodology uses proximity to major roads and railroads, and population density to estimate ambient day-night noise levels (L_{dn}). Each receptor was evaluated based on its distance from State Highway 79 and the R. J. Corman Railroad Group, LLC railroad. Slower, two-lane roads in the Project vicinity were not considered using this methodology. HDR identified population density using 2020 Census data from the U.S. Census Bureau. All receptors are located within Census Tract 9605 in Logan County, where the population was determined to be 75 people per square mile (USCB 2020).

Using this approach, HDR assigned three L_{dn} values to each receptor: one for its proximity to the highway, one for its proximity to the railroad, and one based on the population density based on the FTA methods. For receptors located more than 1,000 feet from both the highway and the railroad, only the L_{dn} value based on population density was considered. Per the USEPA/FTA method, the highest of the three estimated ambient day-night noise level for each receptor was considered to be the existing L_{dn} and shown in Table 2 and Figure 1.

Table 2. Ambient Day-Night Noise Levels at Noise-Sensitive Receptors

Receptor ID	Distance from Road (feet)	Distance from Rail (feet)	Population Density (people/mi^2)	Day-Night Noise Level (Ldn) in A-weighted decibels (dBA)			
				Noise Level Based on Road Distance (dBA)	Noise Level Based on Rail Distance (dBA)	Noise Level Based on Population Density (dBA)	Maximum Resulting Noise Level (dBA)
1	NA	NA	75	NA	NA	35	35
2	NA	NA	75	NA	NA	35	35
3	NA	NA	75	NA	NA	35	35
4	NA	NA	75	NA	NA	35	35

5	NA	NA	75	NA	NA	35	35
6	100-200	NA	75	60	NA	35	60
7	200-400	NA	75	55	NA	35	55
8	NA	NA	75	NA	NA	35	35
9	NA	NA	75	NA	NA	35	35
10	50-100	NA	75	65	NA	35	65
11	400+	500-800	75	50	50	35	50
12	400+	NA	75	50	NA	35	50
13	NA	NA	75	NA	NA	35	35
14	NA	NA	75	NA	NA	35	35
15	NA	120-240	75	NA	60	35	60
16	100-200	NA	75	60	NA	35	60
17	400+	500-800	75	50	50	35	50
18	NA	240-500	75	NA	55	35	55
19	NA	500-800	75	NA	50	35	50
20	NA	60-120	75	NA	65	35	65
21	NA	120-240	75	NA	60	35	60
22	NA	240-500	75	NA	55	35	55
23	NA	240-500	75	NA	55	35	55
24	NA	NA	75	NA	NA	35	35
25	100-200	NA	75	60	NA	35	60
26	NA	NA	75	NA	NA	35	35
27	100-200	NA	75	60	NA	35	60
28	200-400	800+	75	55	45	35	55
29	200-400	NA	75	55	NA	35	55
30	200-400	800+	75	55	45	35	55
31	200-400	NA	75	55	NA	35	55
32	200-400	800+	75	55	45	35	55
33	400+	500-800	75	50	50	35	50
34	18537	NA	75	70	NA	35	70
35	50-100	NA	75	65	NA	35	65

36	100-200	NA	75	60	NA	35	60
37	100-200	NA	75	60	NA	35	60
38	400+	240-500	75	50	55	35	55
39	100-200	800+	75	60	45	35	60
40	400+	120-240	75	50	60	35	60
41	400+	60-120	75	50	65	35	65
42	200-400	240-500	75	55	55	35	55
43	NA	NA	75	NA	NA	35	35
44	400+	120-240	75	50	60	35	60
45	NA	NA	75	NA	NA	35	35
46	NA	NA	75	NA	NA	35	35
47	NA	NA	75	NA	NA	35	35
48	NA	NA	75	NA	NA	35	35
49	NA	NA	75	NA	NA	35	35

Source: HDR 2022
NA = Not applicable

QUESTION NO. 7C. GIVEN THE TYPICAL NOISE LEVELS, EXPLAIN HOW IT IS DETERMINED THAT THE ADDITIONAL NOISE FROM CONSTRUCTION ACTIVITY IS DEEMED TO BE A NUISANCE AND, THUS, IN NEED OF MITIGATION.

HDR reviewed local, county, and state ordinances for any noise limitations applicable to the Project. No quantitative noise limits were found at any level of government during the review. The City of Russellville only has noise ordinances in place in relation to pets, vehicle noise, and truck engine braking, none of which are applicable to the Project. Logan County does not have ordinances publicly available; therefore, county noise limits were not evaluated. The State of Kentucky repealed most of its noise control statutes in 2017, and now delegates the development of noise regulation programs to local governments (2021 Kentucky Revised Statutes, Chapter 278.30-175).

The Kentucky Public Service Commission regulates electricity generation and requires facilities to apply for a certificate to construct a merchant generating facility. As a part of this application, a facility is required to include a statement certifying that the proposed plant will be in compliance with all local ordinances and regulations concerning noise control (2021 Kentucky Revised Statutes, Chapter 278.706). As described above, no noise regulations applicable to the Project exist; however, estimates of Project-related construction and operational noise have been provided as a response to the RFIs.

When pile driving occurs on a construction project, it is usually the loudest construction-related activity. Impact and impulsive noise sources are potentially more annoying than constant, non-fluctuating noises because they stand out from the background noise environment more distinctly than constant noise sources. HDR understands that pile driving will be used on this Project, and therefore, evaluated pile driving noise as discussed in a response below.

Question No. 8

REFER TO THE SAR EXHIBIT E, PAGES 3-4 AND APPENDIX, FIGURE 4. PROVIDE AN UPDATED FIGURE 4 AND A LIST OF NON-PARTICIPATING NOISE RECEPTORS WITHIN THE HALF-MILE RADIUS OF THE PROJECT PROPERTY BOUNDARY.

As discussed in the response to Question No. 7a, Figure 1 shows the locations of the 49 noise-sensitive receptors, all of which are assumed to be non-participating.

IN THE UPDATE, SET FORTH THE DISTANCE FROM EACH NOISE RECEPTOR TO THE PROPERTY BOUNDARY.

Due to the number of receptors, it is not feasible to show the distances on the figure; instead, Table 3 shows the distance from each noise-sensitive receptor to the property boundary.

Table 3. Receptor Proximity to Project Property Boundary

Receptor ID	Distance from Property Line (feet)
1	2223
2	1859
3	1516
4	886
5	1086
6	2439
7	2399
8	66
9	369
10	1557
11	1013
12	2288

13	112
14	146
15	1205
16	1311
17	768
18	1204
19	1017
20	745
21	601
22	864
23	522
24	67
25	1419
26	58
27	1112
28	959
29	1627
30	1023
31	1683
32	976
33	771
34	1349
35	1396
36	1468
37	1190
38	441
39	2312
40	2045
41	2140
42	2568
43	864

44	2336
45	1376
46	1295
47	1657
48	2033
49	2475

Source: HDR 2022

[SET FORTH THE] MAXIMUM ANTICIPATED NOISE LEVEL AT THE PROPERTY BOUNDARY.

Impact pile driving is expected to be the loudest activity on-site during construction and operation of the proposed facility. There are numerous estimates of pile driving noise in publicly available literature. For this analysis HDR used impact pile driving noise levels published by FHWA/FTA. Quieter technologies exist.

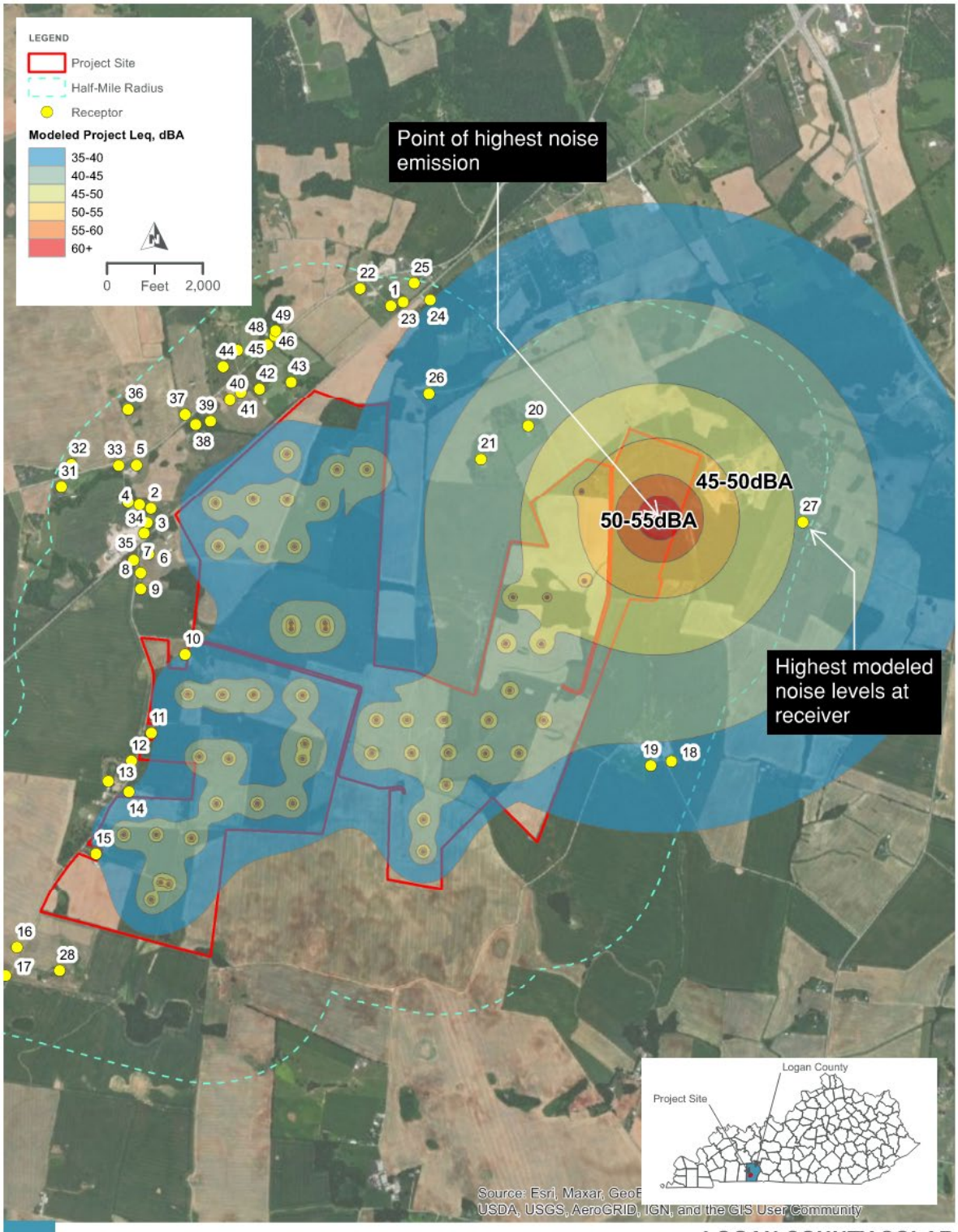
Up to 10 pile drivers may be used simultaneously during construction, and if they are all traditional impact pile drivers, the maximum noise levels at the property boundaries may range from approximately 95 dBA to 102 dBA. The following responses provide more detail regarding noise emissions from construction and operation of the Project.

[SET FORTH THE] SOLAR PANEL PLATFORM PILE DRIVING SOUND LEVELS AT PROPERTY BOUNDARIES.

During construction up to 10 impact pile drivers may operate simultaneously. To determine the upper range of potential pile driving noise levels, HDR conservatively assumed all 10 impact pile drivers were located side-by-side and set back 100 feet from the property boundary. Using this conservative approach, modeling results indicate the pile driving noise levels are expected to reach a maximum of 102 dBA at the property boundary.

[SET FORTH THE] MAXIMUM ANTICIPATED NOISE LEVEL AT THE NOISE RECEPTOR, AND THE POINT OF THE MAXIMUM NOISE GENERATION.

To evaluate noise from Project operations, HDR used Cadna-A 3-dimensional noise modeling software that incorporates the international acoustical standard for sound propagation outdoors. HDR modeled daytime noise emissions from the proposed inverter pads located where they are currently proposed. HDR also modeled daytime noise emissions from the proposed battery energy storage system and the transformer at the proposed substation. Cadna-A calculated overall Project-related daytime noise levels from these sources at each intersection on a Cartesian coordinate grid and then created daytime noise contour lines as shown in Figure 2. HDR also configured Cadna-A to calculate daytime noise levels at each receptor. By inspection, the loudest noise source during daytime operations is the substation transformer. Solar PV facilities do not make noise at night when sunshine is unavailable to produce electricity. Noise contours in Figure 2 show the anticipated Project-related daytime noise level at each residence, including the receptor anticipated to receive the highest levels of noise from Project operations (Receptor ID 27, 44 dBA).



SILICON RANCH

LOGAN COUNTY SOLAR

OVERALL DAYTIME NOISE CONTOURS

FIGURE 2

PROVIDE A CONTOUR MAP RELATED TO FIGURE 4 WITH DBA SOUND LEVEL CONTOURS AROUND NOISE GENERATING AREAS.

Refer to Figure 2, above.

Question No. 9

PROVIDE A TABLE OR GRAPHIC CONTAINING THE DISTANCE AND ANTICIPATED SOUND PRESSURE LEVEL DBA DURING THE CONSTRUCTION PHASE AT EACH NON-PARTICIPATING RESIDENCE WITHIN 500 FEET OF PILE DRIVING ACTIVITIES.

There are five noise-sensitive receptors within 500 feet of pile driving activities. Table 4 shows the Receptor ID for homes located within 500 feet of the property line, the distance to the property line, and a conservatively high estimate of pile driving noise at the receptor location based on the assumption of 10 pile drivers operating simultaneously side-by-side.

Table 4. Modeled Construction Noise Levels and Distance from Property Line

Pile Driving Noise Levels		
Receptor ID	**Distance from Property Line (feet)**	**Modeled Leq* (dBA)**
1	194	96
2	218	95
3	236	94
4	239	94
5	493	87

Source: HDR 2022
*Average noise level during the noise measurement

Question No. 10

PROVIDE A TABLE OR GRAPHIC LISTING THE CLOSEST NON-PARTICIPATING RESIDENCES TO THE SUBSTATION. INCLUDE IN THE TABLE THE DISTANCE BETWEEN THE RESIDENCE AND THE SUBSTATION AND THE ANTICIPATED SOUND PRESSURE LEVEL DBA AT THE RESIDENCE.

Table 5 shows the distance from the five receptors closest to the substation, and the modeled daytime Project-related noise level.

Table 5. Modeled Operational Noise Levels and Distance from Substation

Receptor ID*	Distance (feet)	Modeled Leq (dBA)
27	3,008	44
20	3,306	44
21	3,381	42
19	5,103	40
18	5,181	40

Source: HDR 2022
*Receptors are listed in order of proximity to substation

Question No. 11

PROVIDE ANY STUDIES OR GUIDELINES THAT RUSSELLVILLE SOLAR RELIED ON TO DETERMINE THAT NOISE LEVELS FROM THE CONSTRUCTION AND OPERATION OF THE SOLAR FACILITY ARE INSIGNIFICANT CONTRIBUTORS TO THE OPERATIONAL SOUND LEVELS OF THE SITE.

Federal Transit Administration (FTA). 2006. *Transit Noise and Vibration Assessment*, May 2006 edition.

Marr, W. Allen, P.E. 2015. "Addressing and Alleviating Negative Public Perceptions of Pile Driving". *Pile Driver,* Quarter 3, 2015. Accessed 22 April 2022. http://www.pilingcanada.ca/tagged/q4-2015/dealing-with-vibration-and-noise-from-pile driving

Office of Planning and Environment, Federal Transit Administration. 2006. *Transit Noise and Vibration Assessment*. (May)

Teachout, Emily and Cushman, Tom. 2005. "Use of a Pile Driver Shroud to Minimize Disturbance to Wildlife" Presented at Transportation Research Board Noise and Vibration Conference, Seattle, Washington. Accessed 22 April 2022. http://www.adc40.org/presentations/summer2005/26_Teachout_noiseshroud.pdf

U.S. Census Bureau (USCB). 2020. *2020 Census Demographic Data Map Viewer.* Accessed 21 April 2022. https://mtgis-portal.geo.census.gov/arcgis/apps/MapSeries/index.html?appid=2566121a73de463995ed2b2fd7ff6eb7

6. Refer to the SAR Exhibit E, generally.

a. Provide the hours of operation and days of the week construction activity will occur during the construction phase.

b. Explain whether any of the potential noise receptors have voiced or submitted comments regarding potential construction noise, and if so, provide copies of Russellville Solar's response.

c. Explain whether Russellville Solar plans to notify noise receptors of when construction will be occurring nearby and the expected duration of that activity before that activity moves to another part of the project footprint.

Response:

a. Russellville Solar plans to limit the construction activity, process, and deliveries to the hours between 8 a.m. and 6 p.m. Monday through Saturday, with an exception for non-noise causing and non-construction activities on the site which would occur between 7 a.m. and 10 p.m., Monday through Sunday, including field visits, arrival, departure, planning meetings, mowing, surveying, etc.

b. A few potential noise receptors have listed questions regarding noise impacts through a request for information submitted to the Siting Board on 3/23/2022 and 3/30/2022. Russellville Solar has not yet responded directly to these community members but intends to do so in the coming weeks. Russellville Solar does not recall specific noise concerns or questions being raised in Russellville Solar's public meetings on 7/23/2021 and 12/14/2021.

c. Russellville Solar intends to notify noise receptors of noise causing construction activities and expected duration of the activity at least two weeks prior to the construction activity. Russellville Solar will respond to any noise-related complaints from residents adjacent to the project boundary and will mitigate those effects to the extent feasible.

Witness: Stefan Eckmann

7. Refer to the SAR Exhibit E, page 3 and Appendix, Figure 4.

a. Of the approximately 113 noise receptors within a half-mile radius of the project site, state how many are participating in the project.

b. Given the typical existing noise levels, provide an estimate of the ambient noise levels at each of the noise receptors.

c. Given the typical noise levels, explain how it is determined that the additional noise from construction activity is deemed to be a nuisance and, thus, in need of mitigation.

Response: Please see response in the attached HDR Noise Memo

Witness: Tim Casey, HDR

8. Refer to the SAR Exhibit E, pages 3–4 and Appendix, Figure 4. Provide an updated Figure 4 and a list of non-participating noise receptors within the half-mile radius of the project property boundary. In the update, set forth the distance from each noise receptor to the property boundary, maximum anticipated noise level at the property boundary, solar panel platform pile driving sound levels at property boundaries, maximum anticipated noise level at the noise receptor, and the point of the maximum noise generation. Provide a contour map related to Figure 4 with dBA sound level contours around noise generating areas.

Response: Please see response in the attached HDR Noise Memo

Witness: Tim Casey, HDR

9. Provide a table or graphic containing the distance and anticipated sound pressure level dBA during the construction phase at each non-participating residence within 500 feet of pile driving activities.

Response: Please see response in the attached HDR Noise Memo

Witness: Tim Casey, HDR

10. Provide a table or graphic listing the closest non-participating residences to the substation. Include in the table the distance between the residence and the substation and the anticipated sound pressure level dBA at the residence.

Response: Please see response in the attached HDR Noise Memo

Witness: Tim Casey, HDR

11. Provide any studies or guidelines that Russellville Solar relied on to determine that noise levels from the construction and operation of the solar facility are insignificant contributors to the operational sound levels of the site.

Response: Please see response in the attached HDR Noise Memo

Witness: Tim Casey, HDR

12. State the number of pile drivers that will be in use at the same time.

Response: Up to approximately 10 pile drivers will be in use at any one time.

Witness: Dave Weise, Silicon Ranch

13. Refer to the Application, Attachment G, pages 1–2.

a. Provide an update on the status of the proposed Payment In Lieu of Taxes (PILOT) agreement with Logan County.

b. Provide an update on the status of Logan County's decision whether to issue an Industrial Revenue bond (IRB).

c. Explain whether an IRB can be issued by the county as well as the Commonwealth of Kentucky, and the different implications, if any, for the project.

Response:

a. A proposed Payment In Lieu of Taxes (PILOT) agreement has been provided to Logan County Fiscal Court in connection with the proposed Industrial Revenue Bond, as a means of increasing the total amount of property taxes and other funds the Logan County School District and Logan County would expect to receive during the 30-year term of the bond issue related to the project. Logan County Fiscal Court requested information regarding Russellville Solar's tax projections, which was provided on April 14, 2022. Russellville Solar intends to request an Inducement Resolution for the proposed IRB and PILOT at a future Fiscal Court meeting once the Court has reviewed the information and discussed with their bond counsel.

b. An Industrial Revenue Bond inducement resolution has been provided to Logan County Fiscal Court, along with the form of a PILOT Agreement, as a means of increasing the total amount of property taxes and other funds the Logan County School District and Logan County could expect to receive during the 30-year term of the bond issue. Logan County Fiscal Court requested additional information regarding Russellville Solar's tax projections, which was

provided on April 14, 2022. Russellville Solar intends to request an Inducement Resolution for the proposed IRB and PILOT at a future Fiscal Court meeting once the Court has reviewed the information and discussed with their bond counsel.

c. An IRB can be issued by the County pursuant to KRS 103.200 to 103.285, inclusive (the "IRB Act"). The property financed by the IRB will be exempt from all state and local ad valorem tax rates pursuant to KRS 103.285 except for the reduced leasehold rate applied by KRS 132.020(f) on all property held by the County and leased to Silicon Ranch pursuant to the IRB. Consistent with the existing policy of the Kentucky Economic Development Finance Authority ("KEDFA"), which approves the reduced leasehold ad valorem tax rate pursuant to KRS 103.210(3), Silicon Ranch will enter into a Payment in Lieu of Taxes Agreement with the County whereby Silicon Ranch will agree, among other things, to make annual payments to the Logan County School District in amounts equal to the ad valorem taxes the School District would otherwise receive from the project financed by the IRBs if the project were not IRB financed pursuant to the IRB Act. Silicon Ranch may agree to make additional payments to other local taxing jurisdictions in its agreement with the County, but the additional payments will not be required by KEDFA in order to receive the approval of the reduced state leasehold ad valorem tax rate.

It is not common for participants in IRB financings to enter into Payment in Lieu of Taxes Agreements with the Kentucky Department of Revenue since such agreements would reduce the financial benefit of the IRB. Further, no such agreement is required under Kentucky law. Silicon Ranch has no intention to enter into such an agreement with the Kentucky Department of Revenue or any other state agency or department in connection with the IRB.

Witness: Stefan Eckmann

14. Refer to the Application, Attachment G, pages 3–4.

a. Provide an estimated breakdown of the number of direct project jobs by occupational type similar to the table on page 3 and the associated local wage rates anticipated for the project.

b. Explain whether the prevailing jobs and wages in Logan County as of 2021 are representative of the jobs breakdown in the Attachment.

Response:

a. I do not know the breakout of jobs by occupation for the construction phase. The table I provided is illustrative, in that it shows wages for occupations expected to be involved in construction, but I have no information on the occupational mixture expected for this project. Also, as far as I know, there are no published data on wages by occupation for people working in the county. The Bureau of Labor Statistics does publish data on jobs and wages by occupation at the state and metropolitan area level, but not for counties. This is why the table provides data for the state of Kentucky rather than Logan County.

b. As previously stated, there are no data on county wages by occupation, so I do not have sufficient information to answer this question.

Witness: Dr. Paul Coomes, PhD.

15. Refer to the Application, Attachment G, page 6. Confirm that the estimated $189,000 in occupational tax payments is over the life of the project.

Response: The occupational tax payments expected are only for the construction phase. There will be very modest occupational taxes associated with the operations phase that are not included in that figure.

Witness: Dr. Paul Coomes, PhD.

16. Refer to the Application, Attachment G, page 6. Provide an estimate of state sales and income tax revenue as a result of the project.

Response: There will be Kentucky income and sales taxes associated with the construction of the solar farm. A common way to estimate these is to rely on 'effective' tax rates, which are calculated by dividing tax revenues by payroll over time. Below is a table showing such a calculation for the state of Kentucky. On average, Kentucky income taxes are 4.87% of wages and salaries, and Kentucky sales taxes are 4.00% of wages and salaries. Applying those to the predicted payroll impact in Logan County from construction yields $1.2 million in state income taxes and $1.0 million in state sales taxes.

Calculation of Effective Tax Rates, Kentucky Individual Income and Kentucky Sales Taxes

	2016	2017	2018	2019	2020	5-year average
Fiscal Year (millions)						
Individual Income Tax	$4,282.1	$4,393.9	$4,603.6	$4,544.7	$4,765.20	
Sales and Use Tax	$3,462.7	$3,485.2	$3,605.7	$3,937.6	4,070.90	
Calendar Year (thousands)						
Wages and Salaries	$87,705,340	$90,433,299	$93,234,914	$96,606,011	$96,172,951	
Effective Rates on W&S						
Individual Income Tax	4.88%	4.86%	4.94%	4.70%	4.95%	4.87%
Sales and Use Tax	3.95%	3.85%	3.87%	4.08%	4.23%	4.00%

Source: state government revenues from Office of State Budget Director; wages and salaries from US Bureau of Economic Analysis.

Witness: Dr. Paul Coomes, PhD.

17. Refer to the Application, Attachment G, page 5. Expanding the IMPLAN model to a five-county region produces an additional 93 jobs during the construction phase. Provide estimates of the expanded tax revenues, if any, as a result for the expanded territory.

Response:

There would be a small increase in occupational tax revenues in surrounding counties. The actual amount would depend on (a) how much of the additional spinoff payroll occurs in each county and city, and (b) the occupational tax rates in each jurisdiction. My model does not predict the geographic spread of the spinoff activity among the counties. Tax rates vary widely around the region, from zero in Muhlenberg County to 2 percent in Morgantown (Butler County) and Elkton (Todd County). Warren County, the most developed in the region, has a rate of 1 percent. Using 1 percent as representative, I would expect additional occupational taxes in the region, outside of Logan, to be about $32,000 during the construction year.

Following the logic from the Item 16 above, there would also be about $288,000 in associated state income and sales taxes when considering the impacts over five counties instead of one.

Witness: Dr. Paul Coomes, PhD.

18. The proposed Project is in an area classified as intense karst by the Kentucky Geological Survey. Explain whether a geotechnical study of the site has been conducted to determine if any karst formations will affect the construction or siting of the solar facility. If so, provide a copy of the study.

Response: A Geotechnical Report was completed by Terracon on August 30, 2019 during which 10 test borings were completed, followed by an additional report by S&ME on December 4, 2020 during which 22 widely spaced test borings were completed as well as field resistivity testing at 16 locations. Both reports are attached hereto and have informed Russellville Solar's design of the Project.

Witness: Stefan Eckmann

Report of Geotechnical Exploration

Russellville Solar Facility
333 Watermelon Road
Russellville, Kentucky
S&ME Project No. 1280-20-070

PREPARED FOR:
Silicon Ranch Corp.
222 Second Avenue S, Suite 1900
Nashville, Tennessee 37201

PREPARED BY:
S&ME, Inc.
4350 River Green Parkway, Suite 200
Duluth, Georgia 30096

December 4, 2020

December 4, 2020

Silicon Ranch Corp.
222 Second Avenue S, Suite 1900
Nashville, Tennessee 37201

Attention: Mr. Conor Goodson

Reference: **Report of Geotechnical Exploration**
Russellville Solar Facility
333 Watermelon Road; Russellville, Kentucky
S&ME Project No. 1280-20-070

Dear Mr. Goodson:

S&ME, Inc. (S&ME) is pleased to submit our *Report of Geotechnical Exploration* for the referenced project. Our services were performed in general accordance with our Proposal No. 12-2000385 dated November 13, 2020 and. We appreciate being selected to participate in this phase of the project. Please contact us with any questions about this report or if we may be of further service.

Sincerely,

S&ME, Inc.

Eric Conway, E.I.T.
Staff Professional
econway@smeinc.com

Jeffrey A. Doubrava, P.E.
Senior Engineer
KY PE Reg. No. 28491
jdoubrava@smeinc.com

Report of Geotechnical Exploration
Russellville Solar Facility
333 Watermelon Road; Russellville, Kentucky
S&ME Project No. 1280-20-070

Table of Contents

Appendix

Report of Geotechnical Exploration
Russellville Solar Facility
333 Watermelon Road; Russellville, Kentucky
S&ME Project No. 1280-20-070

1.0 Purpose

The purpose of this geotechnical exploration was to obtain subsurface data from widely spaced borings and geophysical methods to help identify potential geotechnical issues that might affect design and construction of the planned solar facility. This report provides the following:

- A summary of the project and provided information;
- A summary of current site conditions, topography, and area geology;
- A summary of the field exploration methods;
- A summary of the subsurface conditions encountered in the test borings;
- A summary of the laboratory test methods and results;
- Conclusions and Site Assessment;
- Recommendations for site preparation, excavation, structural fill placement, and groundwater control;
- Recommendations for foundation design and construction for the solar panels;
- Recommendations for design and construction of the concrete slab-on-grade;
- Recommendations for design and construction of utility vaults; and
- An Appendix with Site Location Plan, Test Location Plan, individual boring logs for each test location, and laboratory test reports.

2.0 Project Information

Initial project information was provided in November 11 and 12, 2020 telephone conversations and e-mails between Mr. Conor Goodson of Silicon Ranch and Mr. Jeff Doubrava, P.E. of S&ME. Appended to the email was a Google Earth (.kmz) file showing the location of the site, and a file containing the scope of work required for the project.

Based on the provided information, we understand a new solar facility is being considered on nearly 1,600 acres of land situated east of Watermelon Road on the southwest side of Russellville, Kentucky. The area is comprised of a mix of agricultural land, dense vegetation and tree cover, as well as some small ponds.

We anticipate the solar panels will be supported on driven W6x12 or W6x12 piles to depths of 7 to 8 feet below grade. Structural loading for the solar panel supports has not been provided but based on previous experience with similar projects the loads are predominantly uplift and lateral loads. We estimate allowable axial (compression), axial (tension), and lateral loads of 4 kips, 4 kips, and 2.5 kips, respectively. Minimal grading (maximum cuts and fills of 5 feet) is anticipated for this project.

We understand a substation will be constructed at the northeast corner of the property to connect to an existing transmission line. We have not been provided the specific equipment types and loading information at the time of this proposal. Based on our experience with similar developments, we anticipate the following equipment types and loading:

- **Transformers:**
  Overturning moment: 100-250 kip-ft
  Shear: 5-15 kips
  Vertical: 100-250 kips

- **Structure holding equipment and/or bus bars:**
  Overturning moment: 7-150 kip-ft
  Shear: 1-10 kips
  Vertical: 2-25 kips

- **Control Building:**
  Weight: 20-40 kips

The project information and assumptions detailed above should be reviewed and confirmed by the appropriate team members. Modifications to our conclusions and recommendations may be required if the actual conditions vary from the project information and assumptions described herein.

3.0 Exploration and Testing Procedures

3.1 Field Exploration

3.1.1 Test Borings

Our exploration included 22 widely spaced test borings. The locations of the test borings for this exploration, identified as B-01 through B-22, were established by Mr. Eric Conway of S&ME with a consumer grade, hand-held-global positioning system (GPS) unit with pre-loaded points established using Google Earth. Because of the limited accuracy of the methods used, the boring locations shown on the Test Location Plan (Figure 2) in the Appendix should be considered approximate.

The exploratory borings were made by mechanically twisting hollow-stem augers into the soil in general accordance with ASTM D6151, the *Standard Practice for Using Hollow-Stem Augers for Geotechnical Exploration and Soil Sampling*. Soil samples were obtained during standard penetration testing using a 1.4-inch I.D., 2-inch O.D. split-barrel sampler in general accordance with ASTM D1586, the *Standard Test Method for Standard Penetration Testing (SPT) and Split-Barrel Sampling of Soils*. Typically, three split-barrel samples were obtained in the top 5 feet and samples were obtained at 5-foot intervals thereafter. The sampler was first seated 6 inches and then driven an additional foot with blows of a 140-pound hammer falling 30 inches. The number of hammer blows required to drive the sampler the final foot was recorded and is designated the "standard penetration resistance" with units of blows per foot (bpf). Very dense residual materials described as weathered rock were encountered in

several of the borings. In these materials, 50 hammer blows drove the sampler less than 6 inches and the boring logs show the penetration for 50 blows as 50/3", 50/5", etc. In addition to the split-barrel sampling, 16 bulk samples of shoveled material from the upper 2 feet were obtained for laboratory testing.

An automatic trip drop hammer was used for the standard penetration testing. The automatic hammer has a higher efficiency than a manual hammer, and thus yields lower standard penetration resistance values. We recognize this reduction and compensate for it in our evaluation. However, the consistency descriptions on our boring logs are based on traditional relationships between soil consistency and recorded standard penetration test values.

Subsurface water level readings were taken in each of the borings during drilling and upon completion of the soil drilling process. Upon completion of drilling and sampling, each borehole was backfilled with soil cuttings and a borehole closure device. Due to safety concerns, the boreholes were not left open for delayed subsurface water level measurements.

Ground surface elevations were not provided and so were not included at each test location. Due to the limited detail of this information, the ground surface elevations at the boring locations have been approximated to the nearest foot using available topographic maps and should be considered approximate. If survey data is available, we will update our boring logs accordingly.

3.1.2 Field Resistivity Testing

Members of our engineering staff performed field resistivity testing at 16 traverse locations, B-01, B-02, B-03, B-05, B-06, B-07, B-09, B-10, B-11, B-12, B-14, B-16, B-17, B-18, B-19, and B-20, using the Wenner four-pin method in general accordance with ASTM G57, the *Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner-Four-Electrode Method*. In this method, four equally-spaced electrodes are inserted into the ground along a linear array. A current is applied across the two outermost electrodes and the voltage drop across the two innermost electrodes is measured. The voltage drop can be used to determine the apparent resistivity of the soil. Electrode spacings of 2, 5, 8, 12, 15, 25, 40, 60, and 75 feet were used for each array. Approximate traverse locations are shown on the Test Location Plans in the Appendix. Field data sheets are included in the Appendix as well.

3.1.3 Geophysical Methodology, Field Services, and Data Processing

Between November 15, 2020 and November 21, 2020, we completed an Electrical Resistivity Tomography (ERT) survey at seven (7) locations across the site to identify lateral changes in subsurface materials with emphasis on the top of rock and possible karst features.

The ERT method introduces a known amount of direct current into the ground and measures the corresponding response in order to identify variations in subsurface electrical potentials. By introducing a known amount of current into the ground, the measured voltage potential at the surface is used to calculate the resistivity of subsurface material. In general, clayey and moist soils result in lower resistivity (higher conductivity) readings, while dry sands, gravels, chert, and limestone/dolomite exhibit higher resistivity values. The resistivity of materials also partially depends on the substance filling its pore or void space. If a cavity or fracture is air-filled, a highly resistive anomaly within the limestone unit is expected. If it is water- or clay-filled, an anomaly more conductive

than the surrounding limestone unit is expected. Natural variations in porosity and grain size distribution can also cause such anomalies.

An ERT survey typically uses a series of stainless-steel electrodes that are inserted into the ground along a linear array and attached to data cables, which are connected to a transmitter/recording instrument (resistivity meter). The resistivity meter generates an induced current at two of the electrodes (current electrodes) and then measurements are acquired from the voltage potential difference between two other electrodes (potential electrodes). Material included between the potential electrodes is essentially averaged so the depth and resolution of the measurements is dependent upon the distance between these electrodes. Therefore, limitations of this method exist depending on the necessary resolution of data acquisition versus the depth of a target/feature. It is important to also note that actual ground resistivity is not collected during a resistivity survey. The survey is used to collect the apparent resistivity of a volume of material. Actual resistivities are later determined through a data inversion process. In addition, ERT data is collected using various array configurations set up in the software (Dipole-Dipole, Wenner, etc.), which is stored in the resistivity meter for later processing and analysis. Array considerations are dependent on the objectives of the survey (e.g., soil and bedrock profiling, karst exploration, etc.).

We used an Advanced Geosciences, Inc. (AGI) SuperSting™ R8/IP resistivity system configured with 84 electrodes in general accordance with ASTM D6431 "*Using DC Resistivity for Subsurface Investigations*". A total seven (7) ERT profiles were collected (Lines 1 through 7; Figure 2). The Dipole-Dipole array configuration was used, and electrodes were spaced at 10 feet. ERT data was processed using AGI's EarthImager 2D software and Golden Software's Surfer® was used to grid and plot the data. Elevations used for our models were derived from online USGS topographic information available through the National Geospatial Program rather than actual field survey measurements performed by S&ME, and as such, should be considered approximate

3.2 Laboratory Testing Services

The split-spoon samples obtained during standard penetration testing and bulk samples collected near the resistivity locations were transported to our laboratory and visually classified by a member of our engineering staff in general accordance with ASTM D2488, the *Standard Practice for Description and Identification (Visual-Manual Procedure)*. The purpose of this review were to check the field descriptions, visually estimate the relative percentages of the soils' constituents (sand, clay, etc.), determine soil origin, identify pertinent structural features such as foliation planes and slickensides, and select samples for laboratory testing. The stratification lines shown on the appended test boring records represent the approximate boundaries between soil types, but the transitions may be more gradual than shown.

The bulk samples collected at each resistivity location were subjected to additional laboratory testing consisting of standard Proctor (ASTM D698), electrical resistivity (ASTM G57), thermal resistivity (ASTM D5334), pH (AASHTO T289), sulfide content (ASTM D516), sulfate content (ASTM D516) and chloride content (ASTM D512). A summary of the laboratory test results is presented later in the report and the test reports are in the Appendix.

4.0 Site, Geologic, and Subsurface Conditions

4.1 Site Conditions

The approximate 1,600-acre site is located south of US 79 and east State Route 1041 in Russellville, Kentucky. The site was covered in cultivated fields. There are areas of trees and ponds throughout the property, but most of the site was unwooded. A portion of the site is being used for cattle. There are several farm buildings throughout the property.

4.2 Geologic Conditions

4.2.1 Cultivated Materials

Many areas of Kentucky have been and continue to be used for agriculture. Farming activities can disturb the upper soils and cause the finer soil particles in the disturbed layer to be leached down to the bottom of this layer. Some organics are commonly intermixed with the upper soils in the cultivation process. Other activities can also produce a surficial disturbed soil layer such as logging, minor grading, etc. These "cultivated" materials typically resemble the composition of the underlying residual materials, but often exist in a loose or soft condition. Cultivated materials can be highly susceptible to moisture content changes, becoming very wet during wet weather and extremely dry during summer months.

4.2.2 Residual Materials

The project site is located in Kentucky's Mississippian Plateaus and is generally comprised of the Ste. Genevieve Limestone Formation as noted in the geologic map of the Russellville quadrangle for Logan County, Kentucky by Robert C. Miller, 1968. The soil overburden of this area was formed by in-place weathering of the parent sedimentary rocks. Geologic mapping indicates the predominant rock types underlying this site is limestone with few beds of dolomitic limestone.

Separating the completely weathered soil overburden from the unaltered parent rock is a transition zone of very high consistency materials referred to as weathered rock. Weathered rock retains much of the appearance and fabric of the parent rock formations, and may consist of alternating layers of high consistency soil and rock. Weathered rock exhibits standard penetration resistances in excess of 100 blows per foot (bpf) (50/6", etc.).

The weathering processes that formed the overburden soils and partially weathered rock were extremely variable, depending on such factors as rock mineralogy, past groundwater conditions, and the tectonic history (joints, faults, igneous intrusions, etc.) of the specific area. Differential weathering of the rock mass has resulted in erratically varying subsurface conditions, evidenced by abrupt changes in soil type and consistency in relatively short horizontal and vertical distances. Furthermore, depths to rock can be irregular and isolated boulders, discontinuous rock layers, or rock pinnacles can be present within the overburden and transition zones.

4.3 Subsurface Conditions

The following are generalized descriptions of the subsurface conditions as encountered in the 22 widely spaced soil test borings performed for this exploration. The Boring Logs are included in the Appendix and contain more detailed soil descriptions and test results at each boring location.

4.3.1 Cultivated Materials

Each boring initially encountered materials visually assessed to have been disturbed by past cultivation or other land disturbance activities to depths of 1 to 3 feet. These cultivated materials were visually classified as brown lean clay and silt with minor organic content apparent. N-values in the cultivated soils ranged from 3 to 12 bpf (soft to stiff, but most of the values were 4 to 7 bpf).

4.3.2 Residual Materials

Residual materials were present beneath an upper layer of cultivated material in each boring. The residuum typically had an upper layer comprised of several feet of brown lean clay with varying amounts of silt and some trace sand. Weathered limestone bedrock was encountered near auger refusal in borings that encountered equipment refusal. Standard penetration resistance values in the residuum ranged from 0 bpf to more than 100 bpf (weathered rock lenses), but typically from 9 to 20 bpf.

4.3.3 Auger Refusal / Boring Termination

Borings B-01, B-06, B-08, B-09, B-13, B-14, B-15, B-21, and B-22 encountered auger refusal materials at depths ranging from 13.5 to 19.3 feet. The remaining borings were terminated at their planned depths of 20 feet without encountering auger refusal materials.

4.3.4 Groundwater

Groundwater was only encountered boring B-20 at a depth about 13.5 feet below ground surface during our exploration. Groundwater was not encountered in the other borings at the time of our exploration. We note that groundwater levels will fluctuate with seasonal and yearly rainfall and temperature variations; therefore, future groundwater levels may be higher or lower than those measured during this exploration. Further, groundwater in this area can be transported at the soil/rock interface following periods of heavy precipitation.

4.4 Geophysical Results

The following summarizes the results of the geophysical survey performed at the site:

- The ERT results presented in Figures 3 through 7 indicate a varying resistivity contrast across the surveyed area that generally range from approximately 20 ohmmeters (ohm-m) to 5,000 ohm-m.
- Presented depths of the ERT profiles are a function of the inversion process and are generally about 100 feet below ground surface.
- Based on the exploration borings, we identified two general layers: residual clayey soil overburden and the underlying rock. The soil overburden is characterized by conductive values generally less than about 200 ohm-

m with the relatively higher values likely associated within increased silt/sand while the underlying resistive limestone is characterized by values greater than about 200 ohm-m.

- In addition, two types of anomalous features were interpreted in the ERT data sets (Type I and Type II anomalies); four (4) Type I and four (4) Type II.
- Type I anomalies are associated with topographic changes along the interpreted top of rock that also appear to exhibit relatively conductive zones (less than about 200 ohm-m) that may be related to solutioning and/or clay-filled joints/fractures within those areas.
- Type II anomalies are characterized by conductive zones (less than about 80 ohm-m) located within the interpreted rock that may be related to more deeply weathered zones and/or areas of clay-filled features.
- Adjacent borings, interpreted top of rock, and prominent identified Type I and Type II anomalies are highlighted on the ERT profiles presented in the figures

4.5 Laboratory and Field Test Results

Below are summaries of the laboratory and field test results:

Table 4-1: Index Test Results

Boring	Bulk Sample Depth	Maximum Dry Density (pcf) at Optimum Moisture Content (%)	In-situ Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	% Finer than No. 200
B-01	0 – 1 feet	102.9 @ 18.4	22.8	34	22	12	95.2

B-02	0 – 1 feet	105.2 @ 15.8	22.3	35	20	15	87.6
B-03	0 – 1 feet	101.6 @ 18.3	22.1	30	21	9	91.5
B-05	0 – 1 feet	104.6 @ 18.4	23.3	36	20	16	91.8
B-06	0 – 1 feet	104.5 @ 17.3	22.6	34	21	13	92.4
B-07	0 – 1 feet	103.0 @ 18.9	22.3	34	24	10	94.5
B-09	0 – 1 feet	106.0 @ 17.7	19.9	34	22	12	92.9
B-10	0 – 1 feet	104.7 @ 16.0	23.1	35	20	15	87.8
B-11	0 – 1 feet	105.5 @ 18.3	20.9	36	20	16	89.7
B-12	0 – 1 feet	103.3 @ 17.6	22.8	28	23	5	88.9
B-14	0 – 1 feet	100.9 @ 18.8	26.8	32	25	7	95.1
B-16	0 – 1 feet	102.6 @ 17.5	21.5	34	23	11	96.6
B-17	0 – 1 feet	102.6 @ 17.7	24.6	32	23	9	96.3
B-18	0 – 1 feet	103.1 @18.5	24.5	33	24	9	92.5

B-19	0 – 1 feet	104.0 @17.7	25.4	35	24	11	95.5
B-20	0 – 1 feet	101.4 @ 20.6	25.0	37	23	14	98.3

Table 4-2: Corrosion Series Results

Boring	Bulk Sample Depth	In-situ Moisture Content (%)	Field Minimum Resistivity (Ω-cm)		Lab Minimum Resistivity (Ω-cm)	Thermal Resistivity °C*cm/W	pH	Sulfate Content (ppm)	Chloride Content (ppm)
			North/ South	East/ West					
B-01	0 – 1 feet	22.8	5745	6128	4,600	67	6.6	16	11
B-02	0 – 1 feet	22.3	4596	4979	3,300	62	7.0	14	29
B-03	0 – 1 feet	22.1	4309	4309	5,350	61	6.2	<10	18
B-05	0 – 1 feet	23.3	4290	4443	5,250	58	5.2	20	<10
B-06	0 – 1 feet	22.6	6894	7277	5,200	66	6.6	36	<10
B-07	0 – 1 feet	22.3	5745	5362	4,800	61	6.3	28	13
B-09	0 – 1 feet	19.9	7660	7277	3,100	53	5.9	26	23
B-10	0 – 1 feet	23.1	7900	8043	5,500	66	5.6	14	<10
B-11	0 – 1 feet	20.9	6128	6511	4,700	60	5.7	<10	<10
B-12	0 – 1 feet	22.8	5171	4443	4,200	54	6.0	14	11
B-14	0 – 1 feet	26.8	5209	5516	3,700	68	5.8	<10	37
B-16	0 – 1 feet	21.5	4596	4213	5,500	64	6.8	<10	31
B-17	0 – 1 feet	24.6	9097	8139	6,900	63	5.8	12	19
B-18	0 – 1 feet	24.5	7660	7277	5,550	58	6.3	12	13
B-19	0 – 1 feet	25.4	7277	6511	3,450	60	6.4	<10	27
B-20	0 – 1 feet	25.0	7756	7660	4,300	53	6.3	<10	26

Individual test reports are included in the Appendix for reference.

5.0 Conclusions and Recommendations

5.1 Site Assessment

The data obtained during this exploration and our experience with similar developments indicate that the site is adaptable for the planned development. Below are a few key things to consider as plans move forward.

- The desired W6X9 or W6x12 piles should generally be driven to a minimum depth of 7 feet below planned grades based on preliminary lateral analyses and our experience with the adjacent site. Field load tests should be performed to help confirm and refine the recommendations in this report.

- The geophysical efforts show what appears to be typical weathering of the bedrock and soil filled features. Our evaluation on the widely spaced geophysical lines did not reveal caves or other air-filled voids that could become problematic. Construction in this area comes with the inherent risk of karst development and activity. Maintaining positive drainage to existing features and streams is a good mitigation tool. Further evaluation of the area could be beneficial, but there is no cost-effective way to "scan" the entire array field. And, even if no features were readily identified now, it is not a guarantee that nothing would occur in the future. Based on the findings from our field exploration, it is our professional opinion that the risk for immediate karst feature development (i.e. large scale drop-outs within the proposed array fields) is relatively low. Should areas of concern be present during construction, we should be notified in order to assist with remedial activities.

- Based on our field and laboratory resistivity testing, the site soils are generally mildly-to non-corrosive.

The preceding has been an overview of the major geotechnical issues associated with the proposed development. Our recommendations regarding these issues, as well as other geotechnical aspects of the proposed construction are discussed in the report

5.2 Earthwork

We anticipate that limited earthwork will be performed across much of the site but may be needed for access road and equipment pad areas.

5.2.1 Site Preparation and Subgrade Evaluation

Cultivated soils were encountered in our borings. These soils were of low to moderate consistency and are particularly susceptible to changes in moisture content. Special care should be taken in evaluation of fill areas where cultivated soils will be left in place. If these materials are assessed to be soft or unstable, stabilization measures such as moisture conditioning with re-compaction or undercutting to firm soils may be required. Their stability will depend on rainfall quantities and seasonal conditions leading up to and during site grading.

The stability of the subgrade soils in the area of the equipment pads and access roads should be evaluated by a member of our staff. This should include observing proofrolling of the subgrade with a loaded tandem-axle dump

truck. Proofrolling consists of applying repeated passes to the subgrade with this equipment. Materials judged to deflect excessively under the wheel loads and which cannot be densified by continued rolling should be undercut to stable soils before placing fill.

5.2.2 Earth Material Utilization and Fill Placement

After site preparation and subgrade evaluation are completed, areas to receive fill may be brought to design subgrade levels with structural fill. Structural fill is defined as inorganic natural soil with maximum particle sizes of about 6 inches and Plasticity Indexes of 30 or less. Maximum particle sizes for structural fill placed as backfill around utilities should be limited to about 3 inches to reduce the chance of damaging the conduits and to help facilitate adequate compaction using the smaller equipment usually necessary when backfilling utility trenches. Structural fill should be placed in relatively thin (4- to 8-inch) layers and compacted to at least 90 percent of the soil's maximum dry density as determined by the standard Proctor compaction test (ASTM D698). In addition to meeting compaction requirements, the materials should be stable under repeated traffic loads from heavy rubber-tired equipment (i.e. dump trucks, front end loaders, etc.).

Based on the materials encountered in our borings, we expect the on-site soils are satisfactory for re-use as structural fill. At times, moisture conditioning of excavated soil may be needed to achieve moisture contents compatible with achieving the appropriate degree of compaction.

In-place density testing must be performed as a check that the previously recommended compaction criteria have been achieved. We recommend density testing by a technician working under the direction of our project engineer.

5.3 Foundation Recommendations

5.3.1 Driven Piles

We recommend that the solar panel arrays be supported by driven steel piles. Based on provided project information, we analyzed axial and lateral capacities for W6x9 and W6x12 pile sections. We calculated the following allowable skin friction capacities for driven piles. The pile skin friction can be used to resist axial and uplift loads.

Pile Embedment Length (feet)	Allowable Skin Friction W6x9 (kips)	Allowable Skin Friction W6x12 (kips)
6	12.2	12.5
7	16.1	16.4
8	19.7	20.1

Additionally, the solar panel foundations will need to resist lateral loads. Using the lateral p-y analysis program LPile, we calculated the deflection of the pile head for a W6x9 and W6x12 section under various lateral loads per pile. Based on these analyses and our experience with the pile testing on the adjacent site, the piles should be

embedded a minimum of 7 feet in order to provide fixity at the tip of the pile. Our estimated deflections are summarized in the table below. These deflections are calculated for single piles with no group effects. If the center-to-center spacing of the piles in the final foundation arrangement is less than 6 times the width of the piles, we should be notified so that we can revise our estimates.

Lateral Load per Pile (lbs)	Pile Head Deflection (in)			
	W6x9		W6x12	
	6 ft Embedment	7 ft Embedment	6 ft Embedment	7 ft Embedment
2,500	<¼	<⅛	<⅛	<⅛
3,125	<⅓	<¼	<¼	<¼
3,750	<⅜	<⅓	<⅓	<⅓
5,000	<1	<⅜	<1	<½

5.3.2 Shallow Foundations

Based on our boring data and experience with similar structures, shallow turn-down foundations/slabs appear suitable for support of the equipment pads. The exploration findings indicate that the anticipated construction can be supported by footings bearing on the existing cultivated materials and coastal plain materials or new compacted structural fill. We recommend a maximum allowable net soil bearing pressure of 2,000 psf to size footings supported by these materials. Even though computed footing dimensions may be less, footings should be at least 24 inches wide. These dimensions facilitate reinforcing steel placement and hand cleaning of footing subgrades disturbed by the excavation process. They also reduce the potential for localized punching shear failure. Footing bottoms should be at least 24 inches below the lowest adjacent exterior grade for protection against frost penetration.

Footing excavations must be evaluated by a representative of our firm to observe field conditions in light of our design recommendations. We can also provide geotechnical guidance to the owner's design team if any other unforeseen soil conditions are encountered during construction. Footing excavation often produces a thin veneer of disturbed soil at the footing subgrade. We recommend that this disturbed soil be hand cleaned prior to placing reinforcing steel. Furthermore, the footing excavation bottom should be free of all fall-in soil prior to placing concrete.

The strength properties of soil exposed at the footing subgrade will change if exposed to wetting, drying, or freezing. Whenever possible, concrete should be placed during the day the excavation is completed. If subgrades will be left open for more than one day, they should be covered with polyethylene sheeting. Excavation of disturbed soil may be required if protective measures are not implemented.

5.4 Laboratory Test Results

The laboratory test results performed on the 16 bulk samples of near surface (0 – 1 feet) were summarized in a table above and individual test reports are included in the Appendix for reference. The field resistivity test results were between 4,213 to 50,272 Ω-cm (average of about 12,000 Ω-cm) and the laboratory minimum resistivity test results were between 3,100 and 6,900 Ω-cm (average of about 4,700 Ω-cm). The measured pH levels were

between 5.2 and 7.0 (average of about 6.1). The sulfate content test results were less than 10 to 36 parts per million (PPM) and the chloride contents were less than 10 to 37 ppm. The Federal Highway Administration's (FHWA) *Corrosion/Degradation of Soil Reinforcements for Mechanically Stabilized Earth Walls and Reinforced Soil Slopes* (Publication No. FHWA-NHI-09-087, dated November 2009) provides the following table on the effect of resistivity on corrosion:

Table 5-1: Corrosion Potential

Aggressiveness Potential	Resistivity (Ω-cm)
Very Corrosive	<700
Corrosive	700 – 2,000
Moderately Corrosive	2,000 – 5,000
Mildly Corrosive	5,000 – 10,000
Non-corrosive	>10,000

Additionally, the FHWA publication recommends an allowable pH range of about 5 to 10 and maximum allowable sulfate and chloride contents of 200 ppm and 100 ppm, respectively. Based on these references relative to our laboratory and field testing, the site soils are considered mildly corrosive to non-corrosive.

5.5 Access Road

We anticipate the access roads will consist of compacted soil or gravel. Once construction of the facility is complete, we expect only occasional service truck traffic. While a compacted soil road may suffice for the limited service truck traffic expected, a gravel road may be required to help limit surface run-off. If gravel is selected, we recommend a minimum gravel thickness of 6 inches with an optional single layer of non-woven geotextile fabric for support during construction and facility operation. The gravel should be compacted until no further movement is observed beneath the compaction equipment. We note that construction traffic could damage the gravel pavement in some areas, and repairs of these areas should be expected.

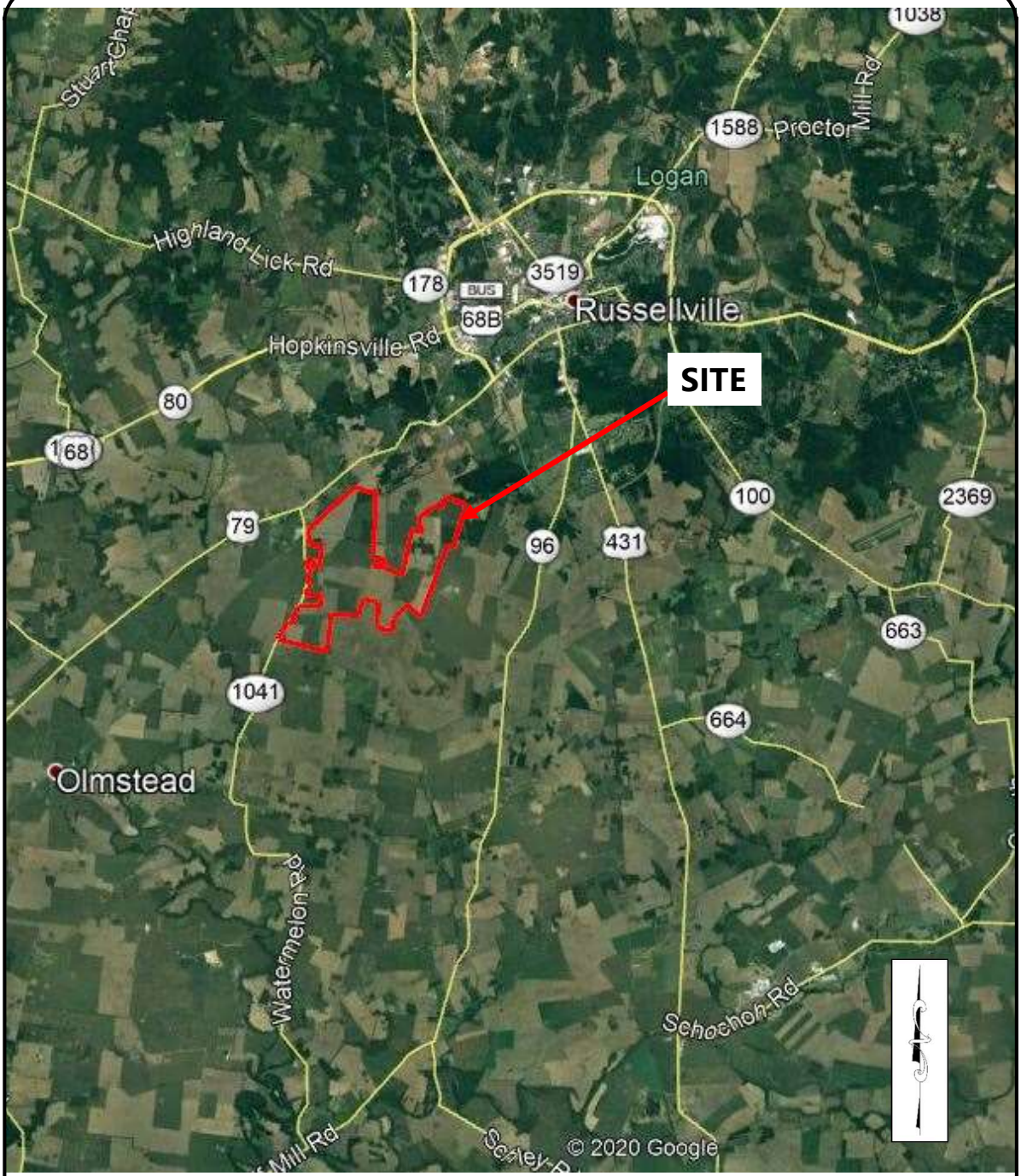
6.0 Limitations of Conclusions and Recommendations

This report has been prepared in accordance with generally accepted geotechnical engineering practice for specific application to this project. The conclusions and recommendations contained in this report are based upon applicable standards of our practice in this geographic area at the time this report was prepared. No other representation or warranty either express or implied, is made. We relied on project information given to us to develop our conclusions and recommendations. If project information described in this report is not accurate, or if it changes during project development, we should be notified of the changes so that we can modify our recommendations based on this additional information if necessary. Our conclusions and recommendations are based on limited data from a field exploration program. Subsurface conditions can vary widely between explored areas. Some variations may not become evident until construction. If conditions are encountered which appear different than those described in our report, we should be notified. This report should not be construed to represent subsurface conditions for the entire site.S&ME should be retained to review the final plans and specifications to confirm that earthwork, foundation, and other recommendations are properly interpreted and

implemented. The recommendations in this report are contingent on S&ME's review of final plans and specifications followed by our observation and monitoring of earthwork and foundation construction activities.

For additional information regarding the use and limitations of this report, please read the *Important Information about your Geotechnical Engineering Report* document located at the end of this report.

Appendix



REFERENCE:
GOOGLE EARTH

	SITE LOCATION PLAN	SCALE: NOT TO SCALE	FIGURE NO.
		DATE: 12-3-20	**1**
	RUSSELLVILLE SOLAR FACILITY RUSSELLVILLE, KENTUCKY	PROJECT NUMBER 1280-20-070	

REFERENCE:
GOOGLE EARTH PRO AERIAL PHOTOGRAPH
(DATED MAY 19, 2019)

LEGEND

Approximate Location of ERT Profile

Approximate Soil Boring Location

TEST BORING AND GEOPHYSICAL SURVEY LOCATION PLAN

RUSSELLVILLE SOLAR FACILITY
RUSSELLVILLE, KENTUCKY

SCALE:
AS SHOWN

DATE:
12/3/2020

PROJECT NUMBER
1280-20-070

FIGURE NO.
2

Resistivity
(Ohm-m)

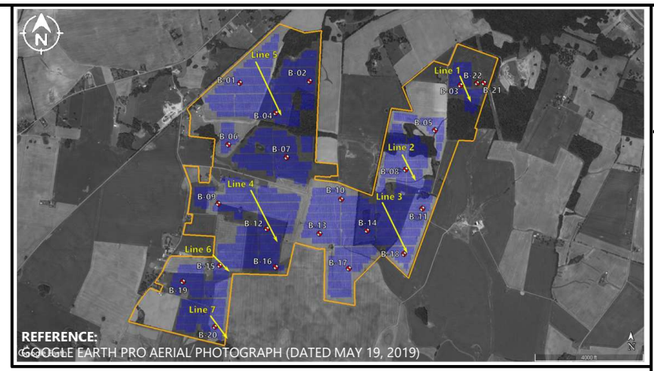
20 50 80 200 500 800 2000 5000

LEGEND

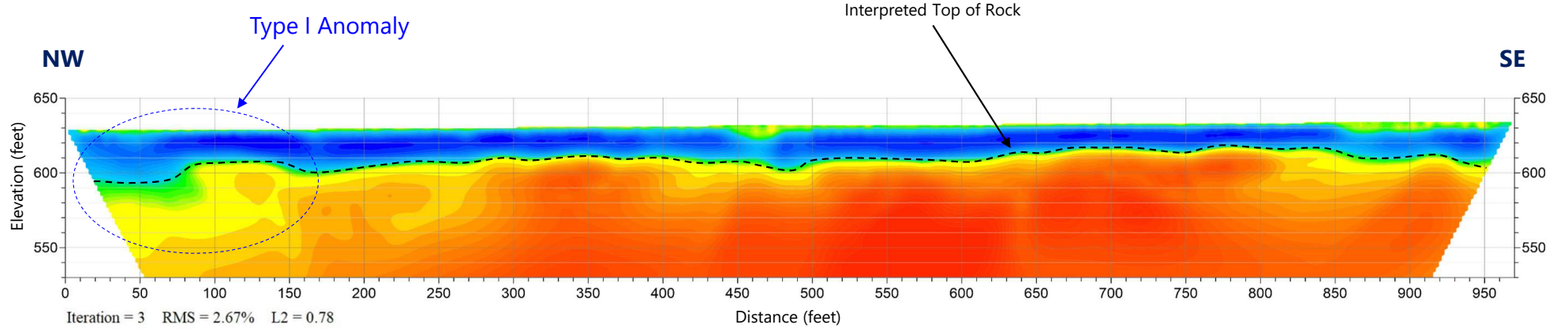
Approximate Location of ERT Profile

Approximate Boring Location

Approximate Boring Location
(hash mark indicates Auger Refusal)



Line 1



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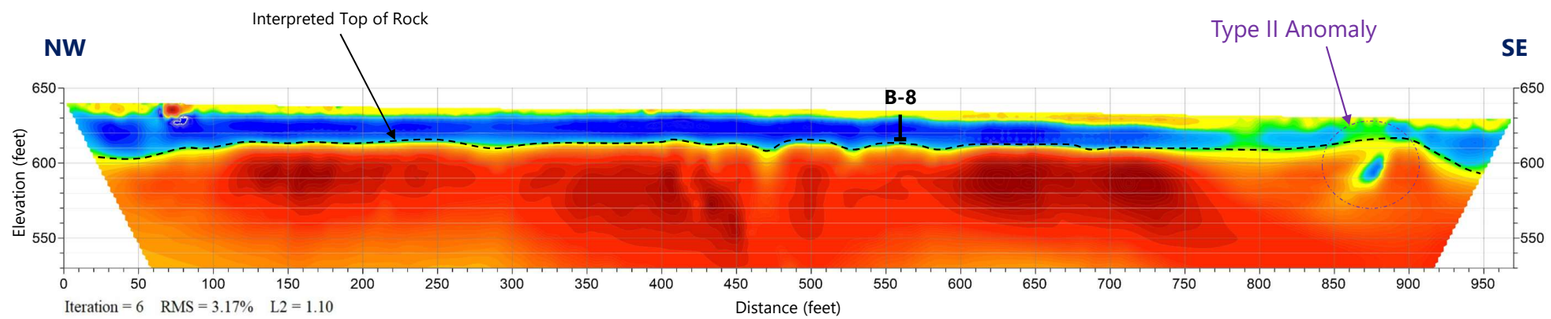


GEOPHYSICAL DATA PROFILES – LINES 1 AND 2

RUSSELLVILLE SOLAR FACILITY
RUSSELLVILLE, KENTUCKY

SCALE:
AS SHOWN

DATE:
12/3/2020

PROJECT NUMBER
1280-20-070

FIGURE NO.
3

LEGEND

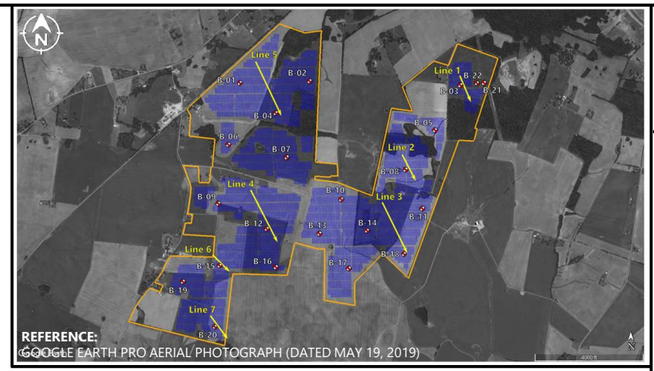
Approximate Location of ERT Profile

Approximate Boring Location

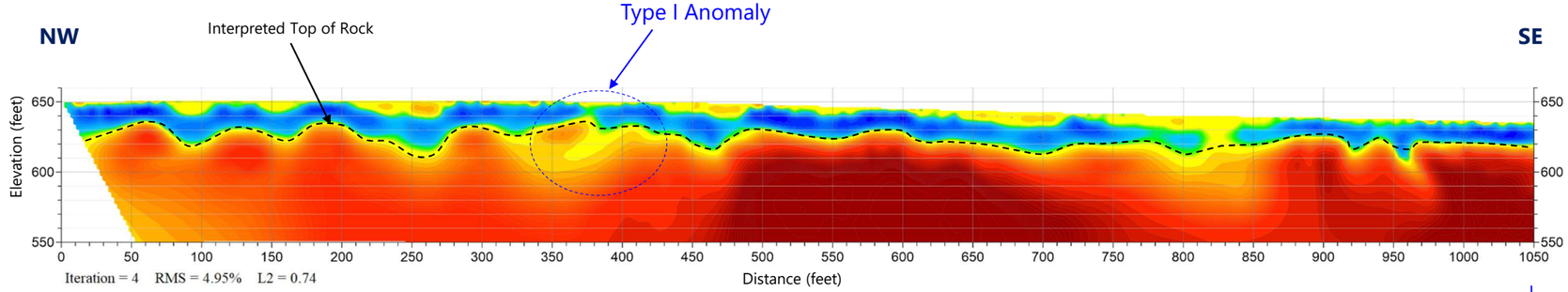
Resistivity (Ohm-m)

20 50 80 200 500 800 2000 5000

Approximate Boring Location
(hash mark indicates Auger Refusal)

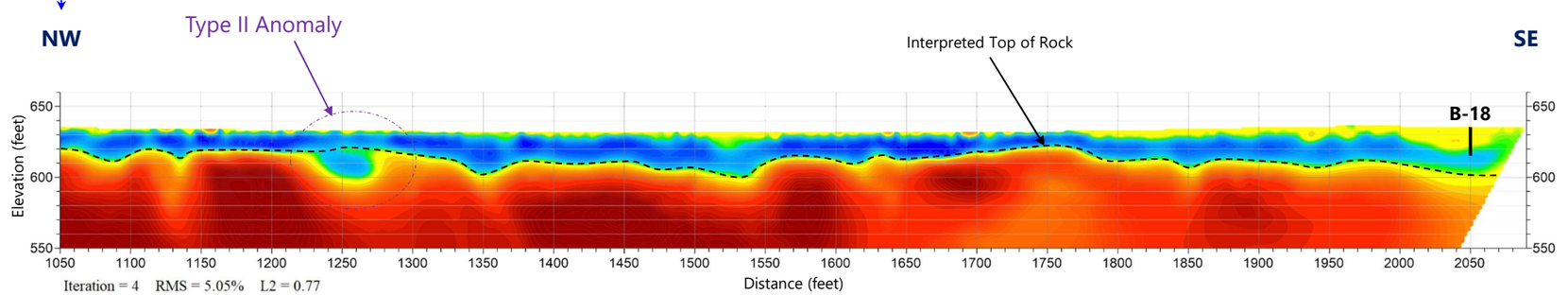


Line 3



Matchline

Line 3 (cont.)



GEOPHYSICAL DATA PROFILE – LINE 3

RUSSELLVILLE SOLAR FACILITY
RUSSELLVILLE, KENTUCKY

SCALE: AS SHOWN

DATE: 12/3/2020

PROJECT NUMBER: 1280-20-070

FIGURE NO.: **4**

Resistivity
(Ohm-m)

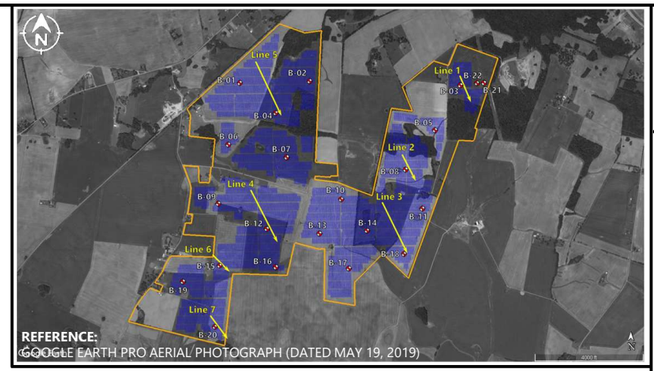
20 50 80 200 500 800 2000 5000

LEGEND

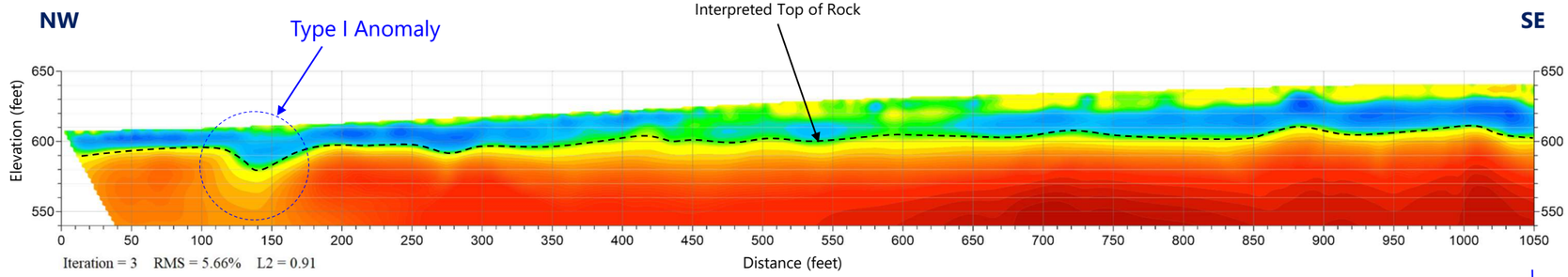
Approximate Location of ERT Profile

Approximate Boring Location

Approximate Boring Location
(hash mark indicates Auger Refusal)

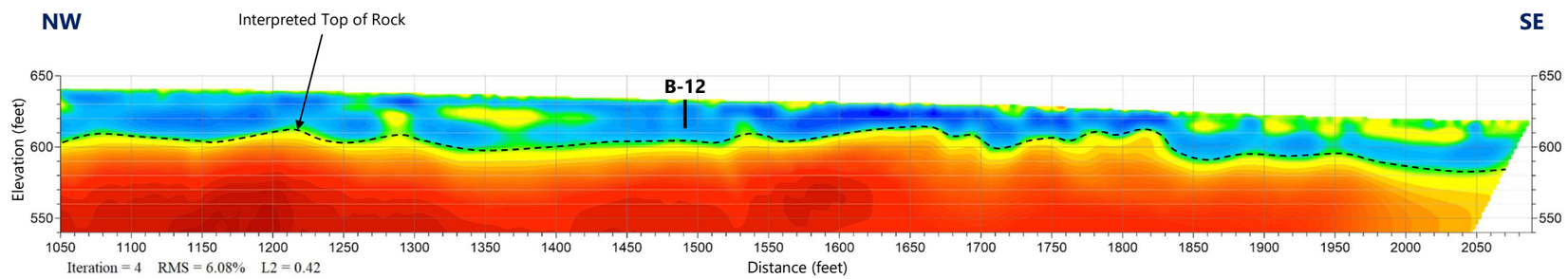


Line 4



Matchline

Line 4 (cont.)



GEOPHYSICAL DATA PROFILE – LINE 4

RUSSELLVILLE SOLAR FACILITY
RUSSELLVILLE, KENTUCKY

SCALE:
AS SHOWN

DATE:
12/3/2020

PROJECT NUMBER
1280-20-070

FIGURE NO.
5

LEGEND

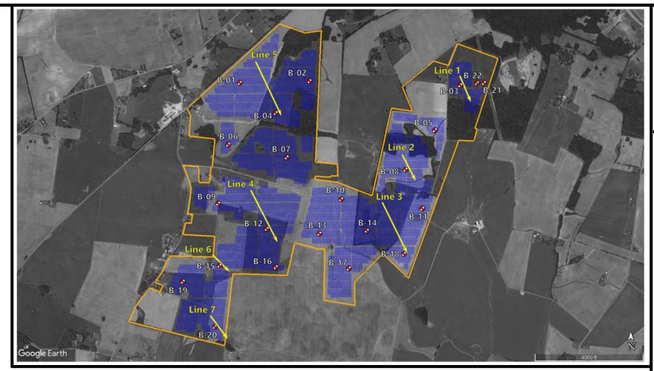
Approximate Location of ERT Profile

Approximate Boring Location

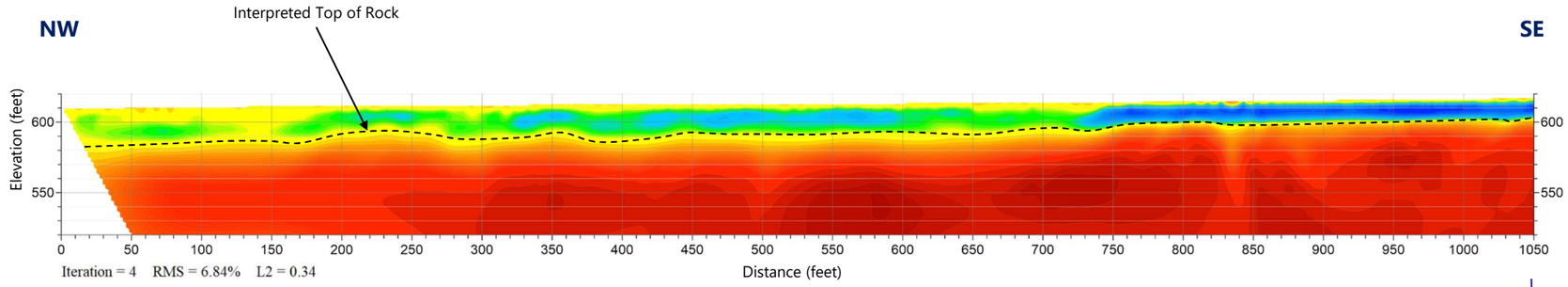
Resistivity (Ohm-m)

20 50 80 200 500 800 2000 5000

Approximate Boring Location
(hash mark indicates Auger Refusal)

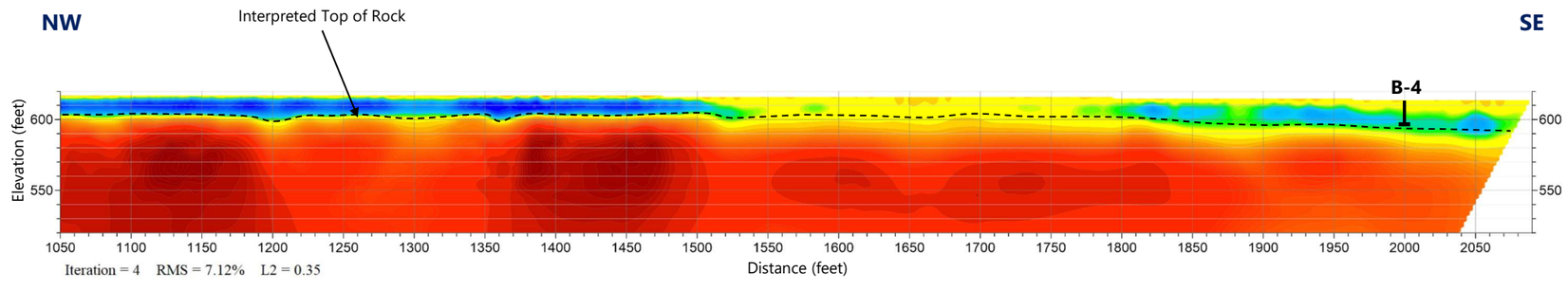


Line 5



Matchline

Line 5 (cont.)



GEOPHYSICAL DATA PROFILE – LINE 5

RUSSELLVILLE SOLAR FACILITY
RUSSELLVILLE, KENTUCKY

SCALE: AS SHOWN

DATE: 12/3/2020

PROJECT NUMBER: 1280-20-070

FIGURE NO.: 6

Resistivity
(Ohm-m)

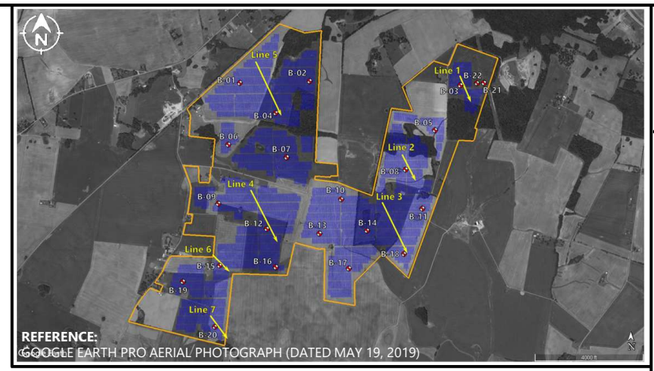
20 50 80 200 500 800 2000 5000

LEGEND

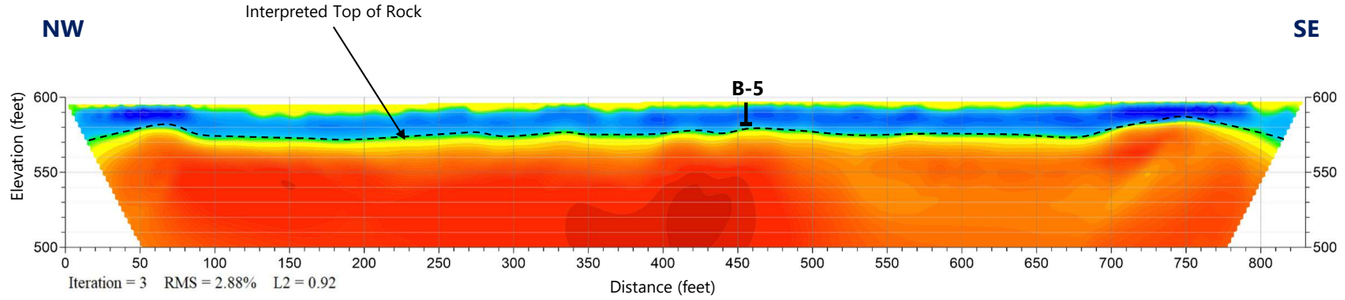
Approximate Location of ERT Profile

Approximate Boring Location

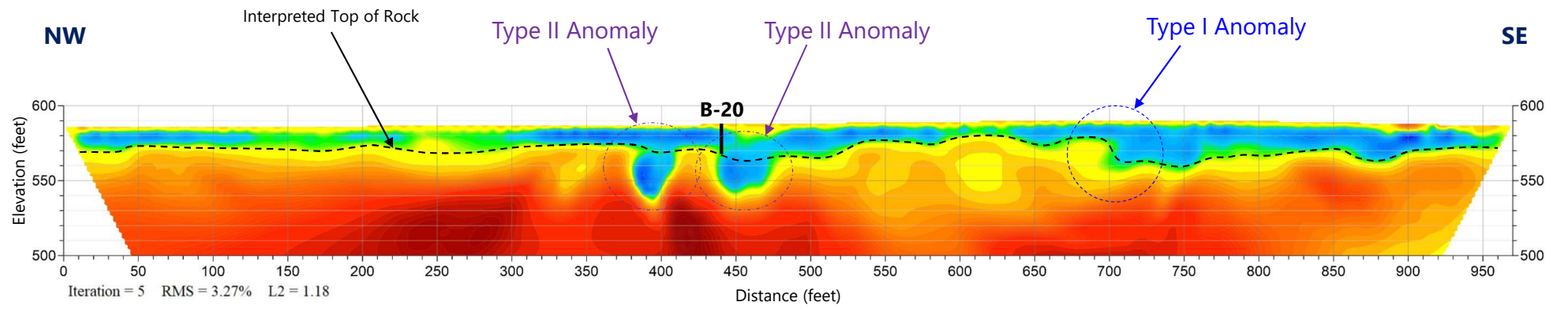
Approximate Boring Location
(hash mark indicates Auger Refusal)



Line 6



Line 7



GEOPHYSICAL DATA PROFILES – LINES 6 AND 7

RUSSELLVILLE SOLAR FACILITY
RUSSELLVILLE, KENTUCKY

SCALE:
AS SHOWN

DATE:
12/3/2020

PROJECT NUMBER
1280-20-070

FIGURE NO.
7

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-01** *Sheet 1 of 1*
DATE DRILLED: 11/17/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 18.6 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" SSA	**LOGGED BY:** Eric Conway	**Northing:** 3453958.1 **Easting:** 4570993.3
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), with silt, and roots, firm, brown, slightly moist to moist, Cultivated zone	3-3-5 N= 8 PPV= 1.8		0
				SS-2		2-2-4 N= 6 PPV= 0.8		
		Residuum		SS-3	LEAN CLAY WITH SAND (CL), some rock fragments, stiff, brown and tan, Residuum	5-6-6 N= 12 PPV= 3.2		
5								-5
				SS-4	FAT CLAY (CH), stiff, brown, moist, Residuum	3-4-6 N= 10 PPV= 2.5		
10								-10
	Ground up fragments from the auger to about 19 feet			SS-5	Limestone, gray	50/1" N= 100		
15								-15
	Auger refusal at 18.6 feet				Borehole terminated at 18.6 feet			
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/17/2020		not encountered
END OF DRILLING	▼	11/17/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-02** *Sheet 1 of 1*
DATE DRILLED: 11/17/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" SSA	**LOGGED BY:** Eric Conway	**Northing:** 3454012.8 **Easting:** 4573553.9
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), with silt, and roots, firm to stiff, gray brown, slightly moist, Cultivated zone	1-2-3 N= 5 PPV= 2.0		0
				SS-2		3-4-6 N= 10 PPV= 1.2		
		Residuum		SS-3	LEAN CLAY WITH SAND (CL), some silt, with rock fragments, very stiff, yellow brown with gray, slightly moist, Residuum	6-9-10 N= 19 PPV= 3.8		
5								-5
				SS-4		7-14-16 N= 30 PPV= 4.5		
10								-10
					SANDY FAT CLAY (CH), very stiff, red brown, moist, Residuum			
				SS-5		4-6-10 N= 16 PPV= 2.0		
15								-15
					FAT CLAY (CH), soft, brown, wet, Residuum			
				SS-		1-1-2 N= 3 PPV= 0.2		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/17/2020		not encountered
END OF DRILLING	▼	11/17/2020		
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-03 *Sheet 1 of 1*
DATE DRILLED: 11/20/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3453793.2 **Easting:** 4579151.0
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, dark brown, moist, Cultivated Zone	1-2-3 N= 5		0
		Residuum		SS-2	LEAN CLAY (CL), some silt, stiff to very stiff, brown, moist, Residuum	4-6-9 N= 15		
				SS-3		12-16-16 N= 32		
5								-5
				SS-4		4-6-8 N= 14		
10								-10
				SS-5		4-6-8 N= 14		
15								-15
				SS-6	LEAN CLAY (CL), soft, brown, very moist, Residuum	1-2-1 N= 3		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/20/2020		not encountered
END OF DRILLING	▼	11/20/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-04 *Sheet 1 of 1*
DATE DRILLED: 11/17/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 17.2 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" SSA	**LOGGED BY:** Eric Conway	**Northing:** 3452887.8 **Easting:** 4572394.0
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, Δ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), with silt, firm, brown, very moist, Cultivated zone	1-3-3 N= 6 PPV= 1.5	●	0
		Residuum		SS-2	LEAN CLAY WITH SAND (CL), few rock fragments, stiff to very stiff, yellow brown with gray, slightly moist to moist, Residuum	3-5-8 N= 13 PPV= 3.5	●	
				SS-3		9-10-13 N= 23 PPV= 2.5	●	
5								-5
				SS-4		6-8-10 N= 18 PPV= 2.5	●	
10								-10
				SS-5		6-6-7 N= 13	●	
15								-15
	Auger refusal at 17.2 feet				Borehole terminated at 17.2 feet			
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/17/2020		not encountered
END OF DRILLING	▼	11/17/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-05 *Sheet 1 of 1*
DATE DRILLED: 11/20/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 14.2 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3452151.6 **Easting:** 4578138.5
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), some silt, soft, tan with gray, wet, Cultivated Zone	1-1-3 N= 4 PPV= 1.0		0
		Residuum		SS-2	LEAN CLAY (CL), trace sand, very stiff to stiff, tan and gray, moist, Residuum	5-8-10 N= 18 PPV= 3.5		
5				SS-3		12-15-15 N= 30 PPV= 3.2		-5
				SS-4		4-4-5 N= 9 PPV= 2.0		
10								-10
				SS-5		50/4" N= 100 PPV= 1.5		
15	Auger refusal at 14.2 feet				Borehole terminated at 14.2 feet			-15
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/20/2020		not encountered
END OF DRILLING	▼	11/20/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-06** *Sheet 1 of 1*
DATE DRILLED: 11/17/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 18.6 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" SSA	**LOGGED BY:** Eric Conway	**Northing:** 3451674.7 **Easting:** 4570554.6
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), with silt, some roots, firm, brown, moist, Cultivated zone	1-2-3 N= 5 PPV= 0.8		0
		Residuum		SS-2	LEAN CLAY (CL), trace sand, firm to stiff, red brown, moist, Residuum	2-3-5 N= 8 PPV= 1.2		
				SS-3		4-5-5 N= 10 PPV= 1.5		
5								-5
				SS-4		4-5-7 N= 12 PPV= 3.5		
10								-10
				SS-5	FAT CLAY (CH), with sand, yellow brown, very moist, Residuum	N= 0 PPV= 3.5		
15	Ground up fragments from the auger				Limestone, gray			-15
	Auger refusal at 18.6 feet				Borehole terminated at 18.6 feet			
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/17/2020		not encountered
END OF DRILLING	▼	11/17/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-07** *Sheet 1 of 1*
DATE DRILLED: 11/18/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3451197.2 **Easting:** 4572697.8
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	SILT (ML), with clay, firm, brown, moist, Cultivated Zone	1-3-3 N= 6 PPV= 1.8		0
		Residuum		SS-2	LEAN CLAY (CL), with silt, very stiff to stiff, yellow brown, slightly moist to moist, Residuum	4-8-13 N= 21 PPV= 3.5		
				SS-3		11-12-15 N= 27 PPV= 2.2		
5								-5
				SS-4		5-8-11 N= 19 PPV= 2.2		
10								-10
				SS-5		4-5-7 N= 12 PPV= 2.2		
15					LEAN CLAY (CL), with silt, and sand, firm, yellow brown with gray, wet, Residuum			-15
				SS-6		2-2-3 N= 5 PPV= 0.5		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/18/2020		not encountered
END OF DRILLING	▼	11/18/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-08** *Sheet 1 of 1*
DATE DRILLED: 11/20/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 14.8 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3450696.3 **Easting:** 4577051.9
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, Δ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, dark brown, very moist, Cultivated Zone	1-3-4 N= 7 PPV= 2.5	●	0
		Residuum		SS-2	LEAN CLAY (CL), some silt, stiff to very stiff, red brown, slightly moist, Residuum	6-6-7 N= 13 PPV= 2.0	●	
5				SS-3		8-11-13 N= 24 PPV= 3.2	●	-5
				SS-4	LEAN CLAY (CL), stiff, tan and gray, slightly moist, Residuum	4-5-7 N= 12 PPV= 3.5	●	
10								-10
				SS-5	LIMESTONE, light gray, ground from augers	50/1" N= 100	●	
15	Auger refusal at 14.8 feet				Borehole terminated at 14.8 feet			-15
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/20/2020		not encountered
END OF DRILLING	▼	11/20/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-09 *Sheet 1 of 1*
DATE DRILLED: 11/18/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 19.1 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3449535.4 **Easting:** 4570155.5
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, dark brown, very moist, Cultivated Zone	2-3-4 N= 7 PPV= 1.0		0
				SS-2	FAT CLAY (CH), with silt, trace sand, firm to stiff, red brown to orange brown, moist to slightly moist, Residuum	4-4-4 N= 8 PPV= 2.0		
5		Residuum		SS-3		6-6-8 N= 14 PPV= 2.0		-5
				SS-4		4-6-7 N= 13 PPV= 2.5		
10								-10
				SS-5		4-5-8 N= 13 PPV= 3.2		
15								-15
				SS-6	*ground limestone rock*	1-50/1" N= 100 PPV= 2.5		
20	Auger refusal at 19.1 feet				Borehole terminated at 19.1 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/18/2020		not encountered
END OF DRILLING	▼	11/18/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-10** *Sheet 1 of 1*
DATE DRILLED: 11/19/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3449652.4 **Easting:** 4574676.1
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), some silt, firm, dark brown, moist, Cultivated Zone	1-2-3 N= 5 PPV= 1.0		0
				SS-2	LEAN CLAY (CL), some silt, trace sand, stiff, tan, slightly moist, Residuum	4-5-7 N= 12 PPV= 1.5		
5		Residuum		SS-3	LEAN CLAY (CL), some silt, few rock fragments, trace silt, very stiff to stiff, orange brown with mottled gray, slightly moist, Residuum	7-9-12 N= 21 PPV= 3.5		-5
				SS-4		4-8-10 N= 18 PPV= 4.0		
10								-10
				SS-5		4-9-12 N= 21		
15								-15
				SS-6		4-7-8 N= 15		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/19/2020		not encountered
END OF DRILLING	▼	11/19/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-11** *Sheet 1 of 1*
DATE DRILLED: 11/20/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3449262.2 **Easting:** 4577638.6
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, dark brown, very moist, Cultivated Zone	2-2-4 N= 6 PPV= 1.5		0
		Residuum		SS-2	LEAN CLAY (CL), some silt, stiff, red brown, slightly moist, Residuum	3-4-5 N= 9 PPV= 1.2		
				SS-3		6-6-7 N= 13 PPV= 2.5		
5								-5
				SS-4		4-4-7 N= 11 PPV= 4.0		
10								-10
				SS-5		4-5-7 N= 12 PPV= 2.5		
15								-15
				SS-6	LEAN CLAY (CL), firm, tan with gray, slightly moist, Residuum	4-2-4 N= 6 PPV= 2.0		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/20/2020		not encountered
END OF DRILLING	▼	11/20/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-12** *Sheet 1 of 1*
DATE DRILLED: 11/18/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3448594.3 **Easting:** 4571981.6
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	SILT (ML), soft, brown, moist, Cultivated Zone	1-1-2 N= 3 PPV= 1.5		0
		Residuum		SS-2	FAT CLAY (CH), with silt, trace sand, firm to stiff, red brown, slightly moist, Residuum	2-2-4 N= 6 PPV= 3.0		
				SS-3		6-7-7 N= 14 PPV= 3.2		
5								-5
				SS-4	LEAN CLAY (CL), few rock fragments, some silt, very stiff to hard, yellow brown, slightly moist, Residuum	4-5-12 N= 17 PPV= 4.0		
10								-10
				SS-5		6-13-21 N= 34 PPV= 4.5		
15								-15
				SS-6		6-8-10 N= 18 PPV= 3.5		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/18/2020		not encountered
END OF DRILLING	▼	11/18/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-13 *Sheet 1 of 1*
DATE DRILLED: 11/19/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 18.6 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3448397.8 **Easting:** 4573853.6
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, Δ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	SILT (ML), some clay, soft, dark brown, very moist, Cultivated Zone	1-2-2 N= 4 PPV= 0.5	●	0
		Residuum		SS-2	LEAN CLAY (CL), trace sand, some silt, firm to very stiff, tan with mottled gray, moist, Residuum	2-2-4 N= 6 PPV= 1.5	●	
				SS-3		4-5-5 N= 10 PPV= 2.5	●	
5								-5
				SS-4		6-9-10 N= 19 PPV= 4.5	●	
10						PPV= 2.5		-10
				SS-5		4-5-7 N= 12	●	
15					LIMESTONE, light gray, highly weathered with some clay			-15
	Auger refusal at 18.6 feet			SS-6	Borehole terminated at 18.6 feet	50/1" N= 100	●	
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/19/2020		not encountered
END OF DRILLING	▼	11/19/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-14** *Sheet 1 of 1*
DATE DRILLED: 11/20/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 13.5 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3448475.6 **Easting:** 4575619.2
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	SILT (ML), some clay, firm, dark brown and gray, moist, Cultivated Zone	1-3-2 N= 5 PPV= 1.5		0
				SS-2		2-3-4 N= 7 PPV= 2.0		
		Residuum		SS-3	LEAN CLAY (CL), very stiff, red brown and tan, slightly moist, Residuum	6-8-9 N= 17 PPV= 3.5		-5
5								
10				SS-4		6-8-12 N= 20 PPV= 4.5		-10
	Auger refusal at 13.5 feet				Borehole terminated at 13.5 feet			
15								-15
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/20/2020		not encountered
END OF DRILLING	▼	11/20/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-15** *Sheet 1 of 1*
DATE DRILLED: 11/18/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 17.1 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3447326.0 **Easting:** 4570271.5
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20, 40, 60, 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), with silt, firm to stiff, brown, moist, Cultivated Zone	1-3-3 N= 6 PPV= 1.5		0
				SS-2		4-5-7 N= 12 PPV= 2.0		
5		Residuum		SS-3	LEAN CLAY (CL), with silt, trace rock fragments, and sand, very stiff to firm, yellow brown with gray, slightly moist, Residuum	8-11-11 N= 22 PPV= 2.8		-5
				SS-4		5-6-8 N= 14 PPV= 2.5		
10								-10
15				SS-5		3-3-5 N= 8 PPV= 2.5		-15
	Auger refusal at 17.1 feet				Borehole terminated at 17.1 feet			
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/18/2020		not encountered
END OF DRILLING	▼	11/18/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-16** *Sheet 1 of 1*
DATE DRILLED: 11/18/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3447166.4 **Easting:** 4572245.4
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), some silt, firm, brown, moist, Cultivated Zone	1-2-3 N= 5 PPV= 1.8		0
		Residuum		SS-2	FAT CLAY (CH), with silt, and sand, stiff, red brown, moist to very moist, Residuum	4-4-5 N= 9 PPV= 1.5		
5				SS-3		5-5-7 N= 12 PPV= 1.8		-5
				SS-4		4-4-6 N= 10 PPV= 2.0		
10								-10
				SS-5	LEAN CLAY (CL), trace sand, and silt, stiff to firm, yellow brown and tan, slightly moist, Residuum	4-6-8 N= 14 PPV= 2.2		
15								-15
				SS-6		2-4-3 N= 7 PPV= 1.8		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/18/2020		not encountered
END OF DRILLING	▼	11/18/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

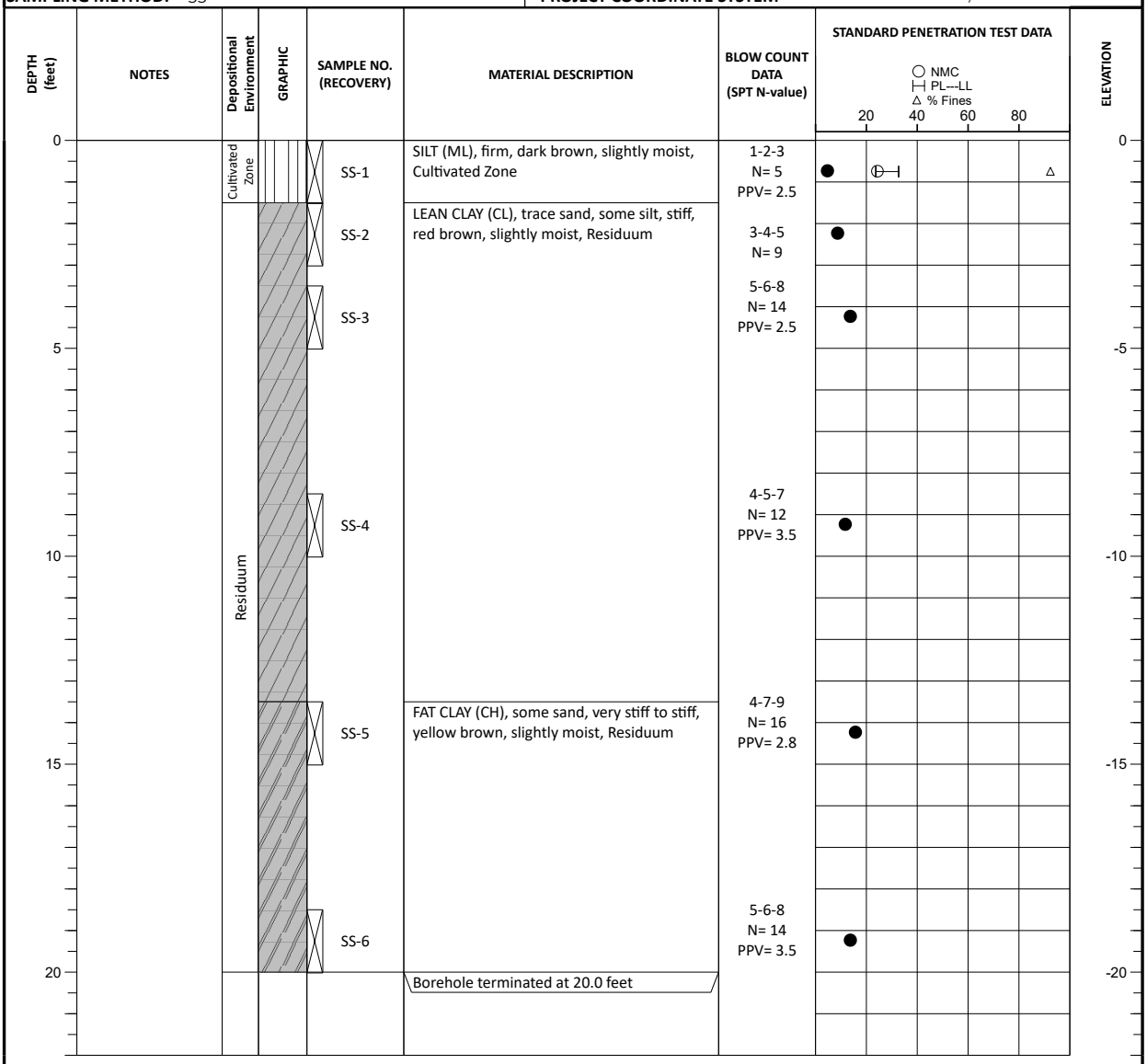
Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-17** *Sheet 1 of 1*
DATE DRILLED: 11/19/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3447087.6 **Easting:** 4574919.8
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, dark brown, slightly moist, Cultivated Zone	1-3-3 N= 6 PPV= 0.5		0
		Residuum		SS-2	LEAN CLAY (CL), some silt, trace sand, stiff, dark brown to red brown, moist to slightly moist, Residuum	2-4-6 N= 10 PPV= 1.8		
				SS-3		4-6-9 N= 15 PPV= 3.2		
5								-5
				SS-4		4-5-7 N= 12 PPV= 3.2		
10					SANDY LEAN CLAY (CL), with silt, very stiff, yellow brown and mottled gray, slightly moist, Residuum			-10
				SS-5		6-10-12 N= 22 PPV= 4.5		
15								-15
				SS-6		4-8-10 N= 18		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/19/2020		not encountered
END OF DRILLING	▼	11/19/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-18 *Sheet 1 of 1*
DATE DRILLED: 11/19/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3447646.7 **Easting:** 4576986.2
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	



GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/19/2020		not encountered
END OF DRILLING	▼	11/19/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-19 *Sheet 1 of 1*
DATE DRILLED: 11/18/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3446684.7 **Easting:** 4568834.2
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, brown, moist, Cultivated Zone	2-2-4 N= 6 PPV= 2.5		0
		Residuum		SS-2	FAT CLAY (CH), with silt, trace sand, stiff to very stiff, red brown, slightly moist to moist, Residuum	4-5-6 N= 11 PPV= 2.0		
				SS-3		6-8-8 N= 16 PPV= 2.5		
5								-5
				SS-4		4-4-7 N= 11 PPV= 3.0		
10								-10
				SS-5		5-8-10 N= 18 PPV= 3.5		
15								-15
				SS-6	FAT CLAY (CH), very stiff, yellow brown, slightly moist, Residuum	4-8-12 N= 20 PPV= 3.0		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/18/2020		not encountered
END OF DRILLING	▼	11/18/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	**Russellville Solar Facility** **Russellville, Kentucky** **1280-20-070**	**BORING LOG: B-20** *Sheet 1 of 1*
DATE DRILLED: 11/19/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 20.0 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3444995.9 **Easting:** 4569985.0
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), soft, dark brown, very moist, Cultivated Zone	1-2-2 N= 4 PPV= 1.5		0
		Residuum		SS-2	LEAN CLAY (CL), some rock fragments, some silt, soft to very firm, brown to orange brown, very moist, Residuum	2-2-2 N= 4 PPV= 0.5		
				SS-3		3-4-5 N= 9 PPV= 1.0		
5								-5
				SS-4		1-1-1 N= 2 PPV= 1.0		
10								-10
				SS-5	FAT CLAY WITH SAND (CH), some rock fragments, soft to very soft, yellow brown, wet, Residuum	1-2-2 N= 4		
15								-15
				SS-6		1-2-1 N= 3		
20					Borehole terminated at 20.0 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/19/2020	13.5	
END OF DRILLING	▼	11/19/2020	13.5	
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-21 *Sheet 1 of 1*
DATE DRILLED: 11/21/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 18.2 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3453829.5 **Easting:** 4579742.1
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, △ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, brown, moist, Cultivated Zone	2-4-4 N= 8	●	0
				SS-2	LEAN CLAY (CL), some silt, very stiff to stiff, brown, slightly moist, Residuum	5-8-10 N= 18	●	
				SS-3		12-12-18 N= 30	●	
5								-5
				SS-4		5-8-9 N= 17	●	
10		Residuum						-10
				SS-5		4-6-8 N= 14	●	
15								-15
	Auger refusal at 18.2 feet				Borehole terminated at 18.2 feet			
20								-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/21/2020		not encountered
END OF DRILLING	▼	11/21/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Project:	Russellville Solar Facility Russellville, Kentucky 1280-20-070	BORING LOG: B-22 *Sheet 1 of 1*
DATE DRILLED: 11/21/2020	**ELEVATION:**	**NOTES:**
DRILL RIG: Diedrich D-50 (ATC)	**DATUM:** NAVD88	
DRILLER: S&ME	**BORING DEPTH:** 19.3 ft	
HAMMER TYPE: Auto Hammer (140 lb)	**CLOSURE:** Cuttings	
DRILLING METHOD: 3-1/4" HSA	**LOGGED BY:** Eric Conway	**Northing:** 3453826.3 **Easting:** 4579937.1
SAMPLING METHOD: SS	**PROJECT COORDINATE SYSTEM -** NAD 1983 StatePlane Kentucky FIPS 1600 Feet	

DEPTH (feet)	NOTES	Depositional Environment	GRAPHIC	SAMPLE NO. (RECOVERY)	MATERIAL DESCRIPTION	BLOW COUNT DATA (SPT N-value)	STANDARD PENETRATION TEST DATA (○ NMC, ⊢ PL—LL, Δ % Fines; 20 40 60 80)	ELEVATION
0		Cultivated Zone		SS-1	LEAN CLAY (CL), firm, dark brown, moist, Cultivated Zone	2-2-4 N= 6		0
				SS-2	LEAN CLAY (CL), some silt, stiff to very stiff, brown, slightly moist, Residuum	4-6-9 N= 15		
				SS-3		6-8-12 N= 20		
5								-5
		Residuum		SS-4		6-8-9 N= 17		
10								-10
				SS-5		6-7-9 N= 16		
15								-15
				SS-6	LIMESTONE, gray, highly weathered and ground up	50/1" N= 100		
20	Auger refusal at 19.3 feet				Borehole terminated at 19.3 feet			-20

GROUNDWATER		DATE/TIME	DEPTH (FT)	REMARKS
DURING ADVANCE	▽	11/21/2020		not encountered
END OF DRILLING	▼	11/21/2020		dry
AFTER DRILLING	▼			
AFTER DRILLING	▼			

GROUNDWATER DEPTHS ARE NOT EXACT AND MAY VARY SUBSTANTIALLY FROM THOSE INDICATED.
LL=Liquid Limit, PL = Plastic Limit, NM = Natural Moisture Content, PPV = Pocket Penetrometer (tsf), PTV = Pocket Torvane (tsf)

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russellville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-01 North-South

Date: 11/17/2020 **Time:** 12:20 PM

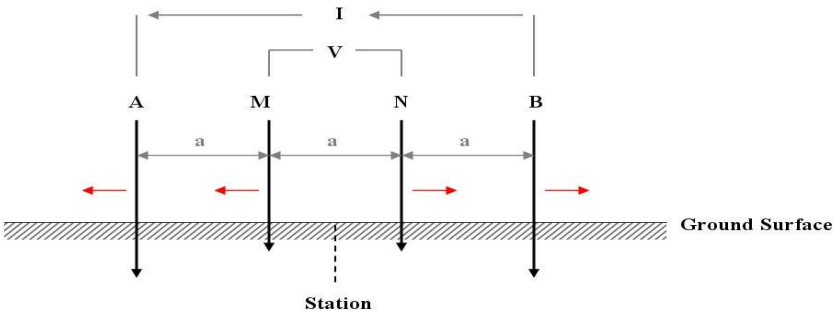
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

$\rho = 2\pi \cdot a \cdot R$



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	15.00	5745	188	90	
5	152.40	6	7.50	7182	236	90	
8	243.84	6	4.60	7048	231	90	
12	365.76	12	2.90	6665	219	90	
15	457.20	12	2.30	6607	217	90	
25	762.00	12	2.10	10054	330	90	
40	1219.20	12	1.90	14555	478	90	
60	1828.80	12	1.80	20683	679	90	
75	2286.00	12	1.70	24418	801	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russellville Solar Facility **Project #:** 1280-20-070

Project Location: Baxley, Georgia **Location:** B-01 East-West

Date: 11/17/2020 **Time:** 12:20 PM

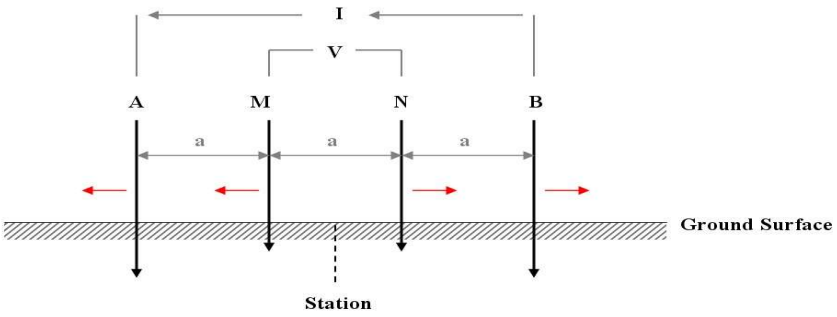
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

$\rho = 2\pi \cdot a \cdot R$



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	16.00	6128	201	90	
5	152.40	6	6.80	6511	214	90	
8	243.84	6	4.50	6894	226	90	
12	365.76	12	2.90	6665	219	90	
15	457.20	12	2.40	6894	226	90	
25	762.00	12	2.00	9576	314	90	
40	1219.20	12	2.00	15321	503	90	
60	1828.80	12	1.90	21832	716	90	
75	2286.00	12	1.90	27290	895	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russellville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-02 North-South

Date: 11/17/2020 **Time:** 2:30 PM

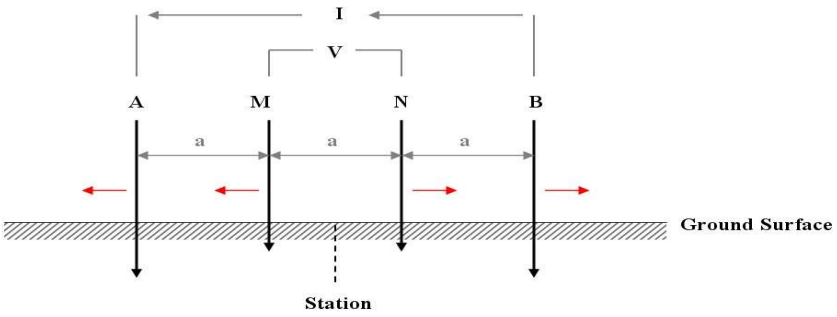
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	12.00	4596	151	90	
5	152.40	6	7.40	7086	232	90	
8	243.84	6	5.20	7967	261	90	
12	365.76	12	3.70	8503	279	90	
15	457.20	12	3.00	8618	283	90	
25	762.00	12	2.10	10054	330	90	
40	1219.20	12	1.70	13023	427	90	
60	1828.80	12	1.65	18960	622	90	
75	2286.00	12	1.60	22981	754	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-02 East-West

Date: 11/17/2020 **Time:** 2:30 PM

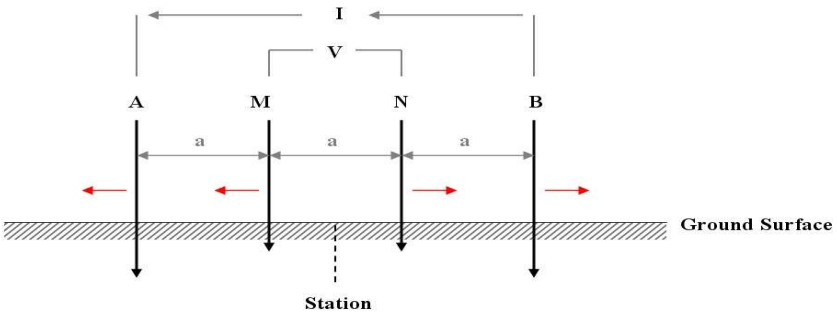
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	13.00	4979	163	90	
5	152.40	6	7.50	7182	236	90	
8	243.84	6	5.60	8580	281	90	
12	365.76	12	4.10	9422	309	90	
15	457.20	12	3.30	9480	311	90	
25	762.00	12	2.10	10054	330	90	
40	1219.20	12	1.80	13789	452	90	
60	1828.80	12	1.50	17236	565	90	
75	2286.00	12	1.50	21545	707	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russellville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-03 North-South

Date: 11/20/2020 **Time:** 11:00 AM

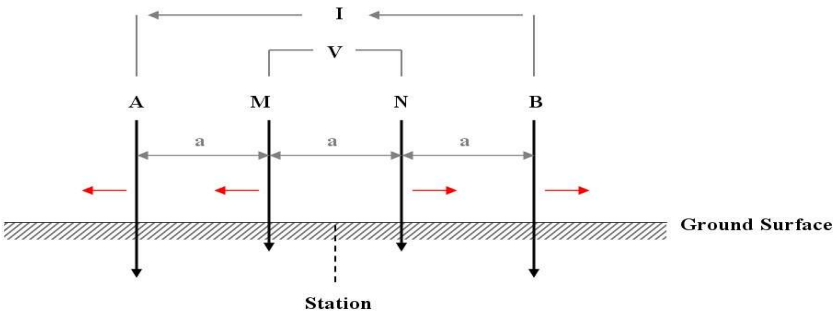
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	14.50	5554	182	90	
5	152.40	6	5.90	5650	185	90	
8	243.84	6	3.00	4596	151	90	
12	365.76	12	1.90	4366	143	90	
15	457.20	12	1.50	4309	141	90	
25	762.00	12	1.30	6224	204	90	
40	1219.20	12	1.20	9193	302	90	
60	1828.80	12	1.10	12640	415	90	
75	2286.00	12	1.10	15800	518	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-03 East-West

Date: 11/20/2020 **Time:** 11:00 AM

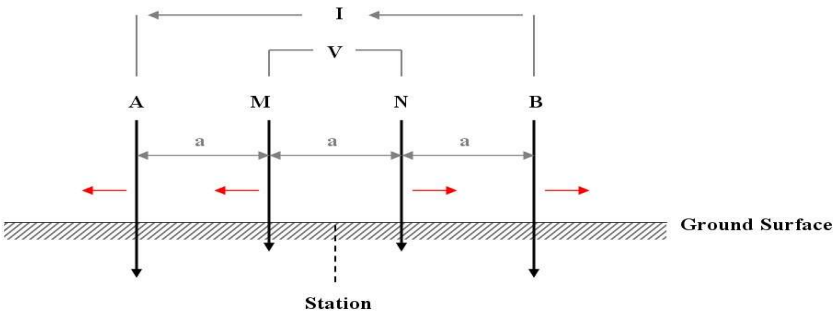
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

$\rho = 2\pi \cdot a \cdot R$



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	15.00	5745	188	90	
5	152.40	6	5.70	5458	179	90	
8	243.84	6	3.10	4749	156	90	
12	365.76	12	1.90	4366	143	90	
15	457.20	12	1.50	4309	141	90	
25	762.00	12	1.30	6224	204	90	
40	1219.20	12	1.15	8810	289	90	
60	1828.80	12	1.05	12065	396	90	
75	2286.00	12	1.00	14363	471	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-05 North-South

Date: 11/20/2020 **Time:** 9:00 AM

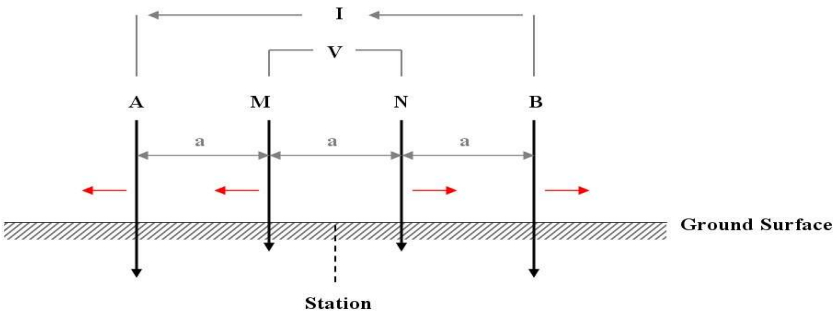
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	15.50	5937	195	90	
5	152.40	6	5.80	5554	182	90	
8	243.84	6	2.80	4290	141	90	
12	365.76	12	1.90	4366	143	90	
15	457.20	12	1.50	4309	141	90	
25	762.00	12	1.50	7182	236	90	
40	1219.20	12	1.40	10725	352	90	
60	1828.80	12	1.40	16087	528	90	
75	2286.00	12	1.35	19391	636	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-05 East-West

Date: 11/20/2020 **Time:** 9:00 AM

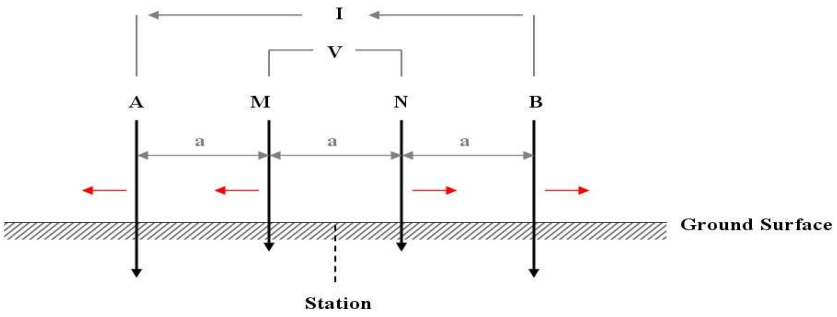
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	14.00	5362	176	90	
5	152.40	6	6.00	5745	188	90	
8	243.84	6	2.90	4443	146	90	
12	365.76	12	2.00	4596	151	90	
15	457.20	12	1.60	4596	151	90	
25	762.00	12	1.50	7182	236	90	
40	1219.20	12	1.40	10725	352	90	
60	1828.80	12	1.30	14938	490	90	
75	2286.00	12	1.25	17954	589	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-06 North-South

Date: 11/18/2020 **Time:** 7:00 AM

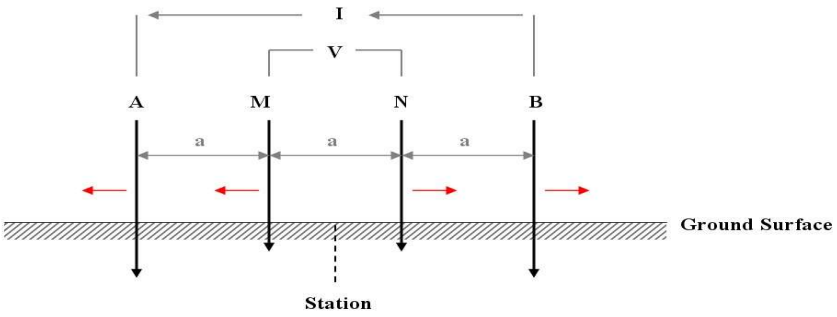
Weather & Temperature: Sunny - 50°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	18.00	6894	226	90	
5	152.40	6	11.00	10533	346	90	
8	243.84	6	7.40	11337	372	90	
12	365.76	12	5.70	13099	430	90	
15	457.20	12	4.80	13789	452	90	
25	762.00	12	3.90	18672	613	90	
40	1219.20	12	3.60	27578	905	90	
60	1828.80	12	3.50	40217	1319	90	
75	2286.00	12	3.50	50272	1649	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-06 East-West

Date: 11/18/2020 **Time:** 7:00 AM

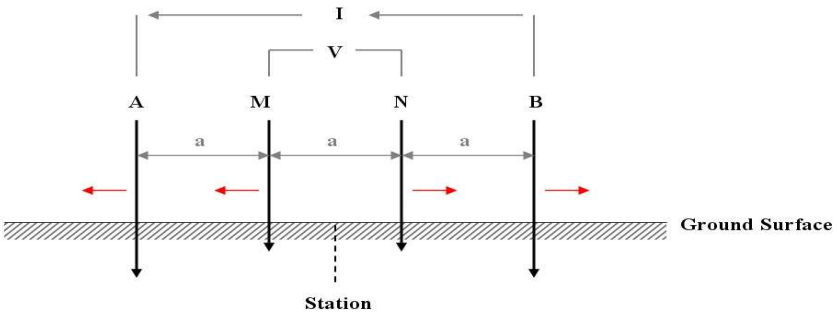
Weather & Temperature: Sunny - 50°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	19.00	7277	239	90	
5	152.40	6	12.00	11491	377	90	
8	243.84	6	7.80	11950	392	90	
12	365.76	12	6.00	13789	452	90	
15	457.20	12	4.50	12927	424	90	
25	762.00	12	3.70	17715	581	90	
40	1219.20	12	3.50	26812	880	90	
60	1828.80	12	3.50	40217	1319	90	
75	2286.00	12	3.40	48835	1602	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-07 North-South

Date: 11/17/2020 **Time:** 4:00 PM

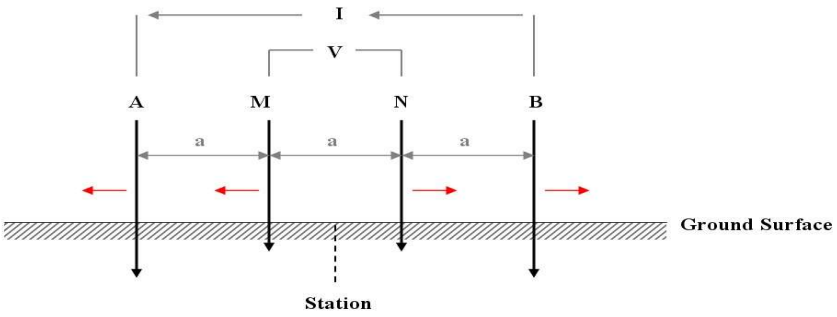
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

$\rho = 2\pi \cdot a \cdot R$



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	15.00	5745	188	90	
5	152.40	6	10.00	9576	314	90	
8	243.84	6	7.10	10878	357	90	
12	365.76	12	4.40	10112	332	90	
15	457.20	12	3.40	9767	320	90	
25	762.00	12	2.10	10054	330	90	
40	1219.20	12	1.90	14555	478	90	
60	1828.80	12	1.80	20683	679	90	
75	2286.00	12	1.80	25854	848	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-07 East-West

Date: 11/17/2020 **Time:** 4:00 PM

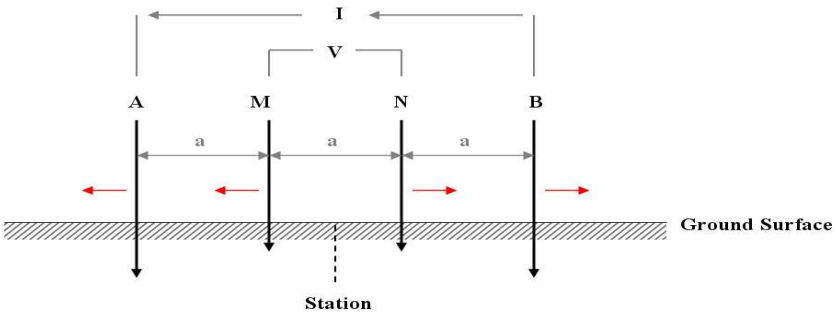
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	14.00	5362	176	90	
5	152.40	6	9.60	9193	302	90	
8	243.84	6	6.90	10571	347	90	
12	365.76	12	4.50	10342	339	90	
15	457.20	12	3.40	9767	320	90	
25	762.00	12	2.10	10054	330	90	
40	1219.20	12	1.80	13789	452	90	
60	1828.80	12	1.65	18960	622	90	
75	2286.00	12	1.60	22981	754	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-09 North-South

Date: 11/18/2020 **Time:** 9:00 AM

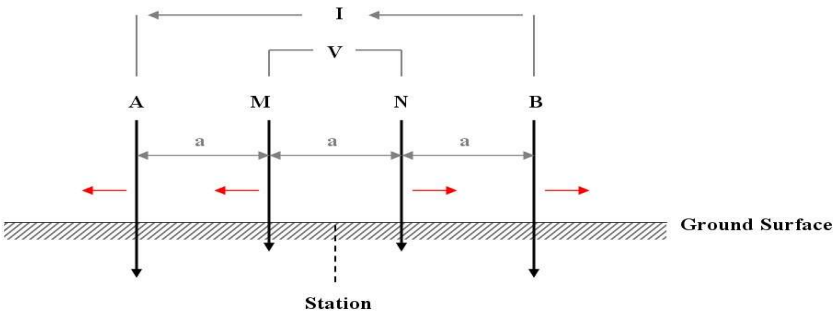
Weather & Temperature: Sunny - 50°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	20.00	7660	251	90	
5	152.40	6	10.00	9576	314	90	
8	243.84	6	7.00	10725	352	90	
12	365.76	12	5.00	11491	377	90	
15	457.20	12	4.10	11778	386	90	
25	762.00	12	3.20	15321	503	90	
40	1219.20	12	2.70	20683	679	90	
60	1828.80	12	2.50	28727	942	90	
75	2286.00	12	2.40	34472	1131	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-09 East-West

Date: 11/18/2020 **Time:** 9:00 AM

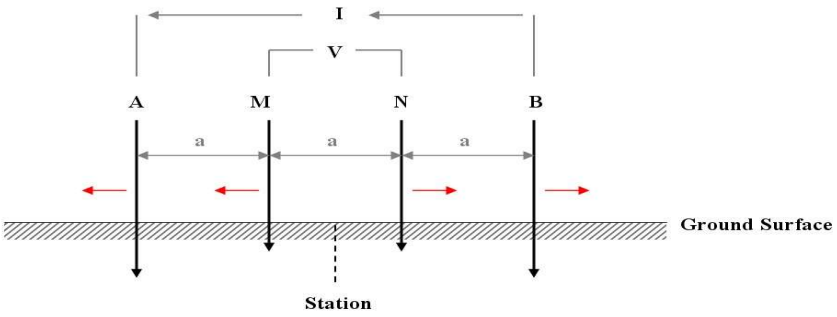
Weather & Temperature: Sunny - 50°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	19.00	7277	239	90	
5	152.40	6	10.40	9959	327	90	
8	243.84	6	7.20	11031	362	90	
12	365.76	12	5.20	11950	392	90	
15	457.20	12	4.30	12352	405	90	
25	762.00	12	3.20	15321	503	90	
40	1219.20	12	2.80	21449	704	90	
60	1828.80	12	2.50	28727	942	90	
75	2286.00	12	2.30	33036	1084	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-10 North-South

Date: 11/19/2020 **Time:** 9:00 AM

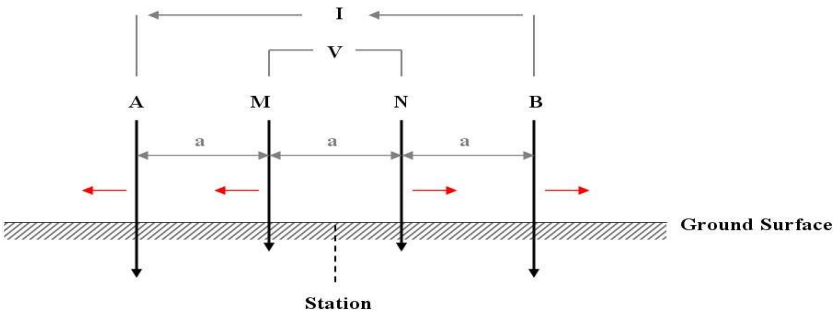
Weather & Temperature: Sunny - 50°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	23.00	8810	289	90	
5	152.40	6	10.30	9863	324	90	
8	243.84	6	7.30	11184	367	90	
12	365.76	12	4.30	9882	324	90	
15	457.20	12	3.00	8618	283	90	
25	762.00	12	1.65	7900	259	90	
40	1219.20	12	1.50	11491	377	90	
60	1828.80	12	1.35	15512	509	90	
75	2286.00	12	1.30	18672	613	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-10 East-West

Date: 11/19/2020 **Time:** 9:00 AM

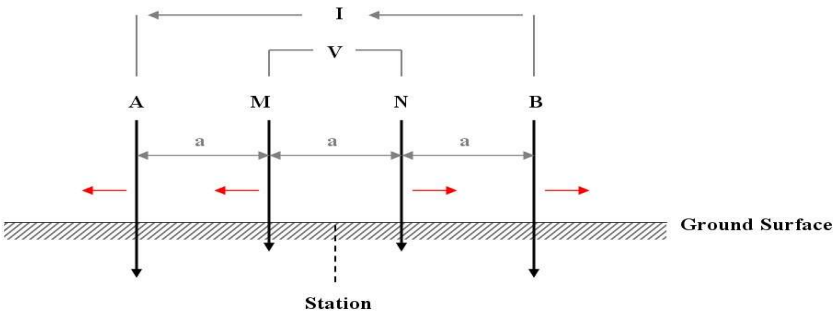
Weather & Temperature: Sunny - 50°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	21.00	8043	264	90	
5	152.40	6	10.50	10054	330	90	
8	243.84	6	7.50	11491	377	90	
12	365.76	12	4.50	10342	339	90	
15	457.20	12	3.10	8905	292	90	
25	762.00	12	1.70	8139	267	90	
40	1219.20	12	1.60	12257	402	90	
60	1828.80	12	1.40	16087	528	90	
75	2286.00	12	1.35	19391	636	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-11 North-South

Date: 11/20/2020 **Time:** 11:00 AM

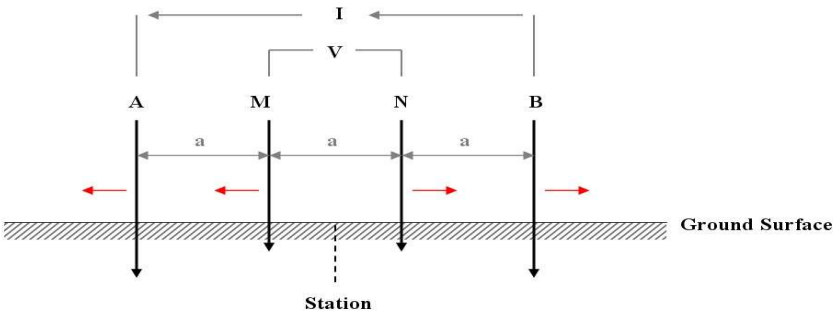
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	16.00	6128	201	90	
5	152.40	6	9.80	9384	308	90	
8	243.84	6	6.90	10571	347	90	
12	365.76	12	4.70	10801	354	90	
15	457.20	12	3.70	10629	349	90	
25	762.00	12	2.60	12448	408	90	
40	1219.20	12	2.10	16087	528	90	
60	1828.80	12	1.90	21832	716	90	
75	2286.00	12	1.80	25854	848	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-11 East-West

Date: 11/20/2020 **Time:** 11:00 AM

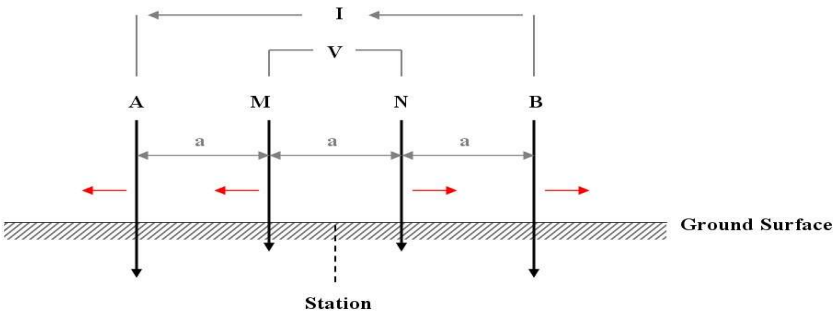
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

$\rho = 2\pi \cdot a \cdot R$



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	17.00	6511	214	90	
5	152.40	6	10.20	9767	320	90	
8	243.84	6	7.60	11644	382	90	
12	365.76	12	4.70	10801	354	90	
15	457.20	12	3.60	10342	339	90	
25	762.00	12	2.80	13406	440	90	
40	1219.20	12	2.00	15321	503	90	
60	1828.80	12	1.80	20683	679	90	
75	2286.00	12	1.70	24418	801	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-12 North-South

Date: 11/18/2020 **Time:** 11:00 AM

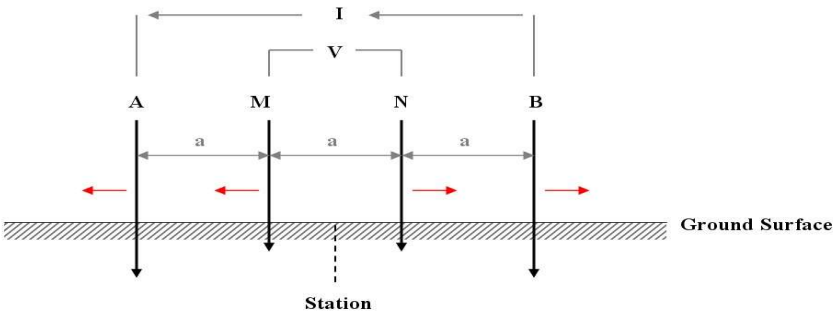
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	21.00	8043	264	90	
5	152.40	6	6.50	6224	204	90	
8	243.84	6	3.40	5209	171	90	
12	365.76	12	2.30	5286	173	90	
15	457.20	12	1.80	5171	170	90	
25	762.00	12	1.20	5745	188	90	
40	1219.20	12	1.10	8427	276	90	
60	1828.80	12	1.05	12065	396	90	
75	2286.00	12	1.00	14363	471	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-12 East-West

Date: 11/18/2020 **Time:** 11:00 AM

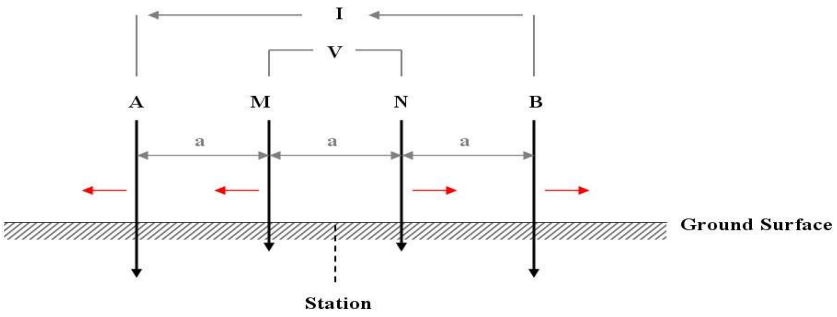
Weather & Temperature: Sunny - 60°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	14.00	5362	176	90	
5	152.40	6	7.10	6799	223	90	
8	243.84	6	2.90	4443	146	90	
12	365.76	12	2.40	5516	181	90	
15	457.20	12	2.00	5745	188	90	
25	762.00	12	1.50	7182	236	90	
40	1219.20	12	1.40	10725	352	90	
60	1828.80	12	1.30	14938	490	90	
75	2286.00	12	1.25	17954	589	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-14 North-South

Date: 11/19/2020 **Time:** 3:30 PM

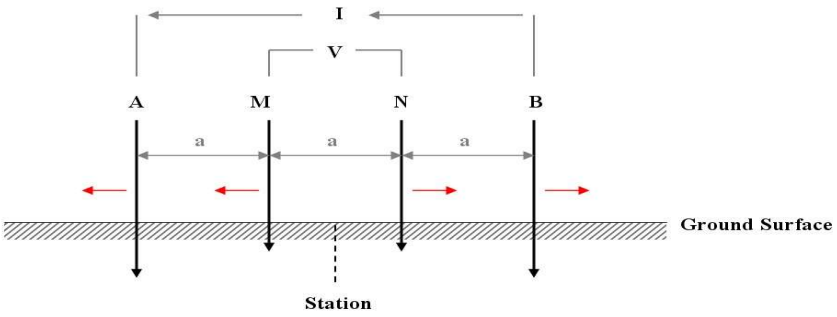
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	19.00	7277	239	90	
5	152.40	6	6.00	5745	188	90	
8	243.84	6	3.40	5209	171	90	
12	365.76	12	2.30	5286	173	90	
15	457.20	12	2.10	6033	198	90	
25	762.00	12	1.70	8139	267	90	
40	1219.20	12	1.60	12257	402	90	
60	1828.80	12	1.50	17236	565	90	
75	2286.00	12	1.40	20109	660	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-14 East-West

Date: 11/19/2020 **Time:** 3:30 PM

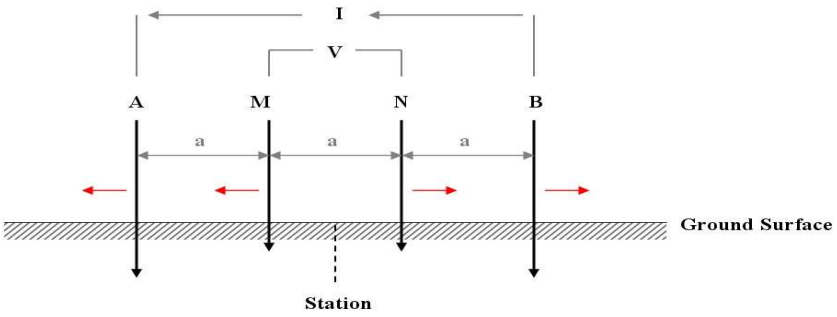
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	16.00	6128	201	90	
5	152.40	6	7.20	6894	226	90	
8	243.84	6	3.60	5516	181	90	
12	365.76	12	2.70	6205	204	90	
15	457.20	12	2.50	7182	236	90	
25	762.00	12	2.30	11012	361	90	
40	1219.20	12	2.20	16853	553	90	
60	1828.80	12	2.10	24130	792	90	
75	2286.00	12	2.05	29445	966	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-16 North-South

Date: 11/18/2020 **Time:** 1:30 PM

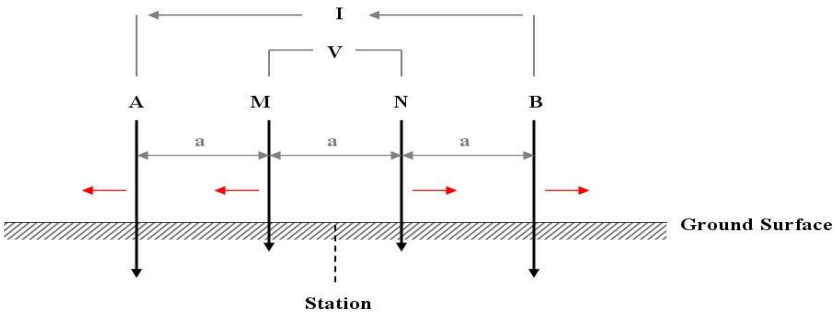
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	12.00	4596	151	90	
5	152.40	6	5.70	5458	179	90	
8	243.84	6	4.00	6128	201	90	
12	365.76	12	2.80	6435	211	90	
15	457.20	12	2.30	6607	217	90	
25	762.00	12	1.75	8379	275	90	
40	1219.20	12	1.50	11491	377	90	
60	1828.80	12	1.40	16087	528	90	
75	2286.00	12	1.20	17236	565	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-16 East-West

Date: 11/18/2020 **Time:** 1:30 PM

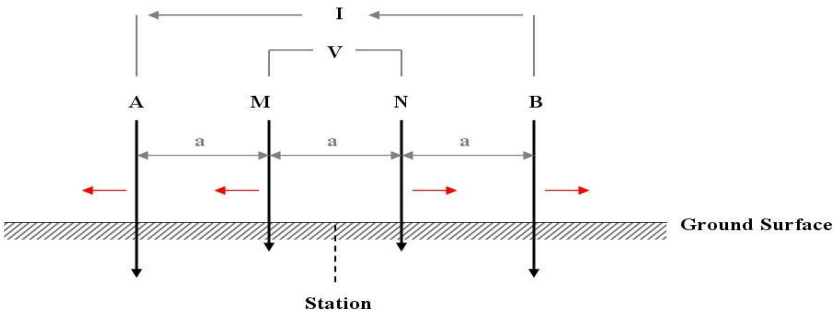
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	11.00	4213	138	90	
5	152.40	6	5.20	4979	163	90	
8	243.84	6	4.00	6128	201	90	
12	365.76	12	3.10	7124	234	90	
15	457.20	12	2.60	7469	245	90	
25	762.00	12	1.80	8618	283	90	
40	1219.20	12	1.40	10725	352	90	
60	1828.80	12	1.40	16087	528	90	
75	2286.00	12	1.30	18672	613	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-17 North-South

Date: 11/19/2020 **Time:** 11:30 PM

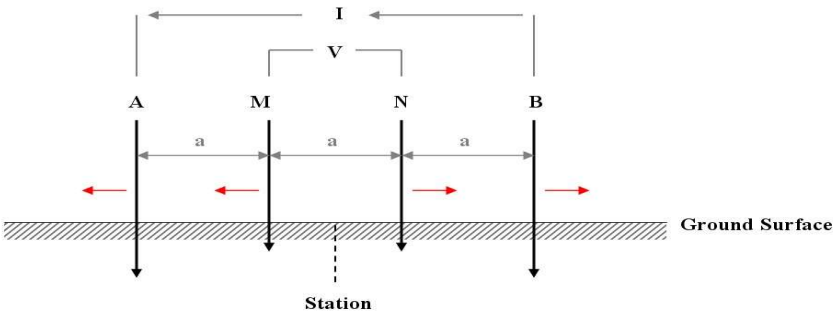
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	26.00	9959	327	90	
5	152.40	6	11.00	10533	346	90	
8	243.84	6	7.40	11337	372	90	
12	365.76	12	4.60	10571	347	90	
15	457.20	12	3.50	10054	330	90	
25	762.00	12	1.90	9097	298	90	
40	1219.20	12	1.35	10342	339	90	
60	1828.80	12	1.25	14363	471	90	
75	2286.00	12	1.20	17236	565	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-17 East-West

Date: 11/19/2020 **Time:** 11:30 PM

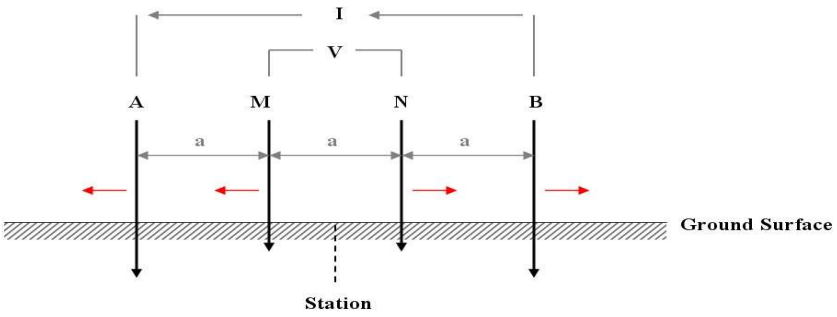
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	25.00	9576	314	90	
5	152.40	6	11.00	10533	346	90	
8	243.84	6	7.20	11031	362	90	
12	365.76	12	4.10	9422	309	90	
15	457.20	12	3.10	8905	292	90	
25	762.00	12	1.70	8139	267	90	
40	1219.20	12	1.30	9959	327	90	
60	1828.80	12	1.20	13789	452	90	
75	2286.00	12	1.15	16518	542	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-18 North-South

Date: 11/19/2020 **Time:** 1:30 PM

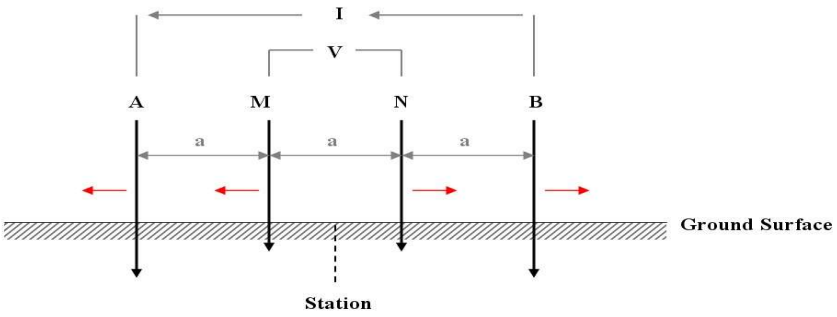
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	20.00	7660	251	90	
5	152.40	6	8.80	8427	276	90	
8	243.84	6	6.40	9805	322	90	
12	365.76	12	4.50	10342	339	90	
15	457.20	12	3.80	10916	358	90	
25	762.00	12	2.80	13406	440	90	
40	1219.20	12	2.40	18385	603	90	
60	1828.80	12	2.30	26429	867	90	
75	2286.00	12	2.20	31599	1037	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-18 East-West

Date: 11/19/2020 **Time:** 1:30 PM

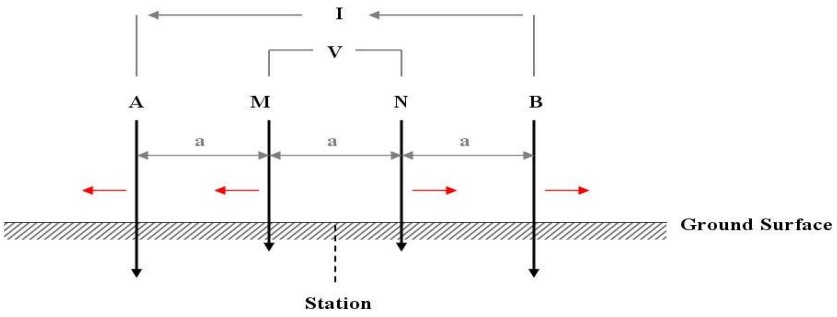
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	19.00	7277	239	90	
5	152.40	6	9.40	9001	295	90	
8	243.84	6	6.70	10265	337	90	
12	365.76	12	4.50	10342	339	90	
15	457.20	12	3.80	10916	358	90	
25	762.00	12	2.50	11969	393	90	
40	1219.20	12	2.20	16853	553	90	
60	1828.80	12	2.15	24705	811	90	
75	2286.00	12	2.10	30163	990	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-19 North-South

Date: 11/18/2020 **Time:** 3:30 PM

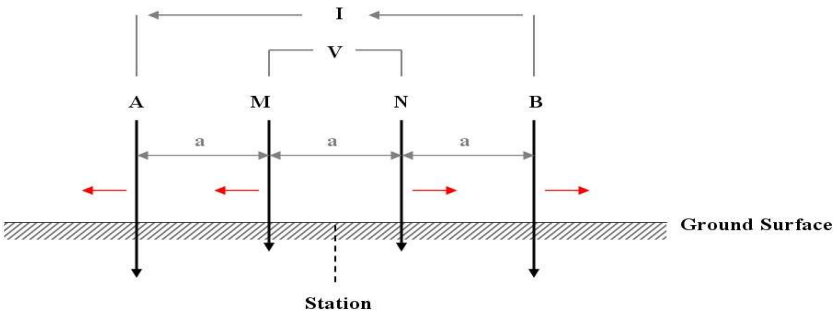
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	19.00	7277	239	90	
5	152.40	6	8.90	8522	280	90	
8	243.84	6	6.10	9346	307	90	
12	365.76	12	4.40	10112	332	90	
15	457.20	12	3.60	10342	339	90	
25	762.00	12	2.10	10054	330	90	
40	1219.20	12	1.45	11108	364	90	
60	1828.80	12	1.30	14938	490	90	
75	2286.00	12	1.20	17236	565	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-19 East-West

Date: 11/18/2020 **Time:** 3:30 PM

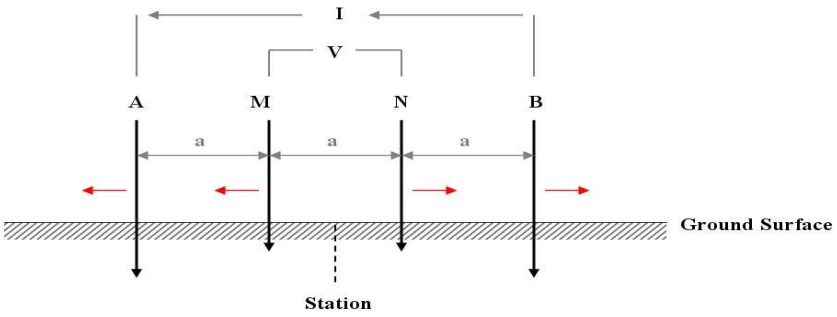
Weather & Temperature: Sunny - 70°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	17.00	6511	214	90	
5	152.40	6	8.10	7756	254	90	
8	243.84	6	6.40	9805	322	90	
12	365.76	12	4.30	9882	324	90	
15	457.20	12	3.50	10054	330	90	
25	762.00	12	2.00	9576	314	90	
40	1219.20	12	1.50	11491	377	90	
60	1828.80	12	1.35	15512	509	90	
75	2286.00	12	1.30	18672	613	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-20 North-South

Date: 11/19/2020 **Time:** 7:00 AM

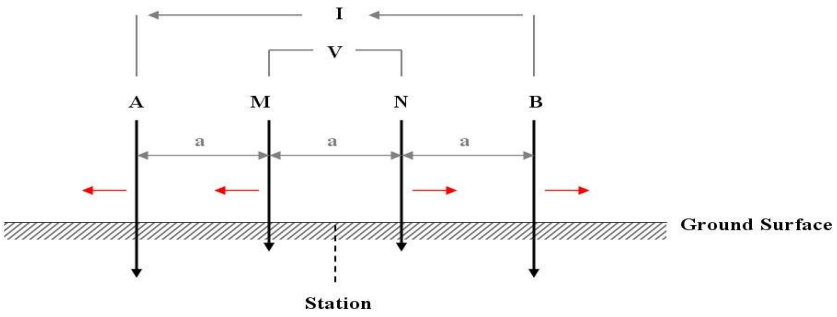
Weather & Temperature: Sunny - 55°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	22.00	8427	276	90	
5	152.40	6	9.20	8810	289	90	
8	243.84	6	5.70	8733	287	90	
12	365.76	12	3.60	8273	271	90	
15	457.20	12	2.70	7756	254	90	
25	762.00	12	1.80	8618	283	90	
40	1219.20	12	1.50	11491	377	90	
60	1828.80	12	1.45	16661	547	90	
75	2286.00	12	1.40	20109	660	90	

Soil Resistivity Data Sheet
Wenner Four-Electrode Method

Project: Russullville Solar Facility **Project #:** 1280-20-070

Project Location: Russellville, KY **Location:** B-20 East-West

Date: 11/19/2020 **Time:** 7:00 AM

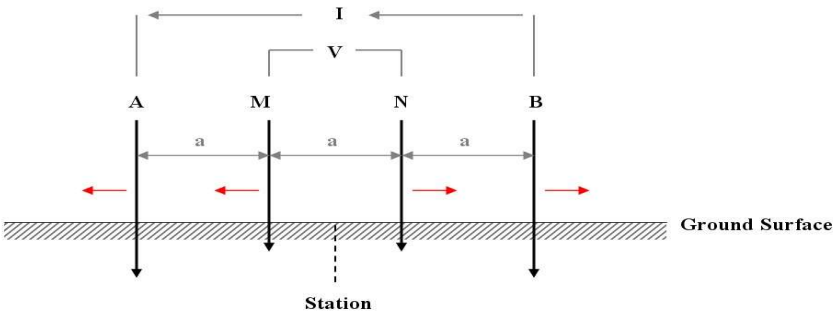
Weather & Temperature: Sunny - 55°

Soil Conditions: cultivated, slightly moist

Performed By (Name of Tester) E. Conway

Additional Notes:

ρ=2π·a·R



"a" Spacing (feet)	"a" Spacing (centimeters)	Electrode Depth (Inches)	Resistance (Ω)	ρ Apparent Resistivity (Ω·cm)	ρ Apparent Resistivity (Ω·ft)	Injected Current (mA)	Comments
2	60.96	2	20.00	7660	251	90	
5	152.40	6	9.20	8810	289	90	
8	243.84	6	5.40	8273	271	90	
12	365.76	12	3.50	8043	264	90	
15	457.20	12	2.90	8331	273	90	
25	762.00	12	1.70	8139	267	90	
40	1219.20	12	1.50	11491	377	90	
60	1828.80	12	1.50	17236	565	90	
75	2286.00	12	1.40	20109	660	90	

Form No. TR-2370-LEX-SUM-1
Revision No. : 3
Revision Date: 09/29/17

Lab Summary

S&ME, Inc - Lexington 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project No.: 1280-20-070 Report Date: 11/30/20

Project Name: Russellville Solar Facility

Client Name: Silicon Ranch Corporation

Client Address: 222 2nd Avenue S, Suite 1900; Nashville, TN 37201

BORING NO.	SAMPLE DEPTH, FT.	SAMPLE TYPE	USCS	NATURAL MOISTURE CONTENT,%	ATT. LIMITS L.L.	P.L.	P. I.	APPROX % RET.ON #40	MAX DRY DENSITY, PCF @ OPT MC % (STD. PROCTOR)	WET UNIT WEIGHT, PCF	THERMAL RESIST @ OPT, °C-cm/W	SPECIFIC GRAVITY	PH	% FINER THAN NO. 200	LEAST ELECTRICAL RESISTIVITY, Ω-CM
B-01	0-1	Bulk	CL	22.8	34	22	12	<5	102.9 @ 18.4		67	2.666	6.6	95.2	4,600
B-02	0-1	Bulk	CL	22.3	35	20	15	<5	105.2 @ 15.8		62	2.673	7.0	87.6	3,300
B-03	0-1	Bulk	CL	22.1	30	21	9	<5	101.6 @ 18.3		61	2.654	6.2	91.5	5,350
B-05	0-1	Bulk	CL	23.3	36	20	16	<5	104.6 @ 18.4		58	2.695	5.2	91.8	5,250
B-06	0-1	Bulk	CL	22.6	34	21	13	<5	104.5 @ 17.3		66	2.666	6.6	92.4	5,200
B-07	0-1	Bulk	ML	22.3	34	24	10	<5	103.0 @ 18.9		61	2.673	6.3	94.5	4,800
B-09	0-1	Bulk	CL	19.9	34	22	12	<5	106.0 @ 17.7		53	2.672	5.9	92.9	3,100
B-10	0-1	Bulk	CL	23.1	35	20	15	<5	104.7 @ 16.0		66	2.595	5.6	87.8	5,500
B-11	0-1	Bulk	CL	20.9	36	20	16	<5	105.5 @ 18.3		60	2.682	5.7	89.7	4,700
B-12	0-1	Bulk	ML	22.8	28	23	5	<5	103.3 @ 17.6		54	2.662	6.0	88.9	4,200
B-14	0-1	Bulk	ML	26.8	32	25	7	<5	100.9 @ 18.8		68	2.654	5.8	95.1	3,700
B-16	0-1	Bulk	CL	21.5	34	23	11	<5	102.6 @ 17.5		64	2.662	6.8	96.6	5,500
B-17	0-1	Bulk	CL	24.6	32	23	9	<5	102.6 @ 17.7		63	2.582	5.8	96.3	6,900
B-18	0-1	Bulk	ML	24.5	33	24	9	<5	103.1 @ 18.5		58	2.656	6.3	92.5	5,550
B-19	0-1	Bulk	CL	25.4	35	24	11	<5	104.0 @ 17.7		60	2.671	6.4	95.5	3,450
B-20	0-1	Bulk	CL	25.0	37	23	14	<5	101.4 @ 20.6		53	2.669	6.3	98.3	4,300

Notes:

Jacob Folsom — *Technical Responsibility*

Jacob Folsom

Associate Project Manager — *Position*

12/02/20 — *Date*

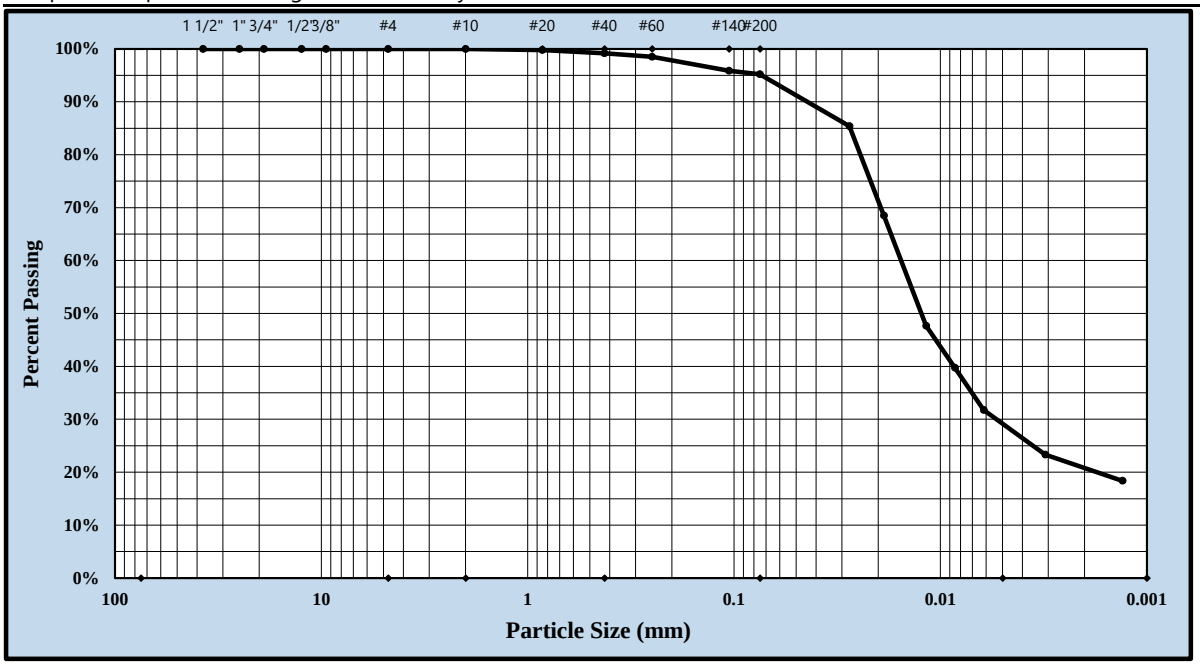
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-1	Sample Date: 11/16/20
Location:	B-01		Depth (ft.): 0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.0%	Silt Size:	66.0%
Silt & Clay (% Passing #200):	95.2%	Total Sand:	4.8%	Clay Size:	29.2%
Apparent Relative Density:	2.666	Moisture Content:	22.8%		
Liquid Limit:	34	Plastic Limit:	22	Plastic Index:	12
Coarse Sand:	0.0%	Medium Sand:	0.8%	Fine Sand:	4.0%

Description of Sand and Gravel	Rounded	☐	Angular	☒	Hard & Durable	☒	Soft	☐	Weathered & Friable ☐
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

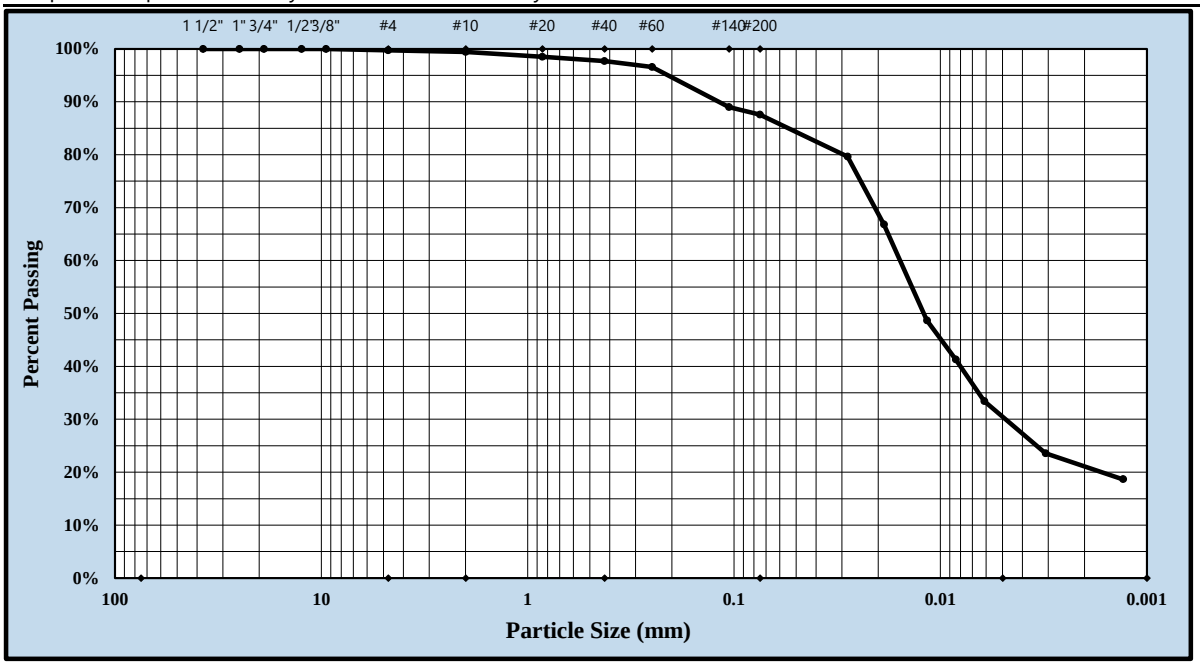
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-2	Sample Date: 11/16/20
Location:	B-02		Depth (ft.): 0.0 - 1.0
Sample Description:	Dark yellowish brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	3/8 in.	Gravel:	0.3%	Silt Size:	57.1%
Silt & Clay (% Passing #200):	87.6%	Total Sand:	12.1%	Clay Size:	30.5%
Apparent Relative Density:	2.673	Moisture Content:	22.3%		
Liquid Limit:	35	Plastic Limit:	20	Plastic Index:	15
Coarse Sand:	0.3%	Medium Sand:	1.7%	Fine Sand:	10.1%

Description of Sand and Gravel: Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☐

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. — Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

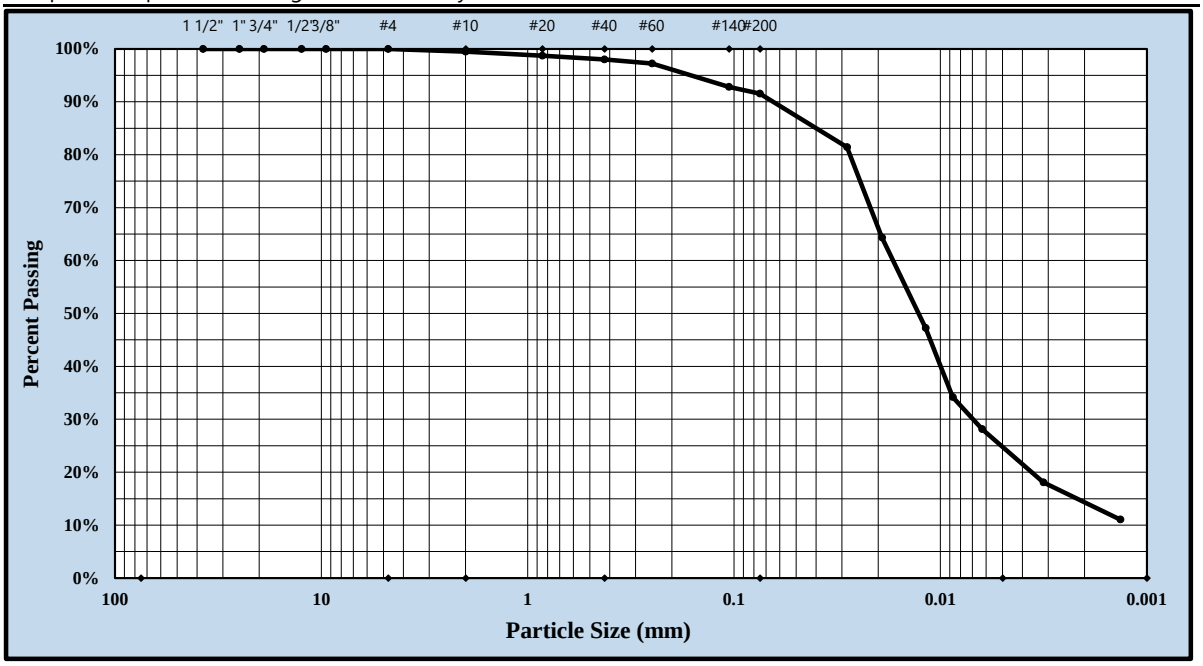
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-3	Sample Date: 11/16/20
Location:	B-03		Depth (ft.): 0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 10	Gravel:	0.0%	Silt Size:	66.7%
Silt & Clay (% Passing #200):	91.5%	Total Sand:	8.4%	Clay Size:	24.8%
Apparent Relative Density:	2.654	Moisture Content:	22.1%		
Liquid Limit:	30	Plastic Limit:	21	Plastic Index:	9
Coarse Sand:	0.5%	Medium Sand:	1.5%	Fine Sand:	6.5%

Description of Sand and Gravel	Rounded	☒	Angular	☒	Hard & Durable	☒	Soft	☐	Weathered & Friable ☐
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

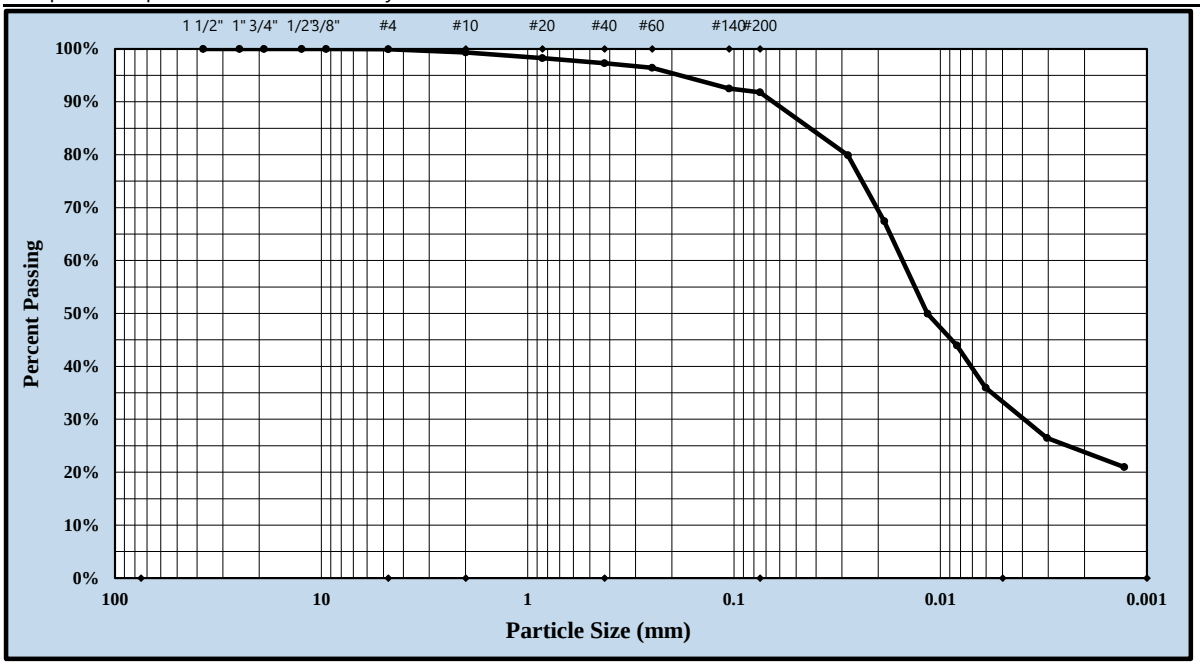
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-4	Sample Date: 11/16/20
Location:	B-05		Depth (ft.): 0.0 - 1.0
Sample Description:	Brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 10	Gravel:	0.1%	Silt Size:	58.5%
Silt & Clay (% Passing #200):	91.8%	Total Sand:	8.1%	Clay Size:	33.3%
Apparent Relative Density:	2.695	Moisture Content:	23.3%		
Liquid Limit:	36	Plastic Limit:	20	Plastic Index:	16
Coarse Sand:	0.6%	Medium Sand:	2.0%	Fine Sand:	5.5%

Description of Sand and Gravel	Rounded	☐	Angular	☒	Hard & Durable	☒	Soft	☐	Weathered & Friable ☐
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

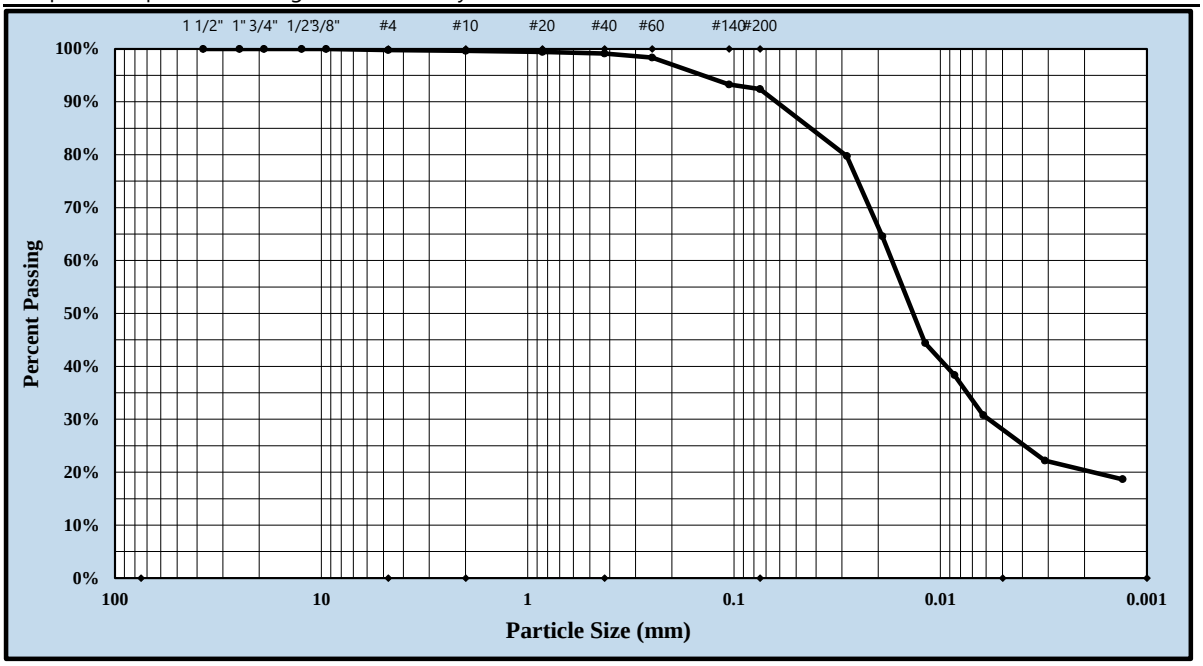
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-5	Sample Date: 11/16/20
Location:	B-06		Depth (ft.): 0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.2%	Silt Size:	64.3%
Silt & Clay (% Passing #200):	92.4%	Total Sand:	7.4%	Clay Size:	28.1%
Apparent Relative Density:	2.666	Moisture Content:	22.6%		
Liquid Limit:	34	Plastic Limit:	21	Plastic Index:	13
Coarse Sand:	0.1%	Medium Sand:	0.5%	Fine Sand:	6.7%

Description of Sand and Gravel	Rounded	☐	Angular	☒	Hard & Durable	☒	Soft	☐	Weathered & Friable ☐
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

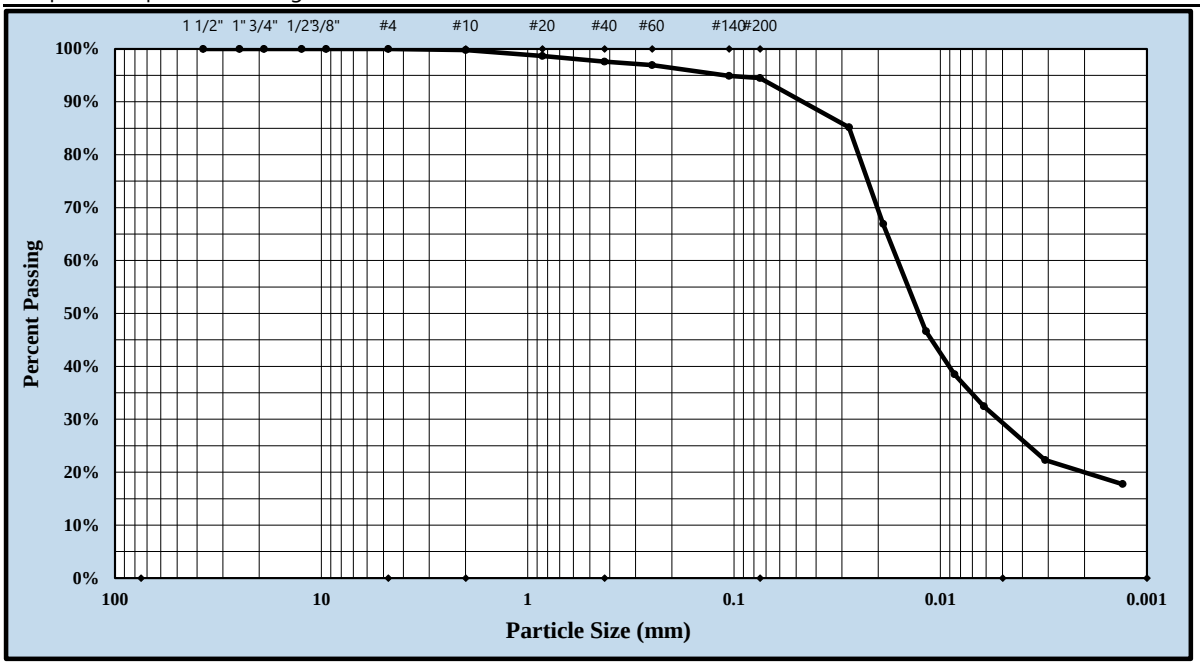
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-6	Sample Date: 11/16/20
Location:	B-07		Depth (ft.): 0.0 - 1.0
Sample Description:	Strong brown Silt		ML



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 10	Gravel:	0.0%	Silt Size:	65.1%
Silt & Clay (% Passing #200):	94.5%	Total Sand:	5.5%	Clay Size:	29.3%
Apparent Relative Density:	2.673	Moisture Content:	22.3%		
Liquid Limit:	34	Plastic Limit:	24	Plastic Index:	10
Coarse Sand:	0.2%	Medium Sand:	2.2%	Fine Sand:	3.1%

Description of Sand and Gravel	Rounded	☒	Angular	☐	Hard & Durable	☒	Soft	☐	Weathered & Friable ☐
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

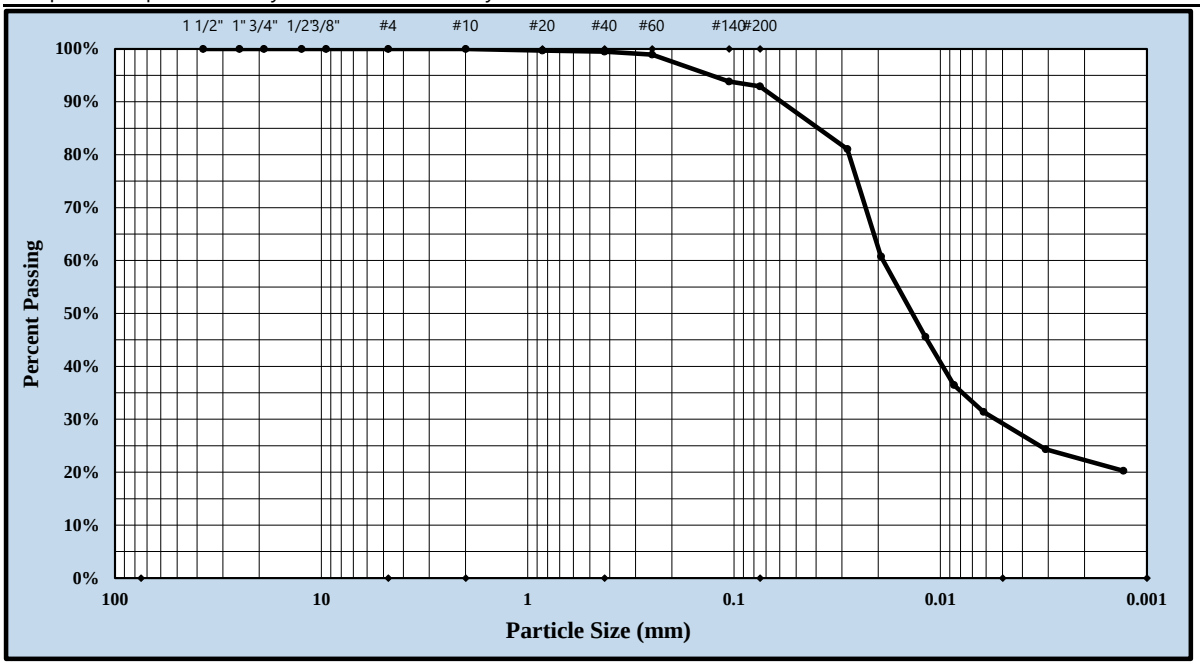
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-7	Sample Date: 11/16/20
Location:	B-09		Depth (ft.): 0.0 - 1.0
Sample Description:	Very dark brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.0%	Silt Size:	63.7%
Silt & Clay (% Passing #200):	92.9%	Total Sand:	7.1%	Clay Size:	29.2%
Apparent Relative Density:	2.672	Moisture Content:	19.9%		
Liquid Limit:	34	Plastic Limit:	22	Plastic Index:	12
Coarse Sand:	0.0%	Medium Sand:	0.5%	Fine Sand:	6.6%

Description of Sand and Gravel — Rounded ☐ Angular ☐ Hard & Durable ☐ Soft ☐ Weathered & Friable ☐

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. — Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

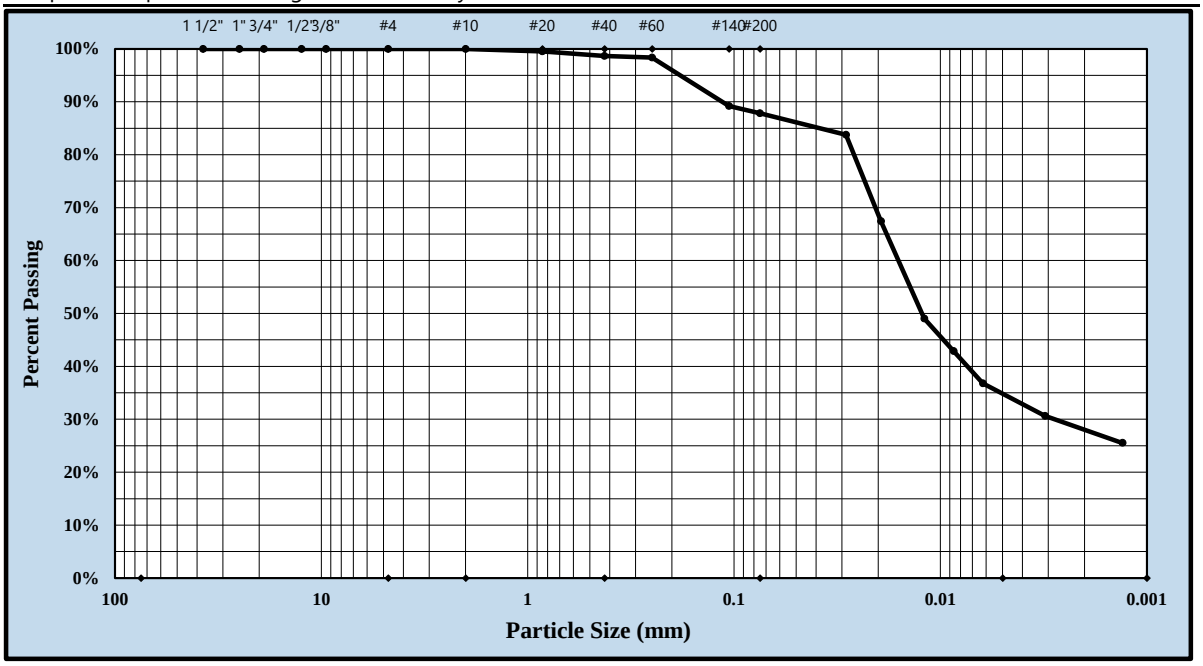
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/25/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-8	Sample Date: 11/16/20
Location:	B-10		Depth (ft.): 0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 20	Gravel:	0.0%	Silt Size:	53.0%
Silt & Clay (% Passing #200):	87.8%	Total Sand:	12.2%	Clay Size:	34.8%
Apparent Relative Density:	2.595	Moisture Content:	23.1%		
Liquid Limit:	35	Plastic Limit:	20	Plastic Index:	15
Coarse Sand:	0.0%	Medium Sand:	1.3%	Fine Sand:	10.8%

Description of Sand and Gravel — Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☐

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

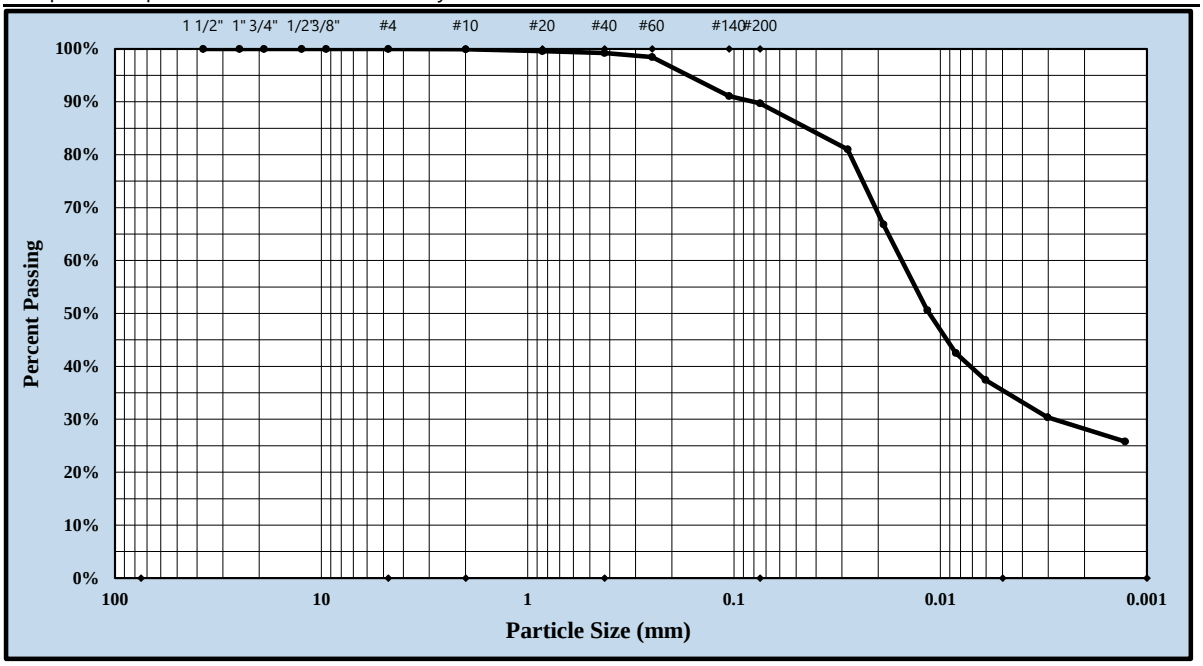
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-9	Sample Date: 11/16/20
Location:	B-11		Depth (ft.): 0.0 - 1.0
Sample Description:	Dark brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.0%	Silt Size:	54.2%
Silt & Clay (% Passing #200):	89.7%	Total Sand:	10.3%	Clay Size:	35.5%
Apparent Relative Density:	2.682	Moisture Content:	20.9%		
Liquid Limit:	36	Plastic Limit:	20	Plastic Index:	16
Coarse Sand:	0.1%	Medium Sand:	0.7%	Fine Sand:	9.5%

Description of Sand and Gravel	Rounded ☐	Angular ☒	Hard & Durable ☒	Soft ☐	Weathered & Friable ☐				
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

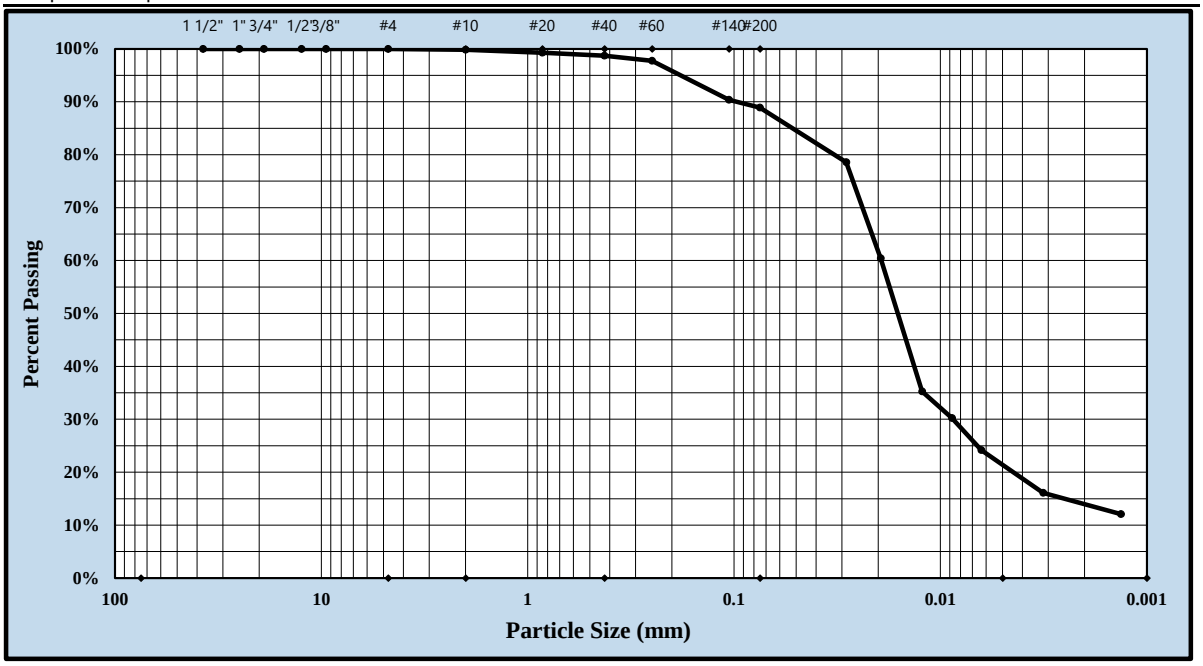
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-10	Sample Date: 11/16/20
Location:	B-12		Depth (ft.): 0.0 - 1.0
Sample Description:	Dark brown Silt		ML



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 20	Gravel:	0.0%	Silt Size:	67.5%
Silt & Clay (% Passing #200):	88.9%	Total Sand:	11.1%	Clay Size:	21.4%
Apparent Relative Density:	2.662	Moisture Content:	22.8%		
Liquid Limit:	28	Plastic Limit:	23	Plastic Index:	5
Coarse Sand:	0.2%	Medium Sand:	1.1%	Fine Sand:	9.8%

Description of Sand and Gravel — Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☐

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

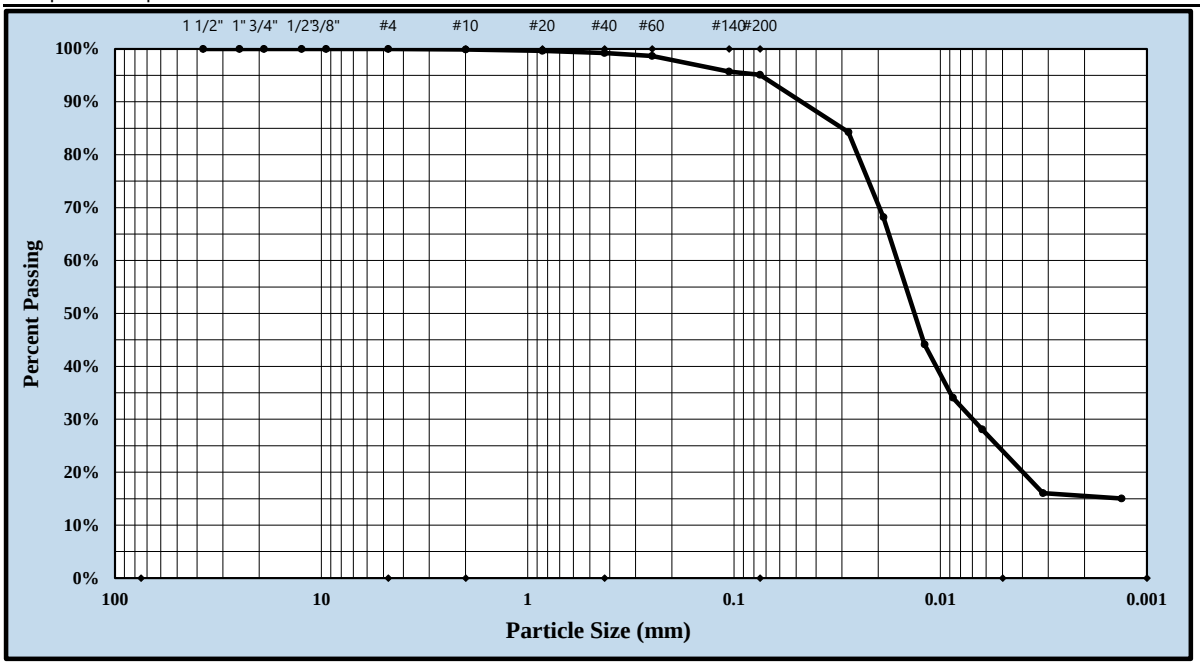
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-11	Sample Date: 11/16/20
Location:	B-14		Depth (ft.): 0.0 - 1.0
Sample Description:	Brown Silt		ML



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.0%	Silt Size:	71.0%
Silt & Clay (% Passing #200):	95.1%	Total Sand:	4.9%	Clay Size:	24.1%
Apparent Relative Density:	2.654	Moisture Content:	26.8%		
Liquid Limit:	32	Plastic Limit:	25	Plastic Index:	7
Coarse Sand:	0.1%	Medium Sand:	0.7%	Fine Sand:	4.1%

Description of Sand and Gravel	Rounded ☐	Angular ☒	Hard & Durable ☒	Soft ☐	Weathered & Friable ☐		
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter		

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

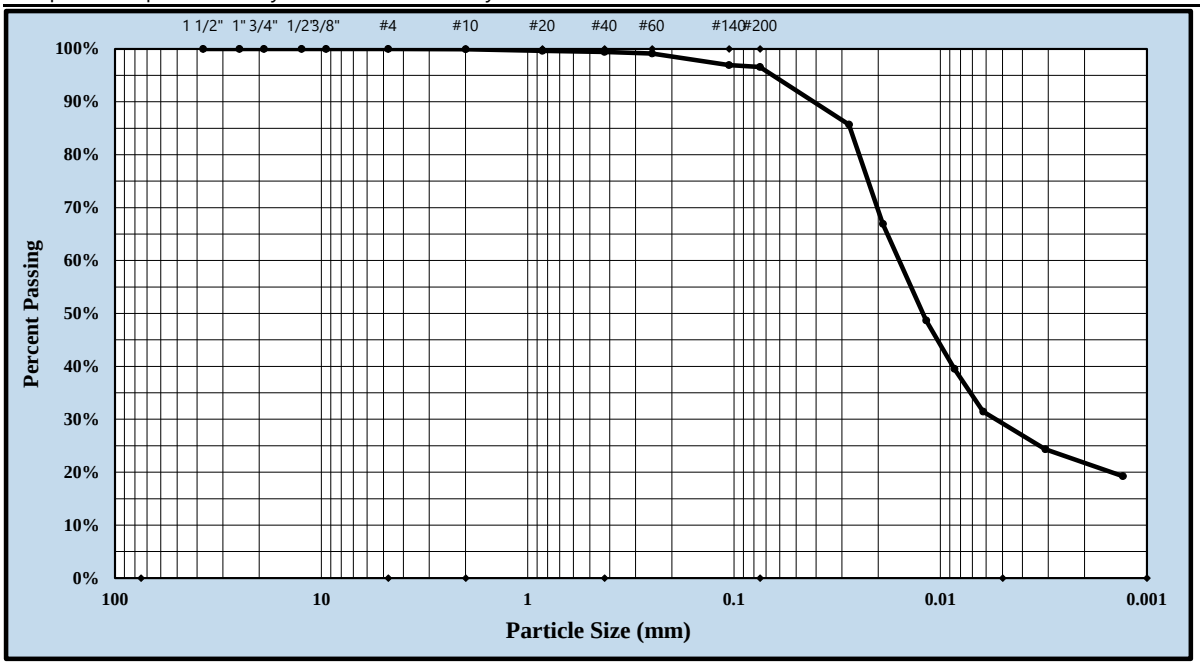
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-12	Sample Date: 11/16/20
Location:	B-16		Depth (ft.): 0.0 - 1.0
Sample Description:	Very dark brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 60	Gravel:	0.0%	Silt Size:	67.4%
Silt & Clay (% Passing #200):	96.6%	Total Sand:	3.4%	Clay Size:	29.2%
Apparent Relative Density:	2.662	Moisture Content:	21.5%		
Liquid Limit:	34	Plastic Limit:	23	Plastic Index:	11
Coarse Sand:	0.1%	Medium Sand:	0.5%	Fine Sand:	2.8%

Description of Sand and Gravel	Rounded	☐	Angular	☒	Hard & Durable	☒	Soft	☐	Weathered & Friable ☐
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

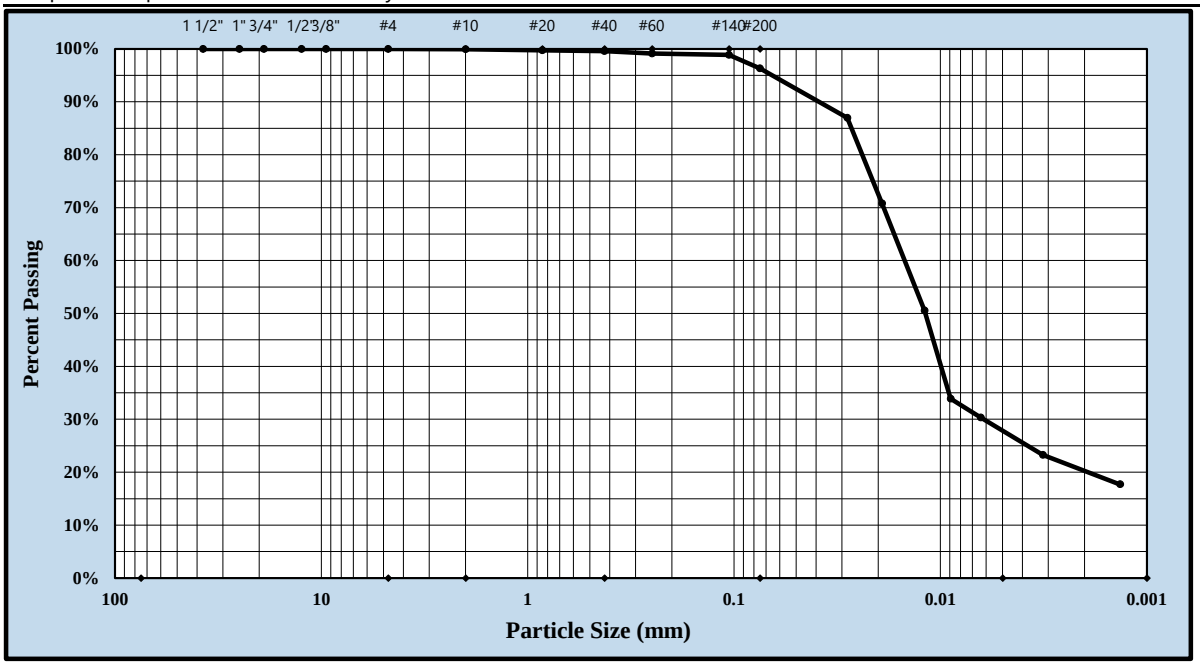
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-13	Sample Date: 11/16/20
Location:	B-17		Depth (ft.): 0.0 - 1.0
Sample Description:	Brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 60	Gravel:	0.0%	Silt Size:	68.5%
Silt & Clay (% Passing #200):	96.3%	Total Sand:	3.7%	Clay Size:	27.9%
Apparent Relative Density:	2.582	Moisture Content:	24.6%		
Liquid Limit:	32	Plastic Limit:	23	Plastic Index:	9
Coarse Sand:	0.1%	Medium Sand:	0.3%	Fine Sand:	3.3%

Description of Sand and Gravel	Rounded ☐	Angular ☒	Hard & Durable ☒	Soft ☐	Weathered & Friable ☐		
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter		

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

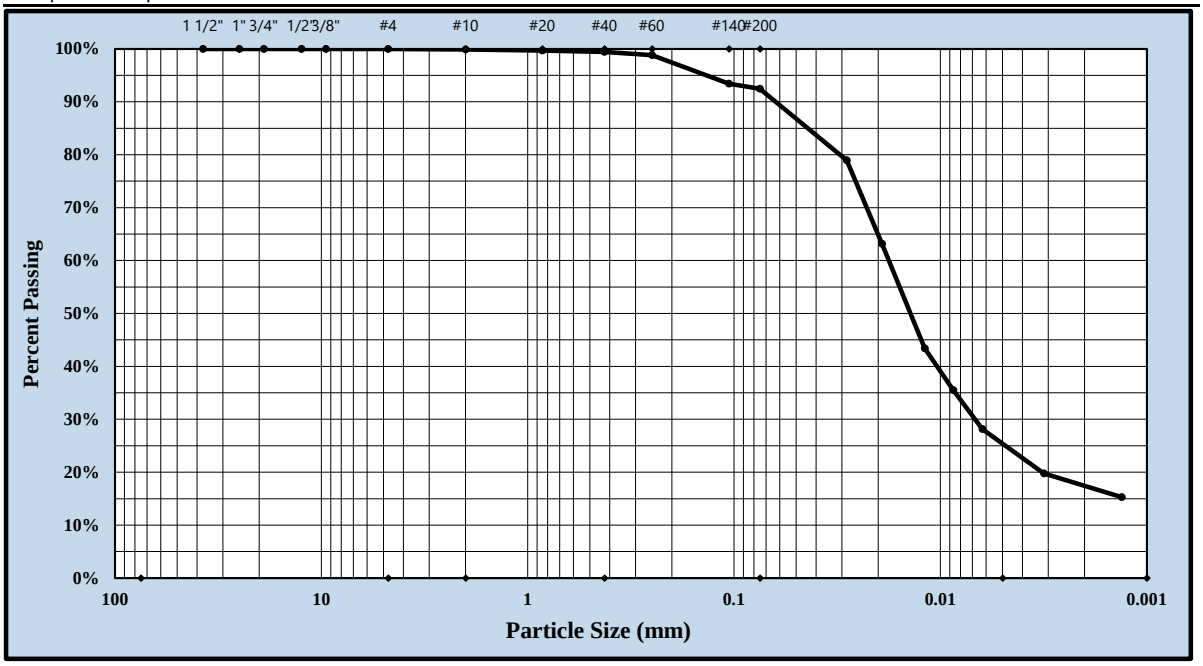
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-14	Sample Date: 11/16/20
Location:	B-18		Depth (ft.): 0.0 - 1.0
Sample Description:	Dark brown Silt		ML



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.0%	Silt Size:	67.1%
Silt & Clay (% Passing #200):	92.5%	Total Sand:	7.5%	Clay Size:	25.4%
Apparent Relative Density:	2.656	Moisture Content:	24.5%		
Liquid Limit:	33	Plastic Limit:	24	Plastic Index:	9
Coarse Sand:	0.1%	Medium Sand:	0.5%	Fine Sand:	7.0%

Description of Sand and Gravel	Rounded ☐	Angular ☒	Hard & Durable ☒	Soft ☐	Weathered & Friable ☐				
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter				

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

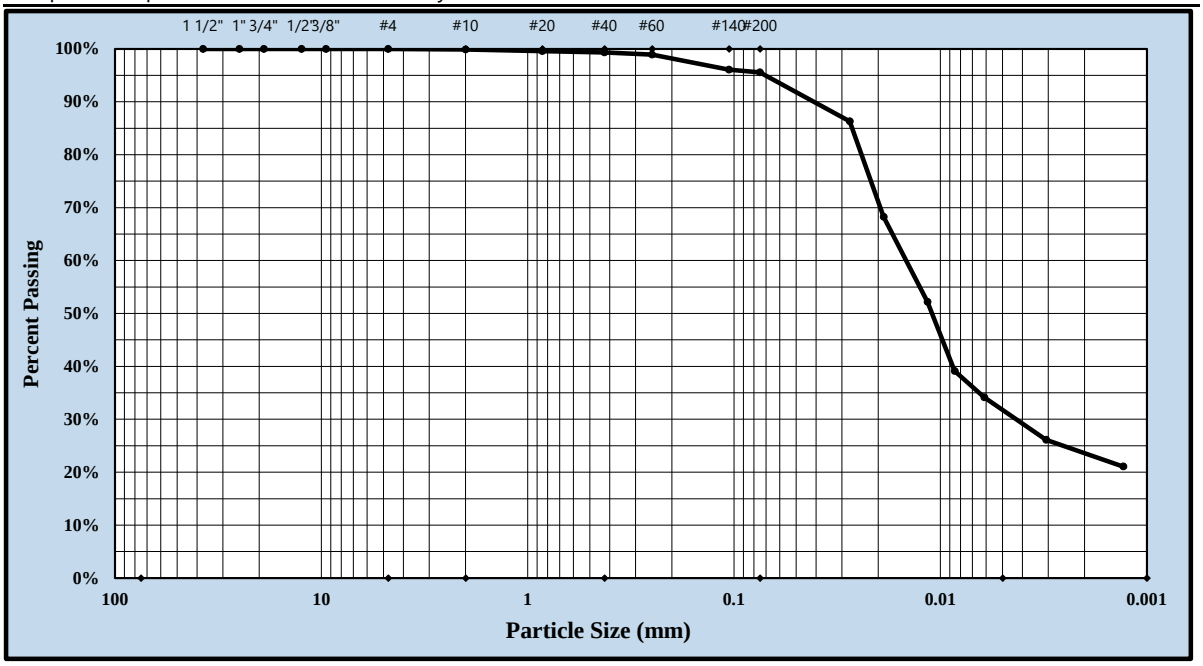
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-15	Sample Date: 11/16/20
Location:	B-19		Depth (ft.): 0.0 - 1.0
Sample Description:	Dark brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 40	Gravel:	0.0%	Silt Size:	63.8%
Silt & Clay (% Passing #200):	95.5%	Total Sand:	4.5%	Clay Size:	31.7%
Apparent Relative Density:	2.671	Moisture Content:	25.4%		
Liquid Limit:	35	Plastic Limit:	24	Plastic Index:	11
Coarse Sand:	0.1%	Medium Sand:	0.6%	Fine Sand:	3.8%

Description of Sand and Gravel	Rounded ☐	Angular ☒	Hard & Durable ☒	Soft ☐	Weathered & Friable ☐		
Mechanical Stirring Apparatus A	Dispersion Period:	1 min.	Dispersing Agent:	Sodium Hexametaphosphate:	40 g./ Liter		

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

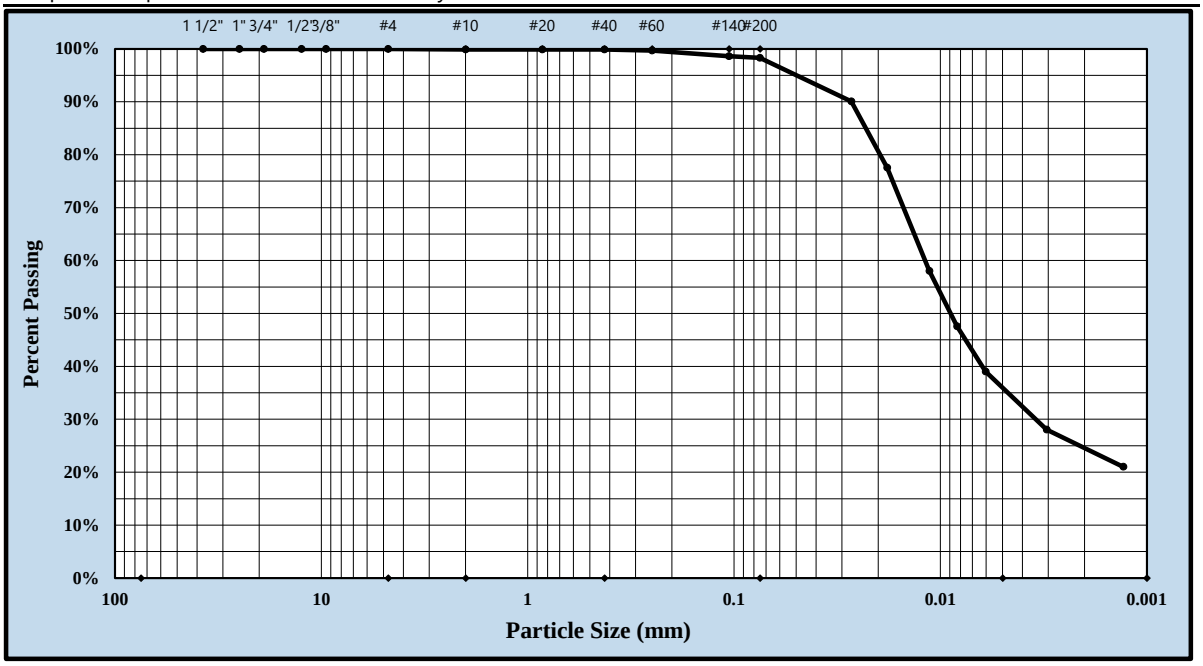
Form No. TR-D422-2
Revision No. 2LEXa
Revision Date: 09/02/20

PARTICLE SIZE ANALYSIS OF SOIL

ASTM D422

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/23/20 - 11/26/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
Type:	Bulk	Sample No.: P-16	Sample Date: 11/16/20
Location:	B-20		Depth (ft.): 0.0 - 1.0
Sample Description:	Dark brown Lean clay		CL



Cobbles	< 300 mm (12") and > 75 mm (3")	Fine Sand	< 0.425 mm and > 0.075 mm (#200)
Gravel	< 75 mm and > 4.75 mm (#4)	Silt Size	< 0.075 and > 0.005 mm
Coarse Sand	< 4.75 mm and >2.00 mm (#10)	Clay Size	< 0.005 mm
Medium Sand	< 2.00 mm and > 0.425 mm (#40)	Colloids	< 0.001 mm

Nom. Maximum Particle Size:	No. 60	Gravel:	0.0%	Silt Size:	62.3%
Silt & Clay (% Passing #200):	98.3%	Total Sand:	1.7%	Clay Size:	36.0%
Apparent Relative Density:	2.669	Moisture Content:	25.0%		
Liquid Limit:	37	Plastic Limit:	23	Plastic Index:	14
Coarse Sand:	0.1%	Medium Sand:	0.0%	Fine Sand:	1.5%

Description of Sand and Gravel — Rounded ☐ Angular ☒ Hard & Durable ☒ Soft ☐ Weathered & Friable ☐

Mechanical Stirring Apparatus A — Dispersion Period: 1 min. Dispersing Agent: Sodium Hexametaphosphate: 40 g./ Liter

References / Comments / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

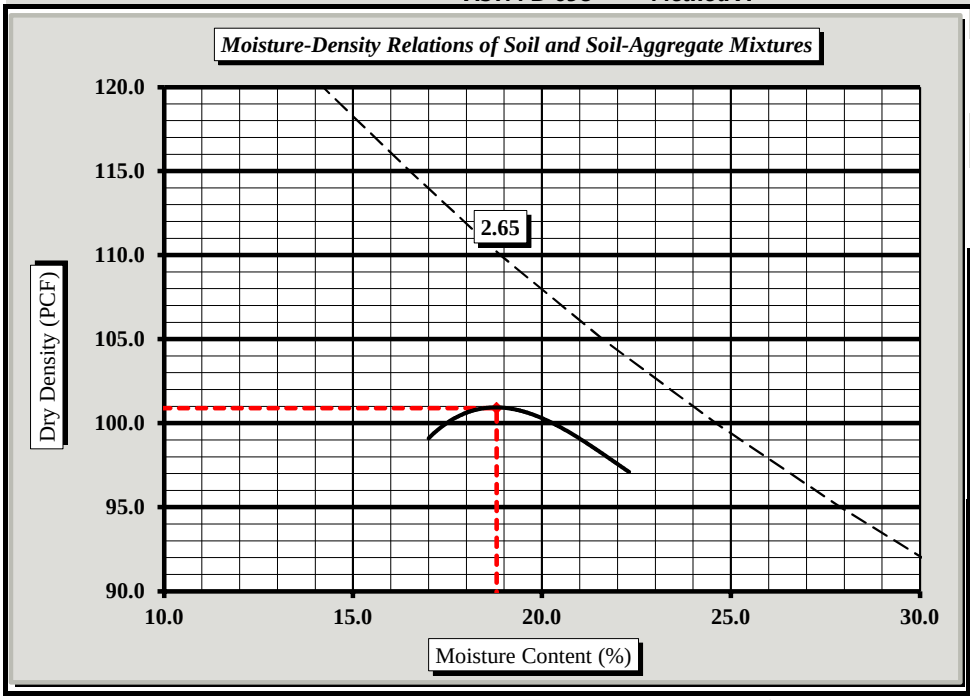
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-11	Sample Date:	11/16/20
Location:	B-14	Depth (ft.):	0.0 - 1.0
Sample Description:	Brown Silt		ML

Maximum Dry Density 100.9 PCF. Optimum Moisture Content 18.8%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	26.8%
Specific Gravity of Soil	2.654
Liquid Limit	32
Plastic Limit	25
Plastic Index	7

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.2%
#60	98.6%
#200	95.1%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

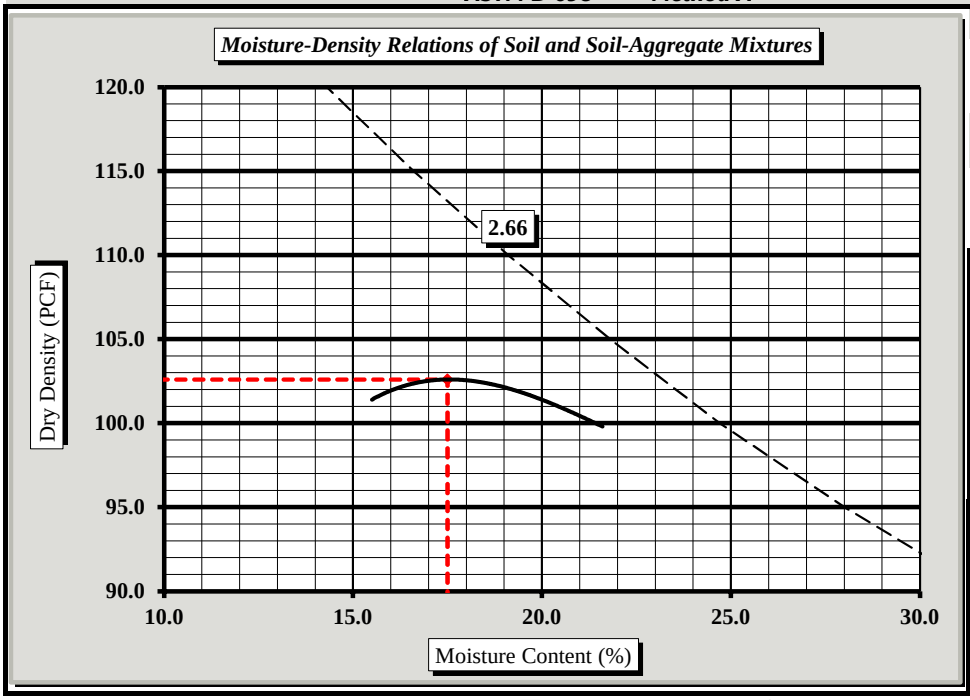
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-12	Sample Date:	11/16/20
Location:	B-16	Depth (ft.):	0.0 - 1.0
Sample Description:	Very dark brown Lean clay		CL

Maximum Dry Density 102.6 PCF. Optimum Moisture Content 17.5%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	21.5%
Specific Gravity of Soil	2.662
Liquid Limit	34
Plastic Limit	23
Plastic Index	11

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.4%
#60	99.1%
#200	96.6%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

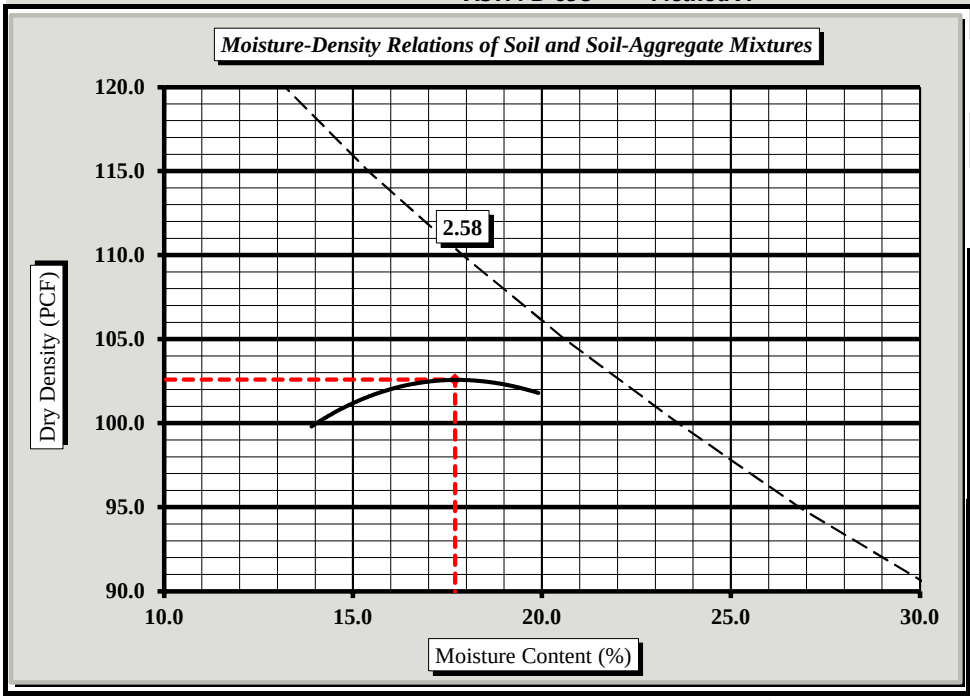
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-13	Sample Date:	11/16/20
Location:	B-17	Depth (ft.):	0.0 - 1.0
Sample Description:	Brown Lean clay		CL

Maximum Dry Density 102.6 PCF. Optimum Moisture Content 17.7%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	24.6%
Specific Gravity of Soil	2.582
Liquid Limit	32
Plastic Limit	23
Plastic Index	9

% Passing

3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.6%
#60	99.1%
#200	96.3%

Oversize Fraction

Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

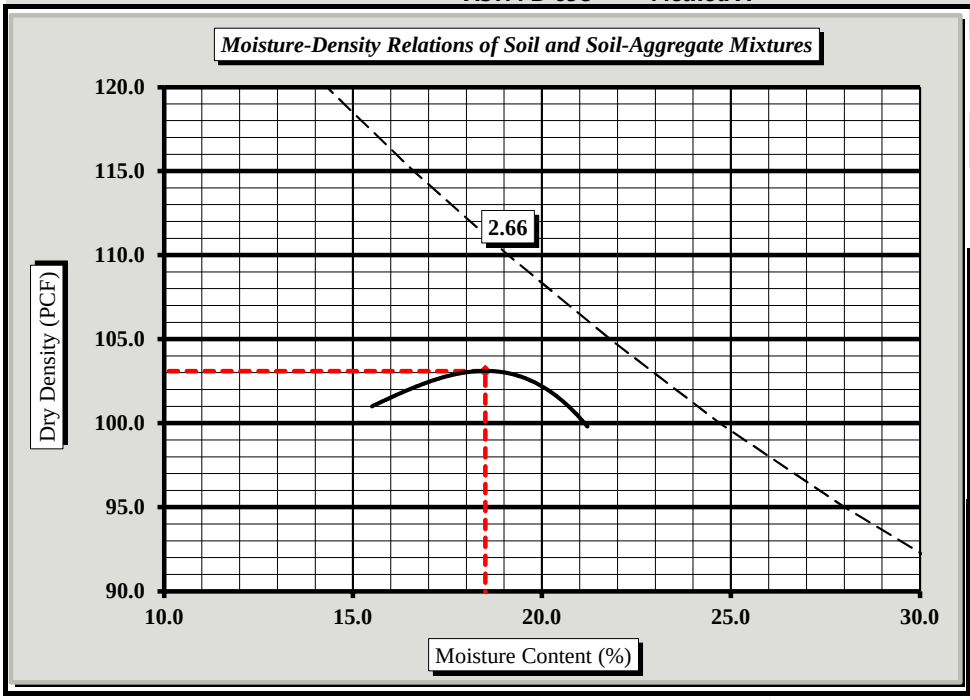
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-14	Sample Date:	11/16/20
Location:	B-18	Depth (ft.):	0.0 - 1.0
Sample Description:	Dark brown Silt		ML

Maximum Dry Density 103.1 PCF. Optimum Moisture Content 18.5%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	24.5%
Specific Gravity of Soil	2.656
Liquid Limit	33
Plastic Limit	24
Plastic Index	9

% Passing

3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.4%
#60	98.8%
#200	92.5%

Oversize Fraction

Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

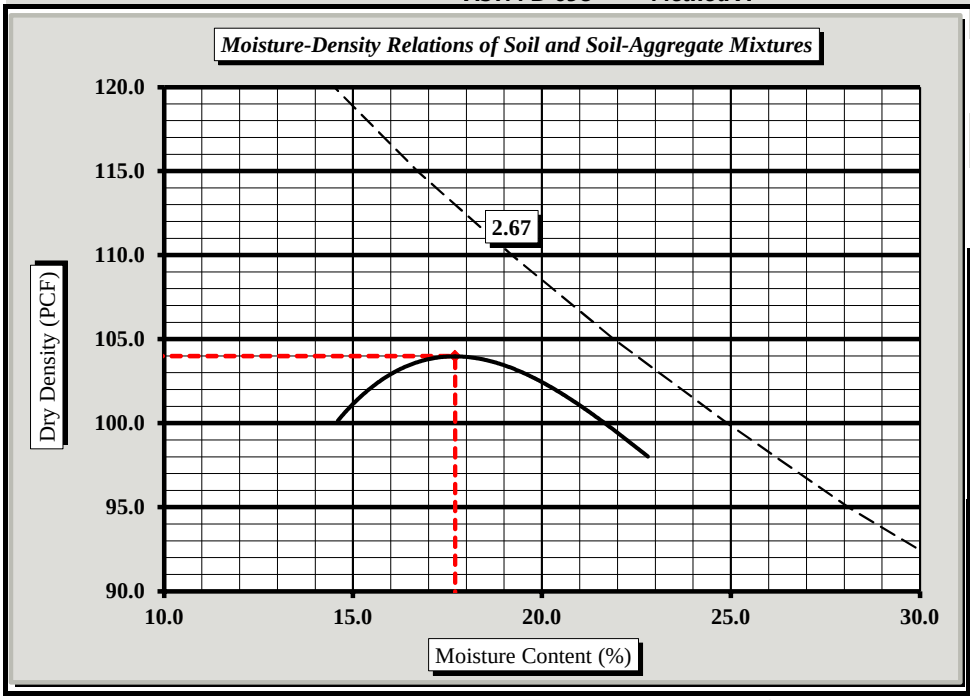
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-15	Sample Date:	11/16/20
Location:	B-19	Depth (ft.):	0.0 - 1.0
Sample Description:	Dark brown Lean clay		CL

Maximum Dry Density 104.0 PCF. Optimum Moisture Content 17.7%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	25.4%
Specific Gravity of Soil	2.671
Liquid Limit	35
Plastic Limit	24
Plastic Index	11

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.3%
#60	98.9%
#200	95.5%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

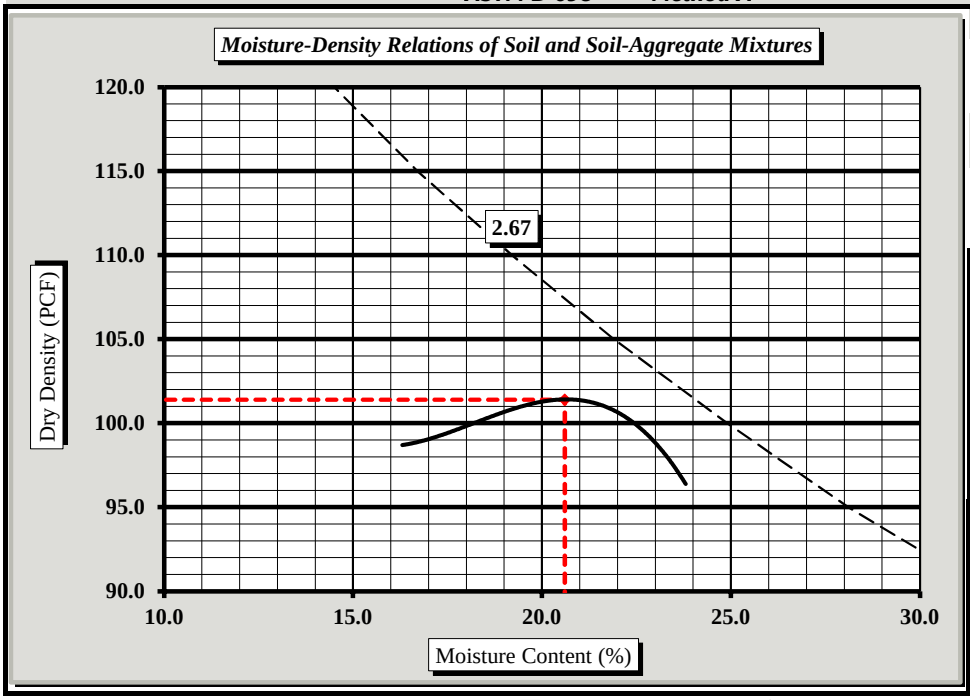
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-16	Sample Date:	11/16/20
Location:	B-20	Depth (ft.):	0.0 - 1.0
Sample Description:	Dark brown Lean clay		CL

Maximum Dry Density 101.4 PCF. Optimum Moisture Content 20.6%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	25.0%
Specific Gravity of Soil	2.669
Liquid Limit	37
Plastic Limit	23
Plastic Index	14

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.9%
#60	99.7%
#200	98.3%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

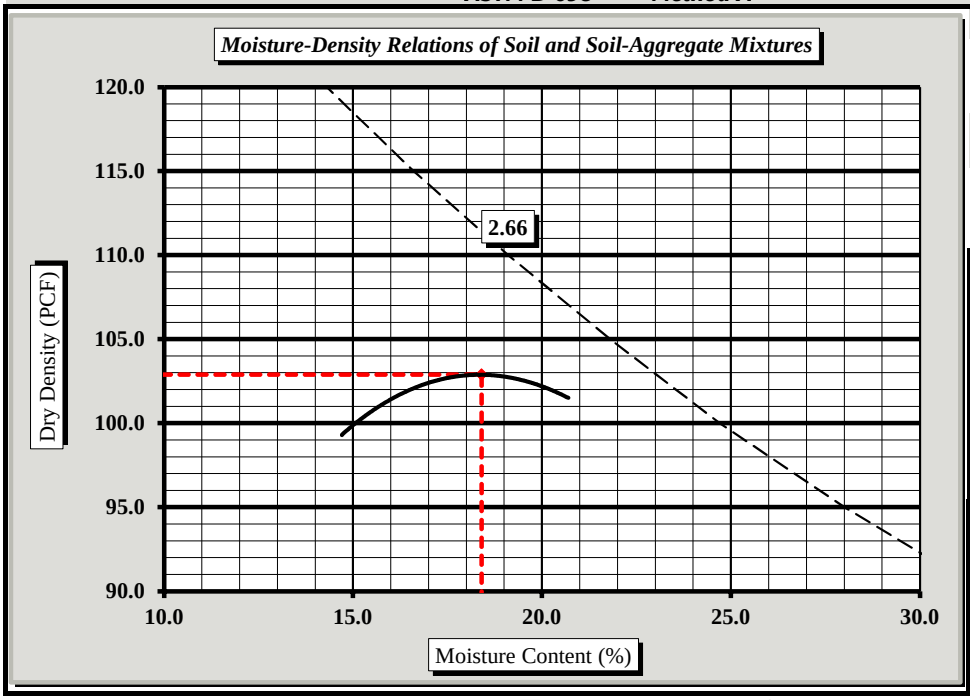
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-1	Sample Date:	11/16/20
Location:	B-01	Depth (ft.):	0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL

Maximum Dry Density 102.9 PCF. Optimum Moisture Content 18.4%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	22.8%
Specific Gravity of Soil	2.666
Liquid Limit	34
Plastic Limit	22
Plastic Index	12

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	99.2%
#60	98.5%
#200	95.2%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

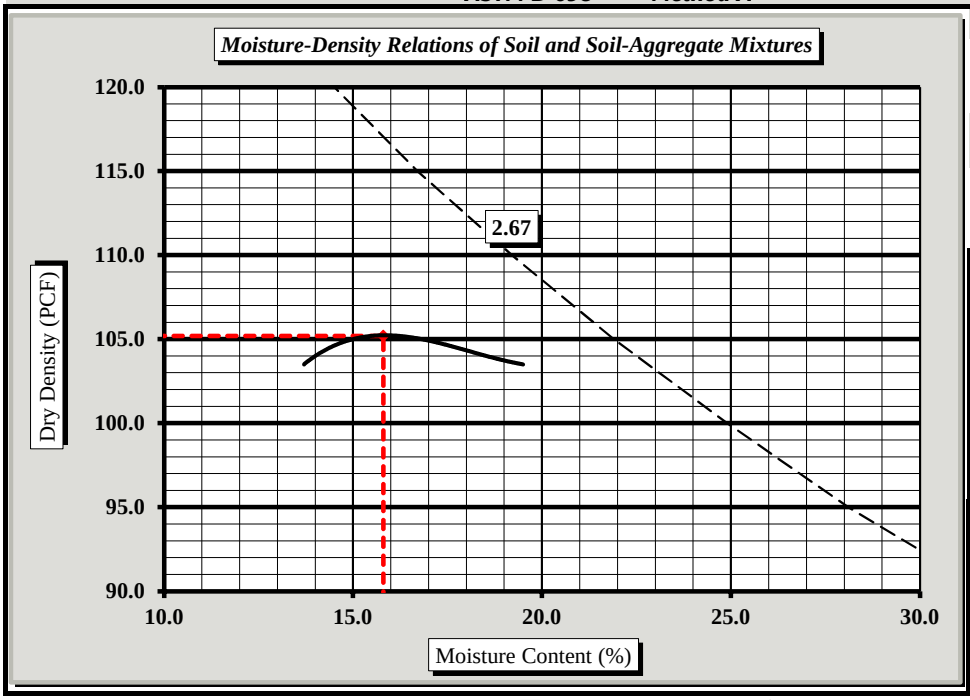
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-2	Sample Date:	11/16/20
Location:	B-02	Depth (ft.):	0.0 - 1.0
Sample Description:	Dark yellowish brown Lean clay		CL

Maximum Dry Density 105.2 PCF. Optimum Moisture Content 15.8%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	22.3%
Specific Gravity of Soil	2.673
Liquid Limit	35
Plastic Limit	20
Plastic Index	15

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	99.7%
#10	99.4%
#40	97.7%
#60	96.6%
#200	87.6%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

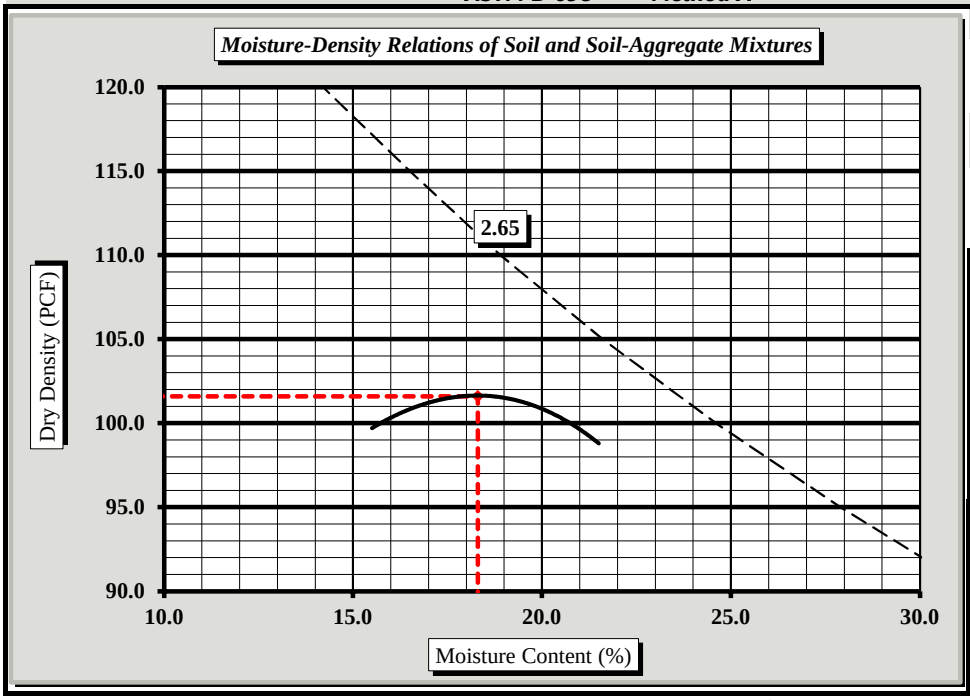
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-3	Sample Date:	11/16/20
Location:	B-03	Depth (ft.):	0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL

Maximum Dry Density 101.6 PCF. Optimum Moisture Content 18.3%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	22.1%
Specific Gravity of Soil	2.654
Liquid Limit	30
Plastic Limit	21
Plastic Index	9

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.5%
#40	98.0%
#60	97.3%
#200	91.5%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

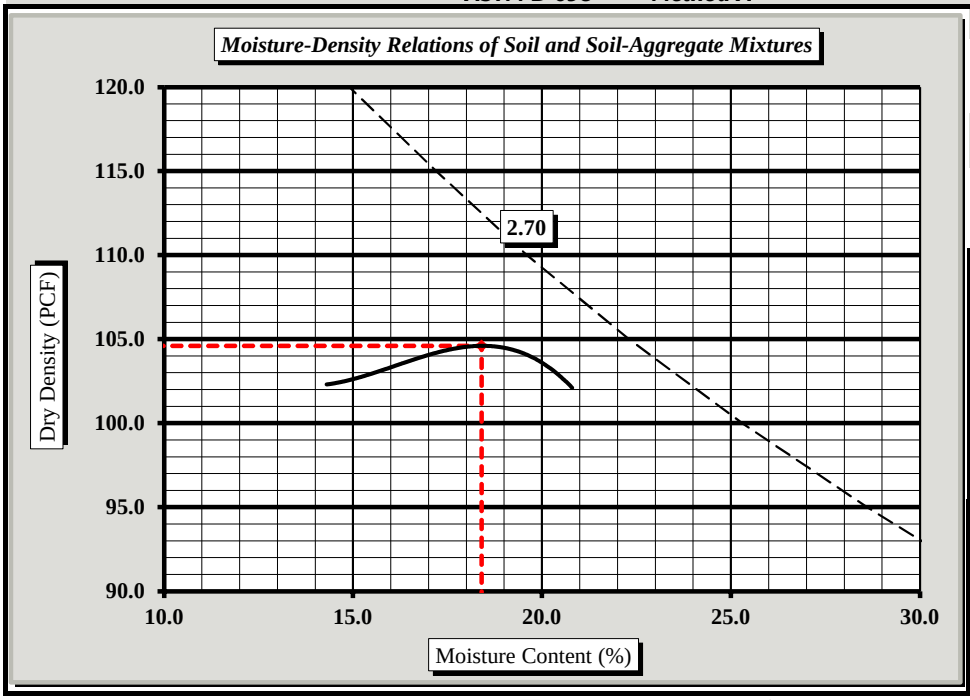
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-4	Sample Date:	11/16/20
Location:	B-05	Depth (ft.):	0.0 - 1.0
Sample Description:	Brown Lean clay		CL

Maximum Dry Density 104.6 PCF. Optimum Moisture Content 18.4%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	23.3%
Specific Gravity of Soil	2.695
Liquid Limit	36
Plastic Limit	20
Plastic Index	16

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	99.9%
#10	99.3%
#40	97.3%
#60	96.4%
#200	91.8%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

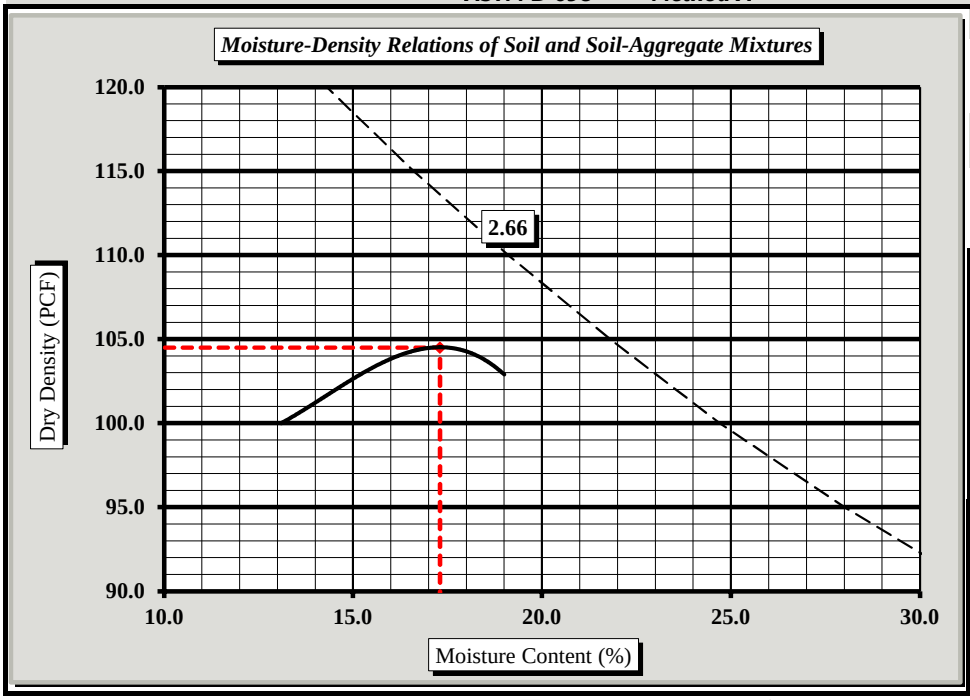
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-5	Sample Date:	11/16/20
Location:	B-06	Depth (ft.):	0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL

Maximum Dry Density 104.5 PCF. Optimum Moisture Content 17.3%

ASTM D 698 - - Method A



Soil Properties	
As Received Moisture Content	22.6%
Specific Gravity of Soil	2.666
Liquid Limit	34
Plastic Limit	21
Plastic Index	13

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	99.8%
#10	99.6%
#40	99.1%
#60	98.3%
#200	92.4%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

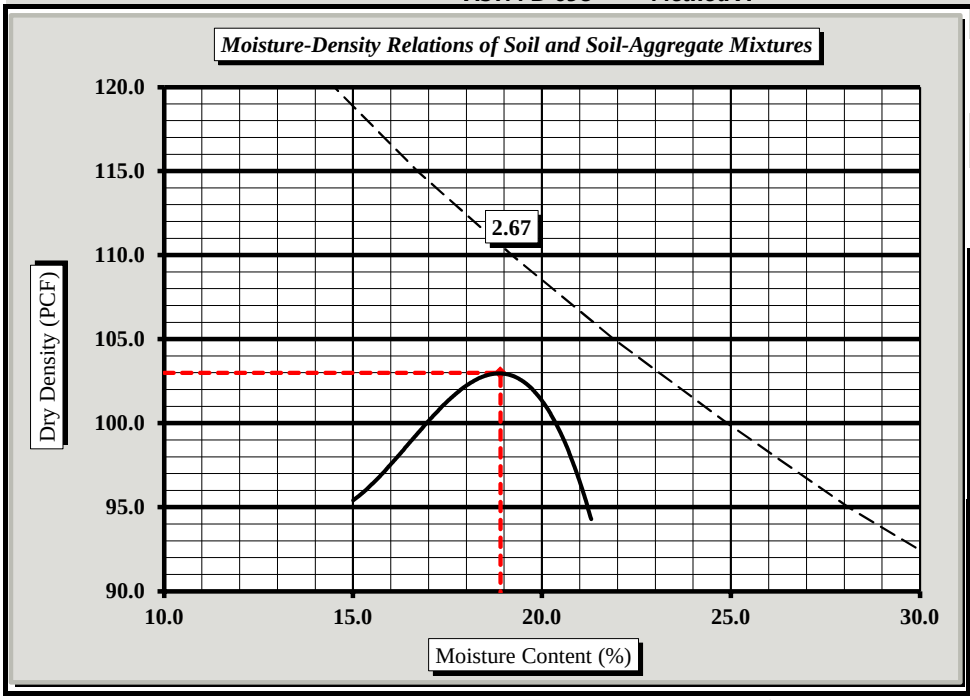
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/19/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-6	Sample Date:	11/16/20
Location:	B-07	Depth (ft.):	0.0 - 1.0
Sample Description:	Strong brown Silt		ML

Maximum Dry Density 103.0 PCF. Optimum Moisture Content 18.9%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	22.3%
Specific Gravity of Soil	2.673
Liquid Limit	34
Plastic Limit	24
Plastic Index	10

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.8%
#40	97.6%
#60	96.9%
#200	94.5%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

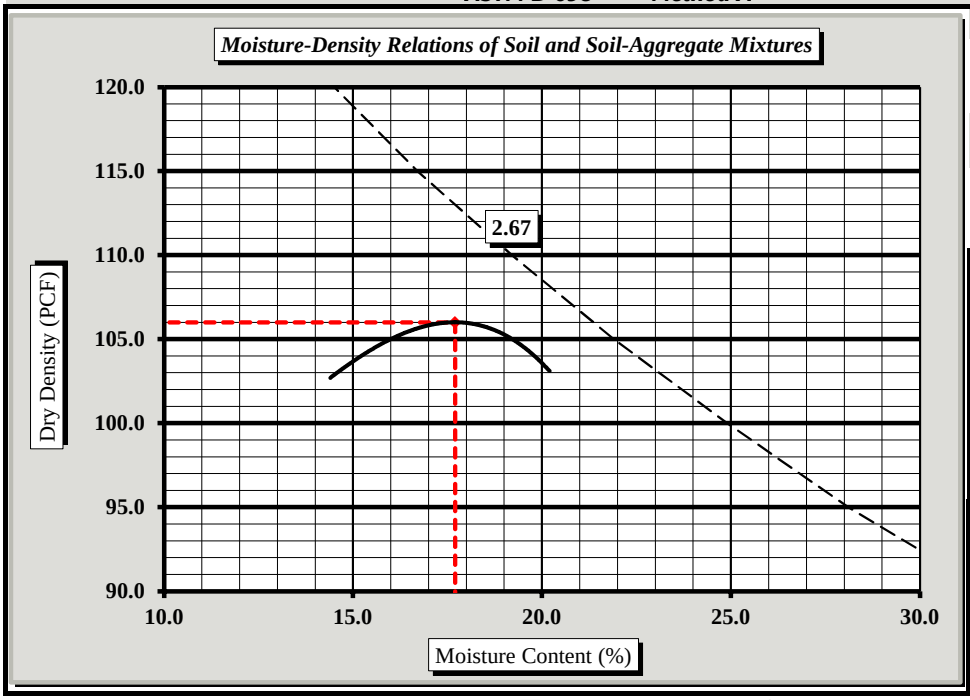
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-7	Sample Date:	11/16/20
Location:	B-09	Depth (ft.):	0.0 - 1.0
Sample Description:	Very dark brown Lean clay		CL

Maximum Dry Density 106.0 PCF. Optimum Moisture Content 17.7%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	19.9%
Specific Gravity of Soil	2.672
Liquid Limit	34
Plastic Limit	22
Plastic Index	12

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	99.5%
#60	98.9%
#200	92.9%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

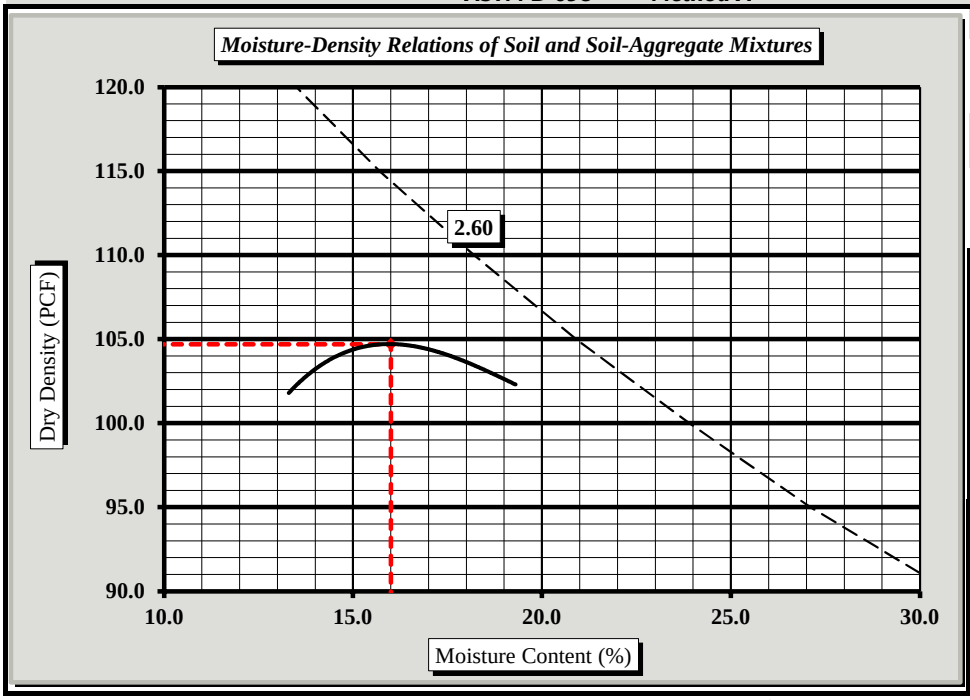
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-8	Sample Date:	11/16/20
Location:	B-10	Depth (ft.):	0.0 - 1.0
Sample Description:	Strong brown Lean clay		CL

Maximum Dry Density 104.7 PCF. Optimum Moisture Content 16.0%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	23.1%
Specific Gravity of Soil	2.595
Liquid Limit	35
Plastic Limit	20
Plastic Index	15

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	100.0%
#40	98.7%
#60	98.4%
#200	87.8%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

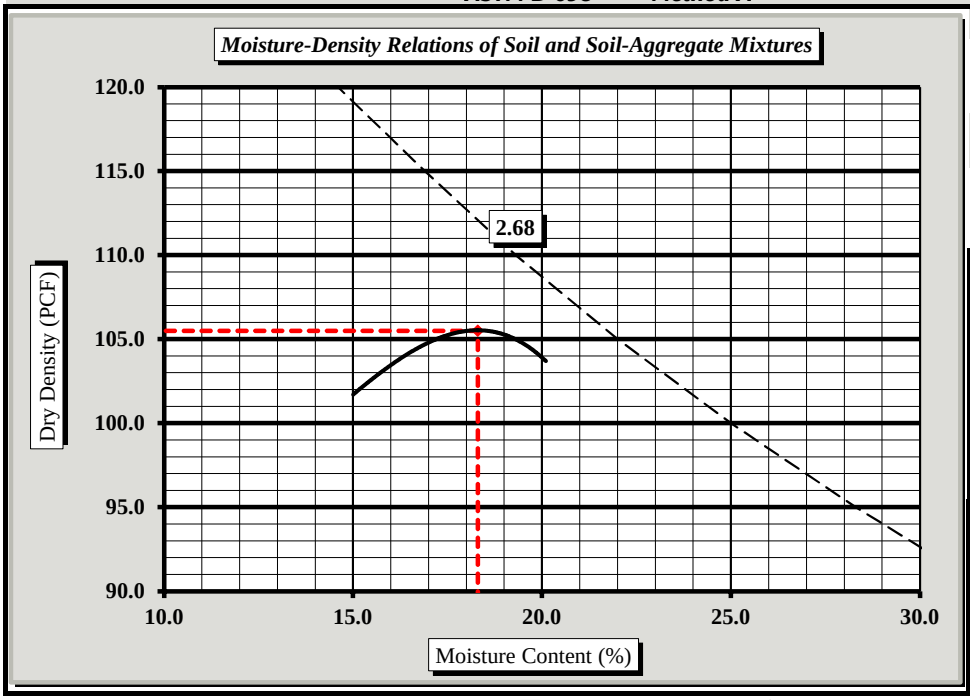
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-9	Sample Date:	11/16/20
Location:	B-11	Depth (ft.):	0.0 - 1.0
Sample Description:	Dark brown Lean clay		CL

Maximum Dry Density 105.5 PCF. Optimum Moisture Content 18.3%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	20.9%
Specific Gravity of Soil	2.682
Liquid Limit	36
Plastic Limit	20
Plastic Index	16

% Passing	
3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.9%
#40	99.2%
#60	98.4%
#200	89.7%

Oversize Fraction	
Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-D698-2
Revision No. 1LEXb
Revision Date: 09/02/20

MOISTURE - DENSITY REPORT

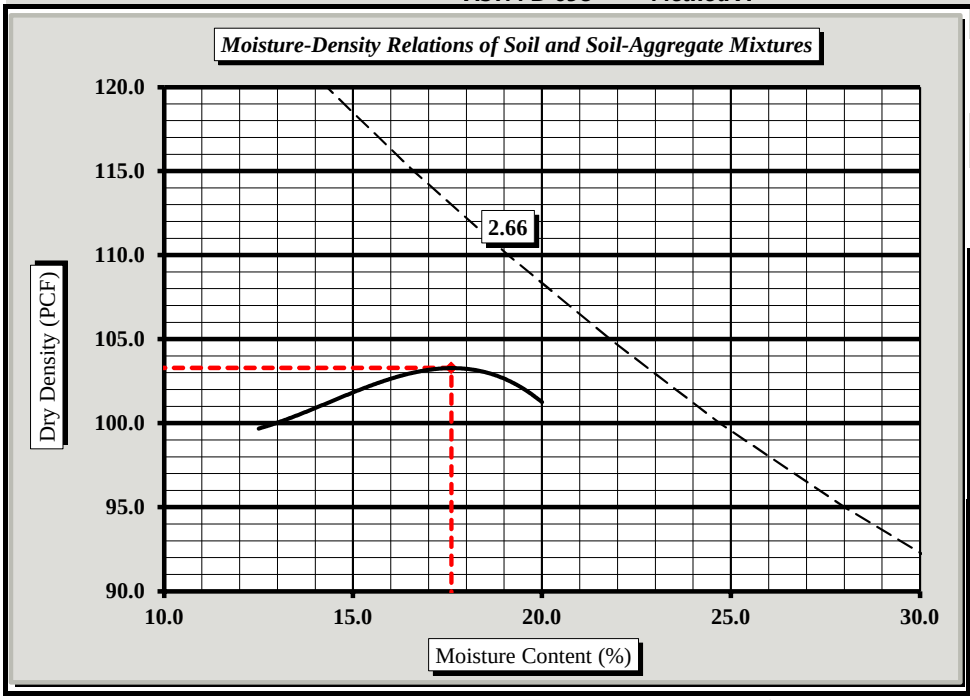
Quality Assurance ASTM D 698 Method A

S&ME, Inc. - Lexington: 2020 Liberty Road, Suite 105, Lexington, KY 40505

Project #:	1280-20-070	Report Date:	11/30/20
Project Name:	Russellville Solar Facility	Test Date(s):	11/20/20
Client Name:	Silicon Ranch Corporation		
Client Address:	222 Second Ave S. Suite 1900, Nashville, TN 37201		
	Sample No.: P-10	Sample Date:	11/16/20
Location:	B-12	Depth (ft.):	0.0 - 1.0
Sample Description:	Dark brown Silt		ML

Maximum Dry Density 103.3 PCF. Optimum Moisture Content 17.6%

ASTM D 698 - - Method A



Soil Properties

As Received Moisture Content	22.8%
Specific Gravity of Soil	2.662
Liquid Limit	28
Plastic Limit	23
Plastic Index	5

% Passing

3/4"	100.0%
3/8"	100.0%
#4	100.0%
#10	99.8%
#40	98.7%
#60	97.7%
#200	88.9%

Oversize Fraction

Bulk Gravity	ND
% Moisture	ND
% Oversize	<5%
MDD	NA
Opt. MC	NA

Moisture-Density Curve Displayed: Fine Fraction ☒ Corrected for Oversize Fraction (ASTM D 4718) ☐

Sieve Size used to separate the Oversize Fraction: #4 Sieve ☒ 3/8 inch Sieve ☐ 3/4 inch Sieve ☐

Mechanical Rammer ☒ Manual Rammer ☐ Moist Preparation ☐ Dry Preparation ☒

References / Comments / Deviations: NA = Not Applicable; ND = Not Determined

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibility	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

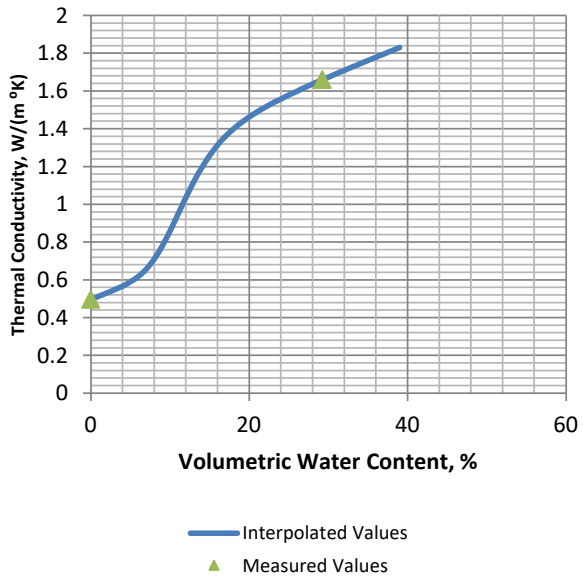
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-11	Sample: P-9	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

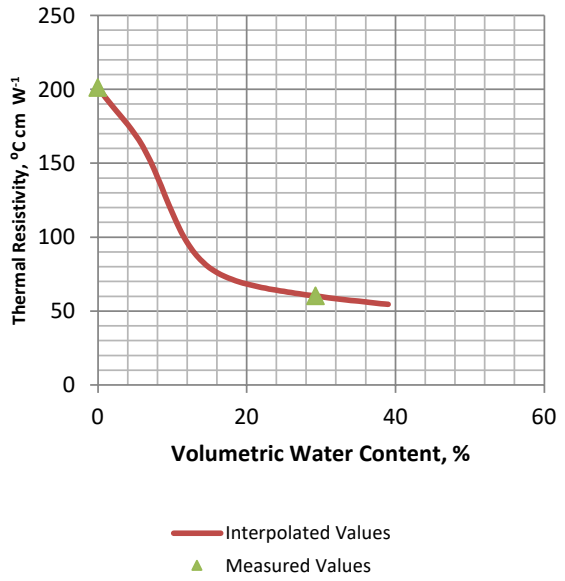
Soil Information

Sample Description:	Dark brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	4,700	Liquid Limit: 36	% Fines: 89.7
Maximum Dry Density, pcf.:	105.5	Plastic Index: 16	% Clay size: 28.2
Opt. Water Content, % grav:	18.3	Compacted Specimen	pH: 5.7

Test Information

Specimen Diameter, in.:	2.81	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.16	Meter: Tempos	
Specimen Dry Density, pcf:	101.2	Specimen Gravimetric Water Content, %: 18.0	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.50** W/(m-K)	**201** °C cm W^{-1}
29.2%	volumetric water content:	**1.66** W/(m-K)	**60** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

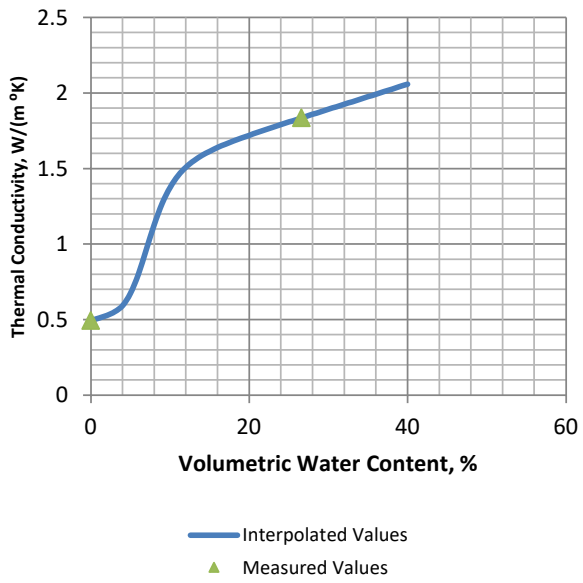
Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

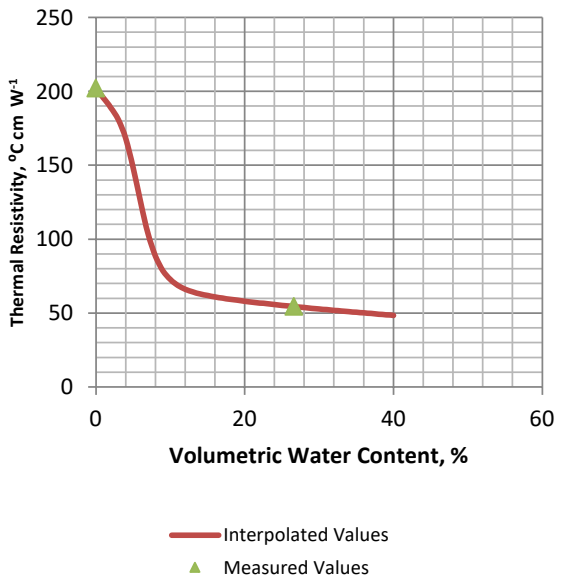
THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

Project No.:	1280-20-070			Report Date:	11/30/20
Project Name:	Russellville Solar Facility			Test Date(s):	11/24/20
Boring #:	B-12	Sample:	P-10	Sample Date:	11/16/20
				Depth (ft.):	0.0 - 1.0
		Soil Information			
Sample Description:	Dark brown Silt				ML
Min. Electrical Resist., Ω-cm:	4,200	Liquid Limit:	28	% Fines:	88.9
Maximum Dry Density, pcf.:	103.3	Plastic Index:	5	% Clay size:	14.0
Opt. Water Content, % grav:	17.6	Compacted Specimen		pH:	6.0
		Test Information			
Specimen Diameter, in.:	4.00	Probe:	TR-3	Ambient Temperature, °C:	22
Specimen Height, in:	8.00	Meter:	Tempos		
Specimen Dry Density, pcf:	98.0			Specimen Gravimetric Water Content, %:	16.9





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.49** W/(m-K)	**202** °C cm W^{-1}
26.6%	volumetric water content:	**1.84** W/(m-K)	**54** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
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Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

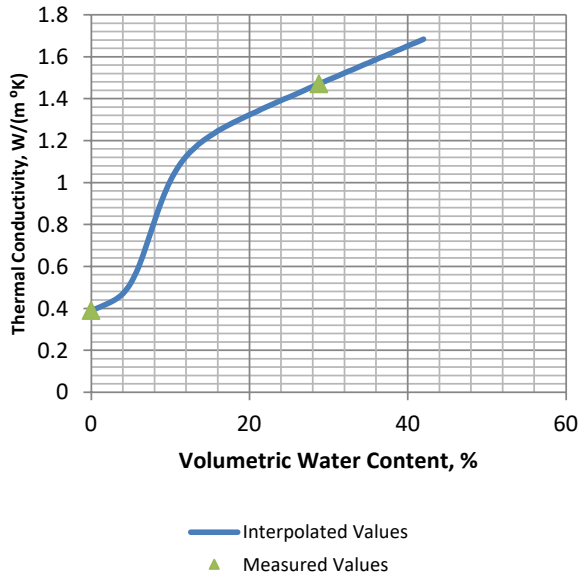
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-14	Sample: P-11	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

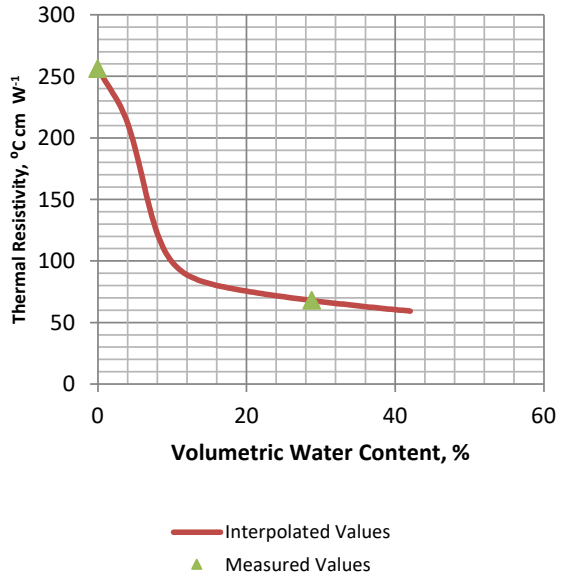
Soil Information

Sample Description:	Brown Silt		ML
Min. Electrical Resist., Ω-cm:	3,700	Liquid Limit: 32	% Fines: 95.1
Maximum Dry Density, pcf.:	100.9	Plastic Index: 7	% Clay size: 15.5
Opt. Water Content, % grav:	18.8	Compacted Specimen	pH: 5.8

Test Information

Specimen Diameter, in.:	2.81	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.15	Meter: Tempos	
Specimen Dry Density, pcf:	95.1	Specimen Gravimetric Water Content, %: 18.9	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.39** W/(m-K)	**256** °C cm W^{-1}
28.8%	volumetric water content:	**1.47** W/(m-K)	**68** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

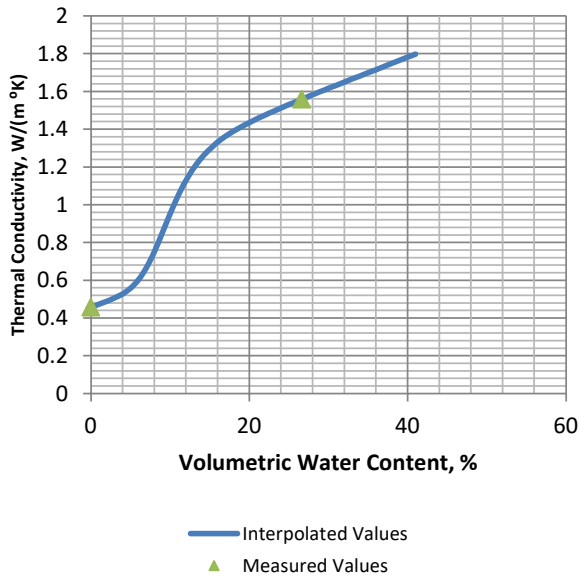
Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

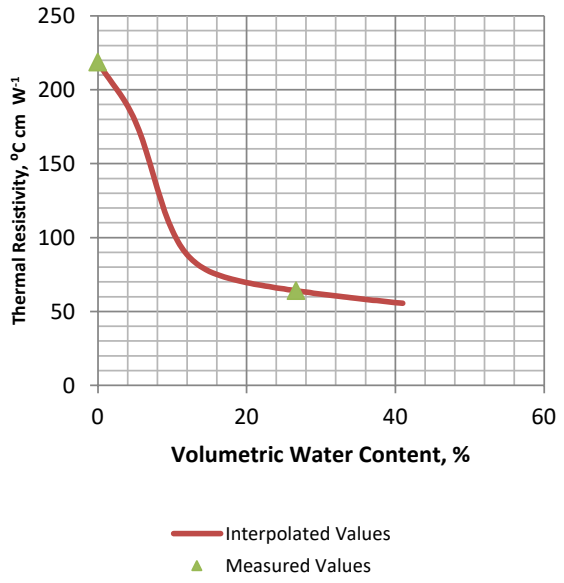
THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

Project No.:	1280-20-070			Report Date:	11/30/20
Project Name:	Russellville Solar Facility			Test Date(s):	11/24/20
Boring #:	B-16	Sample:	P-12	Sample Date:	11/16/20
				Depth (ft.):	0.0 - 1.0
Soil Information					
Sample Description:	Very dark brown Lean clay				CL
Min. Electrical Resist., Ω-cm:	5,500	Liquid Limit:	34	% Fines:	96.6
Maximum Dry Density, pcf.:	102.6	Plastic Index:	11	% Clay size:	21.8
Opt. Water Content, % grav:	17.5	Compacted Specimen		pH:	6.8
Test Information					
Specimen Diameter, in.:	2.81	Probe:	TR-3	Ambient Temperature, °C:	22
Specimen Height, in:	6.17	Meter:	Tempos		
Specimen Dry Density, pcf:	96.7			Specimen Gravimetric Water Content, %:	17.2





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.46** W/(m-K)	**219** °C cm W^{-1}
26.6%	volumetric water content:	**1.56** W/(m-K)	**64** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

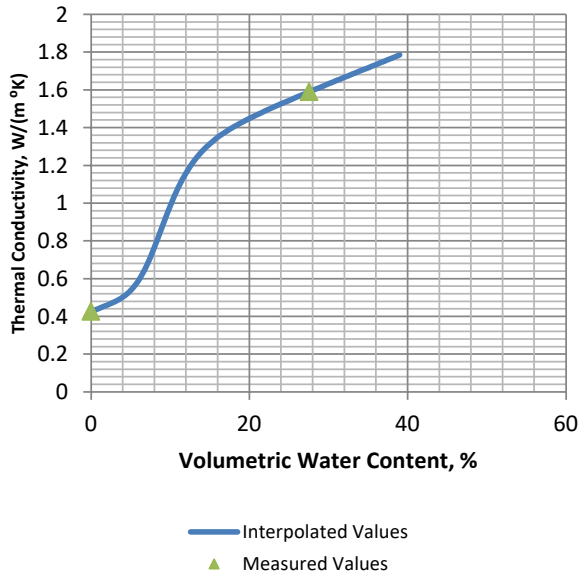
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-17	Sample: P-13	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

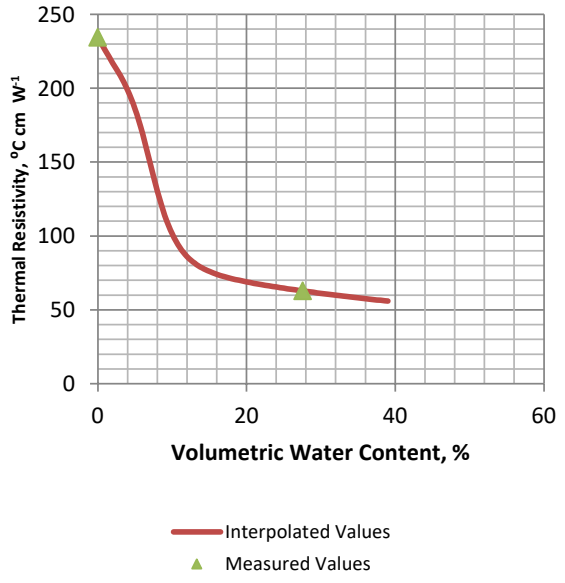
Soil Information

Sample Description:	Brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	6,900	Liquid Limit: 32	% Fines: 96.3
Maximum Dry Density, pcf.:	102.6	Plastic Index: 9	% Clay size: 20.2
Opt. Water Content, % grav:	17.7	Compacted Specimen	pH: 5.8

Test Information

Specimen Diameter, in.:	2.80	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.18	Meter: Tempos	
Specimen Dry Density, pcf:	97.1	Specimen Gravimetric Water Content, %: 17.7	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.43** W/(m-K)	**234** °C cm W^{-1}
27.6%	volumetric water content:	**1.59** W/(m-K)	**63** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

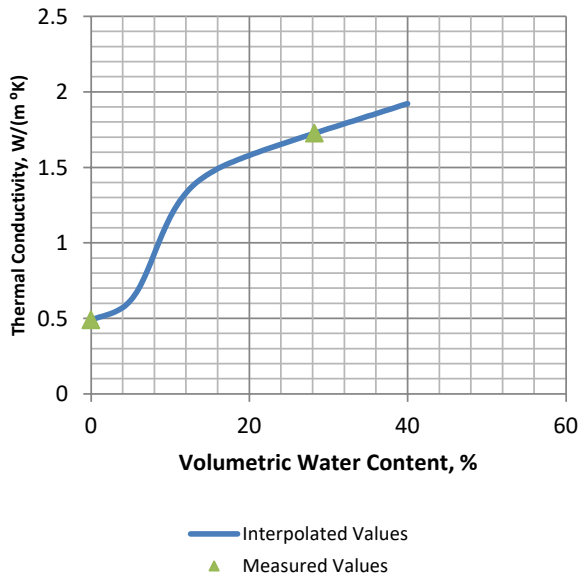
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-18	Sample: P-14	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

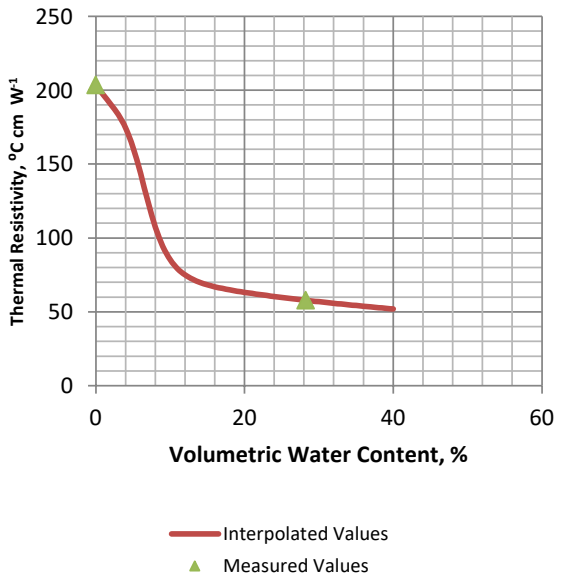
Soil Information

Sample Description:	Dark brown Silt		ML
Min. Electrical Resist., Ω-cm:	5,550	Liquid Limit: 33	% Fines: 92.5
Maximum Dry Density, pcf.:	103.1	Plastic Index: 9	% Clay size: 17.4
Opt. Water Content, % grav:	18.5	Compacted Specimen	pH: 6.3

Test Information

Specimen Diameter, in.:	4.00	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	7.10	Meter: Tempos	
Specimen Dry Density, pcf:	98.0	Specimen Gravimetric Water Content, %:	18.0





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.49** W/(m-K)	**204** °C cm W^{-1}
28.2%	volumetric water content:	**1.73** W/(m-K)	**58** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at:
http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations: **Used entire available specimen**

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

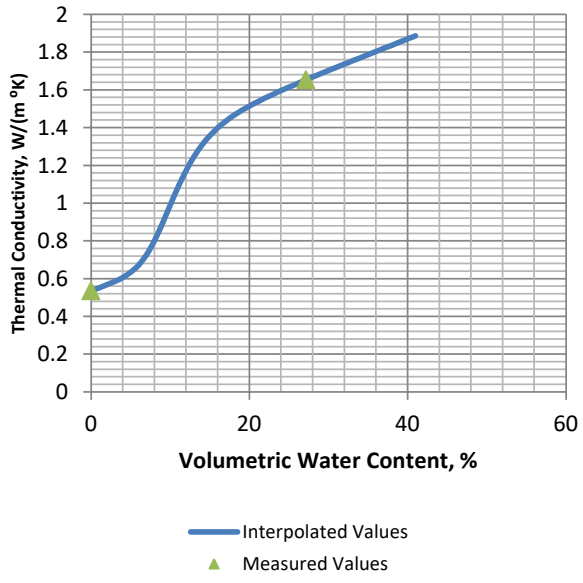
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-19	Sample: P-15	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

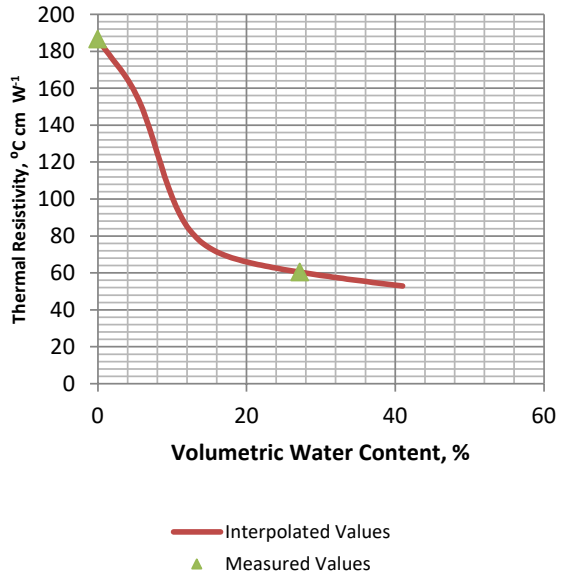
Soil Information

Sample Description:	Dark brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	3,450	Liquid Limit: 35	% Fines: 95.5
Maximum Dry Density, pcf.:	104.0	Plastic Index: 11	% Clay size: 23.6
Opt. Water Content, % grav:	17.7	Compacted Specimen	pH: 6.4

Test Information

Specimen Diameter, in.:	2.81	Probe: TR-3	Ambient Temperature, °C: 23
Specimen Height, in:	6.15	Meter: Tempos	
Specimen Dry Density, pcf:	98.2	Specimen Gravimetric Water Content, %: 17.2	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.54** W/(m-K)	**187** °C cm W^{-1}
27.1%	volumetric water content:	**1.65** W/(m-K)	**60** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at:
http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

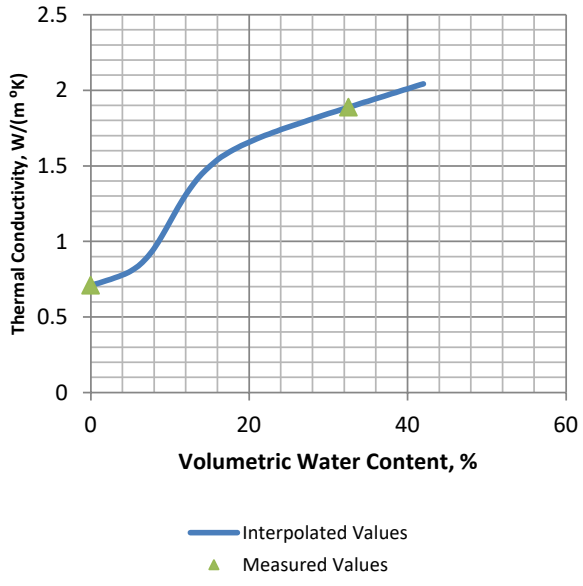
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-20	Sample: P-16	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

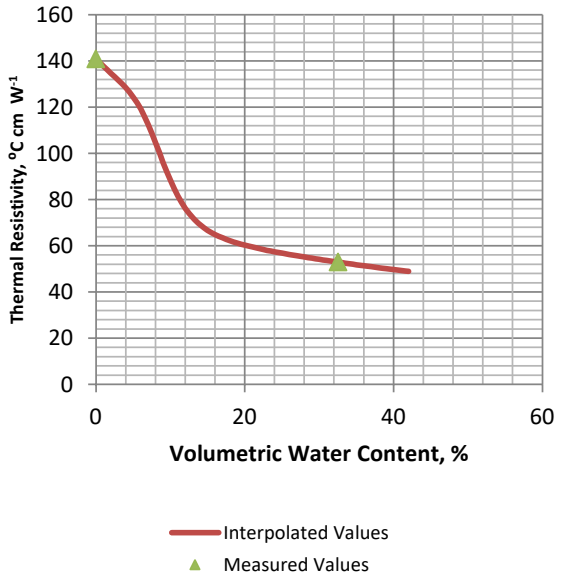
Soil Information

Sample Description:	Dark brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	4,300	Liquid Limit: 37	% Fines: 98.3
Maximum Dry Density, pcf.:	101.4	Plastic Index: 14	% Clay size: 24.5
Opt. Water Content, % grav:	20.6	Compacted Specimen	pH: 6.3

Test Information

Specimen Diameter, in.:	4.00	Probe: TR-3	Ambient Temperature, °C: 23
Specimen Height, in:	8.00	Meter: Tempos	
Specimen Dry Density, pcf:	96.3	Specimen Gravimetric Water Content, %: 21.1	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.71** W/(m-K)	**141** °C cm W^{-1}
32.6%	volumetric water content:	**1.89** W/(m-K)	**53** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
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Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

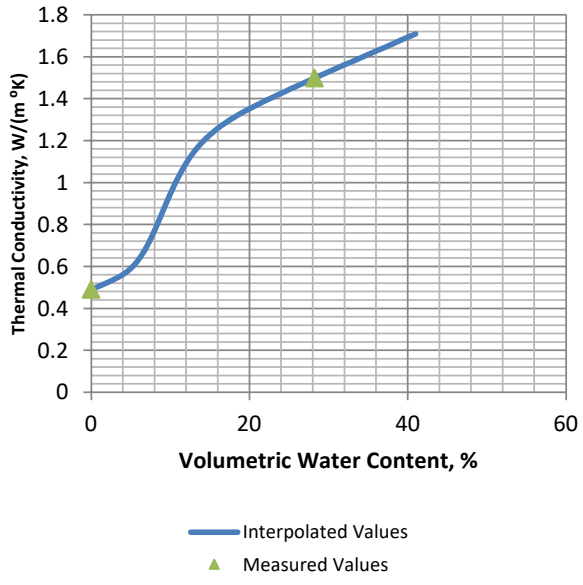
Project No.:	1280-20-070		Report Date: 11/30/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/23/20
Boring #:	B-01	Sample: P-1	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

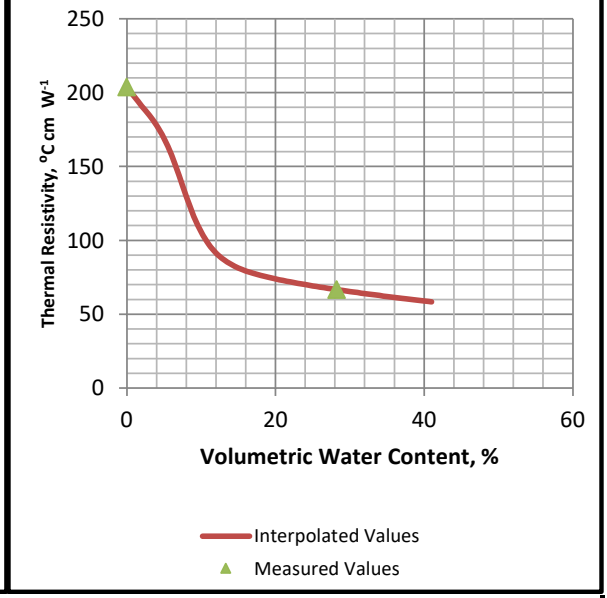
Soil Information

Sample Description:	Strong brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	4,600	Liquid Limit: 34	% Fines: 95.2
Maximum Dry Density, pcf.:	102.9	Plastic Index: 12	% Clay size: 20.8
Opt. Water Content, % grav:	18.4	Compacted Specimen	pH: 6.6

Test Information

Specimen Diameter, in.:	2.82	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.13	Meter: Tempos	
Specimen Dry Density, pcf:	97.1	Specimen Gravimetric Water Content, %: 18.2	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.49** W/(m-K)	**204** °C cm W^{-1}
28.2%	volumetric water content:	**1.50** W/(m-K)	**67** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
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THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

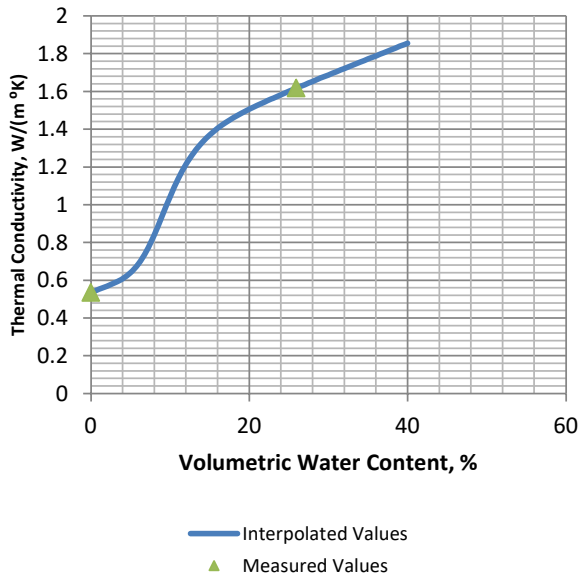
Project No.:	1280-20-070		Report Date: 12/01/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/23/20
Boring #:	B-02	Sample: P-2	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

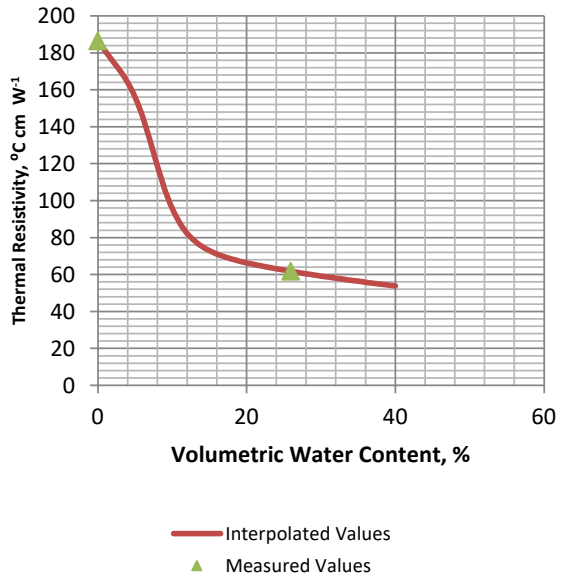
Soil Information

Sample Description:	Dark yellowish brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	3,300	Liquid Limit: 35	% Fines: 87.6
Maximum Dry Density, pcf.:	105.2	Plastic Index: 15	% Clay size: 21.1
Opt. Water Content, % grav:	15.8	Compacted Specimen	pH: 7.0

Test Information

Specimen Diameter, in.:	2.82	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.12	Meter: Tempos	
Specimen Dry Density, pcf:	99.0	Specimen Gravimetric Water Content, %:	16.3





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.54** W/(m-K)	**187** °C cm W^{-1}
25.9%	volumetric water content:	**1.62** W/(m-K)	**62** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
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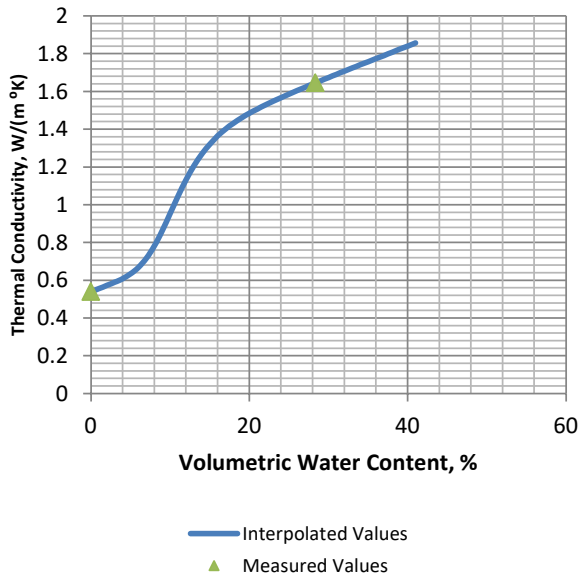
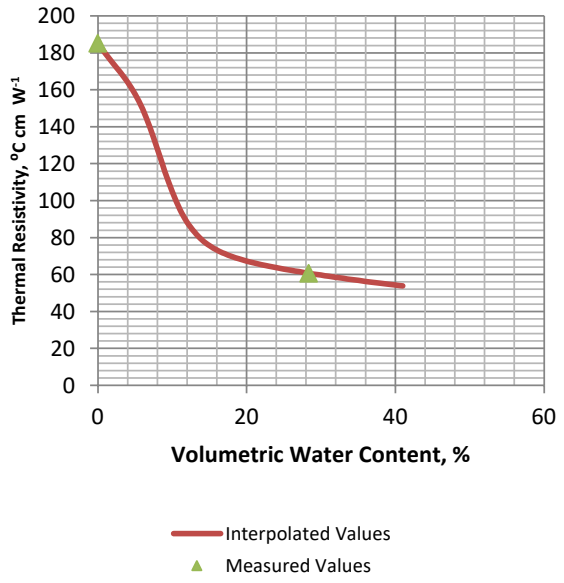
THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

Project No.:	1280-20-070			Report Date:	12/01/20
Project Name:	Russellville Solar Facility			Test Date(s):	11/23/20
Boring #:	B-03	Sample:	P-3	Sample Date:	11/16/20
				Depth (ft.):	0.0 - 1.0
Soil Information					
Sample Description:	Strong brown Lean clay				CL
Min. Electrical Resist., Ω-cm:	5,350	Liquid Limit:	30	% Fines:	91.5
Maximum Dry Density, pcf.:	101.6	Plastic Index:	9	% Clay size:	24.8
Opt. Water Content, % grav:	18.3	Compacted Specimen		pH:	6.2
Test Information					
Specimen Diameter, in.:	2.81	Probe:	TR-3	Ambient Temperature, °C:	22
Specimen Height, in:	6.11	Meter:	Tempos		
Specimen Dry Density, pcf:	96.5			Specimen Gravimetric Water Content, %:	18.3





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.54** W/(m-K)	**185** °C cm W^{-1}
28.4%	volumetric water content:	**1.65** W/(m-K)	**61** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

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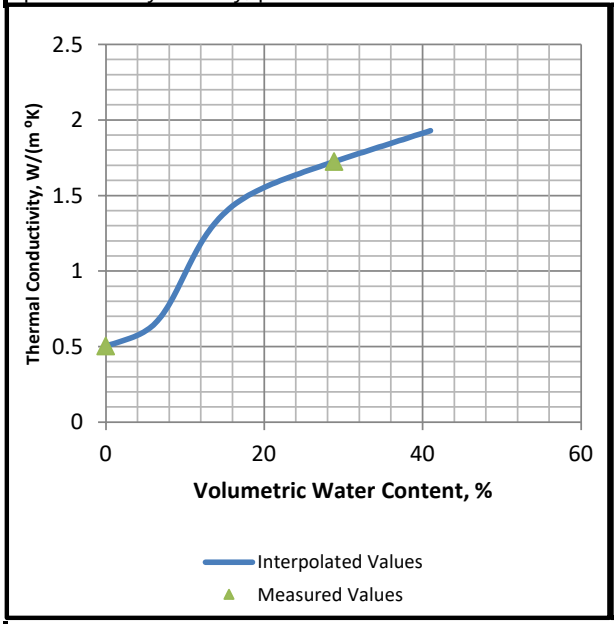
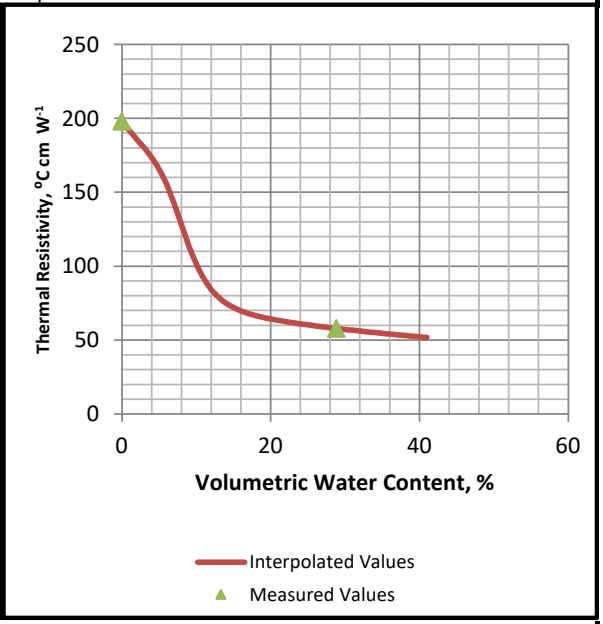
THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

Project No.:	1280-20-070		Report Date: 12/01/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/23/20
Boring #:	B-05	Sample: P-4	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0
		Soil Information	
Sample Description:	Brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	5,250	Liquid Limit: 36	% Fines: 91.8
Maximum Dry Density, pcf.:	104.6	Plastic Index: 16	% Clay size: 23.8
Opt. Water Content, % grav:	18.4	Compacted Specimen	pH: 5.2
		Test Information	
Specimen Diameter, in.:	2.82	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.09	Meter: Tempos	
Specimen Dry Density, pcf:	99.0	Specimen Gravimetric Water Content, %: 18.2	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.50** W/(m-K)	**198** °C cm W^{-1}
28.8%	volumetric water content:	**1.73** W/(m-K)	**58** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decacogon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
Revision No. 0
Revision Date: 10/02/20
Quality Assurance

THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

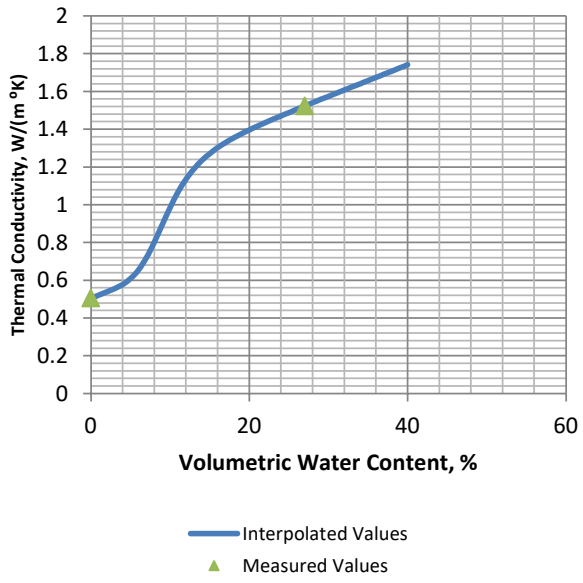
Project No.:	1280-20-070		Report Date: 12/01/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/23/20
Boring #:	B-06	Sample: P-5	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

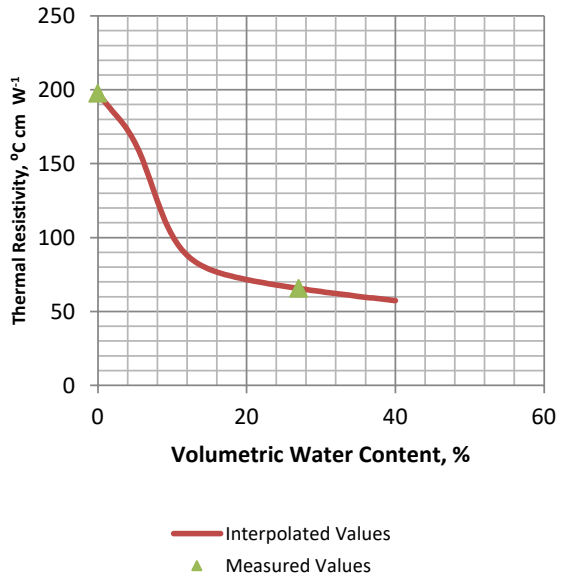
Soil Information

Sample Description:	Strong brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	5,200	Liquid Limit: 34	% Fines: 92.4
Maximum Dry Density, pcf.:	104.5	Plastic Index: 13	% Clay size: 20.4
Opt. Water Content, % grav:	17.3	Compacted Specimen	pH: 6.6

Test Information

Specimen Diameter, in.:	2.82	Probe: TR-3	Ambient Temperature, °C: 22
Specimen Height, in:	6.11	Meter: Tempos	
Specimen Dry Density, pcf:	98.4	Specimen Gravimetric Water Content, %:	17.1





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.51** W/(m-K)	**198** °C cm W^{-1}
27.0%	volumetric water content:	**1.52** W/(m-K)	**66** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
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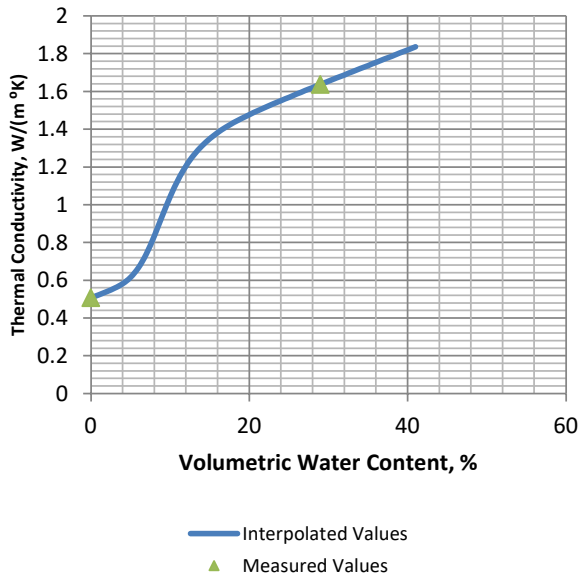
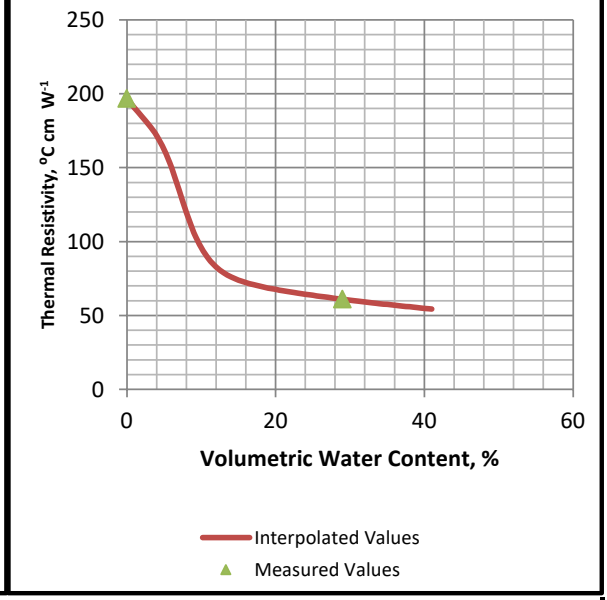
THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

Project No.:	1280-20-070			Report Date:	12/01/20
Project Name:	Russellville Solar Facility			Test Date(s):	11/23/20
Boring #:	B-07	Sample:	P-6	Sample Date:	11/16/20
				Depth (ft.):	0.0 - 1.0
Soil Information					
Sample Description:	Strong brown Silt				ML
Min. Electrical Resist., Ω-cm:	4,800	Liquid Limit:	34	% Fines:	94.5
Maximum Dry Density, pcf.:	103.0	Plastic Index:	10	% Clay size:	20.0
Opt. Water Content, % grav:	18.9	Compacted Specimen		pH:	6.3
Test Information					
Specimen Diameter, in.:	2.81	Probe:	TR-3	Ambient Temperature, °C:	21
Specimen Height, in:	6.12	Meter:	Tempos		
Specimen Dry Density, pcf:	97.8			Specimen Gravimetric Water Content, %:	18.5





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.51** W/(m-K)	**197** °C cm W^{-1}
29.0%	volumetric water content:	**1.64** W/(m-K)	**61** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

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THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

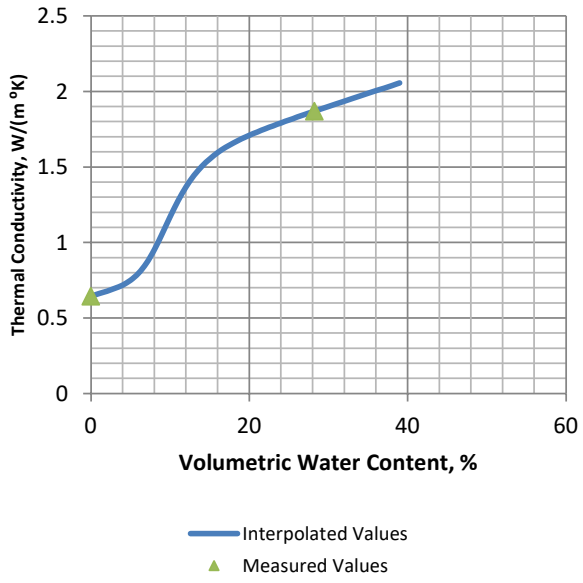
Project No.:	1280-20-070		Report Date: 12/01/20
Project Name:	Russellville Solar Facility		Test Date(s): 11/24/20
Boring #:	B-09	Sample: P-7	Sample Date: 11/16/20
			Depth (ft.): 0.0 - 1.0

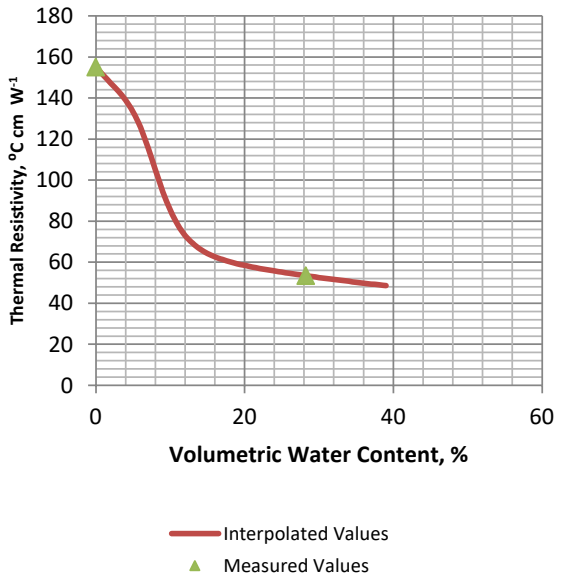
Soil Information

Sample Description:	Very dark brown Lean clay		CL
Min. Electrical Resist., Ω-cm:	3,100	Liquid Limit: 34	% Fines: 92.9
Maximum Dry Density, pcf.:	106.0	Plastic Index: 12	% Clay size: 22.3
Opt. Water Content, % grav:	17.7	Compacted Specimen	pH: 5.9

Test Information

Specimen Diameter, in.:	4.00	Probe: TR-3	Ambient Temperature, °C: 23
Specimen Height, in:	8.00	Meter: Tempos	
Specimen Dry Density, pcf:	101.2	Specimen Gravimetric Water Content, %: 17.4	





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.64** W/(m-K)	**155** °C cm W^{-1}
28.2%	volumetric water content:	**1.87** W/(m-K)	**53** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

Form No. TR-2370-LEX-D5334R
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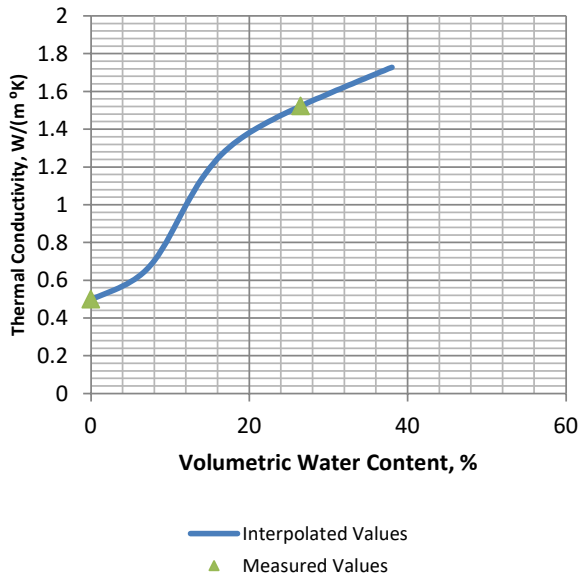
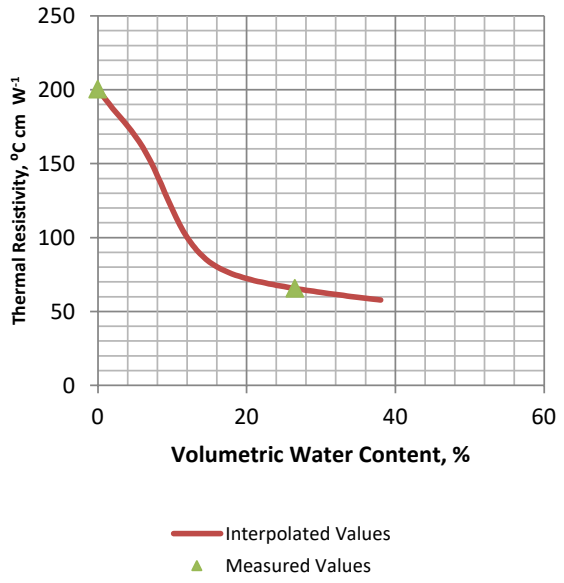
THERMAL CONDUCTIVITY AND RESISTIVITY OF SOIL

ASTM D5334

S&ME, Inc. - Lexington 2020 Liberty Rd. Suite 105 Lexington, KY 40505

Project No.:	1280-20-070			Report Date:	12/01/20
Project Name:	Russellville Solar Facility			Test Date(s):	11/24/20
Boring #:	B-10	Sample:	P-8	Sample Date:	11/16/20
				Depth (ft.):	0.0 - 1.0
Soil Information					
Sample Description:	Strong brown Lean clay				CL
Min. Electrical Resist., Ω-cm:	5,500	Liquid Limit:	35	% Fines:	87.8
Maximum Dry Density, pcf.:	104.7	Plastic Index:	15	% Clay size:	28.0
Opt. Water Content, % grav:	16.0	Compacted Specimen		pH:	5.6
Test Information					
Specimen Diameter, in.:	2.82	Probe:	TR-3	Ambient Temperature, °C:	21
Specimen Height, in:	6.10	Meter:	Tempos		
Specimen Dry Density, pcf:	98.9			Specimen Gravimetric Water Content, %:	16.7





		Thermal Conductivity	Thermal Resistivity
0.0%	volumetric water content:	**0.50** W/(m-K)	**200** °C cm W^{-1}
26.5%	volumetric water content:	**1.52** W/(m-K)	**66** °C cm W^{-1}

Interpolated values based on two points and a model for the shape of curves for thermal conductivity of soil, reference Decagon Application Note at: http://www.decagon.com/assets/Uploads/13994-01-AN-Producing-Thermal-Dryout-Curves-for-Buried-Cable-Applications.pdf

Notes / Deviations:

Jacob Folsom	Jacob Folsom	Associate Project Manager	12/2/2020
Technical Responsibilty	*Signature*	*Position*	*Date*

PO Box 572455 / Salt Lake City UT 84157-2455 / USA
TEL +1 801 262 2448 · FAX +1 801 262 9870 · www.TEi-TS.com

GEOTESTING EXPRESS INCORPORATED
2358 PERIMETER PARK DRIVE SUITE 320
ATLANTA GA 30341-1315
USA

Analysis No.	TS-A2009192
Report Date	27 November 2020
Date Sampled	18 November 2020
Date Received	20 November 2020
Where Sampled	Atlanta, GA USA
Sampled By	Client

This is to attest that we have examined: Soil for Project Name: Russelville Facility; Site Location: - ; Job Number: GTX-312763

When examined to the applicable requirements of:

ASTM D 512-12	“Standard Test Methods for Chloride Ion in Water” Method B
ASTM D 516-16	“Standard Test Method for Sulfate Ion in Water”
USEPA 600/4	“Sulfide Method 376.2 (Colorimetric, Methylene Blue)”

Results:

ASTM D 512 – Chloride Method B

Sample		Results		Detection Limit
		ppm (mg/kg)	%[1]	
B-01		11.	0.0011	10.
-	0 – 1’			
B-02		29.	0.0029	
-	0 – 1’			
B-03		18.	0.0018	
-	0 – 1’			
B-05		< 10.	< 0.0010	
-	0 – 1’			
B-06		< 10.	< 0.0010	
-	0 – 1’			
B-07		13.	0.0013	
-	0 – 1’			
B-09		23.	0.0023	
-	0 – 1’			

NOTE: [1]Percent by weight after drying and sample prepared in accordance with the Requirements of the Standard.

ASTM D 512 – Chloride Method B Continued

Sample		Results		Detection Limit
		ppm (mg/kg)	%[1]	
B-10		< 10.	< 0.0010	10.
-	0 – 1’			
B-11		< 10.	< 0.0010	
-	0 – 1’			
B-12		11.	0.0010	
-	0 – 1’			
B-14		37.	0.0037	
-	0 – 1’			
B-16		31.	0.0031	
-	0 – 1’			
B-17		19.	0.0019	
-	0 – 1’			
B-18		13.	0.0013	
-	0 – 1’			
B-19		27.	0.0027	
-	0 – 1’			
B-20		26.	0.0026	
-	0 – 1’			

NOTE: [1]Percent by weight after drying and sample prepared in accordance with the Requirements of the Standard.

ASTM D 516 – Sulfate (soluble)

Sample		Results		Detection Limit
		ppm (mg/kg)	%[1]	
B-01		16.	0.0016	10.
-	0 – 1’			
B-02		14.	0.0014	
-	0 – 1’			
B-03		< 10.	< 0.0010	
-	0 – 1’			

NOTE: [1]Percent by weight after drying and sample prepared in accordance with the Requirements of the Standard.

ASTM D 516 – Sulfate (soluble)

Sample		Results		Detection Limit
		ppm (mg/kg)	%[1]	
B-05		20.	0.0020	10.
-	0 – 1’			
B-06		36.	0.0036	
-	0 – 1’			
B-07		28.	0.0028	
-	0 – 1’			
B-09		26.	0.0026	
-	0 – 1’			
B-10		14.	0.0014	
-	0 – 1’			
B-11		< 10.	< 0.0010	
-	0 – 1’			
B-12		14.	0.0014	
-	0 – 1’			
B-14		< 10.	< 0.0010	
-	0 – 1’			
B-16		< 10.	< 0.0010	
-	0 – 1’			
B-17		12.	0.0012	
-	0 – 1’			
B-18		12.	0.0012	
-	0 – 1’			
B-19		< 10.	< 0.0010	
-	0 – 1’			
B-20		< 10.	< 0.0010	
-	0 – 1’			

NOTE: [1]Percent by weight after drying and sample prepared in accordance with the Requirements of the Standard.

USEPA Method 376.2 – Sulfide (soluble)

Sample		Results		Detection Limit
		ppb (µg/kg)	%[1]	
B-01		380.	0.0000380	10.
-	0 – 1’			
B-02		380.	0.0000380	
-	0 – 1’			
B-03		340.	0.0000340	
-	0 – 1’			
B-05		150.	0.0000150	
-	0 – 1’			
B-06		140.	0.0000140	
-	0 – 1’			
B-07		140.	0.0000140	
-	0 – 1’			
B-09		130.	0.0000130	
-	0 – 1’			
B-10		100.	0.0000100	
-	0 – 1’			
B-11		230.	0.0000230	
-	0 – 1’			
B-12		310.	0.0000310	
-	0 – 1’			
B-14		370.	0.0000370	
-	0 – 1’			
B-16		280.	0.0000280	
-	0 – 1’			

NOTE: [1]Percent by weight after drying and sample prepared in accordance with the Requirements of the Standard.

USEPA Method 376.2 – Sulfide (soluble) Continued

Sample		Results		Detection Limit
		ppb (µg/kg)	%[1]	
B-17		450.	0.0000450	10.
-	0 – 1’			
B-18		310.	0.0000310	
-	0 – 1’			
B-19		350.	0.0000350	
-	0 – 1’			
B-20		530.	0.0000530	
-	0 – 1’			

NOTE: [1]Percent by weight after drying and sample prepared in accordance with the Requirements of the Standard.

END OF ANALYSIS

USEPA Laboratory ID UT00930

Merrill Gee P.E. – Engineer in Charge

Geotechnical Site Characterization Report

Russellville Solar
Russellville, Logan County, Kentucky
August 30, 2019
Terracon Project No. 57195082

Prepared for:
Community Energy Solar, LLC
Chapel Hill, North Carolina

Prepared by:
Terracon Consultants, Inc.
Louisville, KY

August 30, 2019

Community Energy Solar, LLC
151 E. Rosemary Street
Chapel Hill, North Carolina 27514-3539

Attn: Mr. Chirs Killenberg
P: (919) 967 7063
E: chris.killenberg@commmunityenergyinc.com

Re: Geotechnical Site Characterization Report
Russellville Solar
Watermelon and J. Montgomery Roads
Russellville, Logan County, Kentucky
Terracon Project No. 57195082

Dear Mr. Killenberg:

We have completed the Geotechnical Site Characterization services for the above referenced project. This study was performed in general accordance with Terracon Proposal No. P57195082 Rev. 2 dated July 1, 2019 and authorized on July 2, 2019. This report presents the findings of the subsurface exploration and summarizes the geotechnical data for the proposed project.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning this report or if we may be of further service, please contact us.

Sincerely,
Terracon Consultants, Inc.

Kenneth J. Zur, P.E.
Senior Geotechnical Engineer

Benjamin W. Taylor, P.E.
Senior Associate

SME Review by: Jimmy M. Jackson, P.E. (FL)

REPORT TOPICS

Note: This report was originally delivered in a web-based format. **Orange Bold** text in the report indicates a referenced section heading. The PDF version also includes hyperlinks which direct the reader to that section and clicking on the ***GeoReport*** logo will bring you back to this page. For more interactive features, please view your project online at client.terracon.com.

ATTACHMENTS

Note: Refer to each individual Attachment for a listing of contents.

Geotechnical Site Characterization Report

Russellville Solar
Watermelon and J. Montgomery Roads
Russellville, Logan County, Kentucky

Terracon Project No. 57195082
August 30, 2019

INTRODUCTION

This report presents the results of our subsurface exploration, laboratory and geophysical testing performed for the proposed solar farm to be located near the intersection of Watermelon and J. Montgomery Roads in Russellville, Logan County, Kentucky. The purpose of these services is to provide a preliminary site characterization for use in screening the site for feasibility of development as a solar farm (to be evaluated by others):

- Subsurface soil and rock conditions
- Seismic site classification per IBC
- Soil resistivity
- Groundwater conditions
- Laboratory test results
- Corrosion test results

The geotechnical engineering Scope of Services for this project included the advancement of 10 test borings to depths ranging from approximately 9 to 29½ feet below existing site grades, performing field soil resistivity testing, and laboratory analysis, including thermal resistivity testing, corrosion testing, and soil index testing.

Maps showing the site and boring locations are shown in the **Site Location** and **Exploration Plan** sections, respectively. The results of the laboratory testing performed on soil samples obtained from the site during the field exploration are included on the boring logs and/or as separate graphs in the **Exploration Results** section.

SITE CONDITIONS

The following description of site conditions is derived from our site visit in association with the field exploration and our review of publicly available geologic and topographic maps.

Item	Description
Parcel Information	The project is located off Watermelon and J. Montgomery Roads in Russellville, Logan County, Kentucky. Based on Terracon's Desktop Constraints Analysis (DCA), dated May 14, 2019, the proposed Russellville Solar Farm will be a photovoltaic (PV) solar generation facility of approximately 1,623 acres. Approximate coordinates of the site are: 36.790204°, -86.936762° See **Site Location** for additional details
Existing Improvements	Primarily open grass fields, agricultural cropland / pasture, and undeveloped wooded land with occasional unimproved farm roads.
Current Ground Cover	Grass fields, planted crops (at the time of our field investigation consisted of corn and soybean), and isolated stands of trees.
Existing Topography (from Google Earth)	Based on review of Google Earth imagery, site grades vary significantly across the site from an isolated high area with elevation of approximately 685 feet at the wooded area west of J Montgomery Road to minimum elevation of approximately 580 feet near the southwest corner. The terrain within project site generally has farm ponds spread out the entire site and has multiple slopes with elevation changes in all directions.
Site Access	The proposed boring locations were accessible to our truck mounted drill rig. It should be noted that the majority of the borings were located in/near roadway areas to limit crop damage. Two borings were located in fields; however, at the time of the fieldwork, the crop growth was minimal.
Geology	Based on review of information from the Web Soil Survey, the near-surface soils generally consist of silt loam/silty clay loam overlying bedrock. Based on review of USGS Geologic Mapping, the site is generally located within geology of Ste. Genevieve Limestone, Mississippian age. The Kentucky Geological Society (KGS) maps the Ste. Genevieve Limestone with a very high karst potential with several karst features mapped within or near the proposed solar farm.

PROJECT DESCRIPTION

Our initial understanding of the project was provided in our proposal and was discussed during project planning. A period of collaboration has transpired since the project was initiated, and our final understanding of the project conditions is as follows:

Item	Description
Information Provided	Information regarding the project was provided by Ms. Christene Tashjian. Further, in an email dated July 17, 2019, a .kmz depicting representative boring locations was provided to Terracon. This file was labeled as: ■ KY_Logan County_Russellville_geotech_7-17-19.kmz
Proposed Structures	Photovoltaic (PV) electric power plant. Ultimately, the power plant will consist of solar panels installed on steel structures and various other equipment and appurtenances associated with the substation and O&M Building (e.g. switchgear, transformers, inverters, and overhead and underground electrical conveyance).
Maximum Loads	Solar Arrays: ■ Axial Uplift: 2 kips ■ Axial Compression: 3 kips ■ Lateral: 1.5 kips Substation Structures: ■ 1,500 psf 5 kips per linear foot (klf)
Grading/Slopes	Where possible, it is desirable to minimize grading, without extensive earthwork or treatment of in-situ soils.
Below-Grade Structures	None anticipated.
Free-Standing Retaining Walls	None anticipated.
Utilities	We anticipate installation of underground utilities within about 2 to 8 feet of finished site grades.
Access Roadways	Low-volume, aggregate-surfaced, all-weather access driveways are anticipated. We would expect traffic loads would be limited to construction and general maintenance equipment.

GEOTECHNICAL CHARACTERIZATION

We have developed a general characterization of the subsurface conditions based upon our review of the subsurface exploration, laboratory data, geologic setting and our understanding of the project. Conditions encountered at each exploration point are indicated on the individual logs. The individual logs can be found in the **Exploration Results** section and the GeoModel can be found in the **Figures** section of this report.

We identified the following model layers within the subsurface profile. For a more detailed view of the model layer depths at each boring location, refer to the GeoModel.

Model Layer	Layer Name	General Description
1	Existing Fill	(Existing Fill) Lean Clay
2	Overburden Soils	Lean Clay with sand to Fat Clay
3	Bedrock	Weathered Limestone to Limestone

Groundwater Conditions

Groundwater was not observed at the time of our exploration for the locations and depths explored. Groundwater level fluctuations occur due to seasonal variations in the amount of rainfall, runoff and other factors not evident at the time the exploration was performed. Therefore, groundwater levels may at other times in the life of the terminal may be higher or lower than the levels indicated on the boring logs.

Field Resistivity Tests

Resistivity of the subsurface was measured at four selected boring locations (B-3, B-5, B-7, and B-10) using the "Wenner Four Electrode Method" with an AEMC Model 6471 Digital Ground Resistance Tester". For this procedure, four test electrodes are driven into the ground in a straight line at equal spacings ("A"). Electrical resistance measurements (in Ohms) are read on the meter and converted to resistivity values (in Ohm-centimeters). To obtain readings representing various depths, the electrodes spacing is varied (equidistant) and the process is repeated.

The field resistivity surveys were conducted according to the requirements of the ASTM G-57 test method. As requested, resistivity measurements were taken along one traverse alignment at rod spacing of 2 feet, 5 feet, 10 feet, 20 feet and 50 feet for the PV fields. Individual resistivity values for the traverse alignment at the various specified "A" spacings are summarized in the following tables:

B-3		
Probe Spacing (ft)	Resistivity (North-South) (ohm-cm)	Resistivity (East-West) (ohm-cm)
2	11,069	10,188
5	8,780	9,058
10	8,828	8,043
20	8,273	9,115
50	18,001	18,193

B-5		
Probe Spacing (ft)	**Resistivity (North-South) (ohm-cm)**	**Resistivity (East-West) (ohm-cm)**
2	3,436	3,439
5	1,992	1,877
10	2,317	2,279
20	4,060	4,213
50	10,533	10,245

B-7		
Probe Spacing (ft)	**Resistivity (North-South) (ohm-cm)**	**Resistivity (East-West) (ohm-cm)**
2	6,166	6,320
5	5,544	5,056
10	5,917	5,841
20	8,311	7,852
50	17,311	17,905

B-10		
Probe Spacing (ft)	**Resistivity (North-South) (ohm-cm)**	**Resistivity (East-West) (ohm-cm)**
2	5,094	4,826
5	5,372	5,343
10	5,956	5,822
20	6,626	7,162
50	15,799	14,746

Laboratory Thermal Resistivity Test Results

Bulk samples of near-surface (0 to 5 feet bgs) subsurface materials from Borings B-1 and B-6 were obtained for thermal resistivity tests. The testing was performed on specimens remolded to about 85 percent of the maximum dry unit weight as determined by ASTM D698 (Standard Proctor). Thermal dry-out curves were generated for each sample from optimum moisture down to zero moisture content. Testing was conducted in general accordance with the IEEE standard 442-2017 by Geotherm USA and Terracon. The results are summarized in the table below and the Geotherm USA report for this site and the graphical results are presented in the **Exploration Results**.

Boring No. (Depth, feet)	Compaction Effort (%, ASTM D698)	Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Thermal Resistivity (°C cm/W)	
				Wet [1]	Dry
B-1 (0 to 5)	85	110.5	16.9	85	224
B-6 (0 to 5)	85	112.1	16.0	88	166

1. Sample prepared at optimum moisture content.

Corrosion Test Results

The table below lists the summarizes the results of laboratory soluble sulfate, soluble chloride, electrical resistivity, and pH testing. The values may be used to estimate potential corrosive characteristics of the on-site soils with respect to contact with the various underground materials which will be used for project construction. The laboratory test results are presented in the **Exploration Results.**

Corrosivity Test Results Summary						
Boring	Sample Depth (feet)	Soil Description	Soluble Sulfate (%)	Soluble Chloride (%)	Electrical Resistivity (Ω-cm)	pH
B-1	1	Fat clay	0.0044	0.0025	2522	7.22
B-3	1	Lean clay	0.0011	0.0023	11640	6.85
B-5	1	Fat clay	0.0165	0.0265	2522	6.83
B-7	1	Lean clay	0.0072	0.0025	6402	7.43

SEISMIC CONSIDERATIONS

The seismic design requirements for buildings and other structures are based on Seismic Design Category. Site Classification is required to determine the Seismic Design Category for a structure. The Site Classification is based on the upper 100 feet of the site profile defined by a weighted average value of either shear wave velocity, standard penetration resistance, or undrained shear strength in accordance with Section 20.4 of ASCE 7 and the International Building Code (IBC). Based on the soil/bedrock properties encountered at the site and as described on the exploration logs and results, it is our professional opinion that the **Seismic Site Classification is C**. Subsurface explorations at this site were extended to a maximum depth of 29.5 feet. The site properties below the boring depth to 100 feet were estimated based on our experience and

knowledge of geologic conditions of the general area. Additional deeper borings or geophysical testing may be performed to confirm the conditions below the current boring depth. It should be noted that performing geophysical testing such as Multi-Channel Analysis of Surface Waves (MASW) can result in less conservative seismic site class which may prove beneficial in design and construction.

GENERAL COMMENTS

Our analysis and opinions are based upon our understanding of the project, the geotechnical conditions in the area, and the data obtained from our site exploration. Natural variations will occur between exploration point locations or due to the modifying effects of construction or weather. The nature and extent of such variations may not become evident until during or after construction.

Our Scope of Services does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria) assessment of the site or identification or prevention of pollutants, hazardous materials or conditions. If the owner is concerned about the potential for such contamination or pollution, other studies should be undertaken.

Our services and any correspondence or collaboration through this system are intended for the sole benefit and exclusive use of our client for specific application to the project discussed and are accomplished in accordance with generally accepted geotechnical engineering practices with no third-party beneficiaries intended. Any third-party access to services or correspondence is solely for information purposes to support the services provided by Terracon to our client. Reliance upon the services and any work product is limited to our client, and is not intended for third parties. Any use or reliance of the provided information by third parties is done solely at their own risk. No warranties, either express or implied, are intended or made.

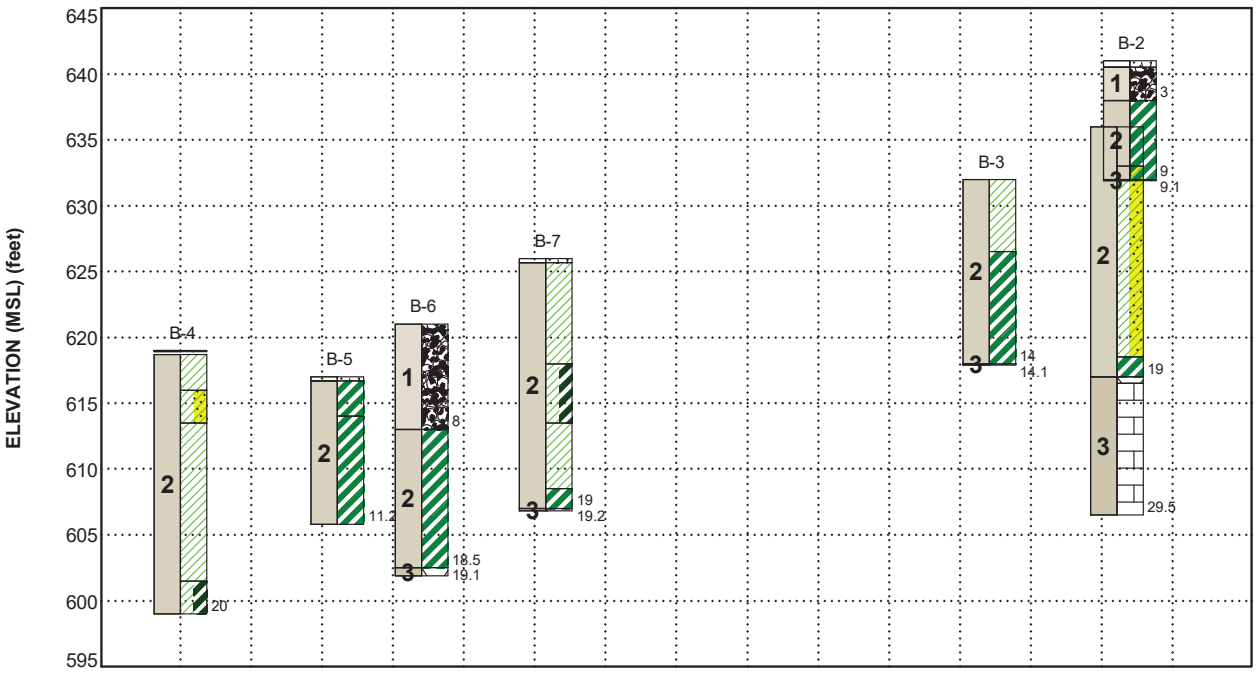
Site characteristics as provided are for design purposes and not to estimate excavation cost. Any use of our report in that regard is done at the sole risk of the excavating cost estimator as there may be variations on the site that are not apparent in the data that could significantly impact excavation cost. Any parties charged with estimating excavation costs should seek their own site characterization for specific purposes to obtain the specific level of detail necessary for costing. Site safety, and cost estimating including, excavation support, and dewatering requirements/design are the responsibility of others. If changes in the nature, design, or location of the project are planned, our conclusions and recommendations shall not be considered valid unless we review the changes and either verify or modify our conclusions in writing.

FIGURES

Contents:

GEOMODEL

Russellville Solar ■ Russellville, KY
Terracon Project No. 57195082



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**EXISTING FILL**	(EXISTING FILL) Lean Clay
2	**Overburden Soils**	Lean Clay with sand to Fat Clay
3	**Bedrock**	Weathered Limestone to Limestone

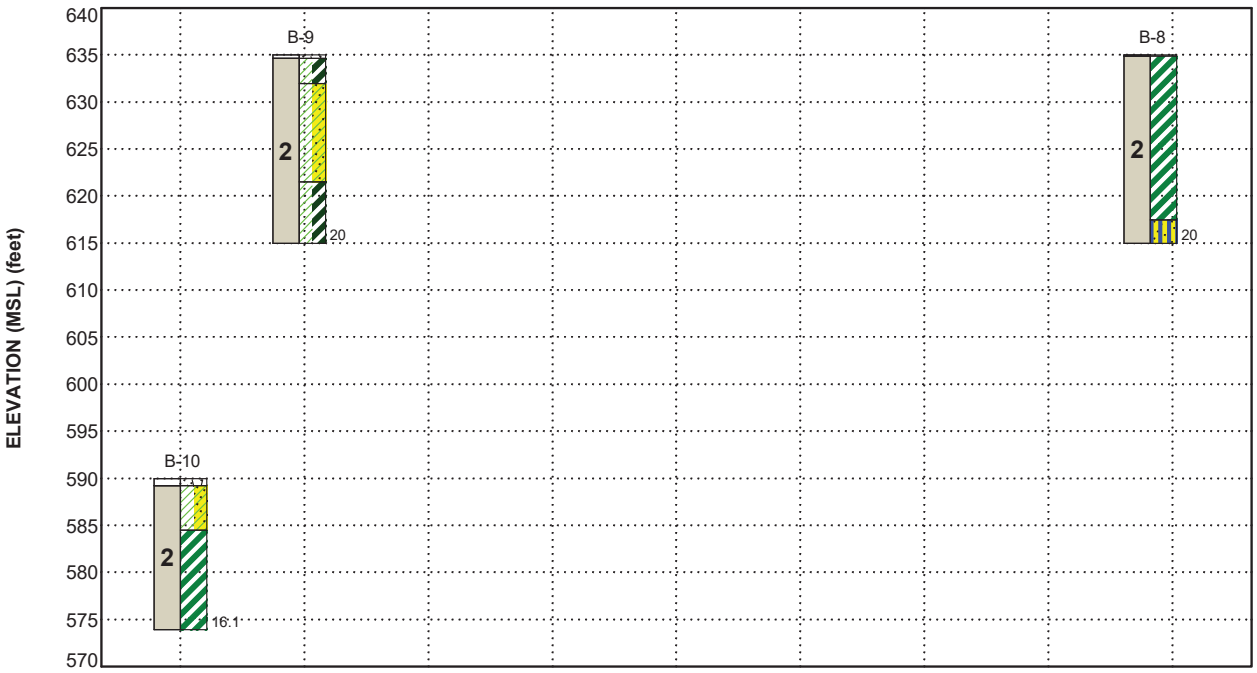
LEGEND

- Fat Clay
- Limestone
- Lean Clay
- Lean Clay with Sand
- Topsoil
- Aggregate Base Course
- Weathered Rock
- Fill
- Lean Clay/Fat Clay

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

GEOMODEL

Russellville Solar ■ Russellville, KY
Terracon Project No. 57195082



This is not a cross section. This is intended to display the Geotechnical Model only. See individual logs for more detailed conditions.

Model Layer	Layer Name	General Description
1	**EXISTING FILL**	(EXISTING FILL) Lean Clay
2	**Overburden Soils**	Lean Clay with sand to Fat Clay
3	**Bedrock**	Weathered Limestone to Limestone

LEGEND

- Aggregate Base Course
- Topsoil
- Fat Clay
- Lean Clay/Fat Clay
- Sandy Silt
- Lean Clay with Sand

NOTES:
Layering shown on this figure has been developed by the geotechnical engineer for purposes of modeling the subsurface conditions as required for the subsequent geotechnical engineering for this project.
Numbers adjacent to soil column indicate depth below ground surface.

ATTACHMENTS

EXPLORATION AND TESTING PROCEDURES

Field Exploration

Number of Borings	Boring Depth (feet)	Planned Location
1	29½	Proposed substation area
9	9 to 20	Proposed solar panel areas

Boring Layout and Elevations: Unless otherwise noted, Terracon personnel provided the boring layout. Coordinates were obtained with a handheld GPS unit (estimated horizontal accuracy of about ±10 feet) and approximate elevations were obtained by interpolation from Google Earth. If elevations and a more precise boring layout are desired, we recommend the as-drilled locations of the borings be surveyed (if available).

Subsurface Exploration Procedures: We advance soil borings with an ATV-mounted drill rig using continuous flight augers (solid stem and/or hollow stem, as necessary, depending on soil conditions). Four samples are obtained in the upper 10 feet of each boring and at intervals of 5 feet thereafter. In the split barrel sampling procedure, a standard 2-inch outer diameter split barrel sampling spoon is driven into the ground by a 140-pound automatic hammer falling a distance of 30 inches. The number of blows required to advance the sampling spoon the last 12 inches of a normal 18-inch penetration is recorded as the Standard Penetration Test (SPT) resistance value. The SPT resistance values, also referred to as N-values, are indicated on the boring logs at the test depths. The samples are placed in appropriate containers, taken to our soil laboratory for testing, and classified by a geotechnical engineer. In addition, we observe and record groundwater levels during drilling and sampling. For safety purposes, all borings are backfilled with auger cuttings after their completion.

At the B-1 boring location the underlying bedrock was cored utilizing wireline coring techniques where a coring casing is advanced through rock material utilizing rotary action. A diamond encrusted drill bit facilitates penetration rates by acting as a cutting head. As the outer casing is advanced, rock core fills an inner core barrel (typically 5 feet in length). Once the casing is advanced 5 feet, the entire assembly is extracted utilizing a wireline. Recovery percentage and Rock Quality Designation (RQD) were determined by the field personnel.

The sampling depths, penetration distances, and other sampling information was recorded on the field boring logs. The samples were placed in appropriate containers and taken to our soil laboratory for testing and classification by a Geotechnical Engineer. Our exploration team prepared field boring logs as part of the drilling operations. These field logs included visual classifications of the materials encountered during drilling and our interpretation of the subsurface conditions between samples. Final boring logs were prepared from the field logs. The final boring

logs represent the Geotechnical Engineer's interpretation of the field logs and include modifications based on observations and tests of the samples in our laboratory.

Laboratory Testing

The project engineer reviewed the field data and assigned laboratory tests to understand the engineering properties of the various soil and rock strata, as necessary, for this project. Procedural standards noted below are for reference to methodology in general. In some cases, variations to methods were applied because of local practice or professional judgment. Standards noted below include reference to other, related standards. Such references are not necessarily applicable to describe the specific test performed.

- ASTM D2216 Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
- ASTM D4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- ASTM D422 Standard Test Method for Particle-Size Analysis of Soils
- ASTM D694 Standard Test Method for Moisture-Density Relationship utilizing Standard Effort

The laboratory testing program often included examination of soil samples by an engineer. Based on the material’s texture and plasticity, we described and classified the soil samples in accordance with the Unified Soil Classification System.

Rock classification was conducted using locally accepted practices for engineering purposes; petrographic analysis may reveal other rock types. Rock core samples typically provide an improved specimen for this classification. Boring log rock classification was determined using the Description of Rock Properties.

SITE LOCATION AND EXPLORATION PLANS

Contents:

Site Location Plan
Exploration Plan

Note: All attachments are one page unless noted above.

SITE LOCATION

Russellville Solar ■ Russellville, Logan County, Kentucky
August 30, 2019 ■ Terracon Project No. 57195082

Terracon GeoReport

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION PLAN

Russellville Solar ■ Russellville, Logan County, Kentucky
August 30, 2019 ■ Terracon Project No. 57195082

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

MAP PROVIDED BY MICROSOFT BING MAPS

EXPLORATION RESULTS

Contents:

Note: All attachments are one page unless noted above.

BORING LOG NO. B-1

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan
Latitude: 36.8036° Longitude: -86.92°
Approximate Surface Elev.: 636 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
2			**FAT CLAY (CH)**, light brown, soft									
		3.0	633+/-				16	3-2-2 N=4	0.5 (HP)	21		
			LEAN CLAY WITH SAND (CL), with little lignite, light brownish gray, stiff									
							18	2-5-7 N=12	2.0 (HP)	20	46-21-25	83
			brownish gray to brownish orange	5								
							18	5-7-8 N=15	3.0 (HP)			
			with little rock fragments and lignite									
				10			18	4-6-8 N=14	4.0 (HP)			
			with little lignite									
				15			18	4-5-7 N=12	3.0 (HP)			
		17.5	618.5+/-									
			FAT CLAY (CH), with little lignite, light brown, soft									
		19.0	617+/-				10	3-50/5"	2.0 (HP)			
3		19.5	**WEATHERED LIMESTONE** 616.5+/-									
			LIMESTONE, light gray to dark gray, fine-grained, sound, moderate spacing, laminated bedding, unweathered, strong rock, fractures are generally sub horizonal with little clay infil	20			60	Rec = 100% RQD = 98%				
				25								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA to 19.5 feet
NX Core to 29.5 feet

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-26-2019 | Boring Completed: 07-26-2019
Drill Rig: D-50 | Driller: Tri-State Drilling
Project No.: 57195082

BORING LOG NO. B-1

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

MODEL LAYER	GRAPHIC LOG	LOCATION See Exploration Plan Latitude: 36.8036° Longitude: -86.92° Approximate Surface Elev.: 636 (Ft.) +/- DEPTH / ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
3		**LIMESTONE**, light gray to dark gray, fine-grained, sound, moderate spacing, laminated bedding, unweathered, strong rock, fractures are generally sub horizonal with little clay infil *(continued)* 29.5 / 606.5+/-				60	Rec = 100% RQD = 100%				
		Boring Terminated at 29.5 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA to 19.5 feet
NX Core to 29.5 feet

Abandonment Method:
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See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

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Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-26-2019	Boring Completed: 07-26-2019
Drill Rig: D-50	Driller: Tri-State Drilling
Project No.: 57195082	

BORING LOG NO. B-2

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7998° Longitude: -86.9202°

Approximate Surface Elev.: 641 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.5	640.5+/-									
		TOPSOIL, 6" Topsoil										
1		**FILL - LEAN CLAY (CL)**, with gravel, dark gray to brown, moist					18	2-2-3 N=5	0.5 (HP)			
		3.0	638+/-									
2		**FAT CLAY (CH)**, with trace lignite, gray to light brown, medium stiff		5			18	2-3-5 N=8	2.5 (HP)	23		
							18	3-3-5 N=8	3.0 (HP)	19	51-19-32	
3		9.0	632+/-				7	3-50/1"	2.0 (HP)			
		9.1 **WEATHERED LIMESTONE**	632+/-									
		Auger Refusal at 9.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-26-2019 | Boring Completed: 07-26-2019

Drill Rig: D-50 | Driller: Tri-State Drilling

Project No.: 57195082

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 57195082 PROPOSED SOLAR FA.GPJ TERRACON_DATATEMPLATE.GDT 8/24/19

BORING LOG NO. B-3

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7924° Longitude: -86.9253°

Approximate Surface Elev.: 632 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
			LEAN CLAY (CL), with trace lignite, yellow, brown and orange, medium stiff to stiff									
							16	4-4-4 N=8	2.5 (HP)	19	38-18-20	
							18	4-6-6 N=12	2.0 (HP)			
		5.5	626.5+/-	5								
2			**FAT CLAY (CH)**, with little lignite, light brown, stiff to very stiff				18	4-6-8 N=14	3.0 (HP)	18		
							18	4-6-10 N=16	3.0 (HP)			
				10								
3		14.0 14.1	618+/- 618+/-				7	6-50/1"	2.0 (HP)			
			WEATHERED LIMESTONE ***Auger Refusal at 14.1 Feet***									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-26-2019	Boring Completed: 07-26-2019
Drill Rig: D-50	Driller: Tri-State Drilling
Project No.: 57195082	

BORING LOG NO. B-4

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7988° Longitude: -86.9475°

Approximate Surface Elev.: 619 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.1	619+/-									
		AGGREGATE BASE COURSE, 1" Aggregate Base Course										
		LEAN CLAY (CL), with rock fragments, light brownish red, stiff				X	1	4-5-5 N=10				
		3.0	616+/-									
		LEAN CLAY WITH SAND (CL), with little lignite, brownish orange, medium stiff				X	16	4-4-4 N=8	0.5 (HP)	21	37-16-21	85
		5.5	613.5+/-	5								
		LEAN CLAY (CL), with little lignite and rock fragments, brownish orange to brownish red, stiff to very stiff				X	18	4-4-7 N=11	1 (HP)			
						X	18	5-8-10 N=18	3.5 (HP)	24		
2				10								
						X	18	4-5-7 N=12	3.0 (HP)			
		17.5	601.5+/-	15								
		LEAN CLAY/FAT CLAY (CL/CH), with little lignite and rock fragments, reddish yellow, stiff				X	18	5-4-5 N=9	2.0 (HP)			
		20.0	599+/-	20								
		Boring Terminated at 20 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-26-2019 | Boring Completed: 07-26-2019

Drill Rig: D-50 | Driller: Tri-State Drilling

Project No.: 57195082

BORING LOG NO. B-5

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.8026° Longitude: -86.9424°

Approximate Surface Elev.: 617 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.3	616.5+/-									
			TOPSOIL, 4" Topsoil									
			FAT CLAY (CH), light brown, medium stiff				18	1-3-3 N=6	0.5 (HP)	22		
		3.0	614+/-									
2			**FAT CLAY (CH)**, with rock fragments, gray, stiff to very stiff	5			18	4-5-5 N=10	2.5 (HP)	18	56-20-36	
							18	4-4-7 N=11	3.0 (HP)			
				10			18	3-6-13 N=19	4.0 (HP)			
		11.2	606+/-									
			Auger Refusal at 11.2 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-26-2019 | Boring Completed: 07-26-2019

Drill Rig: D-50 | Driller: Tri-State Drilling

Project No.: 57195082

BORING LOG NO. B-6

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7931° Longitude: -86.9414°

Approximate Surface Elev.: 621 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
1		0.0	621+/-									
			FILL - LEAN CLAY (CL), with trace rock fragments, light brown to gray				16	5-7-7 N=14	3.0 (HP)	20		
			with trace lignite, brownish gray				18	4-6-7 N=13	2.0 (HP)			
			with trace brick, fine gravel, and and lignite, light brown	5			18	5-6-8 N=14	1.0 (HP)	16		
2		8.0	613+/-									
			FAT CLAY (CH), with rock fragments, brown to light gray, very stiff	10			18	5-8-7 N=15	2.0 (HP)			
				15			18	12-10-14 N=24	1.0 (HP)			
		18.5	602.5+/-									
3		19.1	**WEATHERED LIMESTONE**, - no recovery 602+/-					50/5"				
			Auger Refusal at 19.1 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-25-2019	Boring Completed: 07-25-2019
Drill Rig: D-50	Driller: Tri-State Drilling
Project No.: 57195082	

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 57195082 PROPOSED SOLAR FA.GPJ TERRACON_DATATEMPLATE.GDT 8/24/19

BORING LOG NO. B-7

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7887° Longitude: -86.9385°

Approximate Surface Elev.: 626 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.3	625.5+/-									
		TOPSOIL, 4" Topsoil										
		LEAN CLAY (CL), medium brown, soft to medium stiff					14	2-2-2 N=4	0.5 (HP)	19	34-20-14	97
							18	3-2-3 N=5	0.5 (HP)	23		
		with little lignite, orangish brown		5			18	3-4-3 N=7	1.0 (HP)			
		8.0	618+/-									
2		**LEAN CLAY/FAT CLAY (CL/CH)**, with little lignite, light brown and orange, stiff					18	4-4-5 N=9	1.0 (HP)			
		12.5	613.5+/-	10								
		LEAN CLAY (CL), with little lignite, light brown, stiff					18	4-5-7 N=12	1.5 (HP)			
		17.5	608.5+/-	15								
		FAT CLAY (CH), with little lignite, brownish orange, hard										
		19.0	607+/-					3-50/2"				
3		19.2 **WEATHERED LIMESTONE**	607+/-									
		Auger Refusal at 19.2 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-25-2019 | Boring Completed: 07-25-2019

Drill Rig: D-50 | Driller: Tri-State Drilling

Project No.: 57195082

THIS BORING LOG IS NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GEO SMART LOG-NO WELL 57195082 PROPOSED SOLAR FA.GPJ TERRACON_DATATEMPLATE.GDT 8/24/19

BORING LOG NO. B-8

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7833° Longitude: -86.9345°

Approximate Surface Elev.: 635 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.1	635+/-									
			AGGREGATE BASE COURSE, 1" Aggregate Base Course									
2			**FAT CLAY (CH)**, with trace lignite, reddish brown, medium stiff to stiff				14	3-3-4 N=7	1.5 (HP)			
							12	2-3-4 N=7	0.75 (HP)	23	51-19-32	
				5			15	4-5-6 N=11	2.0 (HP)	25		
							18	3-4-8 N=12	2.0 (HP)			
			mottled red, brown, and dark gray	10								
							16	3-5-8 N=13	1.5 (HP)			
		17.5	617.5+/-	15								
			SANDY SILT (ML), with rock fragments and trace lignite, light brown to tan, medium stiff				18	3-4-4 N=8	1.0 (HP)			
		20.0	615+/-	20								
			Boring Terminated at 20 Feet									

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-25-2019	Boring Completed: 07-25-2019
Drill Rig: D-50	Driller: Tri-State Drilling
Project No.: 57195082	

BORING LOG NO. B-9

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7886° Longitude: -86.9474°

Approximate Surface Elev.: 635 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.3	634.5+/-									
		TOPSOIL, 4" Topsoil										
		LEAN CLAY/FAT CLAY (CL/CH), with trace lignite, brownish orange, stiff				X	14	5-5-5 N=10	2.0 (HP)			
		3.0	632+/-									
		LEAN CLAY WITH SAND (CL), orangish red to red, stiff to very stiff				X	18	5-7-5 N=12	1.5 (HP)	19	36-17-19	82
				5		X	18	6-10-9 N=19	2.0 (HP)	19		
2						X	18	5-5-7 N=12	2.0 (HP)			
				10								
		13.5	621.5+/-									
		LEAN CLAY/FAT CLAY (CL/CH), with trace lignite, red, stiff				X	18	5-5-5 N=10	2.0 (HP)			
				15								
		20.0	615+/-			X	18	5-6-5 N=11	2.0 (HP)			
		Boring Terminated at 20 Feet		20								

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

Boring Started: 07-25-2019 | Boring Completed: 07-25-2019

Drill Rig: D-50 | Driller: Tri-State Drilling

Project No.: 57195082

BORING LOG NO. B-10

PROJECT: Russellville Solar

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SITE: Watermelon and J Montgomery Roads
Russellville, KY

LOCATION See Exploration Plan

Latitude: 36.7802° Longitude: -86.9512°

Approximate Surface Elev.: 590 (Ft.) +/-

MODEL LAYER	GRAPHIC LOG	DEPTH	ELEVATION (Ft.)	DEPTH (Ft.)	WATER LEVEL OBSERVATIONS	SAMPLE TYPE	RECOVERY (In.)	FIELD TEST RESULTS	LABORATORY HP (tsf)	WATER CONTENT (%)	ATTERBERG LIMITS LL-PL-PI	PERCENT FINES
		0.8	589.5+/-									
		TOPSOIL, 9" Topsoil										
2		**LEAN CLAY WITH SAND (CL)**, with trace lignite, medium brown to orangish brown, medium stiff to stiff					14	3-3-3 N=6	1.0 (HP)			
							16	3-4-6 N=10	1.0 (HP)	20	39-19-20	76
		5.5	584.5+/-	5								
		FAT CLAY (CH), with little lignite and rock fragments, light brown, stiff to very stiff					16	5-7-7 N=14	3.0 (HP)	22		
							18	6-6-9 N=15	3.5 (HP)			
				10								
							18	3-7-8 N=15	2.0 (HP)			
				15								
		16.1	574+/-									
		Auger Refusal at 16.1 Feet										

Stratification lines are approximate. In-situ, the transition may be gradual.

Hammer Type: Automatic

Advancement Method:
2 1/4" HSA

Abandonment Method:
Boring backfilled with auger cuttings upon completion.

See Exploration and Testing Procedures for a description of field and laboratory procedures used and additional data (If any).

See Supporting Information for explanation of symbols and abbreviations.

Elevations were determined from Google Earth

Notes:

WATER LEVEL OBSERVATIONS

No groundwater observed at completion of drilling

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

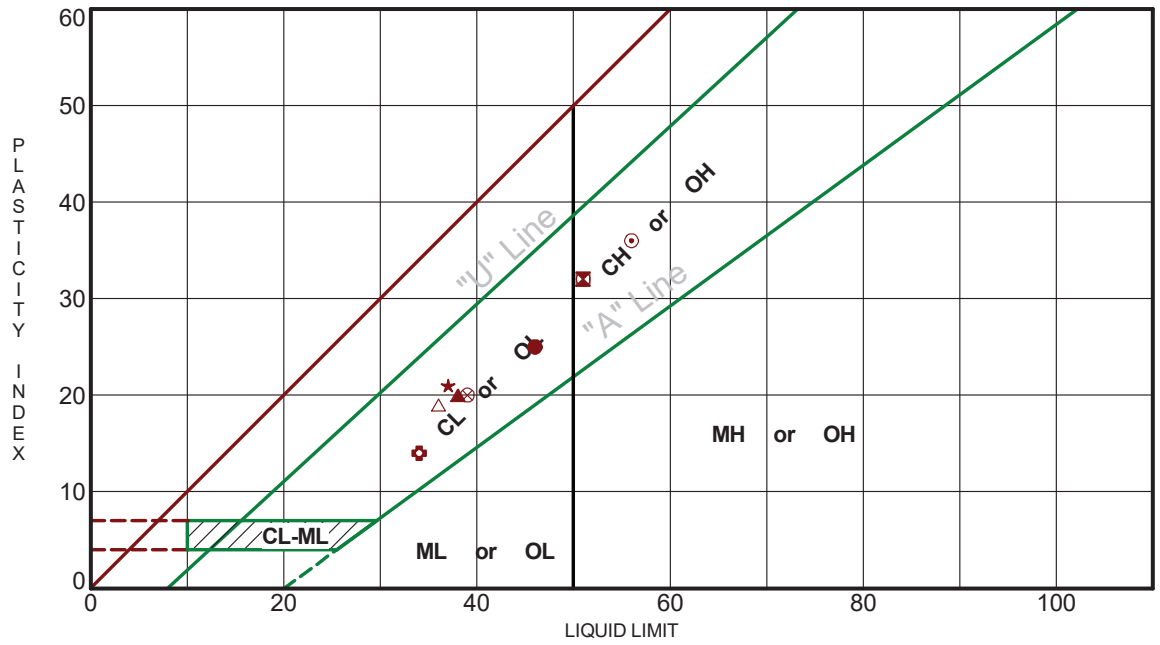
Boring Started: 07-25-2019 | Boring Completed: 07-25-2019

Drill Rig: D-50 | Driller: Tri-State Drilling

Project No.: 57195082

ATTERBERG LIMITS RESULTS

ASTM D4318



Boring ID		Depth	LL	PL	PI	Fines	USCS	Description
●	B-1	3.5 - 5	46	21	25		CL	LEAN CLAY WITH SAND
⊠	B-2	6 - 7.5	51	19	32			
▲	B-3	1 - 2.5	38	18	20			
★	B-4	3.5 - 5	37	16	21	85	CL	LEAN CLAY with SAND
⊙	B-5	3.5 - 5	56	20	36			
✿	B-7	1 - 2.5	34	20	14		CL	LEAN CLAY
○	B-8	3.5 - 5	51	19	32			
△	B-9	3.5 - 5	36	17	19	82	CL	LEAN CLAY with SAND
⊗	B-10	3.5 - 5	39	19	20	76	CL	LEAN CLAY with SAND

PROJECT: Russellville Solar

PROJECT NUMBER: 57195082

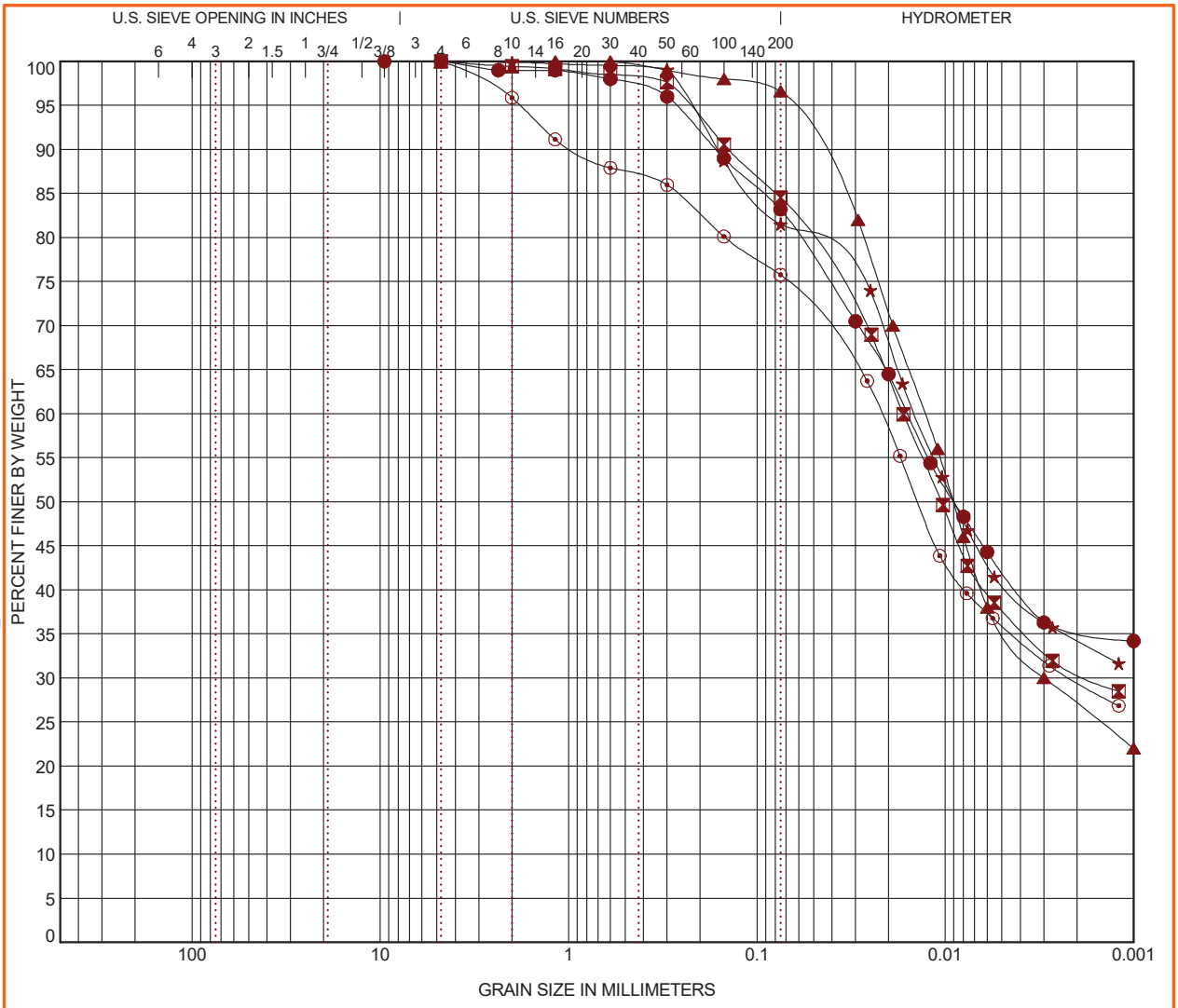
SITE: Watermelon and J Montgomery Roads
Russellville, KY

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

GRAIN SIZE DISTRIBUTION

ASTM D422 / ASTM C136



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Boring ID		Depth	USCS Classification	WC (%)	LL	PL	PI	Cc	Cu
●	B-1	3.5 - 5	LEAN CLAY WITH SAND (CL)	20	46	21	25		
⊠	B-4	3.5 - 5	LEAN CLAY with SAND (CL)	21	37	16	21		
▲	B-7	1 - 2.5	LEAN CLAY (CL)	19	34	20	14		
★	B-9	3.5 - 5	LEAN CLAY with SAND (CL)	19	36	17	19		
⊙	B-10	3.5 - 5	LEAN CLAY with SAND (CL)	20	39	19	20		

Boring ID		Depth	D_{100}	D_{60}	D_{30}	D_{10}	%Cobbles	%Gravel	%Sand	%Silt	%Fines	%Clay
●	B-1	3.5 - 5		0.016								42.2
⊠	B-4	3.5 - 5	4.75	0.017	0.002		0.0	0.0	15.5	46.9		37.7
▲	B-7	1 - 2.5		0.013	0.003							35.9
★	B-9	3.5 - 5	4.75	0.014			0.0	0.0	18.5	40.8		40.7
⊙	B-10	3.5 - 5	4.75	0.022	0.002		0.0	0.0	24.2	39.9		35.9

PROJECT: Russellville Solar

PROJECT NUMBER: 57195082

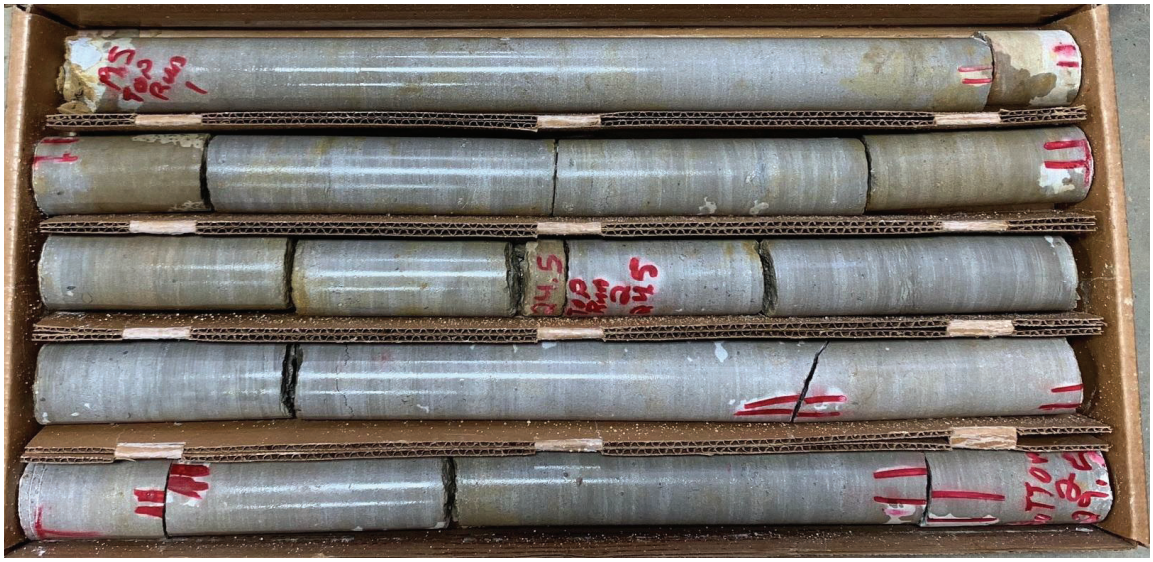
SITE: Watermelon and J Montgomery Roads
Russellville, KY

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

LABORATORY TESTS ARE NOT VALID IF SEPARATED FROM ORIGINAL REPORT. GRAIN SIZE: USCS-2 57195082 PROPOSED SOLAR FA.GPJ TERRACON_DATATEMPLATE.GDT 8/24/19

ROCK CORE PHOTOGRAPH



B-1 Rock Core 19.5 feet to 29.5 feet

Project: Russellville Solar
Project No.: 57195082 - Near B-3
Perfomed By: L. S.

Soil Resistivity

ASTM G57 Test Method for Field Measurement of Soil Resistivity Using Wenner Four - Electrode Method

At-Grade Measurements (equal rod spacing)

Location	Depth of Interest (feet)	Electrode Spacing from Center (feet) Inner	Outer	Resistance (ohms)	Resistivity (ohm-cm)	Setting
B-3 (North-South)	2	1	3	28.90	11069	10mA, 200Ohm
	5	2.5	7.5	9.17	8780	
	10	5	15	4.61	8828	
	20	10	30	2.16	8273	
	50	25	75	1.88	18001	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			
B-3 (East-West)	2	1	3	26.60	10188	
	5	2.5	7.5	9.46	9058	
	10	5	15	4.20	8043	
	20	10	30	2.38	9115	
	50	25	75	1.90	18193	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			

Resisitivity (ohm-cm) = $2*\pi*a*R*30.48$
R = resistivity
a = electrode spacing

Equipent Usage: AEMC Model 6471 Digital Ground Resistance Tester

Additional Notes: Proposed Substation Area

GPS Locations:

Center	N 36.79213°	W 86.92542°

Project: Russellville Solar
Project No.: 57195082 - Near B-5
Perfomed By: L. S.

Soil Resistivity

ASTM G57 Test Method for Field Measurement of Soil Resistivity Using Wenner Four - Electrode Method

At-Grade Measurements (equal rod spacing)

Location	Depth of Interest (feet)	Electrode Spacing from Center (feet) Inner	Outer	Resistance (ohms)	Resistivity (ohm-cm)	Setting
B-5 (North-South)	2	1	3	8.97	3436	10mA, 200Ohm
	5	2.5	7.5	2.08	1992	
	10	5	15	1.21	2317	
	20	10	30	1.06	4060	
	50	25	75	1.10	10533	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			
B-5 (East-West)	2	1	3	8.98	3439	
	5	2.5	7.5	1.96	1877	
	10	5	15	1.19	2279	
	20	10	30	1.10	4213	
	50	25	75	1.07	10245	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			

Resisitivity (ohm-cm) = $2*\pi*a*R*30.48$
R = resistivity
a = electrode spacing

Equipent Usage: AEMC Model 6471 Digital Ground Resistance Tester

Additional Notes: Proposed Array Area

GPS Locations:

Center	N 36.80264°	W 86.94225°

Project: Russellville Solar
Project No.: 57195082 - Near B-7
Perfomed By: L. S.

Soil Resistivity

ASTM G57 Test Method for Field Measurement of Soil Resistivity Using Wenner Four - Electrode Method

At-Grade Measurements (equal rod spacing)

Location	Depth of Interest (feet)	Electrode Spacing from Center (feet) Inner	Outer	Resistance (ohms)	Resistivity (ohm-cm)	Setting
B-7 (North-South)	2	1	3	16.10	6166	10mA, 200Ohm
	5	2.5	7.5	5.79	5544	
	10	5	15	3.09	5917	
	20	10	30	2.17	8311	
	50	25	75	1.81	17331	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			
B-7 (East-West)	2	1	3	16.50	6320	
	5	2.5	7.5	5.28	5056	
	10	5	15	3.05	5841	
	20	10	30	2.05	7852	
	50	25	75	1.87	17905	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			

Resisitivity (ohm-cm) = $2*\pi*a*R*30.48$
R = resistivity
a = electrode spacing

Equipent Usage: AEMC Model 6471 Digital Ground Resistance Tester

Additional Notes: Proposed Array Area

GPS Locations:

Center	N 36.78855°	W 86.93864°

Project: Russellville Solar
Project No.: 57195082 - Near B-10
Perfomed By: L. S.

Soil Resistivity

ASTM G57 Test Method for Field Measurement of Soil Resistivity Using Wenner Four - Electrode Method

At-Grade Measurements (equal rod spacing)

Location	Depth of Interest (feet)	Electrode Spacing from Center (feet) Inner	Outer	Resistance (ohms)	Resistivity (ohm-cm)	Setting
B-10 (North-South)	2	1	3	13.30	5094	10mA, 200Ohm
	5	2.5	7.5	5.61	5372	
	10	5	15	3.11	5956	
	20	10	30	1.73	6626	
	50	25	75	1.65	15799	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			
B-10 (East-West)	2	1	3	12.60	4826	
	5	2.5	7.5	5.58	5343	
	10	5	15	3.04	5822	
	20	10	30	1.87	7162	
	50	25	75	1.54	14746	
	75	37.5	112.5			
	100	50	150			
	150	75	225			
	200	100	300			
	300	150	450			
	400	200	600			

Resisitivity (ohm-cm) = $2*\pi*a*R*30.48$
R = resistivity
a = electrode spacing

Equipent Usage: AEMC Model 6471 Digital Ground Resistance Tester

Additional Notes: Proposed Array Area

GPS Locations:

Center	N 36.78035°	W 86.95128°

CHEMICAL LABORATORY TEST REPORT

Project Number: 57195082
Service Date: 08/12/19
Report Date: 08/19/19
Task:

Terracon
750 Pilot Road, Suite F
Las Vegas, Nevada 89119
(702) 597-9393

Client
Community Energy Solar, LLC

Project
Russellville Solar

Sample Submitted By: Terracon (57) **Date Received:** 8/2/2019 **Lab No.: 19-0901**

Results of Corrosion Analysis

Sample Number	1, 2, & 3	1, 2, & 3	1, 2, & 3	1, 2, & 3
Sample Location	B-1	B-3	B-5	B-7
Sample Depth (ft.)	1.0	1.0	1.0	1.0
pH Analysis, AWWA 4500 H	7.22	6.85	6.83	7.43
Water Soluble Sulfate (SO4), ASTM C 1580 (mg/kg)	44	11	165	72
Sulfides, AWWA 4500-S D, (mg/kg)	Nil	Nil	Nil	Nil
Chlorides, ASTM D 512, (mg/kg)	25	23	32	25
Red-Ox, AWWA 2580, (mV)	+680	+673	+682	+681
Total Salts, AWWA 2540, (mg/kg)	249	67	265	209
Resistivity, ASTM G 57, (ohm-cm)	2522	11640	2522	6402

Analyzed By:
Trisha Campo
Chemist

Geotherm USA

4370 Contractors Common
Livermore, CA 94551
Tel: 925-999-9232
Fax: 925-999-8837
info@geothermusa.com

August 16, 2019

Terracon Consultants, Inc.
13050 Eastgate Park Way, Suite 101
Louisville, Kentucky 40223
Attn: Kenneth Zur, P.E.

Re: Thermal Analysis of Native Soil Samples
Proposed Solar Field - Russellville, KY (Project No. 57195082)

The following is the report of thermal dryout characterization tests conducted on two (2) soil samples from the referenced project sent to our laboratory.

Thermal Resistivity Tests: The samples were tested at their 'optimum' moisture content and 85% of the maximum dry density ***provided by Terracon.*** The tests were conducted in accordance with the IEEE standard 442-2017. The results are tabulated below and the thermal dryout curves are presented in **Figure 1.**

Sample ID, Description, Thermal Resistivity, Moisture Content and Density

Sample ID (@ 1'-5')	Description (Terracon)	Thermal Resistivity (°C-cm/W)		Moisture Content (%)	Dry Density (lb/ft^3)
		Wet	Dry		
B-1	Reddish Brown to Brown clay	85	224	17	94
B-6	Tan Clay	88	166	16	95

Comments: The thermal characteristic depicted in the dryout curves apply for the soils at their respective test dry density.

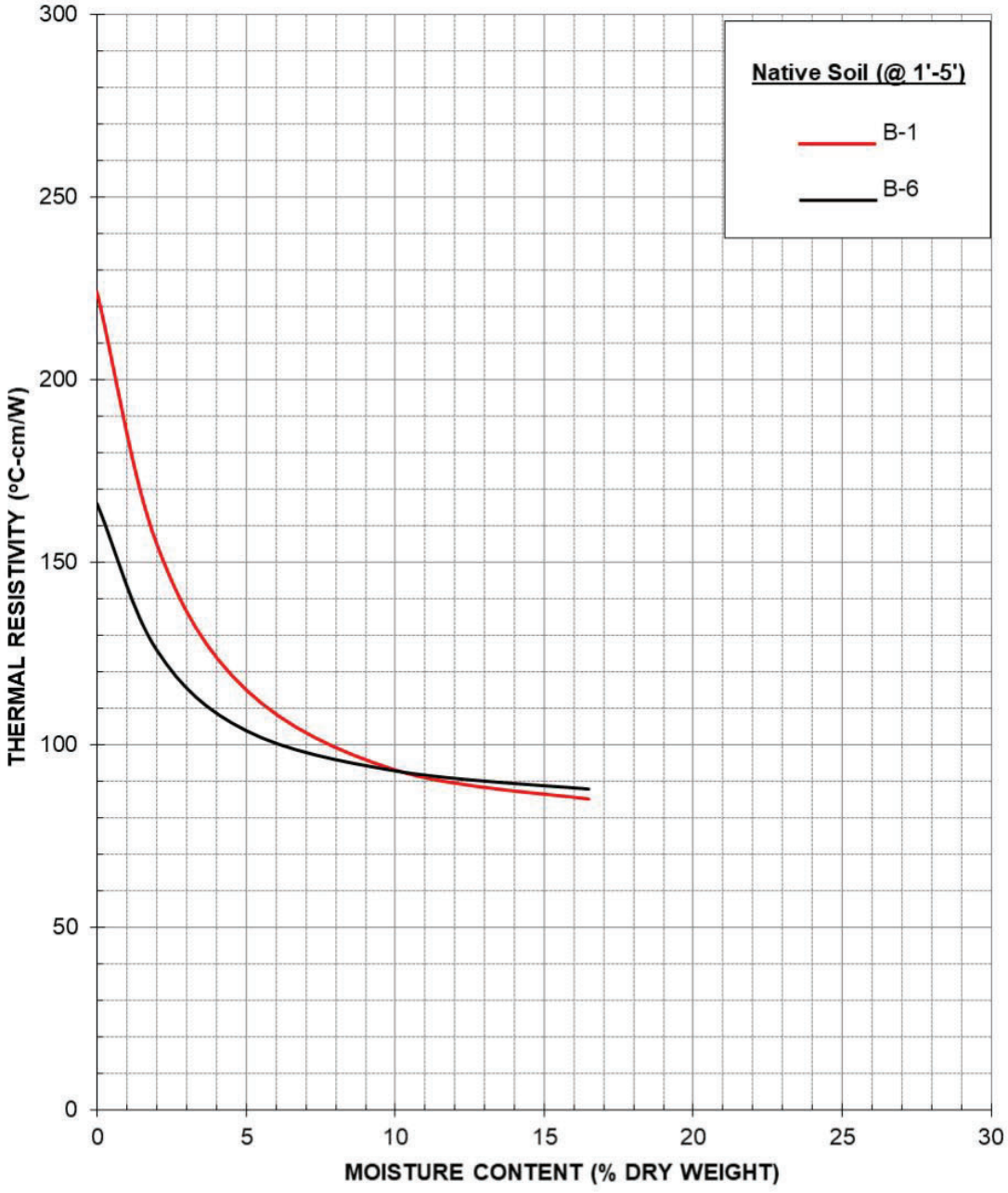
Please contact us if you have any questions or if we can be of further assistance.

Geotherm USA

Nimesh Patel

Geotherm USA

THERMAL DRYOUT CURVES



Terracon Consultants, Inc. (Project No. 57195082)

Thermal Analysis of Native Soil Samples

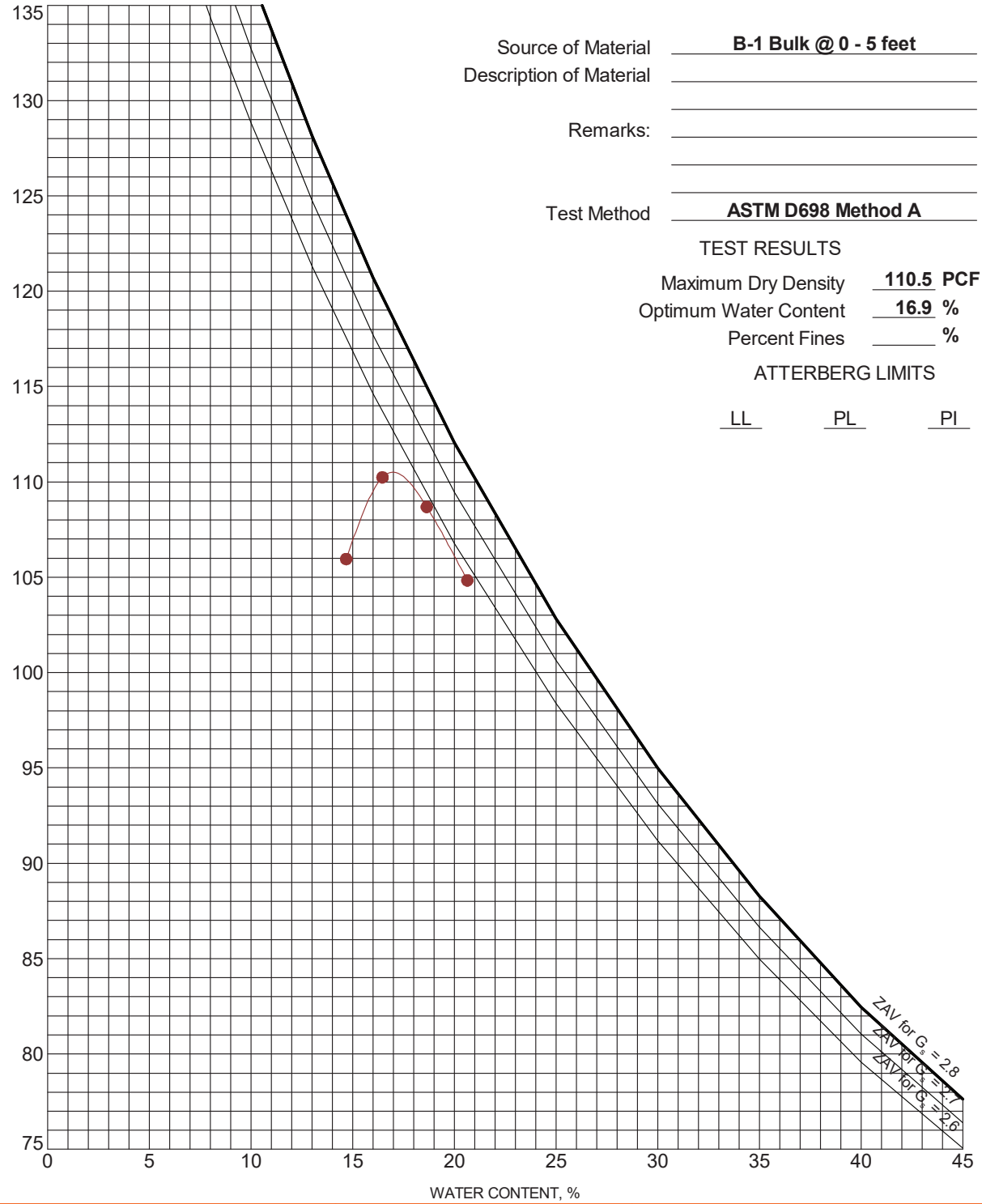
Proposed Solar Field - Russellville, KY

August 2019

Figure 1

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **B-1 Bulk @ 0 - 5 feet**

Description of Material:

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**110.5**	**PCF**
Optimum Water Content	**16.9**	**%**
Percent Fines		%

ATTERBERG LIMITS

LL	PL	PI

PROJECT: Russellville Solar

SITE: Watermelon and J Montgomery Roads
Russellville, KY

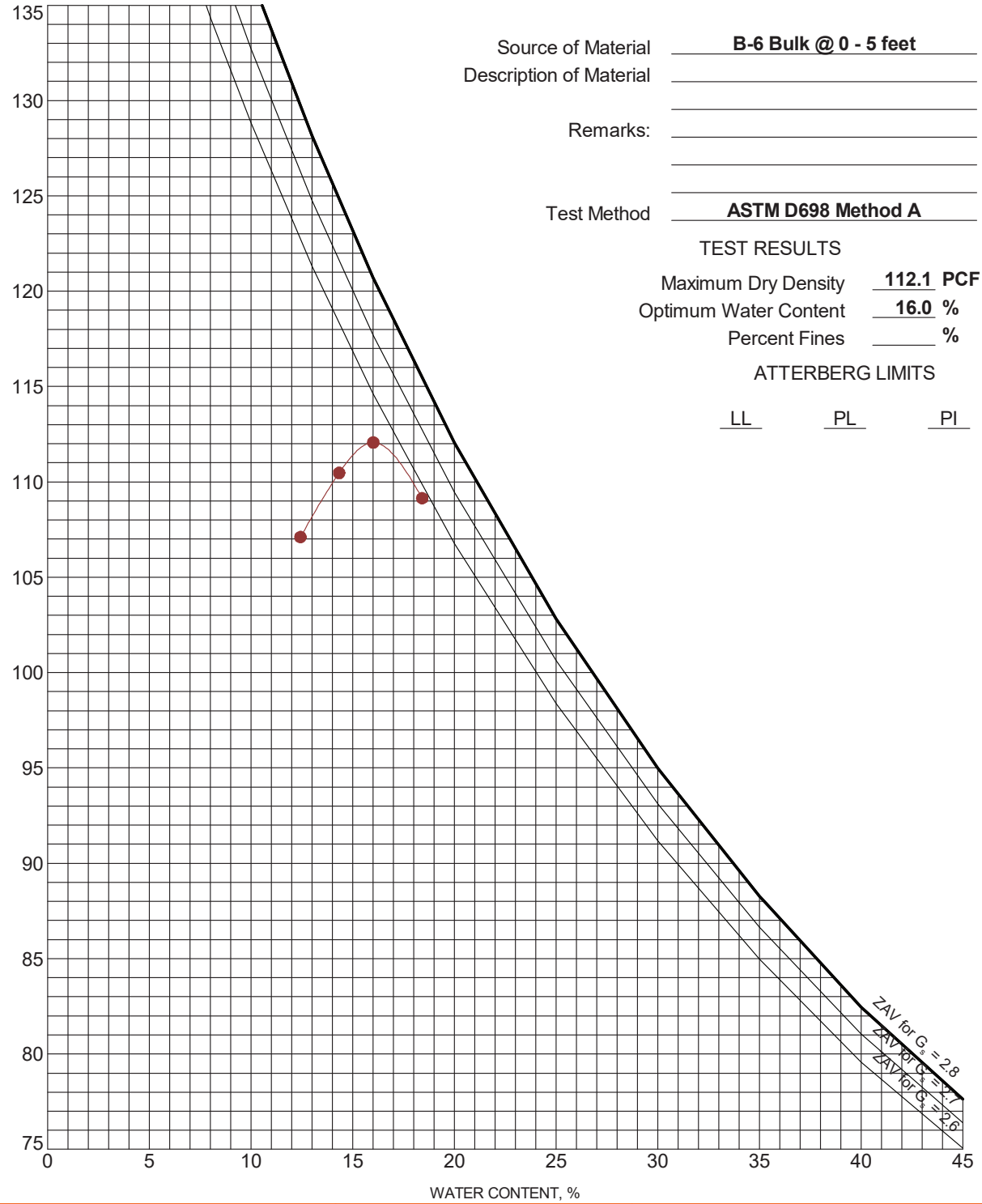
Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

PROJECT NUMBER: 57195082

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

MOISTURE-DENSITY RELATIONSHIP

ASTM D698/D1557



Source of Material: **B-6 Bulk @ 0 - 5 feet**

Description of Material:

Remarks:

Test Method: **ASTM D698 Method A**

TEST RESULTS

Maximum Dry Density	**112.1**	**PCF**
Optimum Water Content	**16.0**	**%**
Percent Fines		**%**

ATTERBERG LIMITS

LL	PL	PI

PROJECT: Russellville Solar

SITE: Watermelon and J Montgomery Roads
Russellville, KY

Terracon
13050 Eastgate Park Way, Ste 101
Louisville, KY

PROJECT NUMBER: 57195082

CLIENT: Community Energy Solar, LLC
Chapel Hill, NC

SUPPORTING INFORMATION

Contents:

Note: All attachments are one page unless noted above.

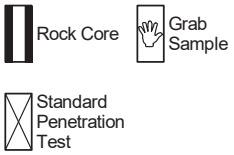
GENERAL NOTES

DESCRIPTION OF SYMBOLS AND ABBREVIATIONS

Russellville Solar ■ Russellville, KY

Terracon Project No. 57195082

SAMPLING



WATER LEVEL

Water Initially Encountered

Water Level After a Specified Period of Time

Water Level After a Specified Period of Time

Water levels indicated on the soil boring logs are the levels measured in the borehole at the times indicated. Groundwater level variations will occur over time. In low permeability soils, accurate determination of groundwater levels is not possible with short term water level observations.

FIELD TESTS

N	**Standard Penetration Test Resistance (Blows/Ft.)**
(HP)	**Hand Penetrometer**
(T)	**Torvane**
(DCP)	**Dynamic Cone Penetrometer**
UC	**Unconfined Compressive Strength**
(PID)	**Photo-Ionization Detector**
(OVA)	**Organic Vapor Analyzer**

DESCRIPTIVE SOIL CLASSIFICATION

Soil classification is based on the Unified Soil Classification System. Coarse Grained Soils have more than 50% of their dry weight retained on a #200 sieve; their principal descriptors are: boulders, cobbles, gravel or sand. Fine Grained Soils have less than 50% of their dry weight retained on a #200 sieve; they are principally described as clays if they are plastic, and silts if they are slightly plastic or non-plastic. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size. In addition to gradation, coarse-grained soils are defined on the basis of their in-place relative density and fine-grained soils on the basis of their consistency.

LOCATION AND ELEVATION NOTES

Unless otherwise noted, Latitude and Longitude are approximately determined using a hand-held GPS device. The accuracy of such devices is variable. Surface elevation data annotated with +/- indicates that no actual topographical survey was conducted to confirm the surface elevation. Instead, the surface elevation was approximately determined from topographic maps of the area.

STRENGTH TERMS

RELATIVE DENSITY OF COARSE-GRAINED SOILS (More than 50% retained on No. 200 sieve.) Density determined by Standard Penetration Resistance		CONSISTENCY OF FINE-GRAINED SOILS (50% or more passing the No. 200 sieve.) Consistency determined by laboratory shear strength testing, field visual-manual procedures or standard penetration resistance		
Descriptive Term (Density)	**Standard Penetration or N-Value Blows/Ft.**	**Descriptive Term (Consistency)**	**Unconfined Compressive Strength Qu, (tsf)**	**Standard Penetration or N-Value Blows/Ft.**
Very Loose	0 - 3	Very Soft	less than 0.25	0 - 1
Loose	4 - 9	Soft	0.25 to 0.50	2 - 4
Medium Dense	10 - 29	Medium Stiff	0.50 to 1.00	4 - 8
Dense	30 - 50	Stiff	1.00 to 2.00	8 - 15
Very Dense	> 50	Very Stiff	2.00 to 4.00	15 - 30
		Hard	> 4.00	> 30

RELATIVE PROPORTIONS OF SAND AND GRAVEL		RELATIVE PROPORTIONS OF FINES	
Descriptive Term(s) of other constituents	Percent of Dry Weight	**Descriptive Term(s) of other constituents**	**Percent of Dry Weight**
Trace	<15	Trace	<5
With	15-29	With	5-12
Modifier	>30	Modifier	>12

GRAIN SIZE TERMINOLOGY		PLASTICITY DESCRIPTION	
Major Component of Sample	**Particle Size**	**Term**	**Plasticity Index**
Boulders	Over 12 in. (300 mm)	Non-plastic	0
Cobbles	12 in. to 3 in. (300mm to 75mm)	Low	1 - 10
Gravel	3 in. to #4 sieve (75mm to 4.75 mm)	Medium	11 - 30
Sand	#4 to #200 sieve (4.75mm to 0.075mm	High	> 30
Silt or Clay	Passing #200 sieve (0.075mm)		

UNIFIED SOIL CLASSIFICATION SYSTEM

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [A]					Soil Classification	
					Group Symbol	Group Name [B]
Coarse-Grained Soils: More than 50% retained on No. 200 sieve	**Gravels:** More than 50% of coarse fraction retained on No. 4 sieve	**Clean Gravels:** Less than 5% fines [C]	Cu ≥ 4 and 1 ≤ Cc ≤ 3 [E]		GW	Well-graded gravel [F]
			Cu < 4 and/or [Cc<1 or Cc>3.0] [E]		GP	Poorly graded gravel [F]
		Gravels with Fines: More than 12% fines [C]	Fines classify as ML or MH		GM	Silty gravel [F, G, H]
			Fines classify as CL or CH		GC	Clayey gravel [F, G, H]
	Sands: 50% or more of coarse fraction passes No. 4 sieve	**Clean Sands:** Less than 5% fines [D]	Cu ≥ 6 and 1 ≤ Cc ≤ 3 [E]		SW	Well-graded sand [I]
			Cu < 6 and/or [Cc<1 or Cc>3.0] [E]		SP	Poorly graded sand [I]
		Sands with Fines: More than 12% fines [D]	Fines classify as ML or MH		SM	Silty sand [G, H, I]
			Fines classify as CL or CH		SC	Clayey sand [G, H, I]
Fine-Grained Soils: 50% or more passes the No. 200 sieve	**Silts and Clays:** Liquid limit less than 50	**Inorganic:**	PI > 7 and plots on or above "A"		CL	Lean clay [K, L, M]
			PI < 4 or plots below "A" line [J]		ML	Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OL	Organic clay [K, L, M, N]
			Liquid limit - not dried			Organic silt [K, L, M, O]
	Silts and Clays: Liquid limit 50 or more	**Inorganic:**	PI plots on or above "A" line		CH	Fat clay [K, L, M]
			PI plots below "A" line		MH	Elastic Silt [K, L, M]
		Organic:	Liquid limit - oven dried	< 0.75	OH	Organic clay [K, L, M, P]
			Liquid limit - not dried			Organic silt [K, L, M, Q]
Highly organic soils:	Primarily organic matter, dark in color, and organic odor				PT	Peat

[A] Based on the material passing the 3-inch (75-mm) sieve.

[B] If field sample contained cobbles or boulders, or both, add "with cobbles or boulders, or both" to group name.

[C] Gravels with 5 to 12% fines require dual symbols: GW-GM well-graded gravel with silt, GW-GC well-graded gravel with clay, GP-GM poorly graded gravel with silt, GP-GC poorly graded gravel with clay.

[D] Sands with 5 to 12% fines require dual symbols: SW-SM well-graded sand with silt, SW-SC well-graded sand with clay, SP-SM poorly graded sand with silt, SP-SC poorly graded sand with clay.

[E] $Cu = D_{60}/D_{10}$ $\quad Cc = \dfrac{(D_{30})^2}{D_{10} \times D_{60}}$

[F] If soil contains ≥ 15% sand, add "with sand" to group name.

[G] If fines classify as CL-ML, use dual symbol GC-GM, or SC-SM.

[H] If fines are organic, add "with organic fines" to group name.

[I] If soil contains ≥ 15% gravel, add "with gravel" to group name.

[J] If Atterberg limits plot in shaded area, soil is a CL-ML, silty clay.

[K] If soil contains 15 to 29% plus No. 200, add "with sand" or "with gravel," whichever is predominant.

[L] If soil contains ≥ 30% plus No. 200 predominantly sand, add "sandy" to group name.

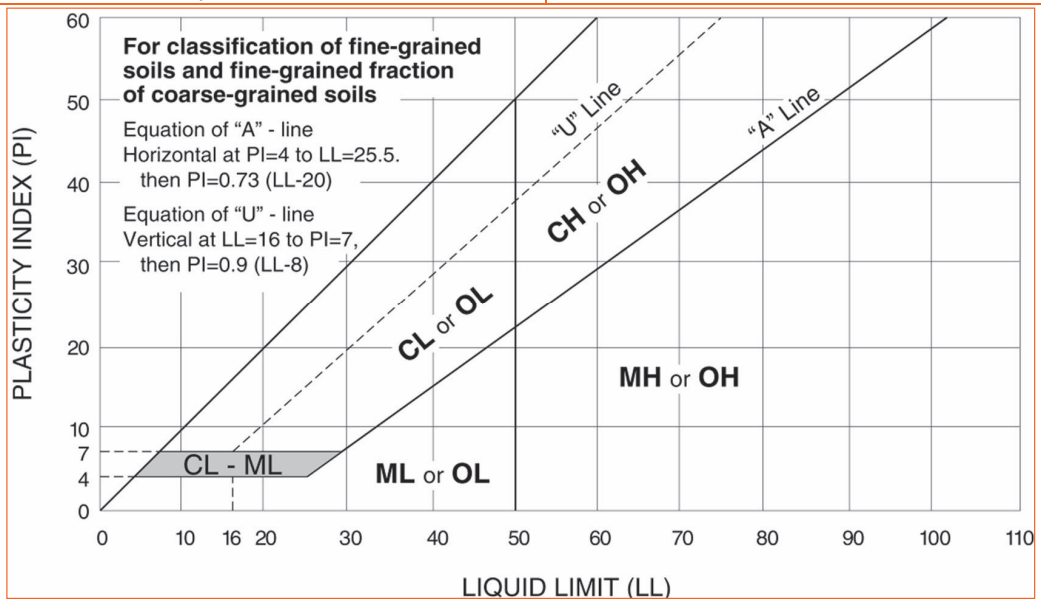
[M] If soil contains ≥ 30% plus No. 200, predominantly gravel, add "gravelly" to group name.

[N] PI ≥ 4 and plots on or above "A" line.

[O] PI < 4 or plots below "A" line.

[P] PI plots on or above "A" line.

[Q] PI plots below "A" line.



DESCRIPTION OF ROCK PROPERTIES

WEATHERING	
Fresh	Rock fresh, crystals bright, few joints may show slight staining. Rock rings under hammer if crystalline.
Very slight	Rock generally fresh, joints stained, some joints may show thin clay coatings, crystals in broken face show bright. Rock rings under hammer if crystalline.
Slight	Rock generally fresh, joints stained, and discoloration extends into rock up to 1 in. Joints may contain clay. In granitoid rocks some occasional feldspar crystals are dull and discolored. Crystalline rocks ring under hammer.
Moderate	Significant portions of rock show discoloration and weathering effects. In granitoid rocks, most feldspars are dull and discolored; some show clayey. Rock has dull sound under hammer and shows significant loss of strength as compared with fresh rock.
Moderately severe	All rock except quartz discolored or stained. In granitoid rocks, all feldspars dull and discolored and majority show kaolinization. Rock shows severe loss of strength and can be excavated with geologist's pick.
Severe	All rock except quartz discolored or stained. Rock "fabric" clear and evident, but reduced in strength to strong soil. In granitoid rocks, all feldspars kaolinized to some extent. Some fragments of strong rock usually left.
Very severe	All rock except quartz discolored or stained. Rock "fabric" discernible, but mass effectively reduced to "soil" with only fragments of strong rock remaining.
Complete	Rock reduced to "soil". Rock "fabric" no discernible or discernible only in small, scattered locations. Quartz may be present as dikes or stringers.
HARDNESS (for engineering description of rock – not to be confused with Moh's scale for minerals)	
Very hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows of geologist's pick.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Moderately hard	Can be scratched with knife or pick. Gouges or grooves to ¼ in. deep can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
Medium	Can be grooved or gouged 1/16 in. deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1-in. maximum size by hard blows of the point of a geologist's pick.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Very soft	Can be carved with knife. Can be excavated readily with point of pick. Pieces 1-in. or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.

Joint, Bedding, and Foliation Spacing in Rock [1]

Spacing	Joints	Bedding/Foliation
Less than 2 in.	Very close	Very thin
2 in. – 1 ft.	Close	Thin
1 ft. – 3 ft.	Moderately close	Medium
3 ft. – 10 ft.	Wide	Thick
More than 10 ft.	Very wide	Very thick

1. Spacing refers to the distance normal to the planes, of the described feature, which are parallel to each other or nearly so.

Rock Quality Designator (RQD) [1]

RQD, as a percentage	Diagnostic description
Exceeding 90	Excellent
90 – 75	Good
75 – 50	Fair
50 – 25	Poor
Less than 25	Very poor

1. RQD (given as a percentage) = length of core in pieces 4 inches and longer / length of run

Joint Openness Descriptors

Openness	Descriptor
No Visible Separation	Tight
Less than 1/32 in.	Slightly Open
1/32 to 1/8 in.	Moderately Open
1/8 to 3/8 in.	Open
3/8 in. to 0.1 ft.	Moderately Wide
Greater than 0.1 ft.	Wide

References: American Society of Civil Engineers. Manuals and Reports on Engineering Practice - No. 56. Subsurface Investigation for Design and Construction of Foundations of Buildings. New York: American Society of Civil Engineers, 1976. U.S. Department of the Interior, Bureau of Reclamation, Engineering Geology Field Manual.

19. Describe the nature and outcome of any contact between Russellville Solar and South Logan Water Association (SLWA) concerning the water line along Watermelon Road and any right of way of that entity.

Response: Russellville Solar met with Jamie Goodwin, Operations Manager of the South Logan Water Association in person on April 26, 2022. The Project had not contacted SLWA before this due to no expected impacts given the 100-foot setback from the Watermelon Rd 30-foot public right-of-way, as set by Logan County Fiscal Court. Additionally, the Project has not yet issued a contract award with an engineering, procurement, and construction (EPC) firm and is in early stages of design. Ms. Goodwin did not believe the water line on Watermelon Rd. had been mapped due to the age and year of installation but estimated its location to be between 12 and 15 feet off the east side of Watermelon Rd. She stated that this water line is fed by the Logan-Todd Regional Water Commission 24" water line along the railroad track. After reviewing the Project map and setback, she did not believe the Project would have an impact on the water line. Russellville Solar plans to continue working with her and SLWA prior to construction to ensure there are no impacts or that any potentials impacts would be properly mitigated.

Witness: Stefan Eckmann

20. The Logan-Todd Regional Water Commission (Logan-Todd) has a 24" transmission line for finished water along the railroad track bordering Russellville Solar's proposed Project. Describe the nature and outcome of any contact between Russellville Solar and the Logan-Todd Regional Water Commission, including any determination as to whether the water line right of way runs alongside the railroad track leased by Applicant.

Response: The Project was unable to reach the Logan-Todd Regional Water Commission (Logan-Todd) on April 26, 2022 but intends to contact them in the coming weeks. Logan-Todd had not previously been contacted due to no expected impacts given the 100-foot setback from the railway, as set by Logan County Fiscal Court, as well as for timing reasons. The Project has not yet issued a contract award with an engineering, procurement, and construction (EPC) firm and is in early stages of design. The right of way for this water line is 20 feet wide and runs along the southern side of the railroad. The proposed Project design includes a setback of over 100 feet from the railroad and is not anticipated to affect the Logan-Todd line.

Witness: Stefan Eckmann

21. Refer to Application Attachment A, Context Map:

a. Clarify how many residential neighborhoods are shown on the map within the two-mile radius from the project.

b. Explain whether these neighborhoods have been identified using the definition in KRS 278.700.

c. Provide the number of neighborhoods identified, including the number within the two-mile radius and the number outside it.

d. Provide an updated map showing radii at 1,000 feet, 2,000 feet, and one mile in addition to the existing two-mile radius, and mapping the locations of the substation/point of interconnection and the O&M building described in the Application page 12.

Response:

a. HDR provided an updated Context Map (Attachment A) with symbology to indicate individual residences versus neighborhoods, per the definition in KRS 278.700. A total of 11 neighborhoods are within the two-mile radius surrounding the Project Site.

b. Neighborhoods were identified based on the definition provided in KRS 278.700.

c. A total of 20 neighborhoods were identified within a 2.5-mile radius. Eleven neighborhoods occur within two miles, and nine neighborhoods occur between two and two and a half miles.

d. HDR has provided an updated Context Map (Attachment A) with the site layout, including the solar panels, access roads, inverters, substation, switchyard, and battery energy storage system.

Witness: Harriet Richardson Seacat, HDR

HDR SILICON RANCH

LOGAN COUNTY SOLAR

CONTEXT MAP

ATTACHMENT A

KENTUCKY STATE BOARD ON ELECTRIC GENERATION AND TRANSMISSION APPLICATION

22. Refer to Section 1 of the SAR, Description of Proposed Site:

a. Explain whether the sufficiency requirements for existing vegetative buffers, as described in Logan County Ordinance No. 19-920-06, An Ordinance Establishing Minimum Setback Requirements for Solar Farm Installations in Logan County, as amended in Ordinance 22-920-03 (February 22, 2022) (Logan County ordinance amendment) are the same as for new vegetative plantings, that is the equivalent to a "double row of eight-foot-high trees" as described in the SAR page 5.

b. Explain what entity or entities will determine the sufficiency of existing vegetation in providing a visual screen of the site. Explain the expected method of participation in such decisions by the adjacent neighbors, the applicant, and Logan County.

c. Explain how Russellville Solar will ensure vegetative screening is adequate around the site perimeter if existing vegetation is present but insufficient.

d. Explain whether Russellville Solar intends to compensate eligible neighboring landowners if they waive the vegetative buffer requirements, and if so, describe the form and amount of that compensation.

Response:

a. Where existing vegetative buffers are thin or may have gaps along the tree line, fence screening would also be used in order to better match the sufficiency of the new proposed vegetative plantings and appropriately screen the facility from views.

b. Russellville Solar will make best efforts to identify where existing vegetative buffers may be too thin or insufficient to properly screen the facility from views and will supplement the

existing buffer with fence screens in these areas. If an adjacent landowner should question the sufficiency of existing vegetation in screening in an area not previously identified, Russellville Solar proposes to seek an opinion from the Logan County Fiscal Court on the specific area before adding an additional screen.

c. Where existing vegetative buffers are thin or may have gaps along the tree line, fence screening would also be used in order to better match the sufficiency of the new proposed vegetative plantings and appropriately screen the facility from views.

d. Russellville Solar has not compensated and does not intend to compensate eligible neighboring landowners to waive the vegetative buffer requirements. The project has received two waivers from a willing landowner in support of the project along areas of the project with minimal visual impacts. These waivers have not been approved by the Logan County Fiscal Court.

Witness: Stefan Eckmann

23. Describe the nature of input or feedback provided to Logan County by Russellville Solar regarding the Logan County ordinance amendment, including the number of interactions that any Russellville Solar representative had with Logan County representatives, the nature of those interactions, including presentations, meetings, phone calls, emails, and the topics discussed prior to the passage of that amendment.

Response: Regarding the Logan County ordinance amendment, Russellville Solar provided feedback to Judge/Executive Chick and the Logan County Fiscal Court over a period of approximately six months regarding a potential amendment and the reasons why the Project was seeking an amendment, starting with project update meetings in September 2021 through February 2022, when an ordinance amendment was passed. The Project sought an amendment to Ordinance No. 19-920-06, which was passed in 2019 (when the project was owned by another developer), because the landscape buffer language within the ordinance was such that it would create significant redundancy in visual buffering of the project to mitigate the visual effects of the Project on visual receptors around the project. There were several existing tree lines and berms throughout the project perimeter that would already buffer the project from visual receptors. The language would have called for over 62,000 linear feet of both new vegetation and visual fence screening for the same mitigation impacts that could have been achieved with one of the two solutions and limited vegetation. This form of buffer plan would have been unprecedented in Silicon Ranch's experience with solar projects. Additionally, there were adjacent landowners who did not want new buffers installed. This feedback was provided to the Judge/Executive in person when providing project updates on approximately 3 occasions

between September 2021 and January 2022 as well as 4 or 5 calls in the same period to discuss updates and the Project's intention to submit its application to the Siting Board. Proposed revisions to buffers that included use of existing vegetation around the proposed Project's perimeter were shown to the local community through visual renderings and a site layout during the December 14, 2021 Community Meeting. Russellville Solar did not hear concerns with the use of existing vegetation and proposed placement of the new buffers. In January 2022, Russellville Solar corresponded via email with Judge Chick and County Attorney Ross to receive feedback on a proposed revision to Ordinance No. 19-920-06, who proposed a call with Fiscal Court magistrates on January 11. The Project introduced its request for an amendment at the January 11 Fiscal Court hearing and held a call in the afternoon with Magistrates Bouldin and Wright. The Magistrates proposed a site walk of the project's perimeter, which was held on Monday January 24, 2022 to understand what a revision to the buffer language would entail. Amendment language was proposed on Tuesday January 25, 2022 which would allow for adjacent landowners to waive the buffer requirements and allow for existing vegetation to be included in the buffer plan. The language was edited and the first reading of the ordinance amendment was held at the February 8, 2022 Fiscal Court hearing, followed by the second reading and approval at the February 22, 2022 Fiscal Court hearing.

Witness: Stefan Eckmann

24. Refer to Section 2 of the SAR, Compatibility with Scenic Surroundings that states the panels will have anti-reflective coatings and that visual impacts from nearby vantage points are expected to be minimal. Provide information as to any professional advice from a specialist regarding this glare assessment. If no outside expert information was sought, describe the nature of Russellville Solar's in-house assessment on glare and its potential severity, particularly in the morning and afternoon commuting times.

Response: The Project was reviewed by an engineer who specializes in assessment of solar glare on airports, as well as by environmental scientists and planners for visual effects, including those deriving from glare. Because there are no overpasses or viewing locations from roads that would be above the facility and the Project would employ anti-reflective PV panels, and due to the requirement for the Project to retain or plant perimeter vegetative buffer to shield views of the facility, the consulting environmental scientists and engineer concluded that impacts from glare and visual effects, generally, would be minimal to non-existent. These conclusions corroborate with the updated 2021 FAA guidance on the potential for glare on airports, which states: "Initially, FAA believed that solar energy systems could introduce a novel glint and glare effect to pilots on final approach. FAA has subsequently concluded that in most cases, the glint and glare from solar energy systems to pilots on final approach is similar to glint and glare pilots routinely experience from water bodies, glass-facade buildings, parking lots, and similar features. However, FAA has continued to receive reports of potential glint and glare from on-airport solar energy systems on personnel working in [airport traffic control tower] ATCT cabs. Therefore, FAA has determined the scope of agency policy should be focused on the impact of

on-airport solar energy systems to federally-obligated towered airports, specifically the airport's ATCT cab." According to the consulting engineer, glare effects to air traffic control towers are due to the towers being at a higher elevation to subject solar facilities.

Witness: Harriet Richardson Seacat, HDR

25. Refer to the first paragraph of Section 2 of the SAR, Compatibility with Scenic Surroundings:

a. Explain where and why site lighting is required.

b. Describe the number, height, lumens, direction, and placement of all lighting components.

c. Describe the times of day that lighting would be in use, as well as whether lighting at the site would be a daily, weekly, or other occurrence.

Response:

a. Per TVA Substation Lighting Guidelines, permanent lighting on site would be required at the substation, operations and maintenance building, and the BESS facility and electrified via the existing PRECC distribution line along Joe Montgomery Road or the TVA TL, per a potential agreement between TVA and PRECC for TVA to supply the power. This lighting is for safety and security during nighttime hours, as well as lighting for temporary operational needs which would only be turned on when required. The lighting would be downward-facing and timer- and/or motion-activated to minimize impacts to surrounding areas. If needed, permanent lighting at the on-site TVA switching station would be fully shielded or would have internal low-glare optics, such that no light is emitted from the fixtures at angles above the horizontal plane, as described in TVA's Substation Lighting Guidelines (TVA 2020b).
b. The lighting would be downward-facing and timer- and/or motion-activated to minimize impacts to surrounding areas. If needed, permanent lighting at the on-site TVA switching

station would be fully shielded or would have internal low-glare optics, such that no light is emitted from the fixtures at angles above the horizontal plane, as described in TVA's Substation Lighting Guidelines (TVA 2020b). Light levels are determined for both horizontal and vertical surfaces by the appropriate standards. Principally American National Standards Institute (ANSI)/IESNA RP-7-01, IESNA RP-33-99, IESNA Lighting Handbook, 9th Edition, 2000, should be considered.

c. Permanent substation lighting used for security/safety reasons would be operational dusk to dawn and would be cutoff or full-cutoff type to reduce off-site glare. Temporary substation lighting would be turned on only when required for specific tasks, and be mounted below 12 feet.

Witness: Stefan Eckmann

26. Refer to the SAR Exhibit A, Property Value Impact Report page 4 that refers to a 208 MW solar farm on 1,612 acres. The application and the SAR from Russellville Solar states that the project would be 173 MW on 1,088 acres. Explain this discrepancy and confirm the size of the project.

Response: The previous version of the Property Value Impact Report referred to (i) total inverter capacity, rather than MWac and (ii) the total leased area rather than the project area, each which has been corrected in the final report, attached. The attached report states "a 173 MW solar farm proposed to be constructed on 1,100 acres out of a parent tract assemblage of 1,612 acres on Watermelon Road, Russellville, Logan County, Kentucky."

Witness: Stefan Eckmann

Kirkland
Appraisals, LLC

Richard C. Kirkland, Jr., MAI
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Raleigh, North Carolina 27603
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www.kirklandappraisals.com

April 18, 2022

Conor Goodson
Silicon Ranch
222 Second Avenue S. Suite 1900
Nashville, TN 37201

RE: Russellville Solar Project, Harrison County, KY

Mr. Goodson,

At your request, I have considered the impact of a 173 MW solar farm proposed to be constructed on 1,100 acres out of a parent tract assemblage of 1,612 acres on Watermelon Road, Russellville, Logan County, Kentucky. Specifically, I have been asked to give my professional opinion on whether the proposed solar farm will have any impact on adjoining property value and whether "the location and character of the use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located."

To form an opinion on these issues, I have researched and visited existing and proposed solar farms in Kentucky as well as other states, researched articles through the Appraisal Institute and other studies, and discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Silicon Ranch represented to me by Conor Goodson. My findings support the Kentucky Siting Board Application. The effective date of this consultation is July 26, 2021.

While based in NC, I am also a Kentucky State Certified General Appraiser #5522.

Conclusion

The adjoining properties are well set back from the proposed solar panels and most of the site has good existing landscaping for screening the proposed solar farm. Additional supplemental vegetation is proposed to supplement the areas where the existing trees are insufficient to provide a proper screen.

The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where the solar farm is properly screened and buffered. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

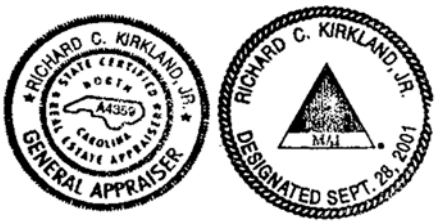
Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial negative effect to abutting or adjoining properties, and many of those

findings of no impact have been upheld by appellate courts. Similar solar farms have been approved with adjoining agricultural uses, schools, churches, and residential developments.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting properties and that the proposed use is in harmony with the area in which it is located. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is minimal traffic.

If you have any questions please contact me.

Sincerely,



Richard C. Kirkland, Jr., MAI
Kentucky Certified General Appraiser #5522

Table of Contents

I. Proposed Project and Adjoining Uses

Proposed Use Description

This 173 MW solar farm proposed to be constructed on 1,100 acres out of a parent tract assemblage of 1,612 acres on Watermelon Road, Russellville, Logan County, Kentucky. Adjoining land is a mix of residential and agricultural uses, which is very typical of solar farm sites.

Adjoining Properties

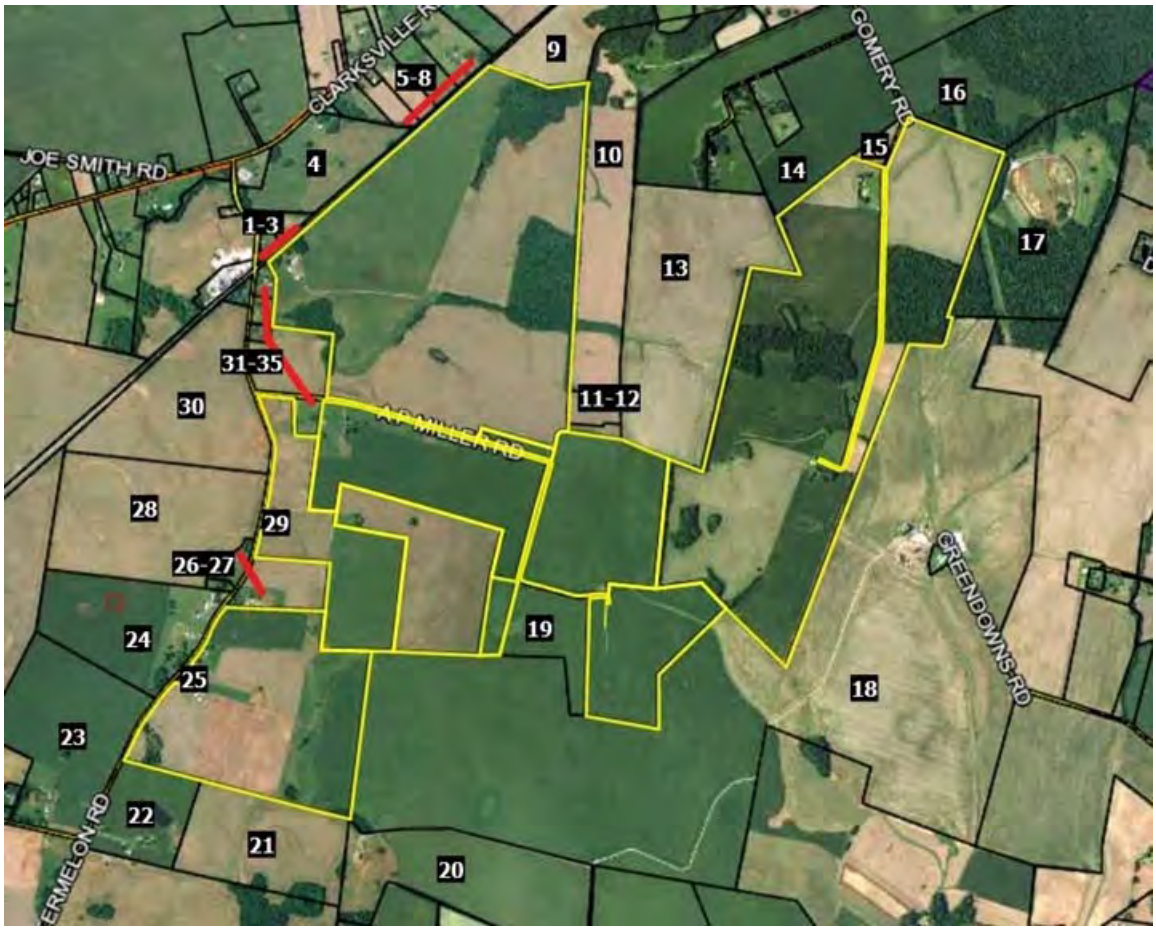
I have considered adjoining uses and included a map to identify each parcel's location. The closest adjoining home will be 250 feet from the closest solar panel and the average distance to adjoining homes will be 1,058 feet to the nearest solar panel. These setbacks are much larger than what is typically found and will go beyond what is needed to protect adjoining property values.

The breakdown of those uses by acreage and number of parcels is summarized below.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	3.52%	45.71%
Agricultural	51.30%	37.14%
Agri/Res	45.06%	14.29%
Religious	0.12%	2.86%
Total	**100.00%**	**100.00%**

Tax Parcel Map



Surrounding Uses

#	MAP ID	Owner	GIS Data Acres	Present Use	Adjoin Acres	Adjoin Parcels	Distance (ft) Home/Panel
1	055-00-00-005-00	Stratton	0.42	Residential	0.02%	2.86%	1,020
2	055-00-00-004-00	Lee	2.29	Residential	0.08%	2.86%	960
3	055-00-00-003-00	Norris	5.76	Residential	0.21%	2.86%	920
4	055-00-00-001-00	McCormick	56.00	Agricultural	2.07%	2.86%	N/A
5	055-00-00-015-04	Chick	9.14	Residential	0.34%	2.86%	N/A
6	055-00-00-015-07	Chick	10.00	Residential	0.37%	2.86%	1,195
7	055-00-00-015-06	Campbell	12.00	Residential	0.44%	2.86%	1,015
8	055-00-00-015-05	Ferris	16.75	Residential	0.62%	2.86%	720
9	054-00-00-020-01	Riley	59.00	Agricultural	2.18%	2.86%	N/A
10	055-00-00-012-00	Vick	134.81	Agri/Res	4.97%	2.86%	1,390
11	055-00-00-018-00	Shackelford	9.60	Residential	0.35%	2.86%	N/A
12	055-00-00-019-00	Black Church	3.28	Religious	0.12%	2.86%	N/A
13	055-00-00-013-00	Dawson	174.00	Agricultural	6.42%	2.86%	N/A
14	055-00-00-014-00	Harper	167.00	Agricultural	6.16%	2.86%	N/A
15	055-00-00-014-02	Statton	6.00	Residential	0.22%	2.86%	N/A
16	069-00-00-008-00	Hall	205.41	Agricultural	7.58%	2.86%	N/A
17	070-00-00-005-00	Bell	139.00	Agricultural	5.13%	2.86%	N/A
18	055-00-00-017-00	Miles	907.00	Agri/Res	33.46%	2.86%	2,140
19	055-00-00-009-00	Miles	36.00	Agricultural	1.33%	2.86%	N/A
20	056-00-00-001-01	Miles	120.00	Agricultural	4.43%	2.86%	N/A
21	041-00-00-009-02	Kemp	82.00	Agricultural	3.03%	2.86%	N/A
22	041-00-00-009-00	Gotts	46.61	Agri/Res	1.72%	2.86%	1,580
23	041-00-00-006-00	Dawson	109.00	Agri/Res	4.02%	2.86%	2,205
24	041-00-00-004-00	Dawson	85.00	Agricultural	3.14%	2.86%	N/A
25	041-00-00-005-02	Dawson	2.00	Residential	0.07%	2.86%	255
26	040-00-00-024-01	Crawford	7.34	Residential	0.27%	2.86%	250
27	041-00-00-005-01	Dawson	24.00	Agri/Res	0.89%	2.86%	900
28	040-00-00-024-00	Kemp	139.00	Agricultural	5.13%	2.86%	N/A
29	055-00-00-007-00	Robertson	1.48	Residential	0.05%	2.86%	355
30	040-00-00-023-02	Kemp	100.00	Agricultural	3.69%	2.86%	N/A
31	055-00-00-007-01	Latham	4.98	Residential	0.18%	2.86%	270
32	040-00-00-023-01	Kemp	28.00	Agricultural	1.03%	2.86%	N/A
33	040-00-00-023-03	Coots	1.29	Residential	0.05%	2.86%	1,420
34	055-00-00-006-02	Cox	3.21	Residential	0.12%	2.86%	1,385
35	055-00-00-006-01	Cox	3.21	Residential	0.12%	2.86%	1,070
		Total	**2710.582**		**100.00%**	**100.00%**	1,058

N/A indicates that there is no adjoining home to which to measure.

II. Methodology and Discussion of Issues

Standards and Methodology

I conducted this analysis using the standards and practices established by the Appraisal Institute and that conform to the Uniform Standards of Professional Appraisal Practice. The analyses and methodologies contained in this report are accepted by all major lending institutions, and they are used in Kentucky and across the country as the industry standard by certified appraisers conducting appraisals, market analyses, or impact studies and are considered adequate to form an opinion of the impact of a land use on neighboring properties. These standards and practices have also been accepted by the courts at the trial and appellate levels and by federal courts throughout the country as adequate to reach conclusions about the likely impact a use will have on adjoining or abutting properties.

The aforementioned standards compare property uses in the same market and generally within the same calendar year so that fluctuating markets do not alter study results. Although these standards do not require a linear study that examines adjoining property values before and after a new use (e.g. a solar farm) is developed, some of these studies do in fact employ this type of analysis. Comparative studies, as used in this report, are considered an industry standard.

The type of analysis employed is a Matched Pair Analysis or Paired Sales Analysis. This methodology is outlined in **The Appraisal of Real Estate**, Twelfth Edition by the Appraisal Institute pages 438-439. It is further detailed in **Real Estate Damages**, Third Edition, pages 33-36 by Randall Bell PhD, MAI. Paired sales analysis is used to support adjustments in appraisal work for factors ranging from the impact of having a garage, golf course view, or additional bedrooms. It is an appropriate methodology for addressing the question of impact of an adjoining solar farm. The paired sales analysis is based on the theory that when two properties are in all other respects equivalent, a single difference can be measured to indicate the difference in price between them. Dr. Bell describes it as comparing a test area to control areas. In the example provided by Dr. Bell he shows five paired sales in the test area compared to 1 to 3 sales in the control areas to determine a difference. I have used 3 sales in the control areas in my analysis for each sale developed into a matched pair.

Determining what is an External Obsolescence

An external obsolescence is a use of property that, because of its characteristics, might have a negative impact on the value of adjacent or nearby properties because of identifiable impacts. Determining whether a use would be considered an external obsolescence requires a study that isolates that use, eliminates any other causing factors, and then studies the sales of nearby versus distant comparable properties. The presence of one or a combination of key factors does not mean the use will be an external obsolescence, but a combination of these factors tend to be present when market data reflects that a use is an external obsolescence.

External obsolescence is evaluated by appraisers based on several factors. These factors include but are not limited to:

1) Traffic. Solar Farms are not traffic generators.

2) Odor. Solar farms do not produce odor.

3) Noise. Solar farms generate no noise concerns and are silent at night.

4) Environmental. Solar farms do not produce toxic or hazardous waste. Grass is maintained underneath the panels so there is minimal impervious surface area.

5) Appearance/Viewshed. This is the one area that potentially applies to solar farms. However, solar farms are generally required to provide significant setbacks and landscaping buffers to address that concern. Furthermore, any consideration of appearance of viewshed impacts has to be considered in comparison with currently allowed uses on that site. For example if a residential subdivision is already an allowed use, the question becomes in what way does the appearance impact adjoining property owners above and beyond the appearance of that allowed subdivision or other similar allowed uses.

6) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbors from fully using their homes or farms or businesses for the use intended.

Relative Solar Farm Sizes

Solar farms have been increasing in size in recent years. Much of the data collected is from existing, older solar farms of smaller size, but there are numerous examples of sales adjoining 75 to 80 MW facilities that show a similar trend as the smaller solar farms. This is understandable given that the primary concern relative to a solar farm is the appearance or view of the solar farm, which is typically addressed through setbacks and landscaping buffers. The relevance of data from smaller solar farms to larger solar farms is due to the primary question being one of appearance. If the solar farm is properly screened, then little of the solar farm would be seen from adjoining property regardless of how many acres are involved.

Larger solar farms are often set up in sections where any adjoining owner would only be able to see a small section of the project even if there were no landscaping screen. Once a landscaping screen is in place, the primary view is effectively the same whether you are adjoining a 5 MW, 20 MW or 100 MW facility.

I have split out the data for the matched pairs adjoining larger solar farms only to illustrate the similarities later in this report. I note that I have matched pairs adjoining solar farms up to 620 MWs in size showing no impact on property value.

Steps Involved in the Analysis

The paired sales analysis employed in this report follows the following process:

1. Identify sales of property adjoining existing solar farms.
2. Compare those sales to similar property that does not adjoin an existing solar farm.
3. Confirmation of sales are noted in the analysis write ups.
4. Distances from the homes to panels are included as a measure of the setbacks.
5. Topographic differences across the solar farms themselves are likewise noted along with demographic data for comparing similar areas.

There are a number of Sale/Resale comparables included in the write ups, but most of the data shown is for sales of homes after a solar farm has been announced (where noted) or after a solar farm has been constructed.

III. Research on Solar Farms

A. Appraisal Market Studies

I have also considered a number of impact studies completed by other appraisers as detailed below.

CohnReznick – Property Value Impact Study: Adjacent Property Values Solar Impact Study: A Study of Eight Existing Solar Facilities

Patricia McGarr, MAI, CRE, FRICS, CRA and Andrew R. Lines, MAI with CohnReznick completed an impact study for a proposed solar farm in Cheboygan County, Michigan completed on June 10, 2020. I am familiar with this study as well as a number of similar such studies completed by CohnReznick. I have not included all of these studies but I submit this one as representative of those studies.

This study addresses impacts on value from eight different solar farms in Michgian, Minnesota, Indina, Illinois, Virginia and North Carolina. These solar farms are 19.6 MW, 100 MW, 11.9 MW, 23 MW, 71 MW, 61 MW, 40 MW, and 19 MW for a range from 11.9 MW to 100 MW with an average of 31 MW and a median of 31.5 MW. They analyzed a total of 24 adjoining property sales in the Test Area and 81 comparable sales in the Control Area over a five-year period.

The conclusion of this study is that there is no evidence of any negative impact on adjoining property values based on sales prices, conditions of sales, overall marketability, potential for new development or rate of appreciation.

Christian P. Kaila & Associates – Property Impact Analysis – Proposed Solar Power Plant Guthrie Road, Stuarts Draft, Augusta County, Virginia

Christian P. Kaila, MAI, SRA and George J. Finley, MAI developed an impact study as referenced above dated June 16, 2020. This was for a proposed 83 MW facility on 886 acres.

Mr. Kaila interviewed appraisers who had conducted studies and reviewed university studies and discussed the comparable impacts of other development that was allowed in the area for a comparative analysis of other impacts that could impact viewshed based on existing allowed uses for the site. He also discussed in detail the various other impacts that could cause a negative impact and how solar farms do not have such characteristics.

Mr. Kaila also interviewed County Planners and Real Estate Assessor's in eight different Virginia counties with none of the assessor's identifying any negative impacts observed for existing solar projects.

Mr. Kaila concludes on a finding of no impact on property values adjoining the indicated solar farm.

Fred Beck, MAI, CCIM – Impact Analysis in Lincoln County 2013

Mr. Fred Beck, MAI, CCIM completed an impact analysis in 2013 for a proposed solar farm that concluded on a negative impact on value. That report relied on a single cancelled contract for an adjoining parcel where the contracted buyers indicated that the solar farm was the reason for the cancellation. It also relied on the activities of an assessment impact that was applied in a nearby county.

Mr. Beck was interviewed as part of the Christian Kalia study noted above. From that I quote "Mr. Beck concluded on no effect on moderate priced homes, and only a 5% change in his limited research of higher priced homes. His one sale that fell through is hardly a reliable sample. It also was misleading on Mr. Beck's part to report the lower re-assessments since the primary cause of the

re-assesments were based on the County Official, who lived adjacent to the solar farm, appeal to the assessor for reductions with his own home." In that Clay County Case study the noted lack of lot sales after announcement of the solar farm also coincided with the recession in 2008/2009 and lack of lot sales effectively defined that area during that time.

I further note, that I was present at the hearing where Mr. Beck presented these findings and the predominance of his argument before the Lincoln County Board of Commissioner's was based on the one cancelled sale as well as a matched pair analysis of high-end homes adjoining a four-story call center. He hypothesized that a similar impact from that example could be compared to being adjacent solar farm without explaining the significant difference in view, setbacks, landscaping, traffic, light, and noise. Furthermore, Mr. Beck did have matched pairs adjoining a solar farm in his study that he put in the back of his report and then ignored as they showed no impact on property value.

Also noted in the Christian Kalia interview notes is a response from Mr. Beck indicating that in his opinion "the homes were higher priced homes and had full view of the solar farm." Based on a description of screening so that "the solar farm would not be in full view to adjoining property owners. Mr. Beck said in that case, he would not see any drop in property value."

NorthStar Appraisal Company – Impact Analysis for Nichomus Run Solar, Pilesgrove, NJ, September 16, 2020

Mr. William J. Sapio, MAI with NorthStar Appraisal Company considered a matched pair analysis for the potential impact on adjoining property values to this proposed 150 MW solar farm. Mr. Sapio considered sales activity in a subdivision known as Point of Woods in South Brunswick Township and identified two recent new homes that were constructed and sold adjoining a 13 MW solar farm and compared them to similar homes in that subdivision that did not adjoin the solar farm. These homes sold in the $1,290,450 to $1,336,613 price range and these homes were roughly 200 feet from the closest solar panel.

Based on this analysis, he concluded that the adjoining solar farm had no impact on adjoining property value.

Conclusion of Impact Studies

Of the four studies noted two included actual sales data to derive an opinion of no impact on value. The only study to conclude on a negative impact was the Fred Beck study based on no actual sales data, and he has since indicated that with landscaping screens he would not conclude on a negative impact.

I have relied on these studies as additional support for the findings in this impact analysis.

B. Articles

I have also considered a number of articles on this subject as well as conclusions and analysis as noted below.

Farm Journal Guest Editor, March 22, 2021 – Solar's Impact on Rural Property Values

Andy Ames, ASFMRA (American Society of Farm Managers and Rural Appraisers) published this article that includes a discussion of his survey of appraisers and studies on the question of property value related to solar farms. He discusses the university studies that I have cited as well as Patricia McGarr, MAI.

He also discusses the findings of Donald A. Fisher, ARA, who served six years at the Chair of the ASFMRA's National Appraisal Review Committee. He is also the Executive Vice President of the CNY

Pomeroy Appraiser and has conducted several market studies on solar farms and property impact. He is quoted in the article as saying, "Most of the locations were in either suburban or rural areas, and all of those studies found either a neutral impact, or ironically, a positive impact, where values on properties after installation of solar farms went up higher than time trends."

Howard Halderman, AFM, President and CEO of Halderman Real Estate and Farm Management attended the ASFMRA solar talk hosted by the Indiana Chapter of the ASFMRA and he concludes that other rural properties would likely see no impact and farmers and landowners shown even consider possible benefits. "In some cases, farmers who rent land to a solar company will insure the viability of their farming operation for a longer time period. This makes them better long-term tenants or land buyers so one can argue that higher rents and land values will follow due to the positive impact the solar leases offer."

National Renewable Energy Laboratory – Top Five Large-Scale Solar Myths, February 3, 2016

Megan Day reports form NREL regarding a number of concerns neighbors often express. Myth #4 regarding property value impacts addresses specifically the numerous studies on wind farms that show no impact on property value and that solar farms have a significantly reduced visual impact from wind farms. She highlights that the appearance can be addressed through mitigation measures to reduce visual impacts of solar farms through vegetative screening. Such mitigations are not available to wind farms given the height of the windmills and again, those studies show no impact on value adjoining wind farms.

North Carolina State University: NC Clean Energy Technology Center White Paper: Balancing Agricultural Productivity with Ground-Based Solar Photovoltaic (PV) Development (Version 2), May 2019

Tommy Cleveland and David Sarkisian wrote a white paper for NCSU NC Clean Energy Technology Center regarding the potential impacts to agricultural productivity from a solar farm use. I have interviewed Tommy Cleveland on numerous occasions and I have also heard him speak on these issues at length as well. He addresses many of the common questions regarding how solar farms work and a detailed explanation of how solar farms do not cause significant impacts on the soils, erosion and other such concerns. This is a heavily researched paper with the references included.

North Carolina State University: NC Clean Energy Technology Center White Paper: Health and Safety Impacts of Solar Photovoltaics, May 2017

Tommy Cleveland wrote a white paper for NCSU NC Clean Energy Technology Center regarding the health and safety impacts to address common questions and concerns related to solar farms. This is a heavily researched white paper addressing questions ranging from EMFs, fire safety, as well as vegetation control and the breakdown of how a solar farm works.

C. Broker Commentary

In the process of working up the matched pairs used later in this report, I have collected comments from brokers who have actually sold homes adjoining solar farms indicating that the solar farm had no impact on the marketing, timing, or sales price for the adjoining homes. I have comments from 12 such brokers within this report including brokers from Kentucky, Virginia, Tennessee, and North Carolina.

I have additional commentary from other states including New Jersey and Michigan that provide the same conclusion.

IV. University Studies

I have also considered the following studies completed by four different universities related to solar farms and impacts on property values.

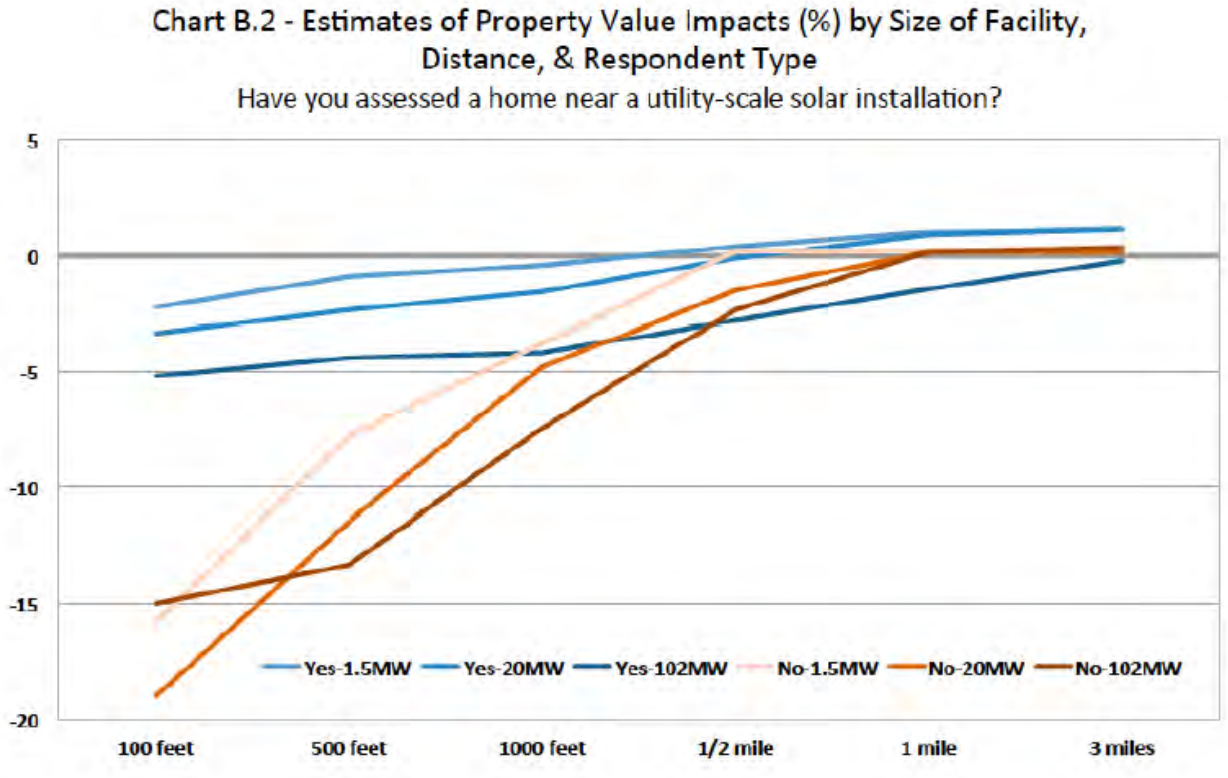
A. University of Texas at Austin, May 2018

An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations

This study considers solar farms from two angles. First it looks at where solar farms are being located and concludes that they are being located primarily in low density residential areas where there are fewer homes than in urban or suburban areas.

The second part is more applicable in that they conducted a survey of appraisers/assessors on their opinions of the possible impacts of proximity to a solar farm. They consider the question in terms of size of the adjoining solar farm and how close the adjoining home is to the solar farm. I am very familiar with this part of the study as I was interviewed by the researchers multiple times as they were developing this. One very important question that they ask within the survey is very illustrative. They asked if the appraiser being surveyed had ever appraised a property next to a solar farm. There is a very noticeable divide in the answers provided by appraisers who have experience appraising property next to a solar farm versus appraisers who self-identify as having no experience or knowledge related to that use.

On Page 16 of that study they have a chart showing the responses from appraisers related to proximity to a facility and size of the facility, but they separate the answers as shown below with appraisers with experience in appraising properties next to a solar farm shown in blue and those inexperienced shown in brown. Even within 100 feet of a 102 MW facility the response from experienced appraisers were -5% at most on impact. While inexperienced appraisers came up with significantly higher impacts. This chart clearly shows that an uninformed response widely diverges from the sales data available on this subject.



Furthermore, the question cited above does not consider any mitigating factors such as landscaping buffers or screens which would presumably reduce the minor impacts noted by experienced appraisers on this subject.

The conclusion of the researchers is shown on Page 23 indicated that "Results from our survey of residential home assessors show that the majority of respondents believe that proximity to a solar installation has either no impact or a positive impact on home values."

This analysis supports the conclusion of this report that the data supports no impact on adjoining property values.

B. University of Rhode Island, September 2020

Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island

The University of Rhode Island published a study entitled **Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island** on September 29, 2020 with lead researchers being Vasundhara Gaur and Corey Lang. I have read that study and interviewed Mr. Corey Lang related to that study. This study is often cited by opponents of solar farms but the findings of that study have some very specific caveats according to the report itself as well as Mr. Lang from the interview.

While that study does state in the Abstract that they found depreciation of homes within 1-mile of a solar farm, that impact is limited to non-rural locations. On Pages 16-18 of that study under Section 5.3 Heterogeneity in treatment effect they indicate that the impact that they found was limited to non-rural locations with the impact in rural locations effectively being zero. For the study they defined "rural" as a municipality/township with less than 850 population per square mile.

They further tested the robustness of that finding and even in areas up to 2,000 population per square mile they found no statistically significant data to suggest a negative impact. They have not specifically defined a point at which they found negative impacts to begin, as the sensitivity study stopped checking at the 2,000-population per square mile.

Where they did find negative impacts was in high population density areas that was largely a factor of running the study in Massachusetts and Rhode Island which the study specifically cites as being the 2nd and 3rd most population dense states in the USA. Mr. Lang in conversation as well as in recorded presentations has indicated that the impact in these heavily populated areas may reflect a loss in value due to the scarce greenery in those areas and not specifically related to the solar farm itself. In other words, any development of that site might have a similar impact on property value.

Based on this study I have checked the population for the Russelville CCD of Logan County, which has a population of 15,371 population for 2021 based on SiteToDoBusiness by ESRI and a total area of 213.7 square miles. This indicates a population density of 72 people per square mile which puts this well below the threshold indicated by the Rhode Island Study.

I therefore conclude that the Rhode Island Study supports the indication of no impact on adjoining properties for the proposed solar farm project.

C. Master's Thesis: ECU by Zachary Dickerson July 2018

A Solar Farm in *My* Backyard? Resident Perspectives of Utility-Scale Solar in Eastern North Carolina

This study was completed as part of a Master of Science in Geography Master's Thesis by Zachary Dickerson in July 2018. This study sets out to address three questions:

1. Are there different aspects that affect resident satisfaction regarding solar farms?
2. Are there variations in satisfaction for residents among different geographic settings, e.g. neighborhoods adjacent to the solar farms or distances from the solar farms?
3. How can insight from both the utility and planning sectors, combined with knowledge gained from residents, fill gaps in communication and policy writing in regard to solar farms?

This was done through survey and interview with adjacent and nearby neighbors of existing solar farms. The positive to neutral comments regarding the solar farms were significantly higher than negative. The researcher specifically indicates on Page 46 "The results show that respondents generally do not believe the solar farms pose a threat to their property values."

The most negative comments regarding the solar farms were about the lack of information about the approval process and the solar farm project prior to construction.

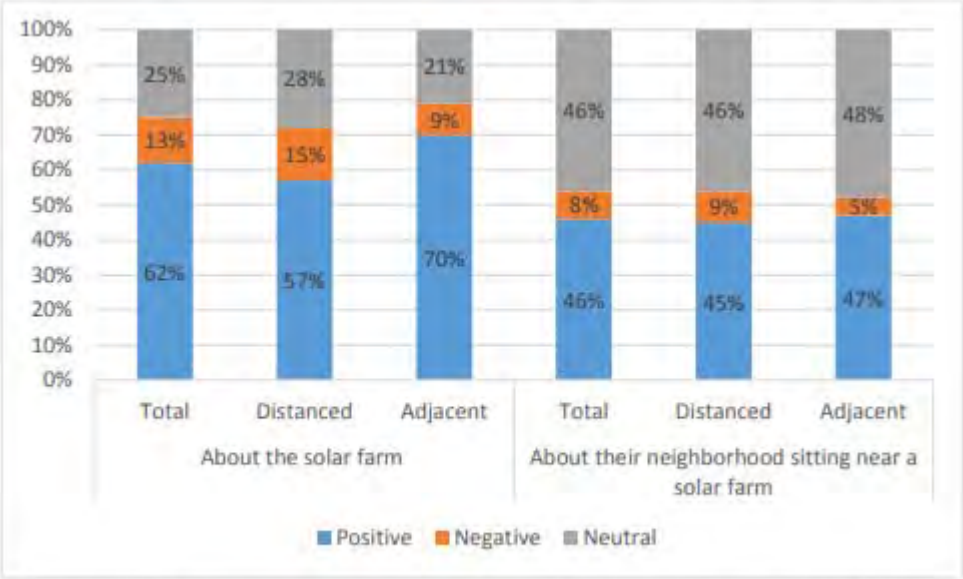


Figure 11: Residents' positive/negative word choices by geographic setting for both questions

D. Ernest Orlando Lawrence Berkeley National Laboratory, December, 2019

The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis

This study addresses wind farms and not solar farms but it is a reasonable consideration. The activity on a wind farm is significantly different in terms of the mechanics and more particularly on the appearance or viewshed as wind farms cannot be screened from adjoining property owners. This study was commissioned by the Department of Energy and not by any developer. This study examined 7,500 home sales between 1996 and 2007 in order to track sales prices both before and after a wind energy facility was announced or built. This study specifically looked into possible stigma, nuisance, and scenic vista.

On page 17 of that study they conclude "Although the analysis cannot dismiss the possibility that individual homes or small numbers of homes have been or could be negatively impacted, it finds that if these impacts do exist, they are either too small and/or too infrequent to result in any widespread, statistically observable impact."

Given that solar farms are a similar use, but with a lower profile and therefore a lower viewshed than the wind farms, it is reasonable to translate these findings of no impact to solar farms.

V. Summary of Solar Projects in Kentucky

I have researched the solar projects in Kentucky. I identified the solar farms through the Solar Energy Industries Association (SEIA) Major Projects List and then excluded the roof mounted facilities. This leaves only six solar farms in Kentucky for analysis at this time.

One of these six solar farms has limited analysis potential: E.W. Brown near Harrodsburg in Mercer County. The E. W. Brown 10 MW solar farm was built in 2014 and adjoins three coal-fired units. Given that research studies that I have read regarding fossil fuel power plants including "The Effect of Power Plants on Local Housing Values and Rents" by Lucas W. Davis and published May 2010, it would not be appropriate to use any data from this solar farm due to the influence of the coal-fired power plant that could have an impact on up to a one-mile radius. I note that the closest home to a solar panel at this site is 565 feet and the average distance is 1,026 feet. The homes are primarily clustered at the Herrington Lake frontage. Recent sales in this area range from $164,000 to $212,000 for these waterfront homes. Again, no usable data can be derived from this solar farm due to the adjoining coal fired plant.

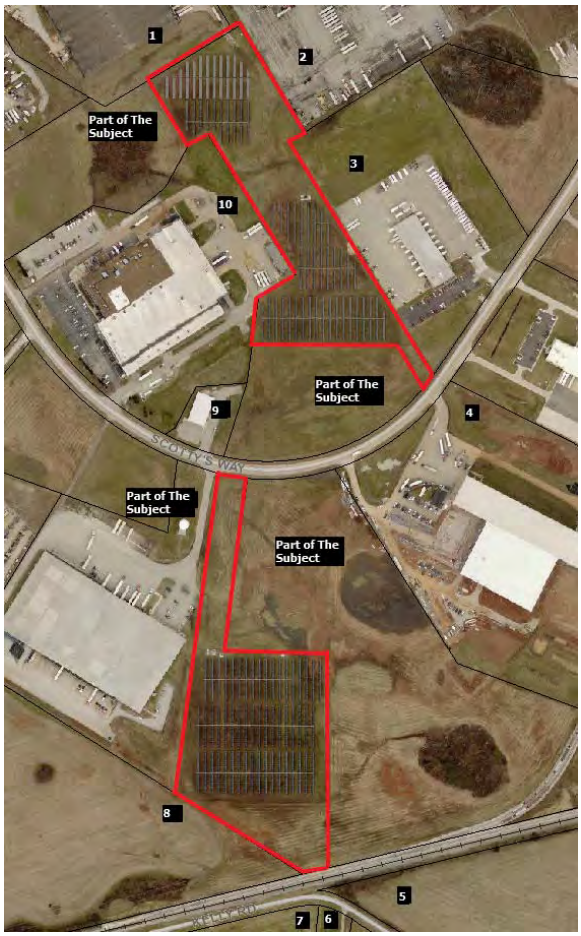
Furthermore, the Cooperative solar farm in Shelby County is a 0.5 MW facility on 35 acres built in 2020 that is proposed to eventually be 4 MW. This project is too new and there have been no home sales adjoining this facility. I also cannot determine how close the nearby homes are to the adjoining solar panels as the aerial imagery does not yet show these panels.

I have provided a summary of projects below and additional detailed information on the projects on the following pages. I specifically note the similarity in most of the sites in Kentucky in terms of mix of adjoining uses, topography, and distances to adjoining homes.

The number of solar farms currently in Kentucky is low compared to a number of other states and North Carolina in particular. I have looked at solar farms in Kentucky for sales activity, but the small number of sites coupled with the relatively short period of time these solar farms have been in place has not provided as many examples of sales adjoining a solar farm as I am able to pull from other places. I have therefore also considered sales in other states, but I have shown in the summary how the demographics around the solar farms in other locations relate to the demographics around the proposed solar farm to show that generally similar locations are being considered. The similarity of the sites in terms of adjoining uses and surrounding demographics makes it reasonable to compare the lack of significant impacts in other areas would translate into a similar lack of significant impacts at the subject site.

Parcel #	State	County	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre					Adjoining Use by Number				
										Res	Agri	Agri/Res	Com		Reside	Agricul	Comm/Ind	%	
610	KY	Warren	Bowling Green	Bowling Green	2	17.36	17.36	720	720	1%	64%	0%	36%	100%	10%	30%	60%	100%	
611	KY	Clark	Winchester	Cooperative Solar I	8.5	181.47	63	2,110	2,040	0%	96%	3%	0%	100%	22%	78%	0%	100%	
612	KY	Kenton	Walton	Walton 2	2	58.03	58.03	891	120	21%	0%	60%	19%	100%	65%	0%	35%	100%	
613	KY	Grant	Crittenden	Crittenden	2.7	181.7	34.1	1,035	345	22%	27%	51%	0%	100%	96%	4%	0%	100%	
617	KY	Metcalfe	Summer Shade	Glover Creek		968.2	322.4	1,731	375	6%	25%	69%	0%	100%	83%	17%	0%	100%	
618	KY	Garrard	Lancaster	Turkey Creek		752.8	297.1	976	240	8%	36%	51%	5%	100%	73%	12%	15%	100%	
		Total Number of Solar Farms			6														
				Average	3.80	359.9	132.0	1244	640	9%	41%	39%	10%		58%	24%	18%		
				Median	2.35	181.6	60.5	1006	360	7%	32%	51%	3%		69%	14%	7%		
				High	8.50	968.2	322.4	2110	2040	22%	96%	69%	36%		96%	78%	60%		
				Low	2.00	17.4	17.4	720	120	0%	0%	0%	0%		3%	0%	0%		

610: Bowling Green Solar, Bowling Green, KY



This project was built in 2011 and located on 17.36 acres for a 2 MW project on Scotty's Way with the adjoining uses being primarily industrial. The closest dwelling is 720 feet from the nearest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.58%	10.00%
Agricultural	63.89%	30.00%
Industrial	35.53%	60.00%
Total	**100.00%**	**100.00%**

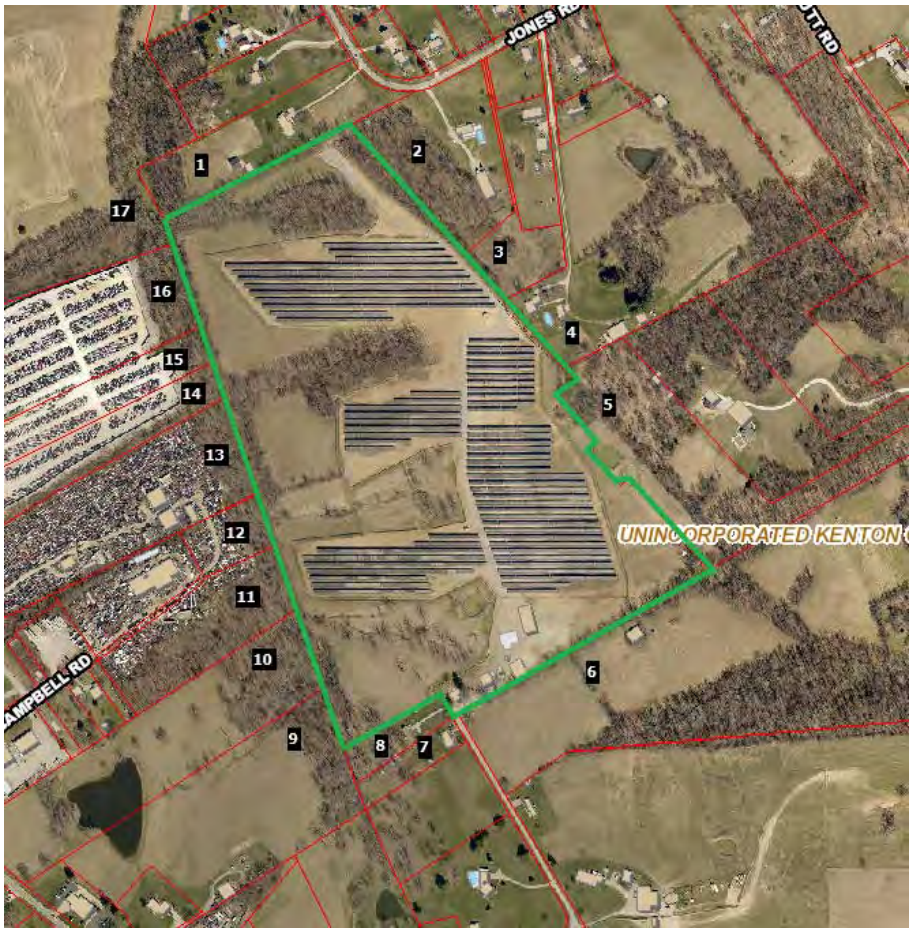
611: Cooperative Solar I, Winchester, KY

This project was built in 2017 on 63 acres of a 181.47-acre parent tract for an 8.5 MW project with the closest home at 2,040 feet from the closest solar panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.15%	11.11%
Agricultural	96.46%	77.78%
Agri/Res	3.38%	11.11%
Total	**100.00%**	**100.00%**

612: Walton 2 Solar, Walton, KY



This project was built in 2017 on 58.03 acres for a 2 MW project with the closest home 120 feet from the closest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	20.84%	47.06%
Agri/Res	59.92%	17.65%
Commercial	19.25%	35.29%
Total	**100.00%**	**100.00%**

613: Crittenden Solar, Crittenden, KY

This project was built in late 2017 on 34.10 acres out of a 181.70-acre tract for a 2.7 MW project where the closest home is 345 feet from the closest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	1.65%	32.08%
Agricultural	73.39%	39.62%
Agri/Res	23.05%	11.32%
Commercial	0.64%	9.43%
Industrial	0.19%	3.77%
Airport	0.93%	1.89%
Substation	0.15%	1.89%
Total	**100.00%**	**100.00%**

659: Cooperative Shelby Solar, Simpsonville, KY

This project was built in 2020 on 35 acres for a 0.5 MW project that is approved for expansion up to 4 MW.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	6.04%	44.44%
Agricultural	10.64%	11.11%
Agri/Res	31.69%	33.33%
Institutional	51.62%	11.11%
Total	**100.00%**	**100.00%**

660: E.W. Brown Solar, Harrodsburg, KY

This project was built in 2016 on 50 acres for a 10 MW project. This solar facility adjoins three coal-fired units, which makes analysis of these nearby home sales problematic as it is impossible to extract the impact of the coal plant on the nearby homes especially given the lake frontage of the homes shown.

Adjoining Use Breakdown

	Acreage	**Parcels**
Residential	2.77%	77.27%
Agricultural	43.92%	9.09%
Agri/Res	28.56%	9.09%
Industrial	24.75%	4.55%
Total	**100.00%**	**100.00%**

VI. Market Analysis of the Impact on Value from Solar Farms

I have researched hundreds of solar farms in numerous states to determine the impact of these facilities on the value of adjoining properties. This research has primarily been in North Carolina, but I have also conducted market impact analyses in Virginia, South Carolina, Tennessee, Texas, Oregon, Mississippi, Maryland, New York, California, Missouri, Florida, Montana, Georgia, Kentucky, and New Jersey.

I have derived a breakdown of the adjoining uses to show where solar farms are located. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Scope of Research section of this report.

I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar to the site in question, which is surrounded by low density residential and agricultural uses. In my over 700 studies, I have found a striking repetition of that same typical adjoining property use mix in over 90% of the solar farms I have looked at. Matched pair results in multiple states are strikingly similar, and all indicate that solar farms – which generate very little traffic, and do not generate noise, dust or have other harmful effects – do not negatively impact the value of adjoining or abutting properties.

I have previously been asked by the Kentucky Siting Board about how the solar farms and the matched pair sets were chosen. This is the total of all the usable home and land sales adjoining the 750+ solar farms that I have looked at over the last 10 years. Most of the solar farms that I have looked at are only a few years old and have not been in place long enough for home or land sales to occur next to them for me to analyze. There is nothing unusual about this given the relatively rural locations of most of the solar farms where home and land sales occur much less frequently than they do in urban and suburban areas and the number of adjoining homes is relatively small.

I review the solar farms that I have looked at periodically to see if there are any new sales. If there is a sale I have to be sure it is not an inhouse sale or to a related family member. A great many of the rural sales that I find are from one family member to another, which makes analysis impossible given that these are not "arm's length" transactions. There are also numerous examples of sales that are "arm's length" but are still not usable due to other factors such as adjoining significant negative factors such as a coal fired plant or at a landfill or prison. I have looked at homes that require a driveway crossing a railroad spur, homes in close proximity to large industrial uses, as well as homes adjoining large state parks, or homes that are over 100 years old with multiple renovations. Such sales are not usable as they have multiple factors impacting the value that are tangled together. You can't isolate the impact of the coal fired plant, the industrial building, or the railroad unless you are comparing that sale to a similar property with similar impacts. Matched pair analysis requires that you isolate properties that only have one differential to test for, which is why the type of sales noted above is not appropriate for analysis.

After my review of all sales and elimination of the family transactions and those sales with multiple differentials, I am left with the matched pairs shown in this report to analyze. I do have additional matched pair data in other areas of the United States that were not included in this report due to being states less comparable to Kentucky than those shown. The only other sales that I have eliminated from the analysis are home sales under $100,000, which there haven't been many such examples, but at that price range it is difficult to identify any impacts through matched pair analysis. I have not cherry picked the data to include just the sales that support one direction in value, but I have included all of them both positive and negative with a preponderance of the evidence supporting no impact to mild positive impacts.

A. Kentucky and Adjoining States Data

1. Matched Pair – Crittenden Solar, Crittenden, KY

This solar farm was built in December 2017 on a 181.70-acre tract but utilizing only 34.10 acres. This is a 2.7 MW facility with residential subdivisions to the north and south.

I have identified five home sales to the north of this solar farm on Clairborne Drive and one home sale to the south on Eagle Ridge Drive since the completion of this solar farm. The home sale on Eagle Drive is for a $75,000 home and all of the homes along that street are similar in size and price range. According to local broker Steve Glacken with Cutler Real Estate these are the lowest price range/style home in the market. I have not analyzed that sale as it would unlikely provide significant data to other homes in the area.

Mr. Glacken is currently selling lots at the west end of Clairborne for new home construction. He indicated that the solar farm near the entrance of the development has been a complete non-factor and none of the home sales are showing any concern over the solar farm. Most of the homes are in the $250,000 to $280,000 price range. The vacant residential lots are being marketed for $28,000 to $29,000. The landscaping buffer is considered light, but the rolling terrain allows for distant views of the panels from the adjoining homes along Clairborne Drive.

The first home considered is a bit of an anomaly for this subdivision in that it is the only manufactured home that was allowed in the community. It sold on January 3, 2019. I compared that sale to three other manufactured home sales in the area making minor adjustments as shown on the next page to account for the differences. After all other factors are considered the adjustments show a -1% to +13% impact due to the adjacency of the solar farm. The best indicator is 1250 Cason, which shows a 3% impact. A 3% impact is within the normal static of real estate transactions and therefore not considered indicative of a positive impact on the property, but it strongly supports an indication of no negative impact.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	250 Claiborne	0.96	1/3/2019	$120,000	2000	2,016	$59.52	3/2	Drive	Manuf	
	Not	1250 Cason	1.40	4/18/2018	$95,000	1994	1,500	$63.33	3/2	2-Det	Manuf	Carport
	Not	410 Reeves	1.02	11/27/2018	$80,000	2000	1,456	$54.95	3/2	Drive	Manuf	
	Not	315 N Fork	1.09	5/4/2019	$107,000	1992	1,792	$59.71	3/2	Drive	Manuf	

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	250 Claiborne								$120,000			373
Not	1250 Cason	$2,081		$2,850	$26,144		-$5,000	-$5,000	$116,075	3%		
Not	410 Reeves	$249		$0	$24,615				$104,865	13%		
Not	315 N Fork	-$1,091		$4,280	$10,700				$120,889	-1%		
											5%	

I also looked at three other home sales on this street as shown below. These are stick-built homes and show a higher price range.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	300 Claiborne	1.08	9/20/2018	$212,720	2003	1,568	$135.66	3/3	2-Car	Ranch	Brick
	Not	460 Claiborne	0.31	1/3/2019	$229,000	2007	1,446	$158.37	3/2	2-Car	Ranch	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	Ranch	Brick
	Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	300 Claiborne								$213,000			488
Not	460 Claiborne	-$2,026		-$4,580	$15,457	$5,000			$242,850	-14%		
Not	2160 Sherman	-$5,672		-$2,650	-$20,406				$236,272	-11%		
Not	215 Lexington	$1,072		$3,468	-$2,559	-$5,000			$228,180	-7%		
											-11%	

This set of matched pairs shows a minor negative impact for this property. I was unable to confirm the sales price or conditions of this sale. The best indication of value is based on 215 Lexington, which required the least adjusting and supports a -7% impact.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	350 Claiborne	1.00	7/20/2018	$245,000	2002	1,688	$145.14	3/3	2-Car	Ranch	Brick
	Not	460 Claiborne	0.31	1/3/2019	$229,000	2007	1,446	$158.37	3/2	2-Car	Ranch	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	350 Claiborne								$245,000			720
Not	460 Claiborne	-$3,223		-$5,725	$30,660	$5,000			$255,712	-4%		
Not	2160 Sherman	-$7,057		-$3,975	-$5,743				$248,225	-1%		
Not	215 Lexington	-$136		$2,312	$11,400	-$5,000			$239,776	2%		
											-1%	

The following photograph shows the light landscaping buffer and the distant view of panels that was included as part of the marketing package for this property. The panels are visible somewhat on the left and somewhat through the trees in the center of the photograph. The first photograph is from the home, with the second photograph showing the view near the rear of the lot.

This set of matched pairs shows a no negative impact for this property. The range of adjusted impacts is -4% to +2%. The best indication is -1%, which as described above is within the typical market static and supports no impact on adjoining property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	370 Claiborne	1.06	8/22/2019	$273,000	2005	1,570	$173.89	4/3	2-Car	2-Story	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	2290 Dry	1.53	5/2/2019	$239,400	1988	1,400	$171.00	3/2.5	2-Car	R/FBsmt	Brick
	Not	125 Lexington	1.20	4/17/2018	$240,000	2001	1,569	$152.96	3/3	2-Car	Split	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	370 Claiborne								$273,000			930
Not	2160 Sherman	$1,831		$0	-$20,161				$246,670	10%		
Not	2290 Dry	$2,260		$20,349	$23,256	$2,500			$287,765	-5%		
Not	125 Lexington	$9,951		$4,800					$254,751	7%		
											4%	

This set of matched pairs shows a general positive impact for this property. The range of adjusted impacts is -5% to +10%. The best indication is +7%. I typically consider measurements of +/-5% to be within the typical variation in real estate transactions. This indication is higher than that and suggests a positive relationship.

The photograph from the listing shows panels visible between the home and the trampoline shown in the picture.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	330 Claiborne	1.00	12/10/2019	$282,500	2003	1,768	$159.79	3/3	2-Car	Ranch	Brick/pool
Not	895 Osborne	1.70	9/16/2019	$249,900	2002	1,705	$146.57	3/2	2-Car	Ranch	Brick/pool
Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

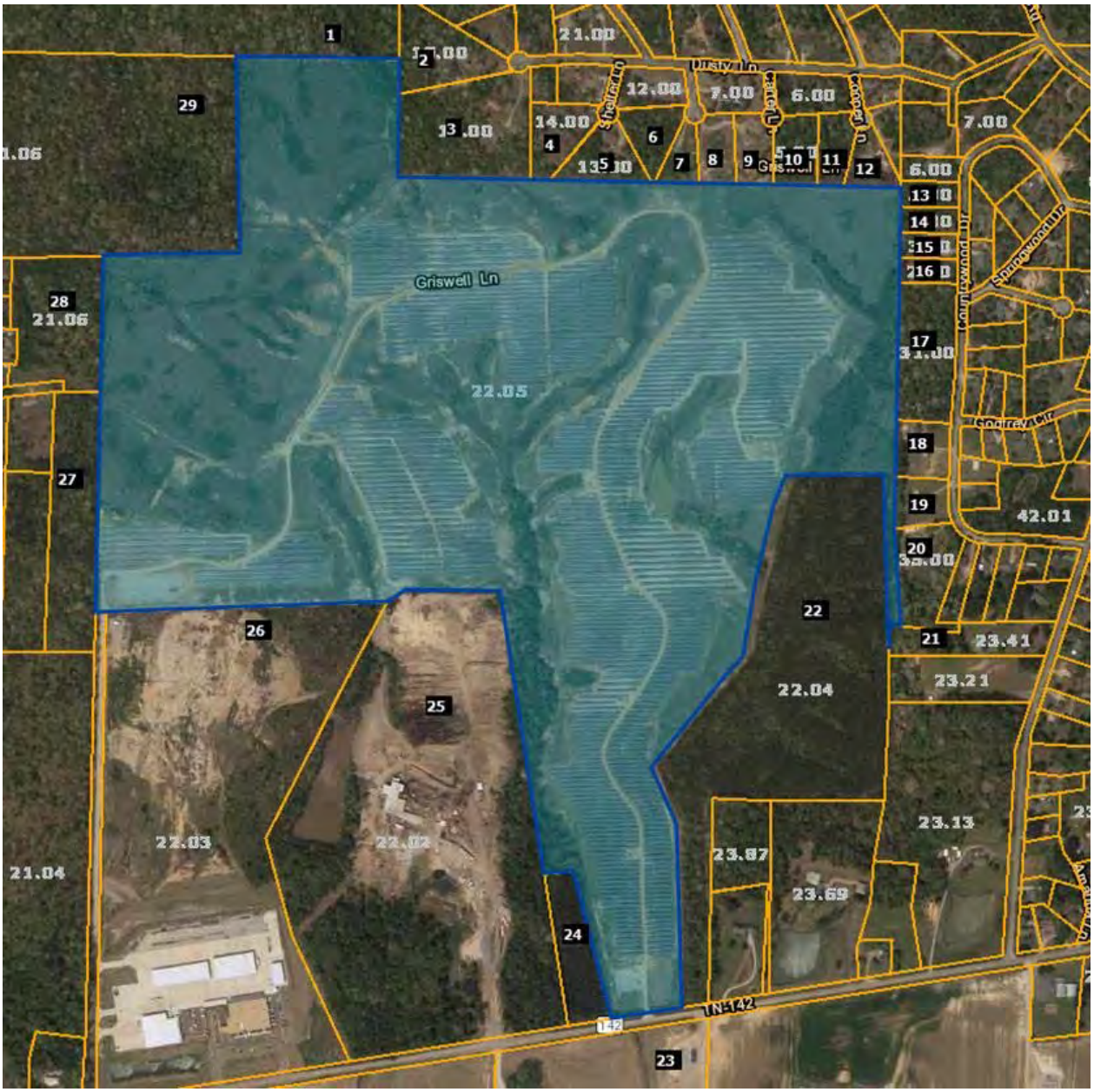
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	330 Claiborne								$282,500			665
Not	895 Osborne	$1,790		$1,250	$7,387	$5,000		$0	$265,327	6%		
Not	2160 Sherman	$4,288		-$2,650	$4,032			$20,000	$290,670	-3%		
Not	215 Lexington	$9,761		$3,468	$20,706	-$5,000		$20,000	$280,135	1%		
											1%	

This set of matched pairs shows a general positive impact for this property. The range of adjusted impacts is -3% to +6%. The best indication is +6%. I typically consider measurements of +/-5% to be within the typical variation in real estate transactions. This indication is higher than that and suggests a positive relationship. The landscaping buffer on these is considered light with a fair visibility of the panels from most of these comparables and only thin landscaping buffers separating the homes from the solar panels.

The five matched pairs considered in this analysis includes two that show no impact on value, one that shows a negative impact on value, and two that show a positive impact. The negative indication supported by one matched pair is -7% and the positive impacts are +6% and +7%. The two neutral indications show impacts of -1% and +3%. The average indicated impact is +0% when all five of these indicators are blended.

Furthermore, the comments of the local real estate broker strongly support the data that shows no negative impact on value due to the proximity to the solar farm. This is further supported by the national data that is shown on the following pages.

2. Matched Pair – Mulberry, Selmer, TN



This 16 MW solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet.

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for $15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky Hearnsberger with United County Farm & Home Realty who noted that they have seen no impact on lot or home sales due to the solar farm in this community.

I have included a map below as well as data on recent sales activity on lots that adjoin the solar farm or are near the solar farm in this subdivision both before and after the announced plan for this solar farm facility. I note that using the same method I used to breakdown the adjoining uses at the subject property I show that the predominant adjoining uses are residential and agricultural, which is consistent with the location of most solar farms.

Adjoining Use Breakdown

	Acreage	Parcels
Commercial	3.40%	0.034
Residential	12.84%	79.31%
Agri/Res	10.39%	3.45%
Agricultural	73.37%	13.79%
Total	**100.00%**	**100.00%**

I have run a number of direct matched comparisons on the sales adjoining this solar farm as shown below. These direct matched pairs include some of those shown above as well as additional more recent sales in this community. In each of these I have compared the one sale adjoining the solar farm to multiple similar homes nearby that do not adjoin a solar farm to look for any potential impact from the solar farm.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
3	Adjoins	491 Dusty	6.86	10/28/2016	$176,000	2009	1,801	$97.72	3/2	2-Gar	Ranch	
	Not	820 Lake Trail	1.00	6/8/2018	$168,000	2013	1,869	$89.89	4/2	2-Gar	Ranch	
	Not	262 Country	1.00	1/17/2018	$145,000	2000	1,860	$77.96	3/2	2-Gar	Ranch	
	Not	35 April	1.15	8/16/2016	$185,000	2016	1,980	$93.43	3/2	2-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
3	Adjoins	491 Dusty							$176,000		480
	Not	820 Lake Trail	-$8,324	$12,000	-$3,360	-$4,890			$163,426	7%	
	Not	262 Country	-$5,450	$12,000	$6,525	-$3,680			$154,396	12%	
	Not	35 April	$1,138	$12,000	-$6,475	-$13,380			$178,283	-1%	
									Average	6%	

The best matched pair is 35 April Loop, which required the least adjustment and indicates a -1% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
12	Adjoins	57 Cooper	1.20	2/26/2019	$163,000	2011	1,586	$102.77	3/2	2-Gar	1.5 Story	Pool
	Not	191 Amelia	1.00	8/3/2018	$132,000	2005	1,534	$86.05	3/2	Drive	Ranch	
	Not	75 April	0.85	3/17/2017	$134,000	2012	1,588	$84.38	3/2	2-Crprt	Ranch	
	Not	345 Woodland	1.15	12/29/2016	$131,000	2002	1,410	$92.91	3/2	1-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
12	Adjoins	57 Cooper	$163,000							$163,000		685
	Not	191 Amelia	$132,000	$2,303		$3,960	$2,685	$10,000	$5,000	$155,947	4%	
	Not	75 April	$134,000	$8,029	$4,000	-$670	-$135	$5,000	$5,000	$155,224	5%	
	Not	345 Woodland	$131,000	$8,710		$5,895	$9,811		$5,000	$160,416	2%	
										Average	4%	

The best matched pair is 191 Amelia, which was most similar in time frame of sale and indicates a +4% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
15	Adjoins	297 Country	1.00	9/30/2016	$150,000	2002	1,596	$93.98	3/2	4-Gar	Ranch	
	Not	185 Dusty	1.85	8/17/2015	$126,040	2009	1,463	$86.15	3/2	2-Gar	Ranch	
	Not	53 Glen	1.13	3/9/2017	$126,000	1999	1,475	$85.42	3/2	2-Gar	Ranch	Brick

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
15	Adjoins	297 Country	$150,000							$150,000		650
	Not	185 Dusty	$126,040	$4,355		-$4,411	$9,167	$10,000		$145,150	3%	
	Not	53 Glen	$126,000	-$1,699		$1,890	$8,269	$10,000		$144,460	4%	
										Average	3%	

The best matched pair is 53 Glen, which was most similar in time frame of sale and required less adjustment. It indicates a +4% increase in value due to the solar farm adjacency.

The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm. The landscaping buffer for this project is mostly natural tree growth that was retained as part of the development but much of the trees separating the panels from homes are actually on the lots for the homes themselves. I therefore consider the landscaping buffer to be thin to moderate for these adjoining homes.

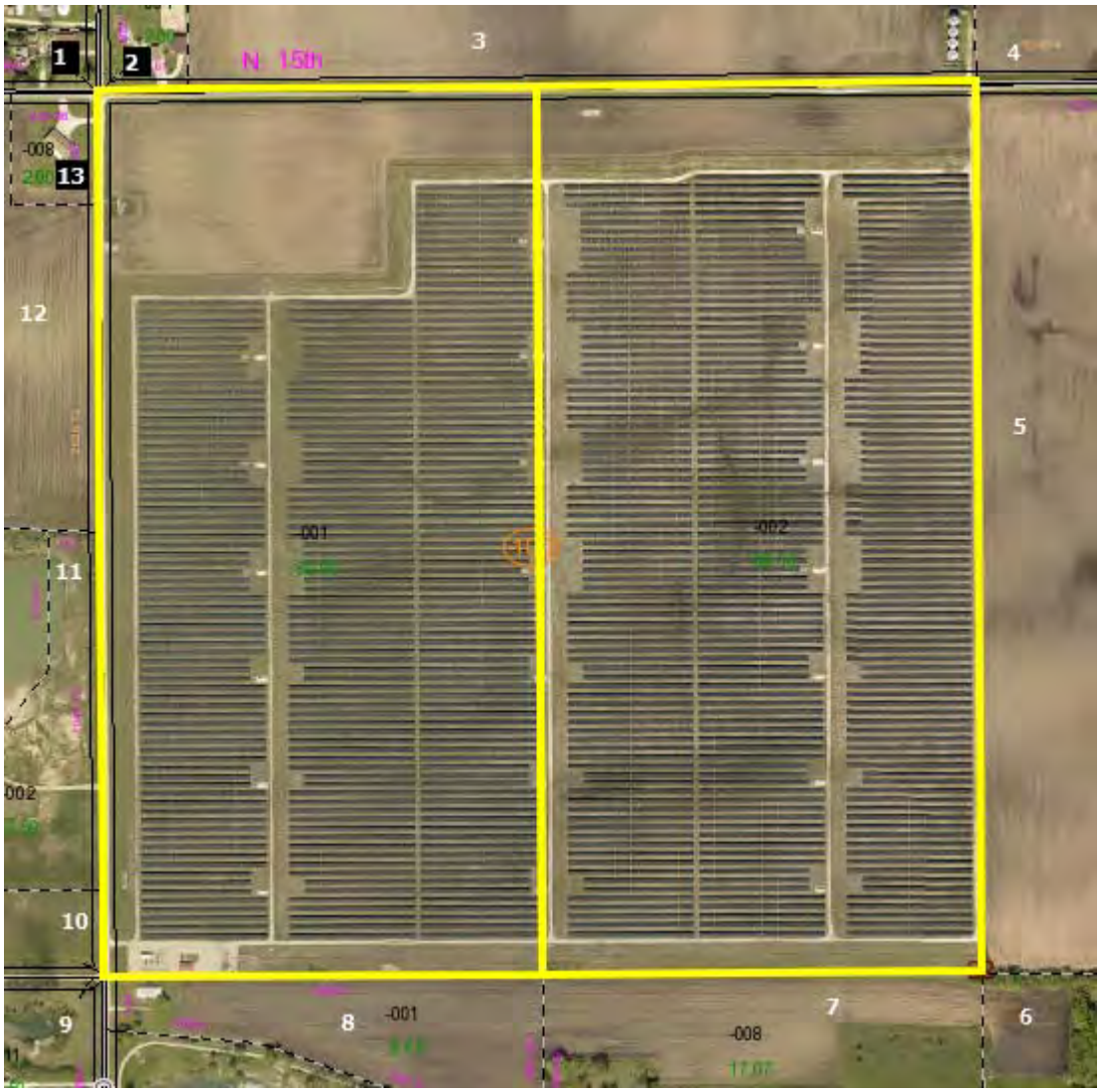
I have also looked at several lot sales in this subdivision as shown below.

These are all lots within the same community and the highest prices paid are for lots one parcel off from the existing solar farm. These prices are fairly inconsistent, though they do suggest about a $3,000 loss in the lots adjoining the solar farm. This is an atypical finding and additional details suggest there is more going on in these sales than the data crunching shows. First of all Parcel 4 was purchased by the owner of the adjoining home and therefore an atypical buyer seeking to expand a lot and the site is not being purchased for home development. Moreover, using the SiteToDoBusiness demographic tools, I found that the 1-mile radius around this development is expecting a total population increase over the next 5 years of 3 people. This lack of growing demand for lots is largely explained in that context. Furthermore, the fact that finished home sales as shown above are showing no sign of a negative impact on property value makes this data unreliable and inconsistent with the data shown in sales to an end user. I therefore place little weight on this outlier data.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019 Adj for Time	$/AC	4/18/2019 Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	$16,000	$16,728	$7,805	$8,160
10	Adjoins	Carter	1.70	8/2/2018	$14,000	$14,306	$8,235	$8,415
11	Adjoins	Cooper	1.28	9/17/2018	$12,000	$12,215	$9,375	$9,543
	Not	75 Dusty	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976
	Not	Lake Trl	1.47	11/7/2018	$13,000	$13,177	$8,844	$8,964
	Not	Lake Trl	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976

	Adjoins	Per Acre	Not Adjoins	Per Acre	% DIF/Lot	% DIF/AC
Average	$14,416	$8,706	$17,726	$10,972	19%	21%
Median	$14,306	$8,415	$20,000	$11,976	28%	30%
High	$16,728	$9,543	$20,000	$11,976	16%	20%
Low	$12,215	$8,160	$13,177	$8,964	7%	9%

3. Matched Pair – Grand Ridge Solar, Streator, IL



This solar farm has a 20 MW output and is located on a 160-acre tract. The project was built in 2012.

I have considered the recent sale of Parcel 13 shown above, which sold in October 2016 after the solar farm was built. I have compared that sale to a number of nearby residential sales not in proximity to the solar farm as shown below. Parcel 13 is 480 feet from the closest solar panel. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
13	34-21-237-000	2	Oct-16	$186,000	1997	2,328	$79.90

Not Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
712 Columbus Rd	32-39-134-005	1.26	Jun-16	$166,000	1950	2,100	$79.05
504 N 2782 Rd	18-13-115-000	2.68	Oct-12	$154,000	1980	2,800	$55.00
7720 S Dwight Rd	11-09-300-004	1.14	Nov-16	$191,000	1919	2,772	$68.90
701 N 2050th Rd	26-20-105-000	1.97	Aug-13	$200,000	2000	2,200	$90.91
9955 E 1600th St	04-13-200-007	1.98	May-13	$181,858	1991	2,600	$69.95

TAX ID	Date Sold	Adjustments Time	Adjustments Total	$/Sf
34-21-237-000	Oct-16		$186,000	$79.90
32-39-134-005	Jun-16		$166,000	$79.05
18-13-115-000	Oct-12	$12,320	$166,320	$59.40
11-09-300-004	Nov-16		$191,000	$68.90
26-20-105-000	Aug-13	$12,000	$212,000	$96.36
04-13-200-007	May-13	$10,911	$192,769	$74.14

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$79.90	$79.90	$75.57	$74.14
GBA	2,328	2,328	2,494	2,600

Based on the matched pairs I find no indication of negative impact due to proximity to the solar farm.

The most similar comparable is the home on Columbus that sold for $79.05 per square foot. This is higher than the median rate for all of the comparables. Applying that price per square foot to the subject property square footage indicates a value of $184,000.

There is minimal landscaping separating this solar farm from nearby properties and is therefore considered light.

4. Matched Pair – Portage Solar, Portage, IN

This solar farm has a 2 MW output and is located on a portion of a 56-acre tract. The project was built in 2012.

I have considered the recent sale of Parcels 5 and 12. Parcel 5 is an undeveloped tract, while Parcel 12 is a residential home. I have compared each to a set of comparable sales to determine if there was any impact due to the adjoining solar farm. This home is 1,320 feet from the closest solar panel. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
12	64-06-19-326-007.000-015	1.00	Sep-13	$149,800	1964	1,776	$84.35

Nearby Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
2501 Architect Dr	64-04-32-202-004.000-021	1.31	Nov-15	$191,500	1959	2,064	$92.78
336 E 1050 N	64-07-09-326-003.000-005	1.07	Jan-13	$155,000	1980	1,908	$81.24
2572 Pryor Rd	64-05-14-204-006.000-016	1.00	Jan-16	$216,000	1960	2,348	$91.99

Adjoining Land Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	$/AC
5	64-06-19-200-003.000-015	18.70	Feb-14	$149,600	$8,000

Nearby Land Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	$/AC
	64-07-22-401-001.000-005	74.35	Jun-17	$520,450	$7,000
	64-15-08-200-010.000-001	15.02	Jan-17	$115,000	$7,658

Residential Sale Adjustment Chart

		Adjustments		
TAX ID	Date Sold	Time	Total	$/Sf
64-06-19-326-007.000-015	Sep-13	$8,988	$158,788	$89.41
64-04-32-202-004.000-021	Nov-15	$3,830	$195,330	$94.64
64-07-09-326-003.000-005	Jan-13	$9,300	$164,300	$86.11
64-05-14-204-006.000-016	Jan-16		$216,000	$91.99

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$89.41	$89.41	$90.91	$91.99
GBA	1,776	1,776	2,107	2,064

After adjusting the price per square foot is 2.88% less for the home adjoining the solar farm versus those not adjoining the solar farm. This is within the typical range of variation to be anticipated in any real estate transaction and indicates no impact on property value.

Applying the price per square foot for the 336 E 1050 N sale, which is the most similar to the Parcel 12 sale, the adjusted price at $81.24 per square foot applied to the Parcel 12 square footage yields a value of $144,282.

The landscaping separating this solar farm from the homes is considered light.

Land Sale Adjustment Chart

TAX ID	Date Sold	Adjustments Time	Total	$/Acre
64-06-19-200-003.000-015	Feb-14	$8,976	$158,576	$8,480
64-07-22-401-001.000-005	Jun-17		$520,450	$7,000
64-15-08-200-010.000-001	Jan-17		$115,000	$7,658

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/Ac	$8,480	$8,480	$7,329	$7,329
Acres	18.70	18.70	44.68	44.68

After adjusting the price per acre is higher for the property adjoining the solar farm, but the average and median size considered is higher which suggests a slight discount. This set of matched pair supports no indication of negative impact due to the adjoining solar farm.

Alternatively, adjusting the 2017 sales back to 2014 I derive an indicated price per acre for the comparables at $6,580 per acre to $7,198 per acre, which I compare to the unadjusted subject property sale at $8,000 per acre.

5. Matched Pair – Dominion Indy III, Indianapolis, IN

This solar farm has an 8.6 MW output and is located on a portion of a 134-acre tract. The project was built in 2013.

There are a number of homes on small lots located along the northern boundary and I have considered several sales of these homes. I have compared those homes to a set of nearby not adjoining home sales as shown below. The adjoining homes that sold range from 380 to 420 feet from the nearest solar panel, with an average of 400 feet. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
2	2013249	0.38	12/9/2015	$140,000	2006	2,412	$58.04
4	2013251	0.23	9/6/2017	$160,000	2006	2,412	$66.33
5	2013252	0.23	5/10/2017	$147,000	2009	2,028	$72.49
11	2013258	0.23	12/9/2015	$131,750	2011	2,190	$60.16
13	2013260	0.23	3/4/2015	$127,000	2005	2,080	$61.06
14	2013261	0.23	2/3/2014	$120,000	2010	2,136	$56.18

Nearby Not Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
5836 Sable Dr	2013277	0.14	Jun-16	$141,000	2005	2,280	$61.84
5928 Mosaic Pl	2013845	0.17	Sep-15	$145,000	2007	2,280	$63.60
5904 Minden Dr	2012912	0.16	May-16	$130,000	2004	2,252	$57.73
5910 Mosaic Pl	2000178	0.15	Aug-16	$146,000	2009	2,360	$61.86
5723 Minden Dr	2012866	0.26	Nov-16	$139,900	2005	2,492	$56.14

		Adjustments		
TAX ID	**Date Sold**	**Time**	**Total**	**$/Sf**
2013249	12/9/2015	$5,600	$145,600	$60.36
2013251	9/6/2017		$160,000	$66.33
2013252	5/10/2017		$147,000	$72.49
2013258	12/9/2015	$5,270	$137,020	$62.57
2013260	3/4/2015	$5,080	$132,080	$63.50
2013261	2/3/2014	$7,200	$127,200	$59.55
2013277	6/1/2016	$2,820	$143,820	$63.08
2013845	9/1/2015	$5,800	$150,800	$66.14
2012912	5/1/2016	$2,600	$132,600	$58.88
2000178	8/1/2016	$2,920	$148,920	$63.10
2012866	11/1/2016	$2,798	$142,698	$57.26

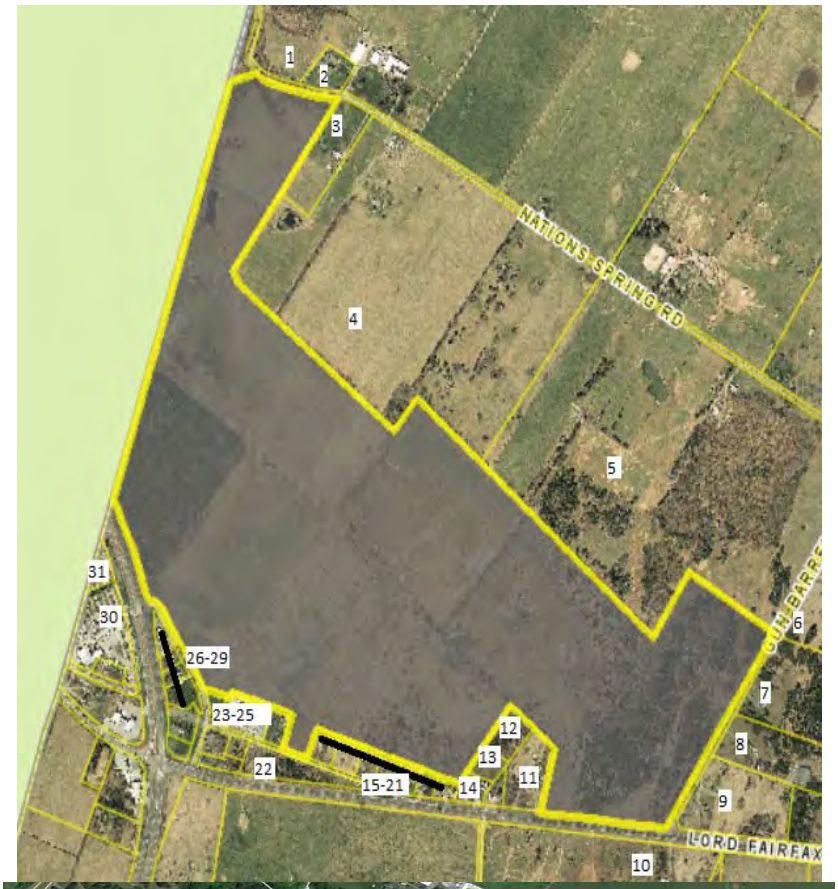
2% adjustment/year
Adjusted to 2017

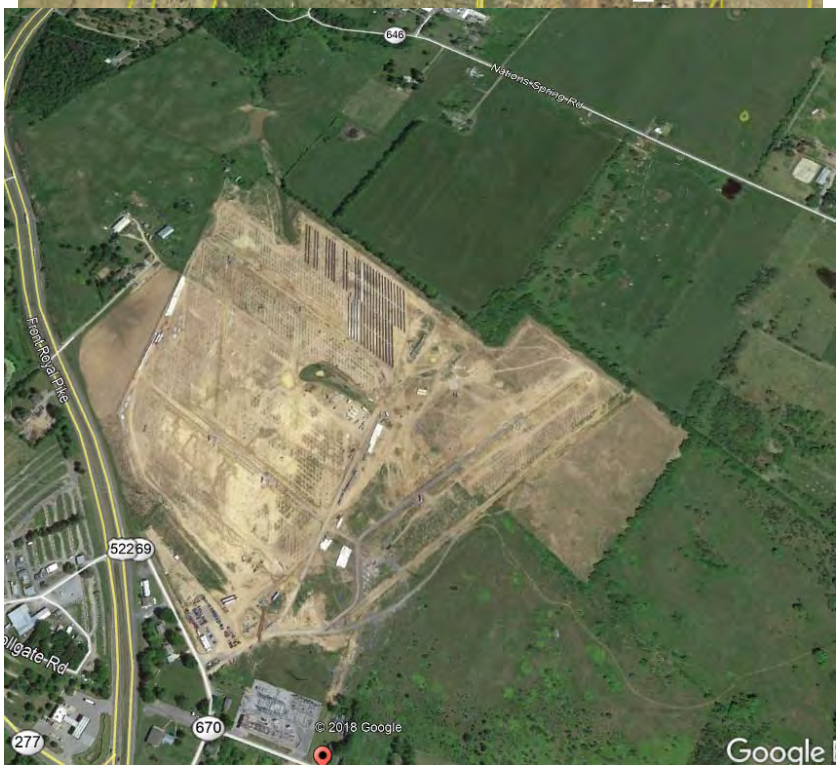
	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	**Median**	**Average**	**Median**
Sales Price/SF	$64.13	$63.03	$61.69	$63.08
GBA	2,210	2,163	2,333	2,280

This set of homes provides very strong indication of no impact due to the adjacency to the solar farm and includes a large selection of homes both adjoining and not adjoining in the analysis.

The landscaping screen is considered light in relation to the homes considered above.

6. Matched Pair – Clarke County Solar, Clarke County, VA





This project is a 20 MW facility located on a 234-acre tract that was built in 2017.

I have considered a recent sale or Parcel 3. The home on this parcel is 1,230 feet from the closest panel as measured in the second map from Google Earth, which shows the solar farm under construction.

I've compared this home sale to a number of similar rural homes on similar parcels as shown below. I have used multiple sales that bracket the subject property in terms of sale date, year built, gross living area, bedrooms and bathrooms. Bracketing the parameters insures that all factors are well balanced out in the adjustments. The trend for these sales shows a positive value for the adjacency to the solar farm.

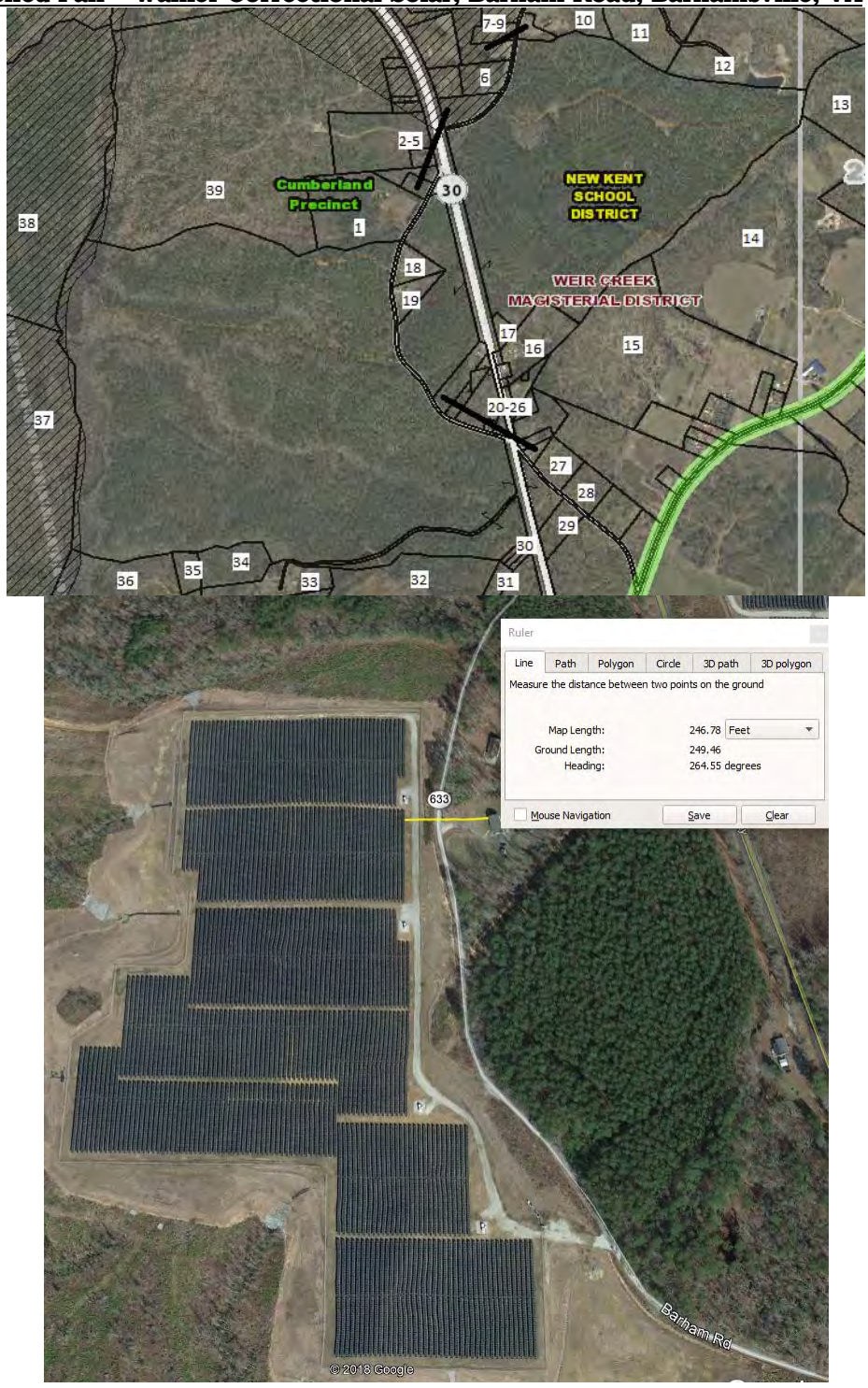
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000	1979	1,392	$211.93	3/2	Det Gar	Ranch	Unfin bsmt
Not	85 Ashby	5.09	9/11/2017	$315,000	1982	2,333	$135.02	3/2	2 Gar	Ranch	
Not	541 Old Kitchen	5.07	9/9/2018	$370,000	1986	3,157	$117.20	4/4	2 Gar	2 story	
Not	4174 Rockland	5.06	1/2/2017	$300,000	1990	1,688	$177.73	3/2	3 Gar	2 story	
Not	400 Sugar Hill	1.00	6/7/2018	$180,000	1975	1,008	$178.57	3/1	Drive	Ranch	

Adjoining Residential Sales After Solar Farm Approved					Adjoining Sales Adjusted								
Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000								$295,000	
Not	85 Ashby	5.09	9/11/2017	$315,000	-$6,300		-$6,615	-$38,116		-$7,000	$15,000	$271,969	8%
Not	541 Old Kitchen	5.07	9/9/2018	$370,000	-$18,500		-$18,130	-$62,057		-$7,000	$15,000	$279,313	5%
Not	4174 Rockland	5.06	1/2/2017	$300,000			-$23,100	-$15,782		-$12,000	$15,000	$264,118	10%
Not	400 Sugar Hill	1.00	6/7/2018	$180,000	-$9,000	$43,000	$5,040	$20,571	$10,000	$3,000	$15,000	$267,611	9%
											Average		8%

The landscaping screen is primarily a newly planted buffer with a row of existing trees being maintained near the northern boundary and considered light.

7. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamsville, VA



This project was built in 2017 and located on 484.65 acres for a 20 MW with the closest home at 110 feet from the closest solar panel with an average distance of 500 feet.

I considered the recent sale identified on the map above as Parcel 19, which is directly across the street and based on the map shown on the following page is 250 feet from the closest panel. A limited buffering remains along the road with natural growth being encouraged, but currently the panels are visible from the road. Alex Uminski, SRA with MGMiller Valuations in Richmond VA

confirmed this sale with the buying and selling broker. The selling broker indicated that the solar farm was not a negative influence on this sale and in fact the buyer noticed the solar farm and then discovered the listing. The privacy being afforded by the solar farm was considered a benefit by the buyer. I used a matched pair analysis with a similar sale nearby as shown below and found no negative impact on the sales price. Property actually closed for more than the asking price. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

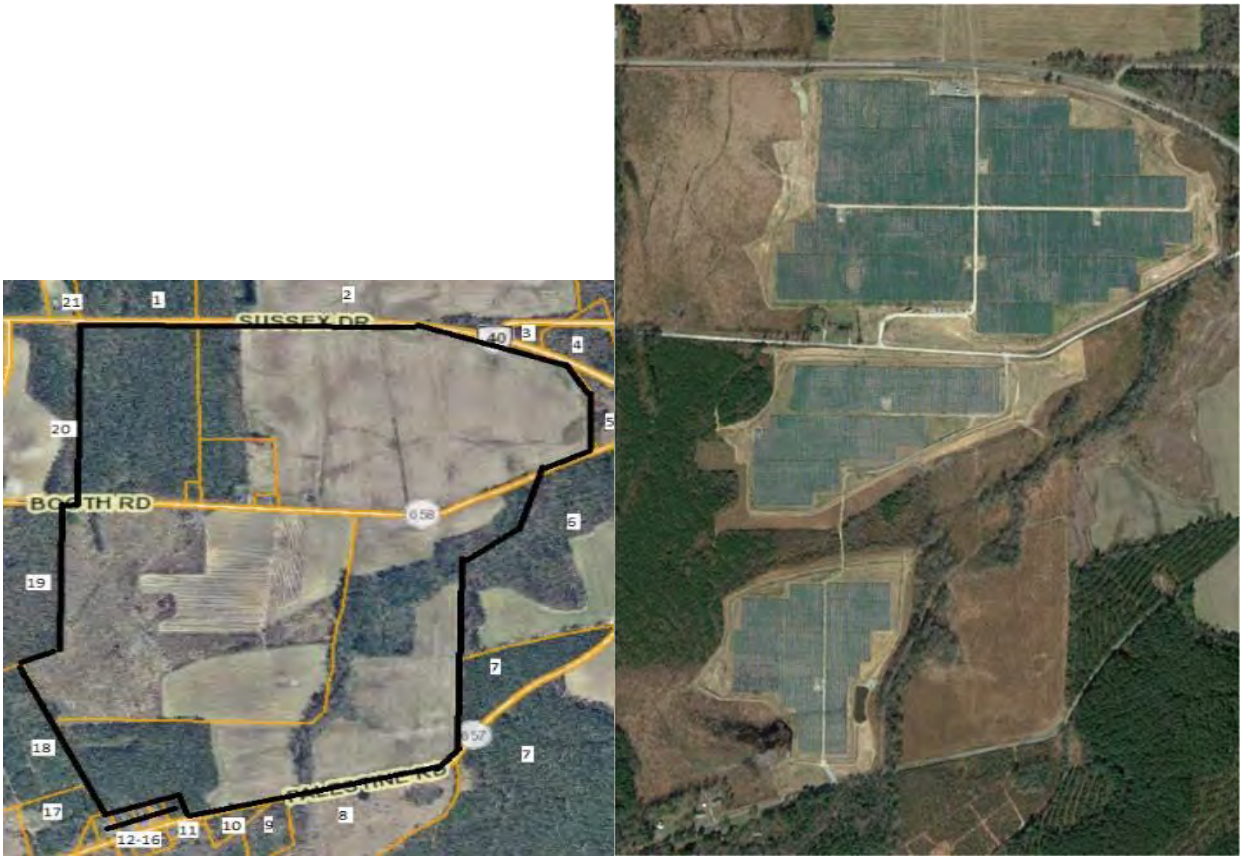
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5241 Barham	2.65	10/18/2018	$264,000	2007	1,660	$159.04	3/2	Drive	Ranch	Modular
Not	17950 New Kent	5.00	9/5/2018	$290,000	1987	1,756	$165.15	3/2.5	3 Gar	Ranch	
Not	9252 Ordinary	4.00	6/13/2019	$277,000	2001	1,610	$172.05	3/2	1.5-Gar	Ranch	
Not	2416 W Miller	1.04	9/24/2018	$299,000	1999	1,864	$160.41	3/2.5	Gar	Ranch	

Adjoining Sales Adjusted

Solar	Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
Adjoins	5241 Barham								$264,000		250
Not	17950 New Kent		-$8,000	$29,000	-$4,756	-$5,000	-$20,000	-$15,000	$266,244	-1%	
Not	9252 Ordinary	-$8,310	-$8,000	$8,310	$2,581		-$10,000	-$15,000	$246,581	7%	
Not	2416 W Miller		$8,000	$11,960	-$9,817	-$5,000	-$10,000	-$15,000	$279,143	-6%	
								Average Diff		0%	

I also spoke with Patrick W. McCrerey of Virginia Estates who was marketing a property that sold at 5300 Barham Road adjoining the Walker-Correctional Solar Farm. He indicated that this property was unique with a home built in 1882 and heavily renovated and updated on 16.02 acres. The solar farm was through the woods and couldn't be seen by this property and it had no impact on marketing this property. This home sold on April 26, 2017 for $358,000. I did not set up any matched pairs for this property as it was such a unique property that any such comparison would be difficult to rely on. The broker's comments do support the assertion that the adjoining solar farm had no impact on value. The home in this case was 510 feet from the closest panel.

8. Matched Pair – Sappony Solar, Sussex County, VA



This project is a 30 MW facility located on a 322.68-acre tract that was built in the fourth quarter of 2017.

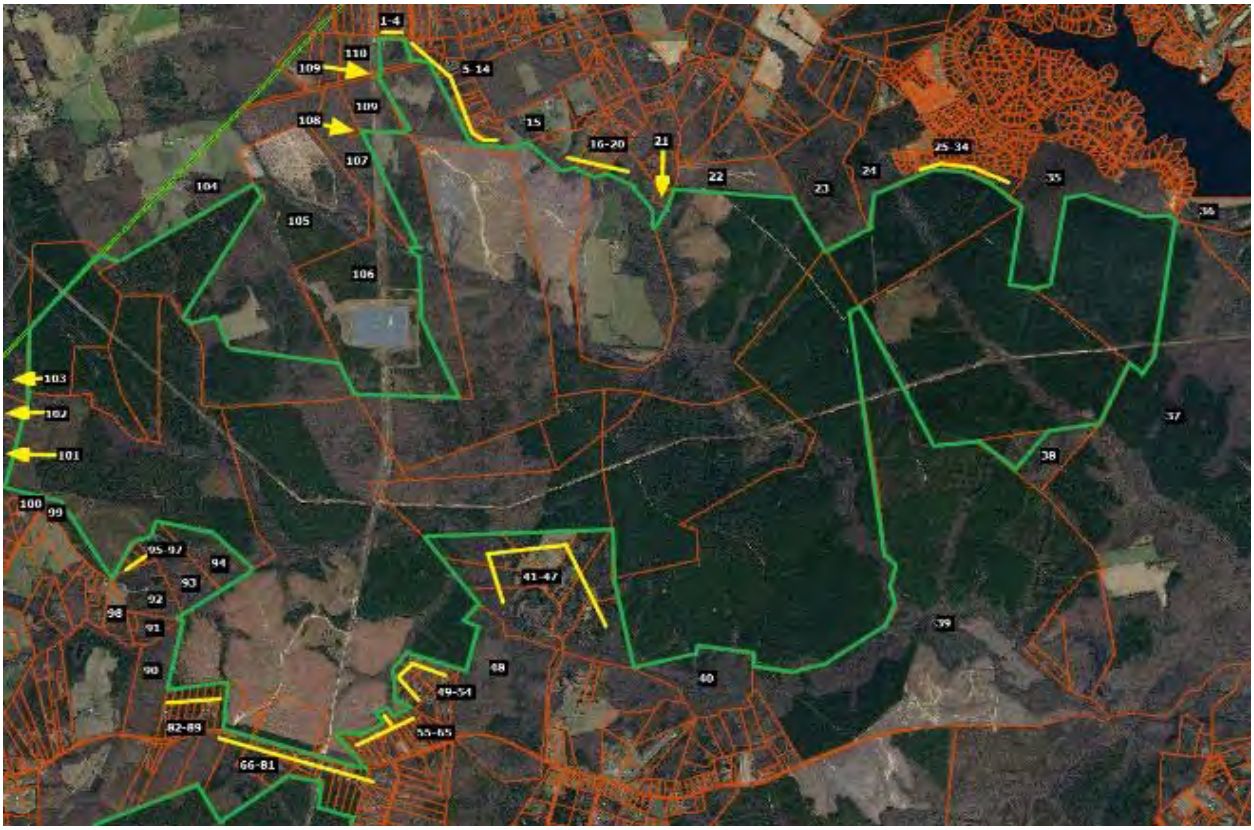
I have considered the 2018 sale of Parcel 17 as shown below. From Parcel 17 the retained trees and setbacks are a light to medium landscaped buffer.

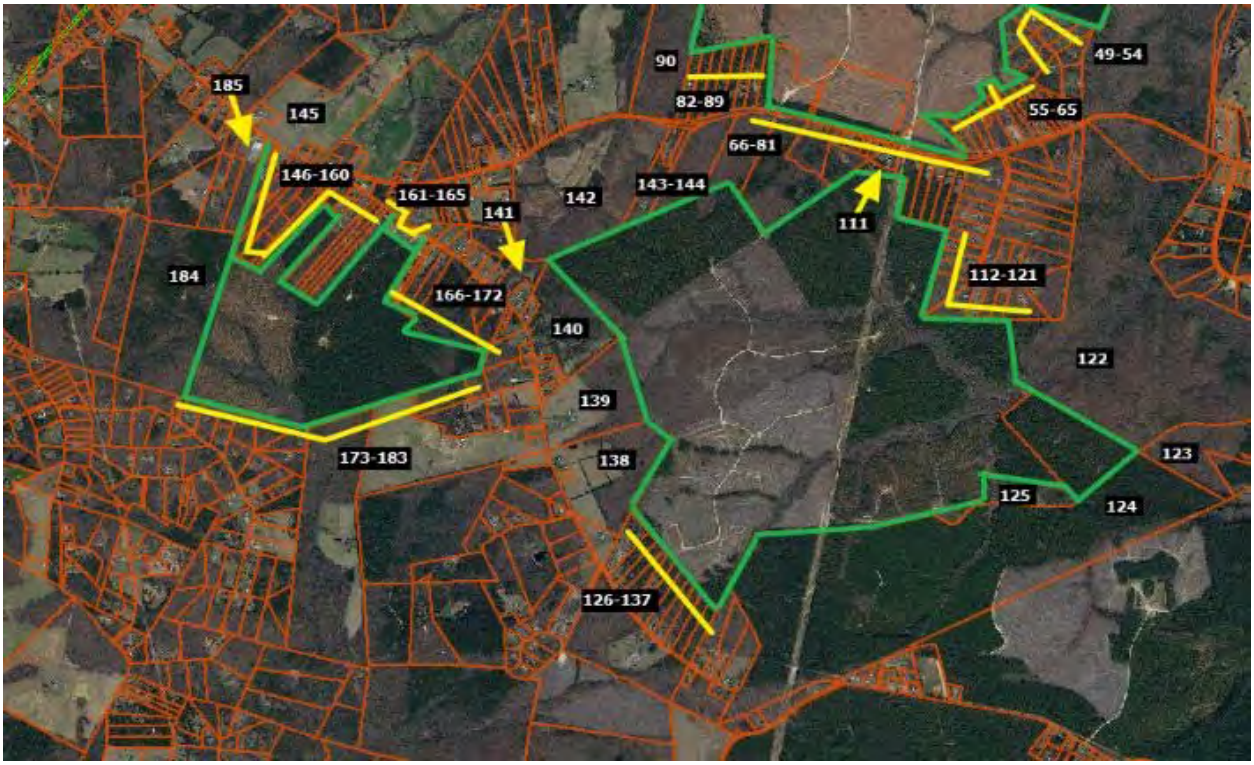
Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
	Adjoins	12511 Palestine	6.00	7/31/2018	$128,400	2013	1,900	$67.58	4/2.5	Open	Manuf	
	Not	15698 Concord	3.92	7/31/2018	$150,000	2010	2,310	$64.94	4/2	Open	Manuf	Fence
	Not	23209 Sussex	1.03	7/7/2020	$95,000	2005	1,675	$56.72	3/2	Det Crpt	Manuf	
	Not	6494 Rocky Br	4.07	11/8/2018	$100,000	2004	1,405	$71.17	3/2	Open	Manuf	

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							$128,400			1425
$0		$2,250	-$21,299	$5,000			$135,951	-6%		
-$5,660	$13,000	$3,800	$10,209	$5,000	$1,500		$122,849	4%		
-$843		$4,500	$28,185				$131,842	-3%		
									-1%	

9. Matched Pair – Spotsylvania Solar, Paytes, VA





This solar farm is being built in four phases with the area known as Site C having completed construction in November 2020 after the entire project was approved in April 2019. Site C, also known as Pleinmont 1 Solar, includes 99.6 MW located in the southeast corner of the project and shown on the maps above with adjoining parcels 111 through 144. The entire Spotsylvania project totals 617 MW on 3500 acres out of a parent tract assemblage of 6,412 acres.

I have identified three adjoining home sales that occurred during construction and development of the site in 2020.

The first is located on the north side of Site A on Orange Plank Road. The second is located on Nottoway Lane just north of Caparthin Road on the south side of Site A and east of Site C. The third is located on Post Oak Road for a home that backs up to Site C that sold in September 2020 near the completion of construction for Site C.

Spotsylvania Solar Farm

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	12901 Orng Plnk	5.20	8/27/2020	$319,900	1984	1,714	$186.64	3/2	Drive	1.5	Un Bsmt
Not	8353 Gold Dale	3.00	1/27/2021	$415,000	2004	2,064	$201.07	3/2	3 Gar	Ranch	
Not	6488 Southfork	7.26	9/9/2020	$375,000	2017	1,680	$223.21	3/2	2 Gar	1.5	Barn/Patio
Not	12717 Flintlock	0.47	12/2/2020	$290,000	1990	1,592	$182.16	3/2.5	Det Gar	Ranch	

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
12901 Orng Plnk								$319,900		1270
8353 Gold Dale	-$5,219	$20,000	-$41,500	-$56,298		-$20,000		$311,983	2%	
6488 Southfork	-$401	-$20,000	-$61,875	$6,071		-$15,000		$283,796	11%	
12717 Flintlock	-$2,312	$40,000	-$8,700	$17,779	-$5,000	-$5,000		$326,767	-2%	
							Average Diff		4%	

I contacted Keith Snider to confirm this sale. This is considered to have a medium landscaping screen.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	9641 Nottoway	11.00	5/12/2020	$449,900	2004	3,186	$141.21	4/2.5	Garage	2-Story	Un Bsmt
Not	26123 Lafayette	1.00	8/3/2020	$390,000	2006	3,142	$124.12	3/3.5	Gar/DtG	2-Story	
Not	11626 Forest	5.00	8/10/2020	$489,900	2017	3,350	$146.24	4/3.5	2 Gar	2-Story	
Not	10304 Pny Brnch	6.00	7/27/2020	$485,000	1998	3,076	$157.67	4/4	2Gar/Dt2	Ranch	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
9641 Nottoway								$449,900		1950
26123 Lafayette	-$2,661	$45,000	-$3,900	$4,369	-$10,000	-$5,000		$417,809	7%	
11626 Forest	-$3,624		-$31,844	-$19,187		-$5,000		$430,246	4%	
10304 Pny Brnch	-$3,030		$14,550	$13,875	-$15,000	-$15,000	-$10,000	$470,396	-5%	
							Average Diff		2%	

I contacted Annette Roberts with ReMax about this transaction. This is considered to have a medium landscaping screen.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	13353 Post Oak	5.20	9/21/2020	$300,000	1992	2,400	$125.00	4/3	Drive	2-Story	Fn Bsmt
Not	9609 Logan Hgt	5.86	7/4/2019	$330,000	2004	2,352	$140.31	3/2	2Gar	2-Story	
Not	12810 Catharpian	6.18	1/30/2020	$280,000	2008	2,240	$125.00	4/2.5	Drive	2-Story	Bsmt/Nd Pnt
Not	10725 Rbrt Lee	5.01	10/26/2020	$295,000	1995	2,166	$136.20	4/3	Gar	2-Story	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
13353 Post Oak								$300,000		1171
9609 Logan Hgt	$12,070		-$19,800	$5,388		-$15,000	$15,000	$327,658	-9%	
12810 Catharpian	$5,408		-$22,400	$16,000	$5,000		$15,000	$299,008	0%	
10725 Rbrt Lee	-$849		-$4,425	$25,496		-$10,000		$305,222	-2%	
							Average Diff		-4%	

I contacted Joy Pearson with CTI Real Estate about this transaction. This is considered to have a heavy landscaping screen.

All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in far more urban areas. The median income for the population within 1 mile of a solar farm among this subset of matched pairs is $65,695 with a median housing unit value of $186,463. Most of the comparables are under $300,000 in the home price, with $483,333 being the high end of the set, though I have matched pairs in other states over $1,000,000 in price adjoining large solar farms. The predominate adjoining uses are residential and agricultural. These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for Kentucky and adjoining states as well as the proposed subject property.

Based on the similarity of adjoining uses and demographic data between these sites and the subject property, I consider it reasonable to compare these sites to the subject property.

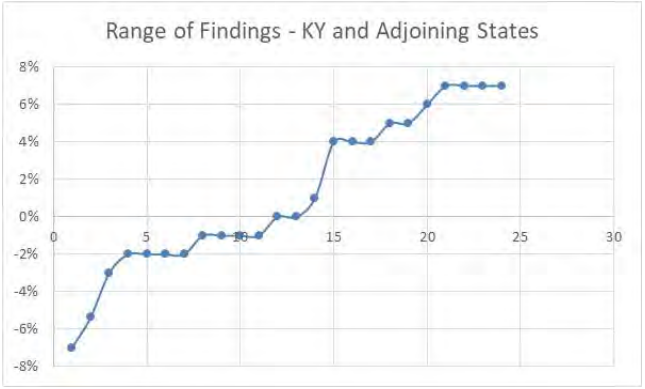
Matched Pair Summary							Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Crittenden	Crittenden	KY	34	2.70	40	22%	51%	27%	0%	1,419	$60,198	$178,643	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
4	Portage	Portage	IN	56	2.00	0	19%	81%	0%	0%	6,642	$65,695	$186,463	Light
5	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	$61,115	$167,515	Light
6	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
7	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
8	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Medium
9	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			565	79.48	50	14%	72%	13%	0%	1,481	$70,241	$247,164	
	Median			160	20.00	40	13%	73%	10%	0%	467	$65,695	$186,463	
	High			3,500	617.00	160	37%	98%	46%	3%	6,642	$120,861	$483,333	
	Low			34	2.00	0	2%	39%	0%	0%	74	$40,936	$155,208	

Proposed Solar Farm at a 1-mile radius has 73 people with an average income of $56,014 and an average home price of $201,190.

Proposed Solar Farm at a 3-mile radius has 756 people with an average income of $56,765 and an average home price of $256,385.

These are very similar to the demographics shown around these comparable solar farms.

On the following page is a summary of the matched pairs for all of the solar farms noted above. They show a pattern of results from -7% to +7%. As can be seen in the chart of those results below, most of the data points are between -2% and +5%. This variability is common with real estate and consistent with market "static." I therefore conclude that these results strongly support an indication of no impact on property value due to the adjacent solar farm.



Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
1	Crittenden	Crittenden	KY	2.7	373	250 Claiborne	Jan-19	$120,000			Light
						315 N Fork	May-19	$107,000	$120,889	-1%	
2	Crittenden	Crittenden	KY	2.7	488	300 Claiborne	Sep-18	$213,000			Light
						1795 Bay Valley	Dec-17	$231,200	$228,180	-7%	
3	Crittenden	Crittenden	KY	2.7	720	350 Claiborne	Jul-18	$245,000			Light
						2160 Sherman	Jun-19	$265,000	$248,225	-1%	
4	Crittenden	Crittenden	KY	2.7	930	370 Claiborne	Aug-19	$273,000			Light
						125 Lexington	Apr-18	$240,000	$254,751	7%	
5	Mulberry	Selmer	TN	5	400	0900A011	Jul-14	$130,000			Light
						099CA043	Feb-15	$148,900	$136,988	-5%	
6	Mulberry	Selmer	TN	5	400	099CA002	Jul-15	$130,000			Light
						0990NA040	Mar-15	$120,000	$121,200	7%	
7	Mulberry	Selmer	TN	5	480	491 Dusty	Oct-16	$176,000			Light
						35 April	Aug-16	$185,000	$178,283	-1%	
8	Mulberry	Selmer	TN	5	650	297 Country	Sep-16	$150,000			Medium
						53 Glen	Mar-17	$126,000	$144,460	4%	
9	Mulberry	Selmer	TN	5	685	57 Cooper	Feb-19	$163,000			Medium
						191 Amelia	Aug-18	$132,000	$155,947	4%	
10	Grand Ridge	Streator	IL	20	480	1497 E 21st	Oct-16	$186,000			Light
						712 Columbus	Jun-16	$166,000	$184,000	1%	
11	Dominion	Indianapolis	IN	8.6	400	2013249 (Tax ID)	Dec-15	$140,000			Light
						5723 Minden	Nov-16	$139,900	$132,700	5%	
12	Dominion	Indianapolis	IN	8.6	400	2013251 (Tax ID)	Sep-17	$160,000			Light
						5910 Mosaic	Aug-16	$146,000	$152,190	5%	
13	Dominion	Indianapolis	IN	8.6	400	2013252 (Tax ID)	May-17	$147,000			Light
						5836 Sable	Jun-16	$141,000	$136,165	7%	
14	Dominion	Indianapolis	IN	8.6	400	2013258 (Tax ID)	Dec-15	$131,750			Light
						5904 Minden	May-16	$130,000	$134,068	-2%	
15	Dominion	Indianapolis	IN	8.6	400	2013260 (Tax ID)	Mar-15	$127,000			Light
						5904 Minden	May-16	$130,000	$128,957	-2%	
16	Dominion	Indianapolis	IN	8.6	400	2013261 (Tax ID)	Feb-14	$120,000			Light
						5904 Minden	May-16	$130,000	$121,930	-2%	
17	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Jan-17	$295,000			Light
						6801 Middle	Dec-17	$249,999	$296,157	0%	
18	Walker	Barhamsville	VA	20	250	5241 Barham	Oct-18	$264,000			Light
						9252 Ordinary	Jun-19	$277,000	$246,581	7%	
19	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Aug-19	$385,000			Light
						2393 Old Chapel	Aug-20	$330,000	$389,286	-1%	
20	Sappony	Stony Creek	VA	20	1425	12511 Palestine	Jul-18	$128,400			Medium
						6494 Rocky Branch	Nov-18	$100,000	$131,842	-3%	
21	Spotsylvania	Paytes	VA	617	1270	12901 Orange Plnk	Aug-20	$319,900			Medium
						12717 Flintlock	Dec-20	$290,000	$326,767	-2%	
22	Spotsylvania	Paytes	VA	617	1950	9641 Nottoway	May-20	$449,900			Medium
						11626 Forest	Aug-20	$489,900	$430,246	4%	
23	Spotsylvania	Paytes	VA	617	1171	13353 Post Oak	Sep-20	$300,000			Heavy
						12810 Catharpin	Jan-20	$280,000	$299,008	0%	

MW	Avg. Distance
106.72	738
8.60	480
617.00	1,950
5.00	250

	Indicated Impact
Average	1%
Median	0%
High	7%
Low	-5%

I have further broken down these results based on the MWs, Landscaping, and distance from panel to show the following range of findings for these different categories.

This breakdown shows no homes between 100-200 homes. Solar farms up to 75 MW show homes between 201 and 500 feet with no impact on value. Most of the findings are for homes between 201 and 500 feet.

Light landscaping screens are showing no impact on value at any distances, though solar farms over 75.1 MW only show Medium and Heavy landscaping screens in the 3 examples identified. Light landscaping is 20-foot wide or less landscaping and is often a planted mix by the solar farm developer. Medium landscaping is 20 to 100 feet of landscaped buffer and is generally a retained existing wooded area. Heavy landscaping is over 100 feet of wooded buffer.

MW Range 4.4 to 10									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	11	2	0	0	2	0	0	0
Average	N/A	1%	N/A	N/A	N/A	4%	N/A	N/A	N/A
Median	N/A	-1%	N/A	N/A	N/A	4%	N/A	N/A	N/A
High	N/A	7%	N/A	N/A	N/A	4%	N/A	N/A	N/A
Low	N/A	-5%	N/A	N/A	N/A	4%	N/A	N/A	N/A

10.1 to 30									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	2	0	0	1	0	0	0
Average	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
Median	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
High	N/A	7%	0%	N/A	N/A	-3%	N/A	N/A	N/A
Low	N/A	1%	-1%	N/A	N/A	-3%	N/A	N/A	N/A

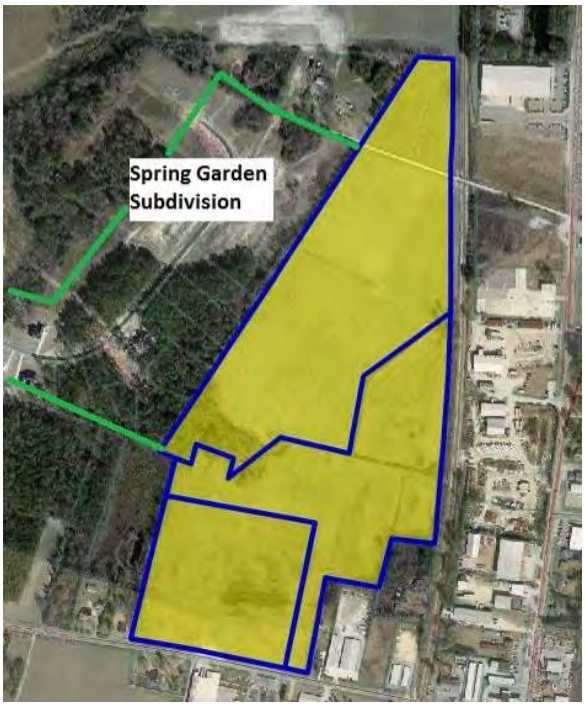
30.1 to 75									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	0	0	0	0	0	0	0	0
Average	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
Median	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
High	N/A	2%	2%	N/A	N/A	9%	N/A	N/A	N/A
Low	N/A	1%	-2%	N/A	N/A	-7%	N/A	N/A	N/A

75.1+									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	0	0	0	0	2	0	0	1
Average	N/A	N/A	N/A	N/A	N/A	1%	N/A	N/A	0%
Median	N/A	N/A	N/A	N/A	N/A	1%	N/A	N/A	0%
High	N/A	N/A	N/A	N/A	N/A	4%	N/A	N/A	0%
Low	N/A	N/A	N/A	N/A	N/A	-2%	N/A	N/A	0%

B. Southeastern USA Data – Over 5 MW

1. Matched Pair – AM Best Solar Farm, Goldsboro, NC

This 5 MW solar farm adjoins Spring Garden Subdivision which had new homes and lots available for new construction during the approval and construction of the solar farm. The recent home sales have ranged from $200,000 to $250,000. This subdivision sold out the last homes in late 2014. The solar farm is clearly visible particularly along the north end of this street where there is only a thin line of trees separating the solar farm from the single-family homes.

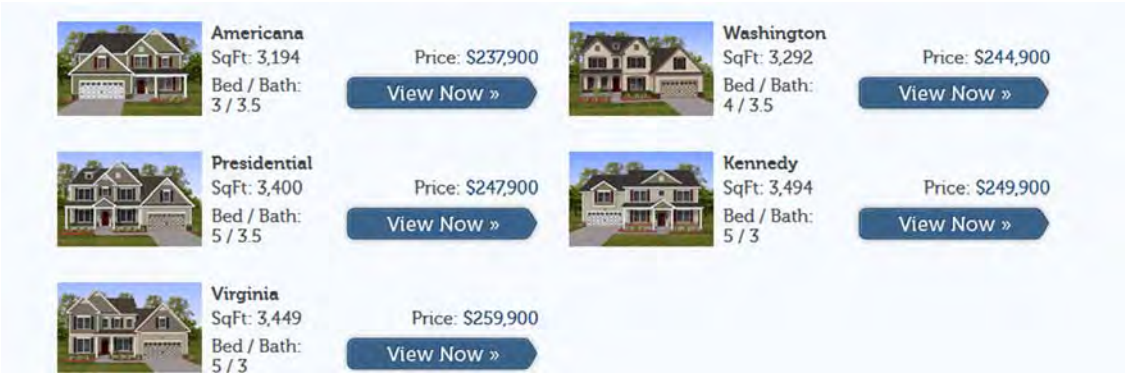


Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder, the solar farm has been a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. There is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows multiple homes that have sold in 2013 and 2014 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales indicate that the solar farm has no impact on the adjoining residential use.

The homes that were marketed at Spring Garden are shown below.



The homes adjoining the solar farm are considered to have a light landscaping screen as it is a narrow row of existing pine trees supplemented with evergreen plantings.

Matched Pairs
As of Date: 9/3/2014

Adjoining Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600195570	Helm	0.76	Sep-13	$250,000	2013	3,292	$75.94	2 Story
3600195361	Leak	1.49	Sep-13	$260,000	2013	3,652	$71.19	2 Story
3600199891	McBrayer	2.24	Jul-14	$250,000	2014	3,292	$75.94	2 Story
3600198632	Foresman	1.13	Aug-14	$253,000	2014	3,400	$74.41	2 Story
3600196656	Hinson	0.75	Dec-13	$255,000	2013	3,453	$73.85	2 Story
	Average	1.27		$253,600	2013.4	3,418	$74.27	
	Median	1.13		$253,000	2013	3,400	$74.41	

Adjoining Sales After Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
0	Feddersen	1.56	Feb-13	$247,000	2012	3,427	$72.07	Ranch
0	Gentry	1.42	Apr-13	$245,000	2013	3,400	$72.06	2 Story
	Average	1.49		$246,000	2012.5	3,414	$72.07	
	Median	1.49		$246,000	2012.5	3,414	$72.07	

Adjoining Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600183905	Carter	1.57	Dec-12	$240,000	2012	3,347	$71.71	1.5 Story
3600193097	Kelly	1.61	Sep-12	$198,000	2012	2,532	$78.20	2 Story
3600194189	Hadwan	1.55	Nov-12	$240,000	2012	3,433	$69.91	1.5 Story
	Average	1.59		$219,000	2012	2,940	$74.95	
	Median	1.59		$219,000	2012	2,940	$74.95	

Nearby Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600193710	Barnes	1.12	Oct-13	$248,000	2013	3,400	$72.94	2 Story
3601105180	Nackley	0.95	Dec-13	$253,000	2013	3,400	$74.41	2 Story
3600192528	Mattheis	1.12	Oct-13	$238,000	2013	3,194	$74.51	2 Story
3600198928	Beckman	0.93	Mar-14	$250,000	2014	3,292	$75.94	2 Story
3600196965	Hough	0.81	Jun-14	$224,000	2014	2,434	$92.03	2 Story
3600193914	Preskitt	0.67	Jun-14	$242,000	2014	2,825	$85.66	2 Story
3600194813	Bordner	0.91	Apr-14	$258,000	2014	3,511	$73.48	2 Story
3601104147	Shaffer	0.73	Apr-14	$255,000	2014	3,453	$73.85	2 Story
	Average	0.91		$246,000	2013.625	3,189	$77.85	
	Median	0.92		$249,000	2014	3,346	$74.46	

Nearby Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600191437	Thomas	1.12	Sep-12	$225,000	2012	3,276	$68.68	2 Story
3600087968	Lilley	1.15	Jan-13	$238,000	2012	3,421	$69.57	1.5 Story
3600087654	Burke	1.26	Sep-12	$240,000	2012	3,543	$67.74	2 Story
3600088796	Hobbs	0.73	Sep-12	$228,000	2012	3,254	$70.07	2 Story
	Average	1.07		$232,750	2012	3,374	$69.01	
	Median	1.14		$233,000	2012	3,349	$69.13	

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	**Median**	**Average**	**Median**
Sales Price	$253,600	$253,000	$246,000	$249,000
Year Built	2013	2013	2014	2014
Size	3,418	3,400	3,189	3,346
Price/SF	$74.27	$74.41	$77.85	$74.46

Percentage Differences

Median Price	-2%
Median Size	-2%
Median Price/SF	0%

I note that 2308 Granville Drive sold again in November 2015 for $267,500, or $7,500 more than when it was purchased new from the builder two years earlier (Tax ID 3600195361, Owner: Leak). The neighborhood is clearly showing appreciation for homes adjoining the solar farm.

The Median Price is the best indicator to follow in any analysis as it avoids outlying samples that would otherwise skew the results. The median sizes and median prices are all consistent throughout the sales both before and after the solar farm whether you look at sites adjoining or nearby to the solar farm. The average size for the homes nearby the solar farm shows a smaller building size and a higher price per square foot. This reflects a common occurrence in real estate where the price per square foot goes up as the size goes down. So even comparing averages the indication is for no impact, but I rely on the median rates as the most reliable indication for any such analysis.

I have also considered four more recent resales of homes in this community as shown on the following page. These comparable sales adjoin the solar farm at distances ranging from 315 to 400 feet. The matched pairs show a range from -9% to +6%. The range of the average difference is -2% to +1% with an average of 0% and a median of +0.5%. These comparable sales support a finding of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	103 Granville Pl	1.42	7/27/2018	$265,000	2013	3,292	$80.50	4/3.5	2-Car	2-Story		385
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	103 Granville Pl								$265,000		-2%
	Not	2219 Granville	$4,382		$1,300	$0				$265,682	0%	
	Not	634 Friendly	-$8,303		-$6,675	$16,721	-$10,000			$258,744	2%	
	Not	2403 Granville	-$6,029		-$1,325	$31,356				$289,001	-9%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	104 Erin	2.24	6/19/2017	$280,000	2014	3,549	$78.90	5/3.5	2-Car	2-Story		315
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	104 Erin								$280,000		0%
	Not	2219 Granville	-$4,448		$2,600	$16,238				$274,390	2%	
	Not	634 Friendly	-$17,370		-$5,340	$34,702	-$10,000			$268,992	4%	
	Not	2403 Granville	-$15,029		$0	$48,285				$298,256	-7%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2312 Granville	0.75	5/1/2018	$284,900	2013	3,453	$82.51	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	2312 Granville								$284,900		1%
	Not	2219 Granville	$2,476		$1,300	$10,173				$273,948	4%	
	Not	634 Friendly	-$10,260		-$6,675	$27,986	-$10,000			$268,051	6%	
	Not	2403 Granville	-$7,972		-$1,325	$47,956				$303,659	-7%	

Adjoining Residential Sales After Solar Farm Approved

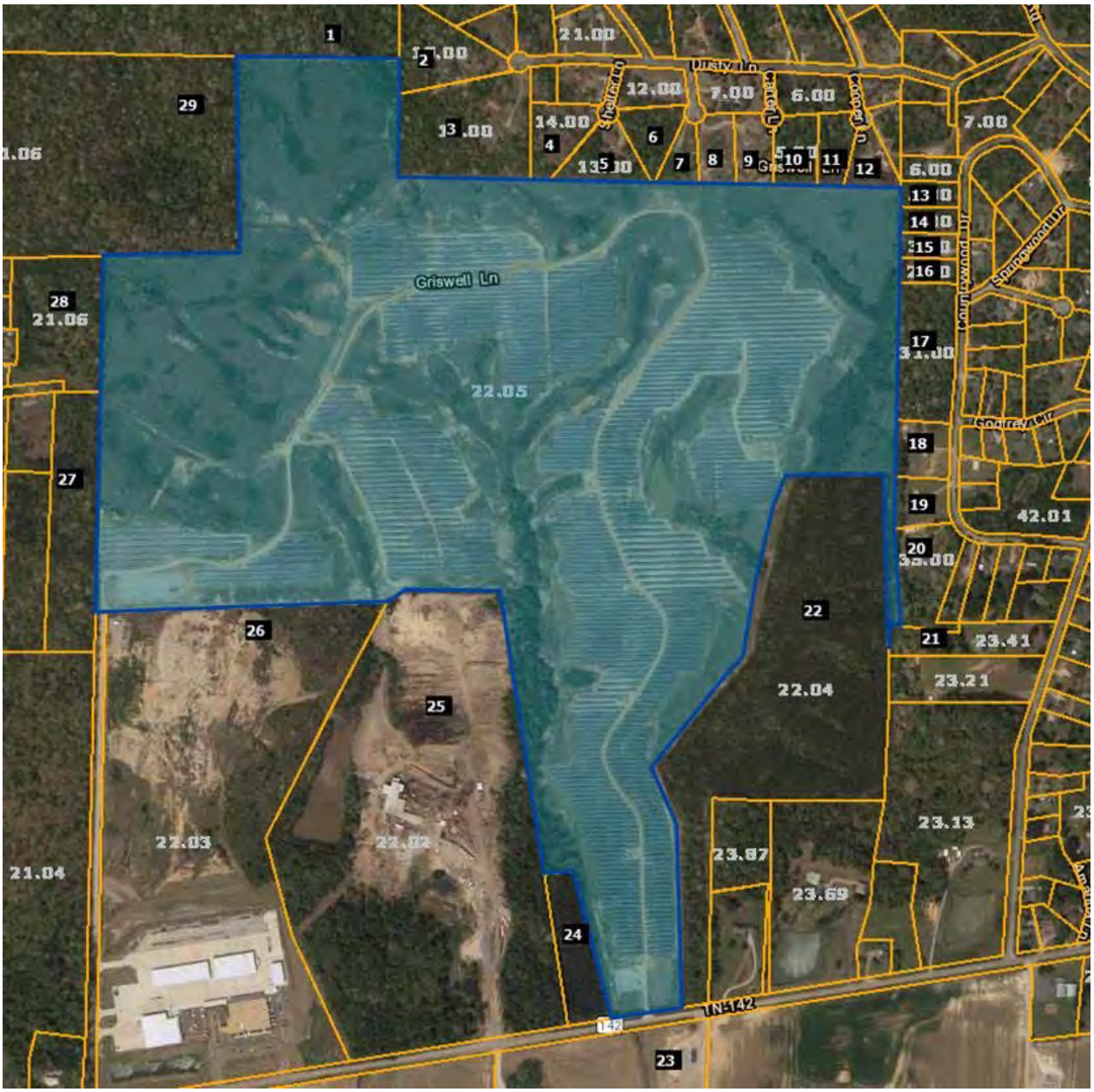
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2310 Granville	0.76	5/14/2019	$280,000	2013	3,292	$85.05	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	2310 Granville								$280,000		1%
	Not	2219 Granville	$10,758		$1,300	$0				$272,058	3%	
	Not	634 Friendly	-$1,755		-$6,675	$16,721	-$10,000			$265,291	5%	
	Not	2403 Granville	$469		-$1,325	$31,356				$295,500	-6%	

I have also considered the original sales prices in this subdivision relative to the recent resale values as shown in the chart below. This rate of appreciation is right at 2.5% over the last 6 years. Zillow indicates that the average home value within the 27530 zip code as of January 2014 was $101,300 and as of January 2020 that average is $118,100. This indicates an average increase in the market of 2.37%. I conclude that the appreciation of the homes adjoining the solar farm are not impacted by the presence of the solar farm based on this data.

	Address	Initial Sale Date	Price	Second Sale Date	Price	Year Diff	Apprec.	% Apprec.	Apprec. %/Year
1	103 Granville Pl	4/1/2013	$245,000	7/27/2018	$265,000	5.32	$20,000	8.16%	1.53%
2	105 Erin	7/1/2014	$250,000	6/19/2017	$280,000	2.97	$30,000	12.00%	4.04%
3	2312 Granville	12/1/2013	$255,000	5/1/2015	$262,000	1.41	$7,000	2.75%	1.94%
4	2312 Granville	5/1/2015	$262,000	5/1/2018	$284,900	3.00	$22,900	8.74%	2.91%
5	2310 Granville	8/1/2013	$250,000	5/14/2019	$280,000	5.79	$30,000	12.00%	2.07%
6	2308 Granville	9/1/2013	$260,000	11/12/2015	$267,500	2.20	$7,500	2.88%	1.31%
7	2304 Granville	9/1/2012	$198,000	6/1/2017	$225,000	4.75	$27,000	13.64%	2.87%
8	102 Erin	8/1/2014	$253,000	11/1/2016	$270,000	2.25	$17,000	6.72%	2.98%
								Average	2.46%
								Median	2.47%

2. Matched Pair – Mulberry, Selmer, TN



This 16 MW solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet.

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for $15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky Hearnsberger with United County Farm & Home Realty who noted that they have seen no impact on lot or home sales due to the solar farm in this community.

I have included a map below as well as data on recent sales activity on lots that adjoin the solar farm or are near the solar farm in this subdivision both before and after the announced plan for this solar farm facility. I note that using the same method I used to breakdown the adjoining uses at the subject property I show that the predominant adjoining uses are residential and agricultural, which is consistent with the location of most solar farms.

Adjoining Use Breakdown

	Acreage	Parcels
Commercial	3.40%	0.034
Residential	12.84%	79.31%
Agri/Res	10.39%	3.45%
Agricultural	73.37%	13.79%
Total	**100.00%**	**100.00%**

I have run a number of direct matched comparisons on the sales adjoining this solar farm as shown below. These direct matched pairs include some of those shown above as well as additional more recent sales in this community. In each of these I have compared the one sale adjoining the solar farm to multiple similar homes nearby that do not adjoin a solar farm to look for any potential impact from the solar farm.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
3	Adjoins	491 Dusty	6.86	10/28/2016	$176,000	2009	1,801	$97.72	3/2	2-Gar	Ranch	
	Not	820 Lake Trail	1.00	6/8/2018	$168,000	2013	1,869	$89.89	4/2	2-Gar	Ranch	
	Not	262 Country	1.00	1/17/2018	$145,000	2000	1,860	$77.96	3/2	2-Gar	Ranch	
	Not	35 April	1.15	8/16/2016	$185,000	2016	1,980	$93.43	3/2	2-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
3	Adjoins	491 Dusty							$176,000		480
	Not	820 Lake Trail	-$8,324	$12,000	-$3,360	-$4,890			$163,426	7%	
	Not	262 Country	-$5,450	$12,000	$6,525	-$3,680			$154,396	12%	
	Not	35 April	$1,138	$12,000	-$6,475	-$13,380			$178,283	-1%	
									Average	6%	

The best matched pair is 35 April Loop, which required the least adjustment and indicates a -1% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
12	Adjoins	57 Cooper	1.20	2/26/2019	$163,000	2011	1,586	$102.77	3/2	2-Gar	1.5 Story	Pool
	Not	191 Amelia	1.00	8/3/2018	$132,000	2005	1,534	$86.05	3/2	Drive	Ranch	
	Not	75 April	0.85	3/17/2017	$134,000	2012	1,588	$84.38	3/2	2-Crprt	Ranch	
	Not	345 Woodland	1.15	12/29/2016	$131,000	2002	1,410	$92.91	3/2	1-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
12	Adjoins	57 Cooper	$163,000							$163,000		685
	Not	191 Amelia	$132,000	$2,303		$3,960	$2,685	$10,000	$5,000	$155,947	4%	
	Not	75 April	$134,000	$8,029	$4,000	-$670	-$135	$5,000	$5,000	$155,224	5%	
	Not	345 Woodland	$131,000	$8,710		$5,895	$9,811		$5,000	$160,416	2%	
										Average	4%	

The best matched pair is 191 Amelia, which was most similar in time frame of sale and indicates a +4% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
15	Adjoins	297 Country	1.00	9/30/2016	$150,000	2002	1,596	$93.98	3/2	4-Gar	Ranch	
	Not	185 Dusty	1.85	8/17/2015	$126,040	2009	1,463	$86.15	3/2	2-Gar	Ranch	
	Not	53 Glen	1.13	3/9/2017	$126,000	1999	1,475	$85.42	3/2	2-Gar	Ranch	Brick

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
15	Adjoins	297 Country	$150,000							$150,000		650
	Not	185 Dusty	$126,040	$4,355		-$4,411	$9,167	$10,000		$145,150	3%	
	Not	53 Glen	$126,000	-$1,699		$1,890	$8,269	$10,000		$144,460	4%	
										Average	3%	

The best matched pair is 53 Glen, which was most similar in time frame of sale and required less adjustment. It indicates a +4% increase in value due to the solar farm adjacency.

The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm. The landscaping buffer for this project is mostly natural tree growth that was retained as part of the development but much of the trees separating the panels from homes are actually on the lots for the homes themselves. I therefore consider the landscaping buffer to be thin to moderate for these adjoining homes.

I have also looked at several lot sales in this subdivision as shown below.

These are all lots within the same community and the highest prices paid are for lots one parcel off from the existing solar farm. These prices are fairly inconsistent, though they do suggest about a $3,000 loss in the lots adjoining the solar farm. This is an atypical finding and additional details suggest there is more going on in these sales than the data crunching shows. First of all Parcel 4 was purchased by the owner of the adjoining home and therefore an atypical buyer seeking to expand a lot and the site is not being purchased for home development. Moreover, using the SiteToDoBusiness demographic tools, I found that the 1-mile radius around this development is expecting a total population increase over the next 5 years of 3 people. This lack of growing demand for lots is largely explained in that context. Furthermore, the fact that finished home sales as shown above are showing no sign of a negative impact on property value makes this data unreliable and inconsistent with the data shown in sales to an end user. I therefore place little weight on this outlier data.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019 Adj for Time	$/AC	4/18/2019 Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	$16,000	$16,728	$7,805	$8,160
10	Adjoins	Carter	1.70	8/2/2018	$14,000	$14,306	$8,235	$8,415
11	Adjoins	Cooper	1.28	9/17/2018	$12,000	$12,215	$9,375	$9,543
	Not	75 Dusty	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976
	Not	Lake Trl	1.47	11/7/2018	$13,000	$13,177	$8,844	$8,964
	Not	Lake Trl	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976

	Adjoins	Per Acre	Not Adjoins	Per Acre	% DIF/Lot	% DIF/AC
Average	$14,416	$8,706	$17,726	$10,972	19%	21%
Median	$14,306	$8,415	$20,000	$11,976	28%	30%
High	$16,728	$9,543	$20,000	$11,976	16%	20%
Low	$12,215	$8,160	$13,177	$8,964	7%	9%

3. Matched Pair – Leonard Road Solar Farm, Hughesville, MD

This 5 MW solar farm is located on 47 acres and mostly adjoins agricultural and residential uses to the west, south and east as shown above. The property also adjoins retail uses and a church. I looked at a 2016 sale of an adjoining home with a positive impact on value adjoining the solar farm of 2.90%. This is within typical market friction and supports an indication of no impact on property value.

I have shown this data below. The landscaping buffer is considered heavy.

Leonardtown Road Solar Farm, Hughesville, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	$/GBA	Style	BR/BA	Bsmt	Park	Upgrades	Other
14595 Box Elder Ct	Adjoins	3.00	2/12/2016	$291,000	1991	2,174	$133.85	Colonial	5/2.5	No	2 Car Att	N/A	Deck
15313 Bassford Rd	Not	3.32	7/20/2016	$329,800	1990	2,520	$130.87	Colonial	3/2.5	Finished	2 Car Att	Custom	Scr Por/Patio

*$9,000 concession deducted from sale price for Box Elder and $10,200 deducted from Bassford

Adjoining Sales Adjusted			Adjustments					
Address	Date Sold	Sales Price	Time	GLA	Bsmt	Upgrades	Other	Total
14595 Box Elder Ct	2/12/2016	$291,000						$291,000
15313 Bassford Rd	7/20/2016	$329,800	-$3,400	-$13,840	-$10,000	-$15,000	-$5,000	$282,560

Difference Attributable to Location $8,440
2.90%

This is within typical market friction and supports an indication of no impact on property value.

4. Matched Pair – Gastonia SC Solar, Gastonia, NC

This 5 MW project is located on the south side of Neal Hawkins Road just outside of Gastonia. The property identified above as Parcel 4 was listed for sale while this solar farm project was going

through the approval process. The property was put under contract during the permitting process with the permit being approved while the due diligence period was still ongoing. After the permit was approved the property closed with no concerns from the buyer. I spoke with Jennifer Bouvier, the broker listing the property and she indicated that the solar farm had no impact at all on the sales price. She considered some nearby sales to set the price and the closing price was very similar to the asking price within the typical range for the market. The buyer was aware that the solar farm was coming and they had no concerns.

This two-story brick dwelling was sold on March 20, 2017 for $270,000 for a 3,437 square foot dwelling built in 1934 in average condition on 1.42 acres. The property has four bedrooms and two bathrooms. The landscaping screen is light for this adjoining home due to it being a new planted landscaping buffer.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	609 Neal Hawkins	1.42	3/20/2017	$270,000	1934	3,427	$78.79	4/2	Open	2-Brick	
Not	1418 N Modena	4.81	4/17/2018	$225,000	1930	2,906	$77.43	3/3	2-Crprt	2-Brick	
Not	363 Dallas Bess	2.90	11/29/2018	$265,500	1968	2,964	$89.57	3/3	Open	FinBsmt	
Not	1612 Dallas Chry	2.74	9/17/2018	$245,000	1951	3,443	$71.16	3/2	Open	2-Brick	Unfin bath

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
609 Neal Hawkins								$270,000			225
1418 N Modena	$7,319		$2,700	$32,271		-$10,000		$257,290	5%		
363 Dallas Bess	$746		-$27,081	$33,179	-$10,000		$53,100	$262,456	3%		
1612 Dallas Chry	$4,110		-$12,495	-$911			$10,000	$235,704	13%		
										7%	

I also considered the newer adjoining home identified as Parcel 5 that sold later in 2017 and it likewise shows no negative impact on property value. This is also considered a light landscaping buffer.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style
Adjoins	611 Neal Hawkins	0.78	7/6/2017	$288,000	1991	2,256	$127.66	5/3	2-Gar	1.5 Brick
Not	1211 Still Frst	0.51	7/30/2018	$280,000	1989	2,249	$124.50	3/3	2-Gar	Br Rnch
Not	2867 Colony Wds	0.52	8/14/2018	$242,000	1990	2,006	$120.64	3/3	2-Gar	Br Rnch
Not	1010 Strawberry	1.00	10/4/2018	$315,000	2002	2,330	$135.19	3/2.5	2-Gar	1.5 Brick

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
611 Neal Hawkins								$288,000			145
1211 Still Frst	$1,341		$2,800	$697				$284,838	1%		
2867 Colony Wds	$7,714		$1,210	$24,128				$275,052	4%		
1010 Strawberry	-$4,555		-$17,325	-$8,003	$5,000			$290,116	-1%		
										2%	

5. Matched Pair – Summit/Ranchlands Solar, Moyock, NC

This project is located at 1374 Caritoke Highway, Moyock, NC. This is an 80 MW facility on a parent tract of 2,034 acres. Parcels Number 48 and 53 as shown in the map above were sold in 2016. The project was under construction during the time period of the first of the matched pair sales and the permit was approved well prior to that in 2015.

I looked at multiple sales of adjoining and nearby homes and compared each to multiple comparables to show a range of impacts from -10% up to +11% with an average of +2% and a median of +3%. These ranges are well within typical real estate variation and supports an indication of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
48	Adjoins	129 Pinto	4.29	4/15/2016	$170,000	1985	1,559	$109.04	3/2	Drive	MFG		1,060
	Not	102 Timber	1.30	4/1/2016	$175,500	2009	1,352	$129.81	3/2	Drive	MFG		
	Not	120 Ranchland	0.99	10/1/2014	$170,000	2002	1,501	$113.26	3/2	Drive	MFG		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	129 Pinto								$170,000		-3%
Not	102 Timber	$276	$10,000	-$29,484	$18,809				$175,101	-3%	
Not	120 Ranchland	$10,735	$10,000	-$20,230	$4,598				$175,103	-3%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	105 Pinto	4.99	12/16/2016	$206,000	1978	1,484	$138.81	3/2	Det G	Ranch	
Not	111 Spur	1.15	2/1/2016	$193,000	1985	2,013	$95.88	4/2	Gar	Ranch	
Not	103 Marshall	1.07	3/29/2017	$196,000	2003	1,620	$120.99	3/2	Drive	Ranch	
Not	127 Ranchland	0.00	6/9/2015	$219,900	1988	1,910	$115.13	3/2	Gar/3Det	Ranch	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
105 Pinto								$206,000			980
111 Spur	$6,747	$10,000	-$6,755	-$25,359				$177,633	14%		
103 Marshall	-$2,212	$10,000	-$24,500	-$8,227		$5,000		$176,212	14%		
127 Ranchland	$13,399	$10,000	-$10,995	-$24,523		-$10,000		$197,781	4%		
										11%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
15	Adjoins	318 Green View	0.44	9/15/2019	$357,000	2005	3,460	$103.18	4/4	2-Car	1.5 Brick		570
	Not	195 St Andrews	0.55	6/17/2018	$314,000	2002	3,561	$88.18	5/3	2-Car	2.0 Brick		
	Not	336 Green View	0.64	1/13/2019	$365,000	2006	3,790	$96.31	6/4	3-Car	2.0 Brick		
	Not	275 Green View	0.36	8/15/2019	$312,000	2003	3,100	$100.65	5/3	2-Car	2.0 Brick		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	318 Green View								$357,000		4%
Not	195 St Andrews	$12,040		$4,710	-$7,125	$10,000			$333,625	7%	
Not	336 Green View	$7,536		-$1,825	-$25,425			-$5,000	$340,286	5%	
Not	275 Green View	$815		$3,120	$28,986	$10,000			$354,921	1%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
29	Adjoins	164 Ranchland	1.01	4/30/2019	$169,000	1999	2,052	$82.36	4/2	Gar	MFG		440
	Not	150 Pinto	0.94	3/27/2018	$168,000	2017	1,920	$87.50	4/2	Drive	MFG		
	Not	105 Longhorn	1.90	10/10/2017	$184,500	2002	1,944	$94.91	3/2	Drive	MFG		
	Not	112 Pinto	1.00	7/27/2018	$180,000	2002	1,836	$98.04	3/2	Drive	MFG	Fenced	

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	164 Ranchland								$169,000		-10%
	Not	150 Pinto	$5,649		-$21,168	$8,085			$5,000	$165,566	2%	
	Not	105 Longhorn	$8,816	-$10,000	-$3,875	$7,175			$5,000	$191,616	-13%	
	Not	112 Pinto	$4,202		-$3,780	$14,824			$5,000	$200,245	-18%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	358 Oxford	10.03	9/16/2019	$478,000	2008	2,726	$175.35	3/3	2 Gar	Ranch		635
	Not	276 Summit	10.01	12/20/2017	$355,000	2006	1,985	$178.84	3/2	2 Gar	Ranch		
	Not	176 Providence	6.19	5/6/2019	$425,000	1990	2,549	$166.73	3/3	4 Gar	Ranch	Brick	
	Not	1601 B Caratoke	12.20	9/26/2019	$440,000	2016	3,100	$141.94	4/3.5	5 Gar	Ranch	Pool	

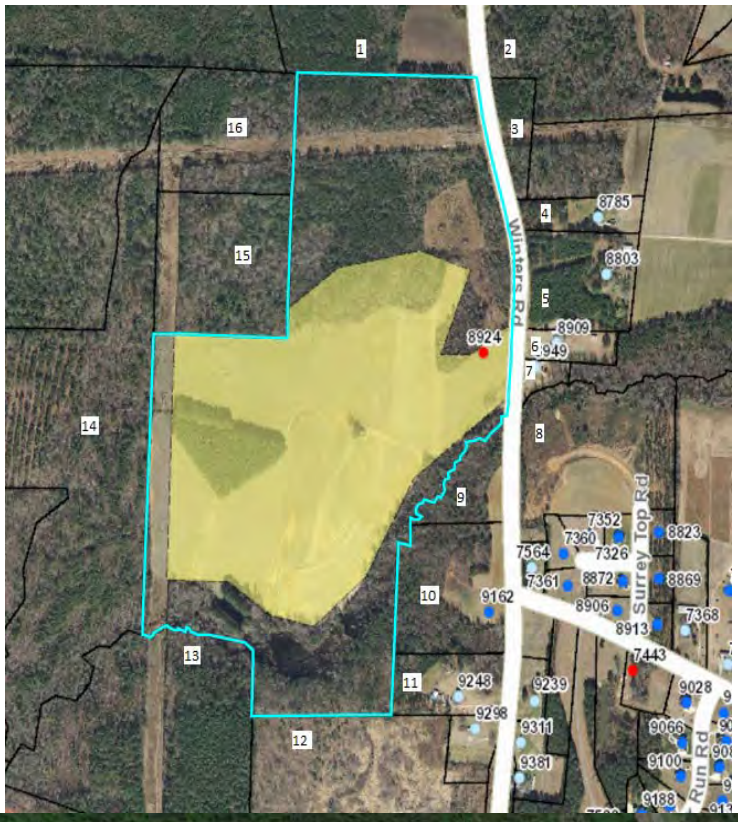
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	358 Oxford								$478,000		5%
	Not	276 Summit	$18,996		$3,550	$106,017	$10,000			$493,564	-3%	
	Not	176 Providence	$4,763		$38,250	$23,609		-$10,000	-$25,000	$456,623	4%	
	Not	1601 B Caratoke	-$371	$50,000	-$17,600	-$42,467	-$5,000	-$10,000		$414,562	13%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Nearby	343 Oxford	10.01	3/9/2017	$490,000	2016	3,753	$130.56	3/3	2 Gar	1.5 Story	Pool	970
	Not	287 Oxford	10.01	9/4/2017	$600,000	2013	4,341	$138.22	5/4.5	8-Gar	1.5 Story	Pool	
	Not	301 Oxford	10.00	4/23/2018	$434,000	2013	3,393	$127.91	5/3	2 Gar	1.5 Story		
	Not	218 Oxford	10.01	4/4/2017	$525,000	2006	4,215	$124.56	4/3	4 Gar	1.5 Story	VG Barn	

	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
	Adjoins	343 Oxford								$490,000		3%
	Not	287 Oxford	-$9,051		$9,000	-$65,017	-$15,000	-$25,000		$494,932	-1%	
	Not	301 Oxford	-$14,995	-$10,000	$6,510	$36,838				$452,353	8%	
	Not	218 Oxford	-$1,150		$26,250	-$46,036		-$10,000	-$10,000	$484,064	1%	

6. Matched Pair – Tracy Solar, Bailey, NC



This project is located in rural Nash County on Winters Road with a 5 MW facility that was built in 2016 on 50 acres. A local builder acquired parcels 9 and 10 following construction as shown below

at rates comparable to other tracts in the area. They then built a custom home for an owner and sold that at a price similar to other nearby homes as shown in the matched pair data below. The retained woods provide a heavy landscaped buffer for this homesite.

Adjoining Land Sales After Solar Farm Completed

#	Solar Farm	TAX ID	Grantor	Grantee	Address	Acres	Date Sold	Sales Price	$/AC	Other
9 &10	Adjoins	316003 & 316004	Cozart	Kingsmill	9162 Winters	13.22	7/21/2016	$70,000	$5,295	
	Not	6056	Billingsly		427 Young	41	10/21/2016	$164,000	$4,000	
	Not	33211	Fulcher	Weikel	10533 Cone	23.46	7/18/2017	$137,000	$5,840	Doublewide, structures
	Not	106807	Perry	Gardner	Claude Lewis	11.22	8/10/2017	$79,000	$7,041	Gravel drive for sub, cleared
	Not	3437	Vaughan	N/A	11354 Old Lewis Sch	18.73	Listing	$79,900	$4,266	Small cemetery,wooded

Adjoining Sales Adjusted

Time	Acres	Location	Other	Adj $/Ac	% Diff
				$5,295	
$0	$400	$0	$0	$4,400	17%
-$292	$292	$0	-$500	$5,340	-1%
-$352	$0	$0	-$1,000	$5,689	-7%
-$213	$0	$0	$213	$4,266	19%
				Average	7%

Adjoining Residential Sales After Solar Farm Completed

#	Solar Farm	n	Address	Acres	Date Sold	Sales Price	Built	GLA	$/GLA	BR/BA	Style	Other
9 &10	Adjoins	gs	9162 Winters	13.22	1/5/2017	$255,000	2016	1,616	$157.80	3/2	Ranch	1296 sf wrkshp
	Not	w	7352 Red Fox	0.93	6/30/2016	$176,000	2010	1,529	$115.11	3/2	2-story	

Adjoining Sales Adjusted

Time	Acres	YB	GLA	Style	Other	Total	% Diff
						$255,000	
$0	$44,000	$7,392	$5,007	$5,000	$15,000	$252,399	1%

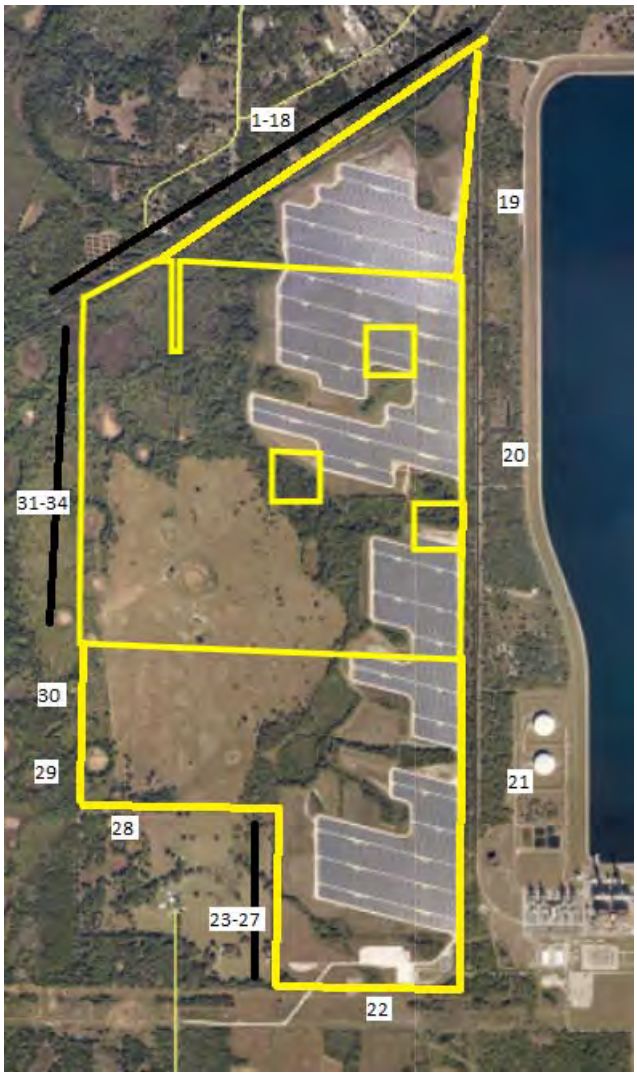
The comparables for the land show either a significant positive relationship or a mild negative relationship to having and adjoining solar farm, but when averaged together they show no negative impact. The wild divergence is due to the difficulty in comping out this tract of land and the wide variety of comparables used. The two comparables that show mild negative influences include a property that was partly developed as a residential subdivision and the other included a doublewide with some value and accessory agricultural structures. The tax assessed value on the improvements were valued at $60,000. So both of those comparables have some limitations for comparison. The two that show significant enhancement due to adjacency includes a property with a cemetery located in the middle and the other is a tract almost twice as large. Still that larger tract after adjustment provides the best matched pair as it required the least adjustment. I therefore conclude that there is no negative impact due to adjacency to the solar farm shown by this matched pair.

The dwelling that was built on the site was a build-to-suit and was compared to a nearby homesale of a property on a smaller parcel of land. I adjusted for that differenced based on a $25,000 value for a 1-acre home site versus the $70,000 purchase price of the larger subject tract. The other adjustments are typical and show no impact due to the adjacency to the solar farm.

The closest solar panel to the home is 780 feet away.

I note that the representative for Kingsmill Homes indicated that the solar farm was never a concern in purchasing the land or selling the home. He also indicated that they had built a number of nearby homes across the street and it had never come up as an issue.

7. Matched Pair – Manatee Solar Farm, Parrish, FL



This solar farm is located near Seminole Trail, Parrish, FL. The solar farm has a 74.50 MW output and is located on a 1,180.38 acre tract and was built in 2016. The tract is owned by Florida Power & Light Company.

I have considered the recent sale of 13670 Highland Road, Wimauma, Florida. This one-story, concrete block home is located just north of the solar farm and separated from the solar farm by a railroad corridor. This home is a 3 BR, 3 BA 1,512 s.f. home with a carport and workshop. The property includes new custom cabinets, granite counter tops, brand new stainless steel appliances, updated bathrooms and new carpet in the bedrooms. The home is sitting on 5 acres. The home was built in 1997.

I have compared this sale to several nearby homesales as part of this matched pair analysis as shown below. The landscaping separating the home from the solar farm is considered heavy.

Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Note
Adjoins	13670 Highland	5.00	8/21/2017	$255,000	1997	1,512	$168.65	3/3	Carport/Wrkshp	Ranch	Renov.
Not	2901 Arrowsmith	1.91	1/31/2018	$225,000	1979	1,636	$137.53	3/2	2 Garage/Wrkshp	Ranch	
Not	602 Butch Cassidy	1.00	5/5/2017	$220,000	2001	1,560	$141.03	3/2	N/A	Ranch	Renov.
Not	2908 Wild West	1.23	7/12/2017	$254,000	2003	1,554	$163.45	3/2	2 Garage/Wrkshp	Ranch	Renov.
Not	13851 Highland	5.00	9/13/2017	$240,000	1978	1,636	$146.70	4/2	3 Garage	Ranch	Renov.

		Adjoining Sales Adjusted								
Solar	**TAX ID/Address**	**Time**	**Acres**	**YB**	**GLA**	**BR/BA**	**Park**	**Note**	**Total**	**% Diff**
Adjoins	13670 Highland								$255,000	
Not	2901 Arrowsmith	$2,250	$10,000	$28,350	-$8,527	$5,000	-$10,000	$10,000	$262,073	-3%
Not	602 Butch Cassidy	-$2,200	$10,000	-$6,160	-$3,385	$5,000	$2,000		$225,255	12%
Not	2908 Wild West	$0	$10,000	-$10,668	-$3,432	$5,000	-$10,000		$244,900	4%
Not	13851 Highland	$0	$0	$31,920	-$9,095	$3,000	-$10,000		$255,825	0%
									Average	3%

The sales prices of the comparables before adjustments range from $220,000 to $254,000. After adjustments they range from $225,255 to $262,073. The comparables range from no impact to a strong positive impact. The comparables showing -3% and +4% impact on value are considered within a typical range of value and therefore not indicative of any impact on property value.

This set of matched pair data falls in line with the data seen in other states. The closest solar panel to the home at 13670 Highland is 1,180 feet. There is a wooded buffer between these two properties.

I have included a map showing the relative location of these properties below.

8. Matched Pair – McBride Place Solar Farm, Midland, NC

This project is located on Mount Pleasant Road, Midland, North Carolina. The property is on 627 acres on an assemblage of 974.59 acres. The solar farm was approved in early 2017 for a 74.9 MW facility.

I have considered the sale of 4380 Joyner Road which adjoins the proposed solar farm near the northwest section. This property was appraised in April of 2017 for a value of $317,000 with no consideration of any impact due to the solar farm in that figure. The property sold in November

2018 for $325,000 with the buyer fully aware of the proposed solar farm. The landscaping buffer relative to Joyner Road, Hayden Way, Chanel Court and Kristi Lane is considered medium, while the landscaping for the home at the north end of Chanel Court is considered very light.

I have considered the following matched pairs to the subject property.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	4380 Joyner	12.00	11/22/2017	$325,000	1979	1,598	$203.38	3/2	2xGar	Ranch	Outbldg
Not	3870 Elkwood	5.50	8/24/2016	$250,000	1986	1,551	$161.19	3/2.5	Det 2xGar	Craft	
Not	8121 Lower Rocky	18.00	2/8/2017	$355,000	1977	1,274	$278.65	2/2	2xCarprt	Ranch	Eq. Fac.
Not	13531 Cabarrus	7.89	5/20/2016	$267,750	1981	2,300	$116.41	3/2	2xGar	Ranch	

Adjoining Sales Adjusted

Time	Acres	YB	Condition	GLA	BR/BA	Park	Other	Total	% Diff
								$325,000	
$7,500	$52,000	-$12,250	$10,000	$2,273	-$2,000	$2,500	$7,500	$317,523	2%
$7,100	-$48,000	$4,970		$23,156	$0	$3,000	-$15,000	$330,226	-2%
$8,033	$33,000	-$3,749	$20,000	-$35,832	$0	$0	$7,500	$296,702	9%
								Average	3%

The home at 4380 Joyner Road is 275 feet from the closest solar panel.

I also considered the recent sale of a lot at 5800 Kristi Lane that is on the east side of the proposed solar farm. This 4.22-acre lot sold in December 2017 for $94,000. A home was built on this lot in 2019 with the closest point from home to panel at 689 feet. The home site is heavily wooded and their remains a wooded buffer between the solar panels and the home. I spoke with the broker, Margaret Dabbs, who indicated that the solar farm was considered a positive by both buyer and seller as it insures no subdivision will be happening in that area. Buyers in this market are looking for privacy and seclusion.

The breakdown of recent lot sales on Kristi are shown below with the lowest price paid for the lot with no solar farm exposure, though that lot has exposure to Mt Pleasant Road South. Still the older lot sales have exposure to the solar farm and sold for higher prices than the front lot and adjusting for time would only increase that difference.

Adjoining Lot Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	$/AC	$/Lot
	Adjoins	5811 Kristi	3.74	5/1/2018	$100,000	$26,738	$100,000
	Adjoins	5800 Kristi	4.22	12/1/2017	$94,000	$22,275	$94,000
	Not	5822 Kristi	3.43	2/24/2020	$90,000	$26,239	$90,000

The lot at 5811 Kristi Lane sold in May 2018 for $100,000 for a 3.74-acre lot. The home that was built later in 2018 is 505 feet to the closest solar panel. This home then sold to a homeowner for $530,000 in April 2020. I have compared this home sale to other properties in the area as shown below.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5811 Kristi	3.74	3/31/2020	$530,000	2018	3,858	$137.38	5/3.5	2 Gar	2-story	Cement Ext
Not	3915 Tania	1.68	12/9/2019	$495,000	2007	3,919	$126.31	3/3.5	2 Gar	2-story	3Det Gar
Not	6782 Manatee	1.33	3/8/2020	$460,000	1998	3,776	$121.82	4/2/2h	2 Gar	2-story	Water
Not	314 Old Hickory	1.24	9/20/2019	$492,500	2017	3,903	$126.18	6/4.5	2 Gar	2-story	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	5811 Kristi								$530,000		5%
Not	3915 Tania	$6,285		$27,225	-$3,852		-$20,000		$504,657	5%	
Not	6782 Manatee	$1,189		$46,000	$4,995	$5,000			$517,183	2%	
Not	314 Old Hickory	$10,680		$2,463	-$2,839	-$10,000			$492,803	7%	

After adjusting the comparables, I found that the average adjusted value shows a slight increase in value for the subject property adjoining a solar farm. As in the other cases, this is a mild positive impact on value but within the typical range of real estate transactions.

I also looked at 5833 Kristi Lane that sold on 9/14/2020 for $625,000. This home is 470 feet from the closest panel.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Nearby	5833 Kristi	4.05	9/14/2020	$625,000	2008	4,373	$142.92	5/4	3-Car	2-Brick	
Not	4055 Dakeita	4.90	12/30/2020	$629,000	2005	4,427	$142.08	4/4	4-Car	2-Brick	4DetGar/Stable
Not	9615 Bales	2.16	6/30/2020	$620,000	2007	4,139	$149.79	4/5	3-Car	2-Stone	2DetGar
Not	9522 Bales	1.47	6/18/2020	$600,000	2007	4,014	$149.48	4/4.5	3-Car	2-Stone	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
5833 Kristi								$625,000			470
4055 Dakeita	-$9,220		$5,661	-$6,138		-$25,000		$594,303	5%		
9615 Bales	$6,455		$1,860	$28,042	-$10,000	-$15,000		$631,356	-1%		
9522 Bales	$7,233		$1,800	$42,930	-$5,000			$646,963	-4%		
										0%	

The average difference is 0% impact and the differences are all within a close range with this set of comparables and supports a finding of no impact on property value.

I have also looked at 4504 Chanel Court. This home sold on January 1, 2020 for $393,500 for this 3,010 square foot home built in 2004 with 3 bedroooms, 3.5 bathrooms, and a 3-car garage. This home includes a full partially finished basement that significantly complicates comparing this to other sales. This home previously sold on January 23, 2017 for $399,000. This was during the time that the solar farm was a known factor as the solar farm was approved in early 2017 and public discussions had already commenced. I spoke with Rachelle Killman with Real Estate Realty, LLC the buyer's agent for this transaction and she indicated that the solar farm was not a factor or consideration for the buyer. She noted that you could see the panels sort of through the trees, but it wasn't a concern for the buyer. She was not familiar with the earlier 2017 sale, but indicated that it was likely too high. This again goes back to the partially finished basement issue. The basement has a fireplace, and an installed 3/4 bathroom but otherwise bare studs and concrete floors with different buyers assigning varying value to that partly finished space. I also reached out to Don Gomez with Don Anthony Realty, LLC as he was the listing agent.

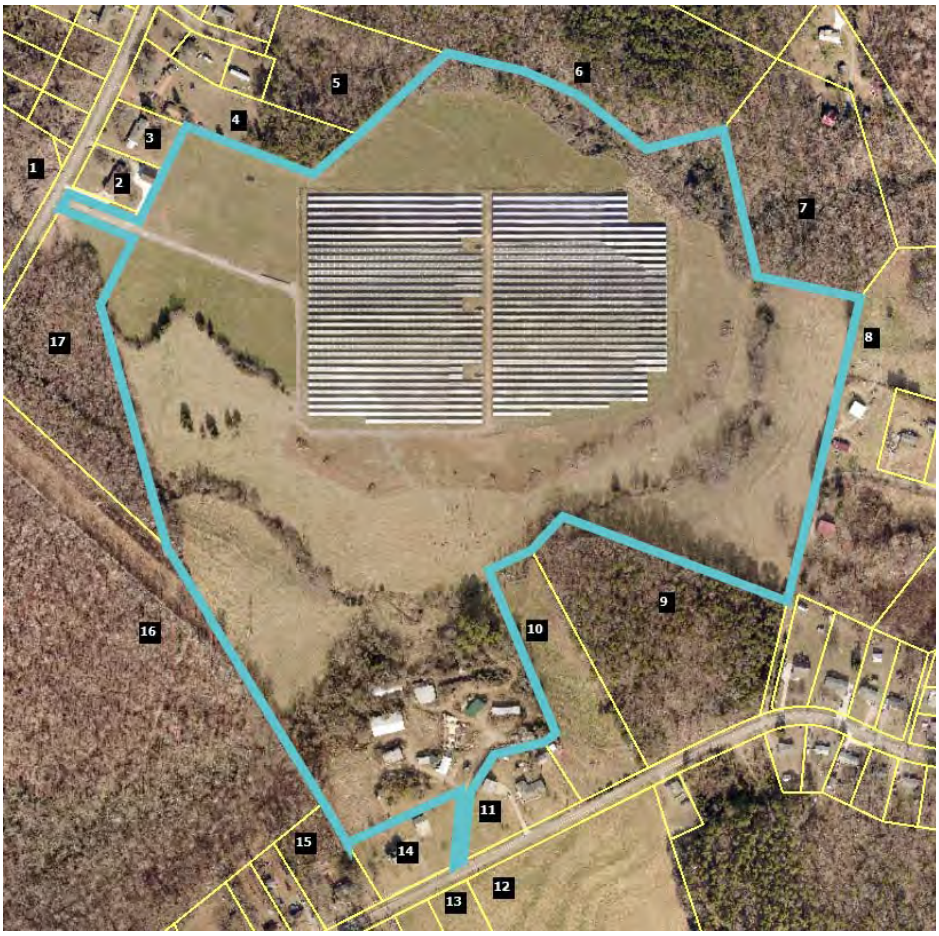
I also looked at the recent sale of 4599 Chanel Court. This home is within 310 feet of solar panels but notably does not have a good landscaping screen in place as shown in the photo below. The plantings appear to be less than 3-feet in height and only a narrow, limited screen of existing hardwoods were kept. The photograph is from the listing.

According to Scott David with Better Homes and Gardens Paracle Realty, this property was under contract for $550,000 contingent on the buyer being able to sell their former home. The former home was apparently overpriced and did not sell and the contract stretched out over 2.5 months.

The seller was in a bind as they had a home they were trying to buy contingent on this closing and were about to lose that opportunity. A cash buyer offered them a quick close at $500,000 and the seller accepted that offer in order to not lose the home they were trying to buy. According to Mr. David, the original contracted buyer and the actual cash buyer never considered the solar farm as a negative. In fact Mr. David noted that the actual buyer saw it as a great opportunity to purchase a home where a new subdivision could not be built behind his house. I therefore conclude that this property supports a finding of no impact on adjoining property, even where the landscaping screen still requires time to grow in for a year-round screen.

I also considered a sale/resale analysis on this property. This same home sold on September 15, 2015 for $462,000. Adjusting this upward by 5% per year for the five years between these sales dates suggests a value of $577,500. Comparing that to the $550,000 contract that suggests a 5% downward impact, which is within a typical market variation. Given that the broker noted no negative impact from the solar farm and the analysis above, I conclude this sale supports a finding of no impact on value.

9. Matched Pair – Mariposa Solar, Gaston County, NC



This project is a 5 MW facility located on 35.80 acres out of a parent tract of 87.61 acres at 517 Blacksnake Road, Stanley that was built in 2016.

I have considered a number of recent sales around this facility as shown below.

The first is identified in the map above as Parcel 1, which is 215 Mariposa Road. This is an older dwelling on large acreage with only one bathroom. I've compared it to similar nearby homes as shown below. The landscaping buffer for this home is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style
Adjoins	215 Mariposa	17.74	12/12/2017	$249,000	1958	1,551	$160.54	3/1	Garage	Br/Rnch
Not	249 Mariposa	0.48	3/1/2019	$153,000	1974	1,792	$85.38	4/2	Garage	Br/Rnch
Not	110 Airport	0.83	5/10/2016	$166,000	1962	2,165	$76.67	3/2	Crprt	Br/Rnch
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	1980	2,156	$112.48	3/2	Drive	1.5
Not	1201 Abernathy	27.00	5/3/2018	$390,000	1970	2,190	$178.08	3/2	Crprt	Br/Rnch

Adjoining Residential Sales After Solar Farm Approved **Adjoining Sales Adjusted**

Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	215 Mariposa	17.74	12/12/2017	$249,000								$249,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$5,583	-$17,136	$129,450	-$20,576	-$10,000			$229,154	8%
Not	110 Airport	0.83	5/10/2016	$166,000	$7,927	-$4,648	$126,825	-$47,078	-$10,000			$239,026	4%
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	-$5,621	-$37,345	$95,475	-$68,048	-$10,000	$5,000		$221,961	11%
Not	1201 Abernathy	27.00	5/3/2018	$390,000	-$4,552	-$32,760	-$69,450	-$60,705	-$10,000			$212,533	15%
												Average	9%

The average difference after adjusting for all factors is +9% on average, which suggests an enhancement due to the solar farm across the street. Given the large adjustments for acreage and size, I will focus on the low end of the adjusted range at 4%, which is within the typical deviation and therefore suggests no impact on value.

I have also considered Parcel 4 that sold after the solar farm was approved but before it had been constructed in 2016. The landscaping buffer for this parcel is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000	1962	1,880	$95.74	3/2	Carport	Br/Rnch	Det Wrkshop
Not	249 Mariposa	0.48	3/1/2019	$153,000	1974	1,792	$85.38	4/2	Garage	Br/Rnch	
Not	110 Airport	0.83	5/10/2016	$166,000	1962	2,165	$76.67	3/2	Crprt	Br/Rnch	
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	1980	2,156	$112.48	3/2	Drive	1.5	

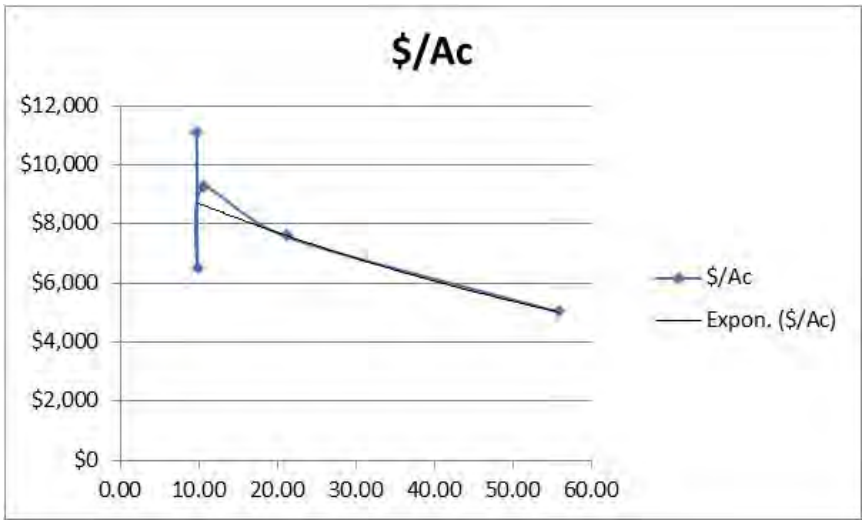
Adjoining Residential Sales After Solar Farm Approved **Adjoining Sales Adjusted**

Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000								$180,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$15,807	-$12,852	$18,468	$7,513		-$3,000	$25,000	$172,322	4%
Not	110 Airport	0.83	5/10/2016	$166,000	-$3,165	$0	$15,808	-$28,600			$25,000	$175,043	3%
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	-$21,825	-$30,555	-$15,960	-$40,942		$2,000	$25,000	$160,218	11%
												Average	6%

The average difference after adjusting for all factors is +6%, which is again suggests a mild increase in value due to the adjoining solar farm use. The median is a 4% adjustment, which is within a standard deviation and suggests no impact on property value.

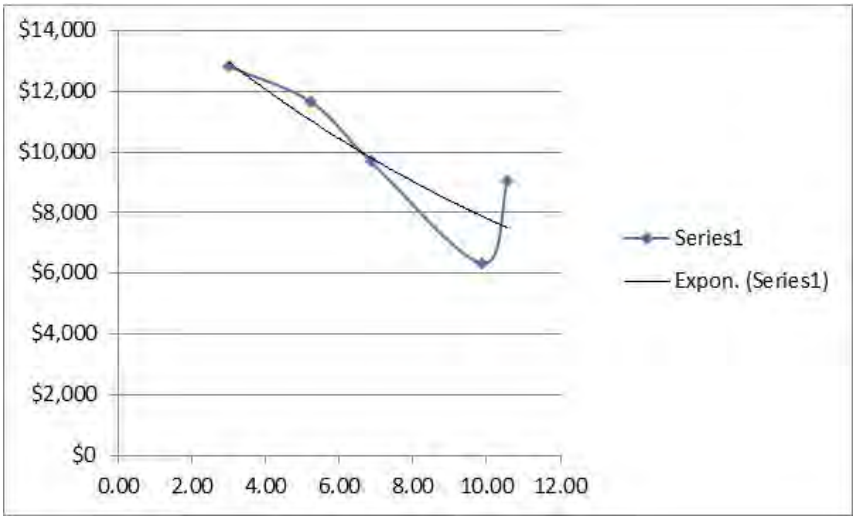
I have also considered the recent sale of Parcel 13 that is located on Blacksnake Road south of the project. I was unable to find good land sales in the same 20-acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 20 acres. As can be seen in the chart below, this lines up exactly with the purchase of the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm.

Adjoining Residential Land Sales After Solar Farm Approved						**Adjoining Sales Adjusted**	
Solar	**Tax/Street**	**Acres**	**Date Sold**	**Sales Price**	**$/Ac**	**Time**	**$/Ac**
Adjoins	174339/Blacksnake	21.15	6/29/2018	$160,000	$7,565		$7,565
Not	227852/Abernathy	10.57	5/9/2018	$97,000	$9,177	$38	$9,215
Not	17443/Legion	9.87	9/7/2018	$64,000	$6,484	-$37	$6,447
Not	164243/Alexis	9.75	2/1/2019	$110,000	$11,282	-$201	$11,081
Not	176884/Bowden	55.77	6/13/2018	$280,000	$5,021	$7	$5,027



Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 7 acres. As can be seen in the chart below, this lines up with the trendline running right through the purchase price for the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm. I note that this property was improved with a 3,196 square foot ranch built in 2018 following the land purchase, which shows that development near the solar farm was unimpeded.

Adjoining Residential Land Sales After Solar Farm Approved						**Adjoining Sales Adjusted**		
Solar	**Tax/Street**	**Acres**	**Date Sold**	**Sales Price**	**$/Ac**	**Time**	**Location**	**$/Ac**
Adjoins	227039/Mariposa	6.86	12/6/2017	$66,500	$9,694			$9,694
Not	227852/Abernathy	10.57	5/9/2018	$97,000	$9,177	-$116		$9,061
Not	17443/Legion	9.87	9/7/2018	$64,000	$6,484	-$147		$6,338
Not	177322/Robinson	5.23	5/12/2017	$66,500	$12,715	$217	-$1,272	$11,661
Not	203386/Carousel	2.99	7/13/2018	$43,500	$14,548	-$262	-$1,455	$12,832



10. Matched Pair – Clarke County Solar, Clarke County, VA

This project is a 20 MW facility located on a 234-acre tract that was built in 2017.

I have considered two recent sales of Parcel 3. The home on this parcel is 1,230 feet from the closest panel as measured in the second map from Google Earth, which shows the solar farm under construction. This home sold in January 2017 for $295,000 and again in August 2019 for $385,000. I show each sale below and compare those to similar home sales in each time frame. The significant increase in price between 2017 and 2019 is due to a major kitchen remodel, new roof, and related upgrades as well as improvement in the market in general. The sale and later resale of the home with updates and improvements speaks to pride of ownership and increasing overall value as properties perceived as diminished are less likely to be renovated and sold for profit.

I note that 102 Tilthammer includes a number of barns that I did not attribute any value in the analysis. The market would typically give some value for those barns but even without that adjustment there is an indication of a positive impact on value due to the solar farm. The landscaping buffer from this home is considered light.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
3	Adjoins	833 Nations Spr	5.13	8/18/2019	$385,000	1979	1,392	$276.58	3/2	Det Gar	Ranch	UnBsmt
	Not	167 Leslie	5.00	8/19/2020	$429,000	1980	1,665	$257.66	3/2	Det2Gar	Ranch	
	Not	2393 Old Chapel	2.47	8/10/2020	$330,000	1974	1,500	$220.00	3/1.5	Det Gar	Ranch	
	Not	102 Tilthammer	6.70	5/7/2019	$372,000	1970	1,548	$240.31	3/1.5	Det Gar	Ranch	UnBsmt

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							$385,000			1230
-$13,268		-$2,145	-$56,272		-$5,000	$50,000	$402,315	-4%		
-$9,956	$25,000	$8,250	-$19,008	$5,000		$50,000	$389,286	-1%		
$3,229		$16,740	-$29,991	$5,000			$366,978	5%		
									0%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
3	Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000	1979	1,392	$211.93	3/2	Det Gar	Ranch	UnBsmt
	Not	6801 Middle	2.00	12/12/2017	$249,999	1981	1,584	$157.83	3/2	Open	Ranch	
	Not	4174 Rockland	5.06	1/2/2017	$300,000	1990	1,688	$177.73	3/2	2 Gar	2-story	
	Not	400 Sugar Hill	1.00	6/7/2018	$180,000	1975	1,008	$178.57	3/1	Open	Ranch	

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							$295,000			1230
-$7,100	$25,000	-$2,500	-$24,242		$5,000	$50,000	$296,157	0%		
$177		-$16,500	-$42,085		-$10,000	$50,000	$281,592	5%		
-$7,797		$3,600	$54,857	$10,000	$5,000	$50,000	$295,661	0%		
									1%	

11. Matched Pair – Simon Solar, Social Circle, GA

This 30 MW solar farm is located off Hawkins Academy Road and Social Circle Fairplay Road. I identified three adjoining sales to this tract after development of the solar farm. However, one of those is shown as Parcel 12 in the map above and includes a powerline easement encumbering over a third of the 5 acres and adjoins a large substation as well. It would be difficult to isolate those impacts from any potential solar farm impact and therefore I have excluded that sale. I also excluded the recent sale of Parcel 17, which is a farm with conservation restrictions on it that similarly would require a detailed examination of those conservation restrictions in order to see if there was any impact related to the solar farm. I therefore focused on the recent sale of Parcel 7 and the adjoining parcel to the south of that. They are technically not adjoining due to the access road for the flag-shaped lot to the east. Furthermore, there is an apparent access easement serving the two rear lots that encumber these two parcels which is a further limitation on these sales. This analysis assumes that the access easement does not negatively impact the subject property, though it may.

The landscaping buffer relative to this parcel is considered medium.

Adjoining Land Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	$/AC	Type	Other
7+	Adjoins	4514 Hawkins	36.86	3/31/2016	$180,000	$4,883	Pasture	Esmts
	Not	HD Atha	69.95	12/20/2016	$357,500	$5,111	Wooded	N/A
	Not	Pannell	66.94	11/8/2016	$322,851	$4,823	Mixed	*
	Not	1402 Roy	123.36	9/29/2016	$479,302	$3,885	Mixed	**

* Adjoining 1 acre purchased by same buyer in same deed. Allocation assigned on the County Tax Record.

** Dwelling built in 1996 with a 2016 tax assessed value of $75,800 deducted from sales price to reflect land value

Adjoining Sales Adjusted						Avg
Time	Size	Type	Other	Total/Ac	% Diff	% Diff
				$4,883		
$89	$256			$5,455	-12%	
-$90	$241			$4,974	-2%	
-$60	$389			$4,214	14%	
						0%

The range of impact identified by these matched pairs are -12% to +14%, with an average of 0% impact due to the solar farm. The best matched pair with the least adjustment supports a -2% impact due to the solar farm. I note again that this analysis considers no impact for the existing access easements that meander through this property and it may be having an impact. Still at -2% impact as the best indication for the solar farm, I consider that to be no impact given that market fluctuations support +/- 5%.

12. Matched Pair – Candace Solar, Princeton, NC

This 5 MW solar farm is located at 4839 US 70 Highway just east of Herring Road. This solar farm was completed on October 25, 2016.

I identified three adjoining sales to this tract after development of the solar farm with frontage on US 70. I did not attempt to analyze those sales as they have exposure to an adjacent highway and railroad track. Those homes are therefore problematic for a matched pair analysis unless I have similar homes fronting on a similar corridor.

I did consider a land sale and a home sale on adjoining parcels without those complications.

The lot at 499 Herring Road sold to Paradise Homes of Johnston County of NC, Inc. for $30,000 in May 2017 and a modular home was placed there and sold to Karen and Jason Toole on September 29, 2017. I considered the lot sale first as shown below and then the home sale that followed. The landscaping buffer relative to this parcel is considered medium.

Adjoining Land Sales After Solar Farm Approved							**Adjoining Sales Adjusted**				
Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Other**	**Time**	**Site**	**Other**	**Total**	**% Diff**
16	Adjoins	499 Herring	2.03	5/1/2017	$30,000					$30,000	
	Not	37 Becky	0.87	7/23/2019	$24,500	Sub/Pwr	-$1,679	$4,900		$27,721	8%
	Not	5858 Bizzell	0.88	8/17/2016	$18,000		$390	$3,600		$21,990	27%
	Not	488 Herring	2.13	12/20/2016	$35,000		$389			$35,389	-18%
										Average	5%

Following the land purchase, the modular home was placed on the site and sold. I have compared this modular home to the following sales to determine if the solar farm had any impact on the purchase price.

Adjoining Residential Sales After Solar Farm Approved

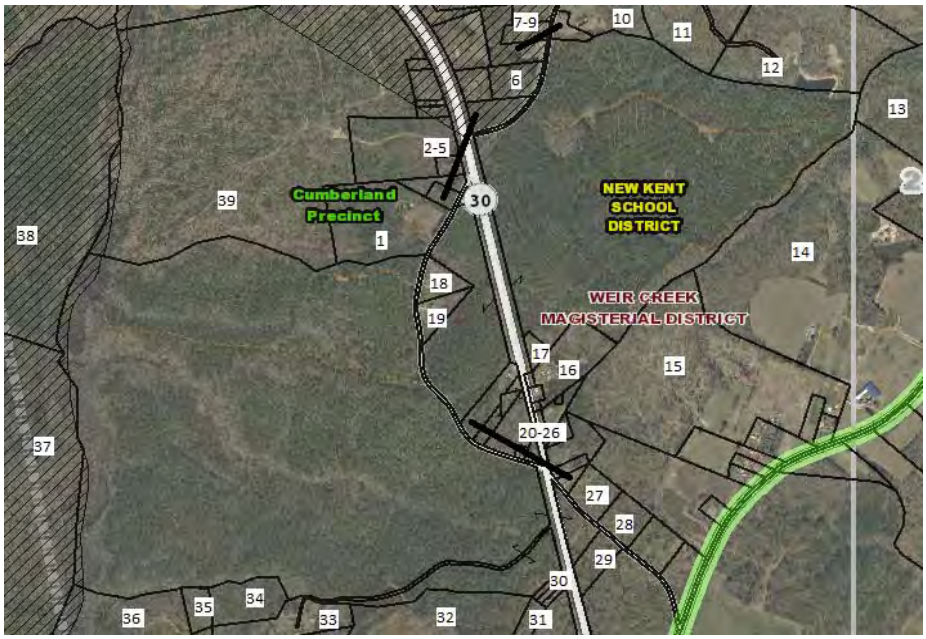
Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Built**	**GBA**	**$/GBA**	**BR/BA**	**Park**	**Style**	**Other**
16	Adjoins	499 Herring	2.03	9/27/2017	$215,000	2017	2,356	$91.26	4/3	Drive	Modular	
	Not	678 WC	6.32	3/8/2019	$226,000	1995	1,848	$122.29	3/2.5	Det Gar	Mobile	Ag bldgs
	Not	1810 Bay V	8.70	3/26/2018	$170,000	2003	2,356	$72.16	3/2	Drive	Mobile	Ag bldgs
	Not	1795 Bay V	1.78	12/1/2017	$194,000	2017	1,982	$97.88	4/3	Drive	Modular	

Adjoining Residential Sales Af			**Adjoining Sales Adjusted**									**Avg**	
Parcel	**Solar**	**Address**	**Time**	**Site**	**YB**	**GLA**	**BR/BA**	**Park**	**Other**	**Total**	**% Diff**	**% Diff**	**Distance**
16	Adjoins	499 Herring								$215,000			488
	Not	678 WC	-$10,037	-$25,000	$24,860	$37,275	-$5,000	-$7,500	-$20,000	$220,599	-3%		
	Not	1810 Bay V	-$2,579	-$20,000	$11,900	$0				$159,321	26%		
	Not	1795 Bay V	-$1,063		$0	$21,964				$214,902	0%		
												8%	

The best comparable is 1795 Bay Valley as it required the least adjustment and was therefore most similar, which shows a 0% impact. This signifies no impact related to the solar farm.

The range of impact identified by these matched pairs ranges are therefore -3% to +26% with an average of +8% for the home and an average of +4% for the lot, though the best indicator for the lot shows a $5,000 difference in the lot value due to the proximity to the solar farm or a -12% impact.

13. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamsville, VA



This project was built in 2017 and located on 484.65 acres for a 20 MW with the closest home at 110 feet from the closest solar panel with an average distance of 500 feet.

I considered the recent sale identified on the map above as Parcel 19, which is directly across the street and based on the map shown on the following page is 250 feet from the closest panel. A

limited buffering remains along the road with natural growth being encouraged, but currently the panels are visible from the road. Alex Uminski, SRA with MGMiller Valuations in Richmond VA confirmed this sale with the buying and selling broker. The selling broker indicated that the solar farm was not a negative influence on this sale and in fact the buyer noticed the solar farm and then discovered the listing. The privacy being afforded by the solar farm was considered a benefit by the buyer. I used a matched pair analysis with a similar sale nearby as shown below and found no negative impact on the sales price. Property actually closed for more than the asking price. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5241 Barham	2.65	10/18/2018	$264,000	2007	1,660	$159.04	3/2	Drive	Ranch	Modular
Not	17950 New Kent	5.00	9/5/2018	$290,000	1987	1,756	$165.15	3/2.5	3 Gar	Ranch	
Not	9252 Ordinary	4.00	6/13/2019	$277,000	2001	1,610	$172.05	3/2	1.5-Gar	Ranch	
Not	2416 W Miller	1.04	9/24/2018	$299,000	1999	1,864	$160.41	3/2.5	Gar	Ranch	

Adjoining Sales Adjusted

Solar	Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
Adjoins	5241 Barham								$264,000		250
Not	17950 New Kent		-$8,000	$29,000	-$4,756	-$5,000	-$20,000	-$15,000	$266,244	-1%	
Not	9252 Ordinary	-$8,310	-$8,000	$8,310	$2,581		-$10,000	-$15,000	$246,581	7%	
Not	2416 W Miller		$8,000	$11,960	-$9,817	-$5,000	-$10,000	-$15,000	$279,143	-6%	
								Average Diff		0%	

I also spoke with Patrick W. McCrerey of Virginia Estates who was marketing a property that sold at 5300 Barham Road adjoining the Walker-Correctional Solar Farm. He indicated that this property was unique with a home built in 1882 and heavily renovated and updated on 16.02 acres. The solar farm was through the woods and couldn't be seen by this property and it had no impact on marketing this property. This home sold on April 26, 2017 for $358,000. I did not set up any matched pairs for this property since it is a unique property that any such comparison would be difficult to rely on. The broker's comments do support the assertion that the adjoining solar farm had no impact on value. The home in this case was 510 feet from the closest panel.

14. Matched Pair – Innovative Solar 46, Roslin Farm Rd, Hope Mills, NC

This project was built in 2016 and located on 532 acres for a 78.5 MW solar farm with the closest home at 125 feet from the closest solar panel with an average distance of 423 feet.

I considered the recent sale of a home on Roslin Farm Road just north of Running Fox Road as shown below. This sale supports an indication of no impact on property value. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	6849 Roslin Farm	1.00	2/18/2019	$155,000	1967	1,610	$96.27	3/3	Drive	Ranch	Brick	435
Not	6592 Sim Canady	2.43	9/5/2017	$185,000	1974	2,195	$84.28	3/2	Gar	Ranch	Brick	
Not	1614 Joe Hall	1.63	9/3/2019	$145,000	1974	1,674	$86.62	3/2	Det Gar	Ranch	Brick	
Not	109 Bledsoe	0.68	1/17/2019	$150,000	1973	1,663	$90.20	3/2	Gar	Ranch	Brick	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	6849 Roslin Farm								$155,000		5%
Not	6592 Sim Canady	$8,278		-$6,475	-$39,444	$10,000	-$5,000		$152,359	2%	
Not	1614 Joe Hall	-$2,407		-$5,075	-$3,881	$10,000	-$2,500		$141,137	9%	
Not	109 Bledsoe	$404	$10,000	-$4,500	-$3,346		-$5,000		$147,558	5%	

15. Matched Pair – Innovative Solar 42, County Line Rd, Fayetteville, NC

This project was built in 2017 and located on 413.99 acres for a 71 MW with the closest home at 135 feet from the closest solar panel with an average distance of 375 feet.

I considered the recent sales identified on the map above as Parcels 2 and 3, which is directly across the street these homes are 330 and 340 feet away. Parcel 2 includes an older home built in 1976, while Parcel 3 is a new home built in 2019. So the presence of the solar farm had no impact on new construction in the area.

The matched pairs for each of these are shown below. The landscaping buffer relative to these parcels is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2923 County Ln	8.98	2/28/2019	$385,000	1976	2,905	$132.53	3/3	2-Car	Ranch	Brick/Pond	340
Not	1928 Shaw Mill	17.00	7/3/2019	$290,000	1977	3,001	$96.63	4/4	2-Car	Ranch	Brick/Pond/Rental	
Not	2109 John McM.	7.78	4/25/2018	$320,000	1978	2,474	$129.35	3/2	Det Gar	Ranch	Vinyl/Pool,Stable	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2923 County Ln								$385,000		3%
Not	1928 Shaw Mill	-$3,055	$100,000	-$1,450	-$7,422	-$10,000			$368,074	4%	
Not	2109 John McM.	$8,333		-$3,200	$39,023	$10,000		$5,000	$379,156	2%	

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2935 County Ln	1.19	6/18/2019	$266,000	2019	2,401	$110.79	4/3	Gar	2-Story		330
Not	3005 Hemingway	1.17	5/16/2019	$269,000	2018	2,601	$103.42	4/3	Gar	2-Story		
Not	7031 Glynn Mill	0.60	5/8/2018	$255,000	2017	2,423	$105.24	4/3	Gar	2-Story		
Not	5213 Bree Brdg	0.92	5/7/2019	$260,000	2018	2,400	$108.33	4/3	3-Gar	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2935 County Ln								$266,000		3%
Not	3005 Hemingway	$748		$1,345	-$16,547				$254,546	4%	
Not	7031 Glynn Mill	$8,724		$2,550	-$1,852				$264,422	1%	
Not	5213 Bree Brdg	$920		$1,300	$76			-$10,000	$252,296	5%	

Both of these matched pairs adjust to an average of +3% on impact for the adjoining solar farm, meaning there is a slight positive impact due to proximity to the solar farm. This is within the standard +/- of typical real estate transactions, which strongly suggests no impact on property value. I noted specifically that for 2923 County Line Road, the best comparable is 2109 John McMillan as it does not have the additional rental unit on it. I made no adjustment to the other sale for the value of that rental unit, which would have pushed the impact on that comparable downward – meaning there would have been a more significant positive impact.

16. Matched Pair – Sunfish Farm, Keenebec Rd, Willow Spring, NC

This project was built in 2015 and located on 49.6 acres (with an inset 11.25 acre parcel) for a 6.4 MW project with the closest home at 135 feet with an average distance of 105 feet.

I considered the 2017 sale identified on the map above, which is 205 feet away from the closest panel. The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site. The average difference in the three comparables and the subject property is +3% after adjusting for differences in the sales date, year built, gross living area, and other minor differences. This data is supported by the comments from the broker Brian Schroepfer with Keller Williams that the solar farm had no impact on the purchase price. The landscaping screen is considered light.

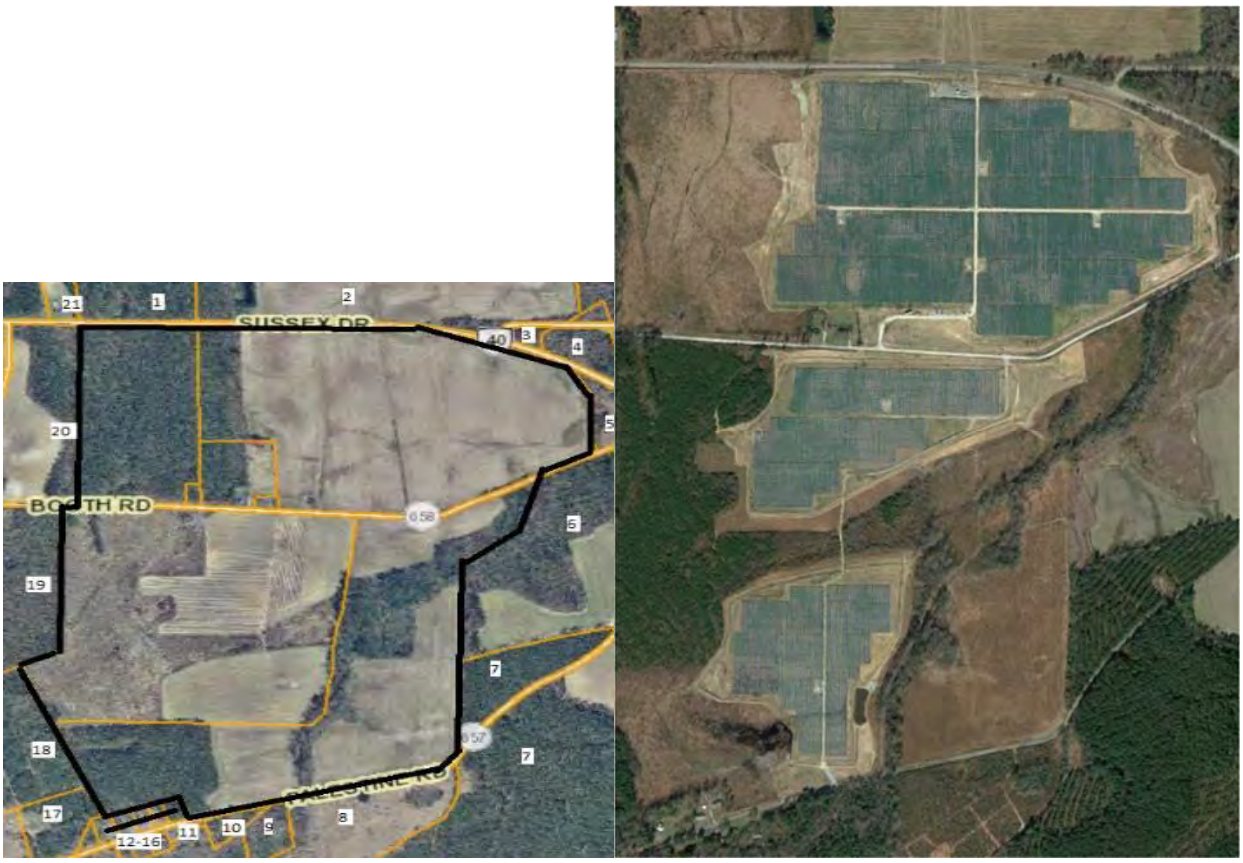
Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style
	Adjoins	7513 Glen Willow	0.79	9/1/2017	$185,000	1989	1,492	$123.99	3/2	Gar	BR/Rnch
	Not	2968 Tram	0.69	7/17/2017	$155,000	1984	1,323	$117.16	3/2	Drive	BR/Rnch
	Not	205 Pine Burr	0.97	12/29/2017	$191,000	1991	1,593	$119.90	3/2.5	Drive	BR/Rnch
	Not	1217 Old Honeycutt	1.00	12/15/2017	$176,000	1978	1,558	$112.97	3/2.5	2Carprt	VY/Rnch

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	7513 Glen Willow								$185,000		
Not	2968 Tram	$601		$3,875	$15,840		$10,000		$185,316	0%	
Not	205 Pine Burr	-$1,915		-$1,910	-$9,688	-$5,000			$172,487	7%	
Not	1217 Old Honeycutt	-$1,557		$9,680	-$5,965	-$5,000		$5,280	$178,438	4%	
											3%

17. Matched Pair – Sappony Solar, Sussex County, VA



This project is a 30 MW facility located on a 322.68-acre tract that was built in the fourth quarter of 2017.

I have considered the 2018 sale of Parcel 17 as shown below. This was a 1,900 s.f. manufactured home on a 6.00-acre lot that sold in 2018. I have compared that to three other nearby manufactured homes as shown below. The range of impacts is within typical market variation with an average of -1%, which supports a conclusion of no impact on property value. The landscaping buffer is considered medium.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
	Adjoins	12511 Palestine	6.00	7/31/2018	$128,400	2013	1,900	$67.58	4/2.5	Open	Manuf	
	Not	15698 Concord	3.92	7/31/2018	$150,000	2010	2,310	$64.94	4/2	Open	Manuf	Fence
	Not	23209 Sussex	1.03	7/7/2020	$95,000	2005	1,675	$56.72	3/2	Det Crpt	Manuf	
	Not	6494 Rocky Br	4.07	11/8/2018	$100,000	2004	1,405	$71.17	3/2	Open	Manuf	

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							$128,400			1425
$0		$2,250	-$21,299	$5,000			$135,951	-6%		
-$5,660	$13,000	$3,800	$10,209	$5,000	$1,500		$122,849	4%		
-$843		$4,500	$28,185				$131,842	-3%		
									-1%	

18. Matched Pair – Camden Dam, Camden, NC

This 5 MW project was built in 2019 and located on a portion of 49.83 acres.

Parcel 1 noted above along with the home on the adjoining parcel to the north of that parcel sold in late 2018 after this solar farm was approved but prior to construction being completed in 2019. I have considered this sale as shown below. The landscaping screen is considered light.

The comparable at 548 Trotman is the most similar and required the least adjustment shows no impact on property value. The other two comparables were adjusted consistently with one showing significant enhancement and another as showing a mild negative. The best indication is the one requiring the least adjustment. The other two sales required significant site adjustments which make them less reliable. The best comparable and the average of these comparables support a finding of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	122 N Mill Dam	12.19	11/29/2018	$350,000	2005	2,334	$149.96	3/3.5	3-Gar	Ranch	
Not	548 Trotman	12.10	5/31/2018	$309,000	2007	1,960	$157.65	4/2	Det2G	Ranch	Wrkshp
Not	198 Sand Hills	2.00	12/22/2017	$235,000	2007	2,324	$101.12	4/3	Open	Ranch	
Not	140 Sleepy Hlw	2.05	8/12/2019	$330,000	2010	2,643	$124.86	4/3	1-Gar	1.5 Story	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
122 N Mill Dam								$350,000			342
548 Trotman	$6,163		-$3,090	$35,377	$5,000			$352,450	-1%		
198 Sand Hills	$8,808	$45,000	-$2,350	$607		$30,000		$317,064	9%		
140 Sleepy Hlw	-$9,258	$45,000	-$8,250	-$23,149	$5,000	$30,000		$369,343	-6%		
										1%	

19. Matched Pair – Grandy Solar, Grandy, NC

This 20 MW project was built in 2019 and located on a portion of 121 acres.

Parcels 40 and 50 have sold since construction began on this solar farm. I have considered both in matched pair analysis below. I note that the marketing for Parcel 40 (120 Par Four) identified the lack of homes behind the house as a feature in the listing. The marketing for Parcel 50 (269 Grandy) identified the property as "very private." Landscaping for both of these parcels is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	120 Par Four	0.92	8/17/2019	$315,000	2006	2,188	$143.97	4/3	2-Gar	1.5 Story	Pool
Not	102 Teague	0.69	1/5/2020	$300,000	2005	2,177	$137.80	3/2	Det 3G	Ranch	
Not	112 Meadow Lk	0.92	2/28/2019	$265,000	1992	2,301	$115.17	3/2	Gar	1.5 Story	
Not	116 Barefoot	0.78	9/29/2020	$290,000	2004	2,192	$132.30	4/3	2-Gar	2 Story	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
120 Par Four								$315,000			405
102 Teague	-$4,636		$1,500	$910	$10,000		$20,000	$327,774	-4%		
112 Meadow Lk	$4,937		$18,550	-$7,808	$10,000	$10,000	$20,000	$320,679	-2%		
116 Barefoot	-$12,998		$2,900	-$318			$20,000	$299,584	5%		
										0%	

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	269 Grandy	0.78	5/7/2019	$275,000	2019	1,535	$179.15	3/2.5	2-Gar	Ranch	
Not	307 Grandy	1.04	10/8/2018	$240,000	2002	1,634	$146.88	3/2	Gar	1.5 Story	
Not	103 Branch	0.95	4/22/2020	$230,000	2000	1,532	$150.13	4/2	2-Gar	1.5 Story	
Not	103 Spring Lf	1.07	8/14/2018	$270,000	2002	1,635	$165.14	3/2	2-Gar	Ranch	Pool

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
269 Grandy								$275,000			477
307 Grandy	$5,550		$20,400	-$8,725	$5,000	$10,000		$272,225	1%		
103 Branch	-$8,847		$21,850	$270				$243,273	12%		
103 Spring Lf	$7,871		$22,950	-$9,908	$5,000		-$20,000	$275,912	0%		
										4%	

Both of these matched pairs support a finding of no impact on value. This is reinforced by the listings for both properties identifying the privacy due to no housing in the rear of the property as part of the marketing for these homes.

20. Matched Pair – Champion Solar, Lexington County, SC

This project is a 10 MW facility located on a 366.04-acre tract that was built in 2017.

I have considered the 2020 sale of an adjoining home located off 517 Old Charleston Road. Landscaping is considered light.

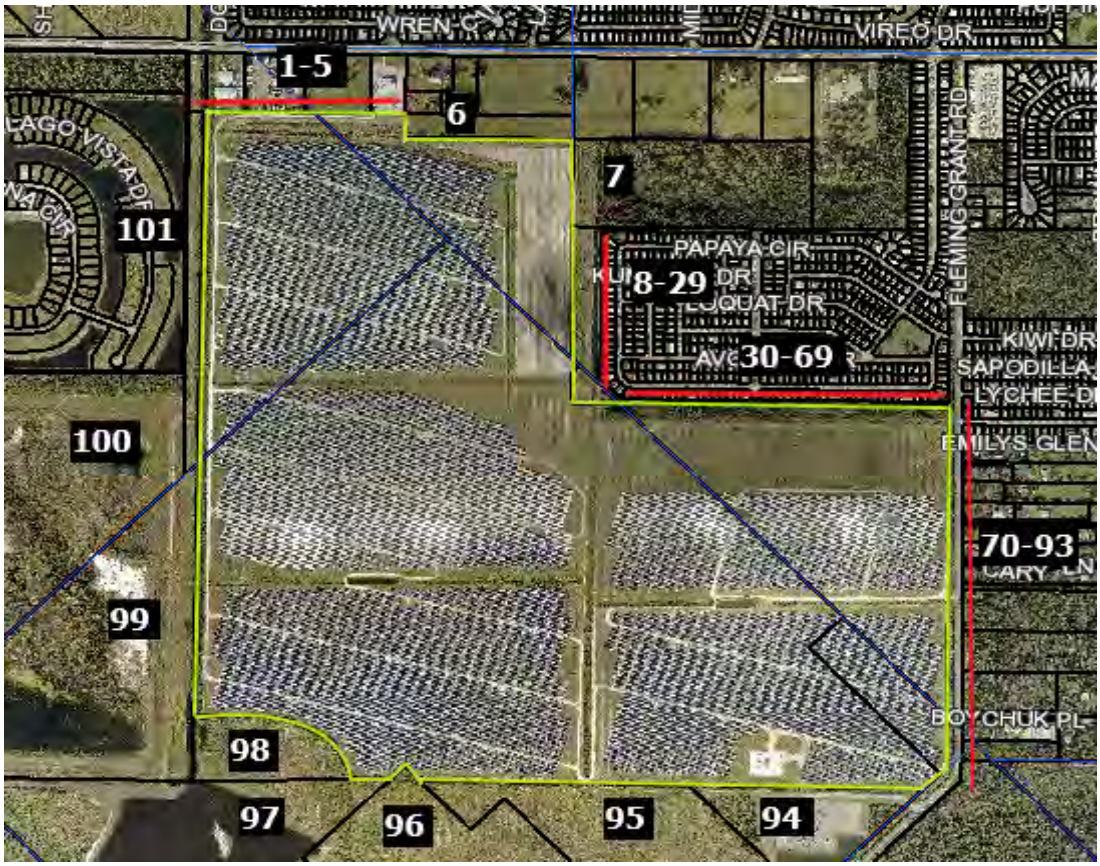
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	517 Old Charleston	11.05	8/25/2020	$110,000	1962	925	$118.92	3/1	Crport	Br Rnch	
Not	133 Buena Vista	2.65	6/21/2020	$115,000	1979	1,104	$104.17	2/2	Crport	Br Rnch	
Not	214 Crystal Spr	2.13	6/10/2019	$102,500	1970	1,025	$100.00	3/2	Crport	Rnch	
Not	1429 Laurel	2.10	2/21/2019	$126,000	1960	1,250	$100.80	2/1.5	Open	Br Rnch	3 Gar/Brn

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
517 Old Charleston								$110,000			505
133 Buena Vista	$410	$17,000	-$9,775	-$14,917	-$10,000			$97,718	11%		
214 Crystal Spr	$2,482	$18,000	-$4,100	-$8,000	-$10,000		$10,000	$110,882	-1%		
1429 Laurel	$3,804	$18,000	$1,260	-$26,208	-$5,000	$5,000	-$15,000	$107,856	2%		
										4%	

21. Matched Pair – Barefoot Bay Solar Farm, Barefoot Bay, FL



This project is located on 504 acres for a 704.5 MW facility. Most of the adjoining uses are medium density residential with some lower density agricultural uses to the southwest. This project was built in 2018. There is a new subdivision under development to the west.

I have considered a number of recent home sales from the Barefoot Bay Golf Course in the Barefoot Bay Recreation District. There are a number of sales of these mobile/manufactured homes along the eastern boundary and the lower northern boundary. I have compared those home sales to other similar homes in the same community but without the exposure to the solar farm. Staying within the same community keeps location and amenity impacts consistent. I did avoid any comparison with home sales with golf course or lakefront views as that would introduce another variable.

The six manufactured/double wide homes shown below were each compared to three similar homes in the same community and are consistently showing no impact on the adjoining property values. Based on the photos from the listings, there is limited but some visibility of the solar farm to the east, but the canal and landscaping between are providing a good visual buffer and actually are commanding a premium over the non-canal homes.

Landscaping for these adjoining homes is considered light, though photographs from the listings show that those homes on Papaya that adjoin the solar farm from east/west have no visibility of the solar farm and is effectively medium density due to the height differential. The homes that adjoin the solar farm from north/south along Papaya have some filtered view of the solar farm through the trees.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
14	Adjoins	465 Papaya Cr	0.12	7/21/2019	$155,000	1993	1,104	$140.40	2/2	Drive	Manuf	Canal
	Not	1108 Navajo	0.14	2/27/2019	$129,000	1984	1,220	$105.74	2/2	Crprt	Manuf	Canal
	Not	1007 Barefoot	0.11	9/3/2020	$168,000	2005	1,052	$159.70	2/2	Crprt	Manuf	Canal
	Not	1132 Waterway	0.11	7/10/2020	$129,000	1982	1,012	$127.47	2/2	Crprt	Manuf	Canal

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
465 Papaya Cr							$155,000			765
1108 Navajo	$1,565	$5,805	-$9,812				$126,558	18%		
1007 Barefoot	-$5,804	-$10,080	$6,643				$158,759	-2%		
1132 Waterway	-$3,859	$7,095	$9,382				$141,618	9%		
									8%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
19	Adjoins	455 Papaya	0.12	9/1/2020	$183,500	2005	1,620	$113.27	3/2	Crprt	Manuf	Canal
	Not	938 Waterway	0.11	2/12/2020	$160,000	1986	1,705	$93.84	2/2	Crprt	Manuf	Canal
	Not	719 Barefoot	0.12	4/14/2020	$150,000	1996	1,635	$91.74	3/2	Crprt	Manuf	Canal
	Not	904 Fir	0.17	9/27/2020	$192,500	2010	1,626	$118.39	3/2	Crprt	Manuf	Canal

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
455 Papaya							$183,500			750
938 Waterway	$2,724	$15,200	-$6,381				$171,542	7%		
719 Barefoot	$1,770	$6,750	-$1,101				$157,419	14%		
904 Fir	-$422	-$4,813	-$568				$186,697	-2%		
									6%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
37	Adjoins	419 Papaya	0.09	7/16/2019	$127,500	1986	1,303	$97.85	2/2	Crprt	Manuf	Green
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	501 Papaya	0.10	6/15/2018	$109,000	1986	1,234	$88.33	2/2	Crprt	Manuf	
	Not	418 Papaya	0.09	8/28/2019	$110,000	1987	1,248	$88.14	2/2	Crprt	Manuf	

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
419 Papaya							$127,500			690
865 Tamarind	$1,828	-$6,026	-$5,090				$124,613	2%		
501 Papaya	$3,637	$0	$4,876			$5,000	$122,513	4%		
418 Papaya	-$399	-$550	$3,878			$5,000	$117,930	8%		
									5%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
39	Adjoins	413 Papaya	0.09	7/16/2020	$130,000	2001	918	$141.61	2/2	Crprt	Manuf	Grn/Upd
	Not	341 Loquat	0.09	2/3/2020	$118,000	1985	989	$119.31	2/2	Crprt	Manuf	Full Upd
	Not	1119 Pocatella	0.19	1/5/2021	$120,000	1993	999	$120.12	2/2	Crprt	Manuf	Green
	Not	1367 Barefoot	0.10	1/12/2021	$130,500	1987	902	$144.68	2/2	Crprt	Manuf	Green/Upd

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
413 Papaya							$130,000			690
341 Loquat	$1,631	$9,440	-$6,777				$122,294	6%		
1119 Pocatella	-$1,749	$4,800	-$7,784			$5,000	$120,267	7%		
1367 Barefoot	-$1,979	$9,135	$1,852				$139,507	-7%		
									2%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
48	Adjoins	343 Papaya	0.09	12/17/2019	$145,000	1986	1,508	$96.15	3/2	Crprt	Manuf	Gn/Fc/Upd
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	515 Papaya	0.09	3/22/2018	$145,000	2005	1,376	$105.38	3/2	Crprt	Manuf	Green
	Not	849 Tamarind	0.15	6/26/2019	$155,000	1997	1,716	$90.33	3/2	Crprt	Manuf	Grn/Fnce

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
343 Papaya							$145,000			690
865 Tamarind	$3,566	-$6,026	$10,963				$142,403	2%		
515 Papaya	$7,759	-$13,775	$11,128				$150,112	-4%		
849 Tamarind	$2,273	-$8,525	-$15,030			$5,000	$138,717	4%		
									1%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
52	Nearby	335 Papaya	0.09	4/17/2018	$110,000	1987	1,180	$93.22	2/2	Crprt	Manuf	Green
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	501 Papaya	0.10	6/15/2018	$109,000	1986	1,234	$88.33	2/2	Crprt	Manuf	
	Not	604 Puffin	0.09	10/23/2018	$110,000	1988	1,320	$83.33	2/2	Crprt	Manuf	

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
335 Papaya							$110,000			710
865 Tamarind	-$3,306	-$5,356	-$14,721			$0	$110,517	0%		
501 Papaya	-$542	$545	-$3,816			$5,000	$110,187	0%		
604 Puffin	-$1,752	-$550	-$9,333			$5,000	$103,365	6%		
									2%	

I also identified a new subdivision being developed just to the west of this solar farm called The Lakes at Sebastian Preserve. These are all canal-lot homes that are being built with homes starting at $271,000 based on the website and closed sales showing up to $342,000. According to Monique, the onsite broker with Holiday Builders, the solar farm is difficult to see from the lots that back up to that area and she does not anticipate any difficulty in selling those future homes or lots or any impact on the sales price. The closest home that will be built in this development will be approximately 340 feet from the nearest panel.

Based on the closed home prices in Barefoot Bay as well as the broker comments and activity at The Lakes at Sebastian Preserve, the data around this solar farm strongly indicates no negative impact on property value.

22. Matched Pair – Miami-Dade Solar Farm, Miami, FL

This project is located on 346.80 acres for a 74.5 MW facility. All of the adjoining uses are agricultural and residential. This project was built in 2019.

I considered the recent sale of Parcel 26 to the south that sold for over $1.6 million dollars. This home is located on 4.2 acres with additional value in the palm trees according to the listing. The comparables include similar homes nearby that are all actually on larger lots and several include avocado or palm tree income as well. All of the comparables are in similar proximity to the subject and all have similar proximity to the Miami-Dade Executive airport that is located 2.5 miles to the east.

These sales are showing no impact on the value of the property from the adjoining solar farm. The landscaping is considered light.

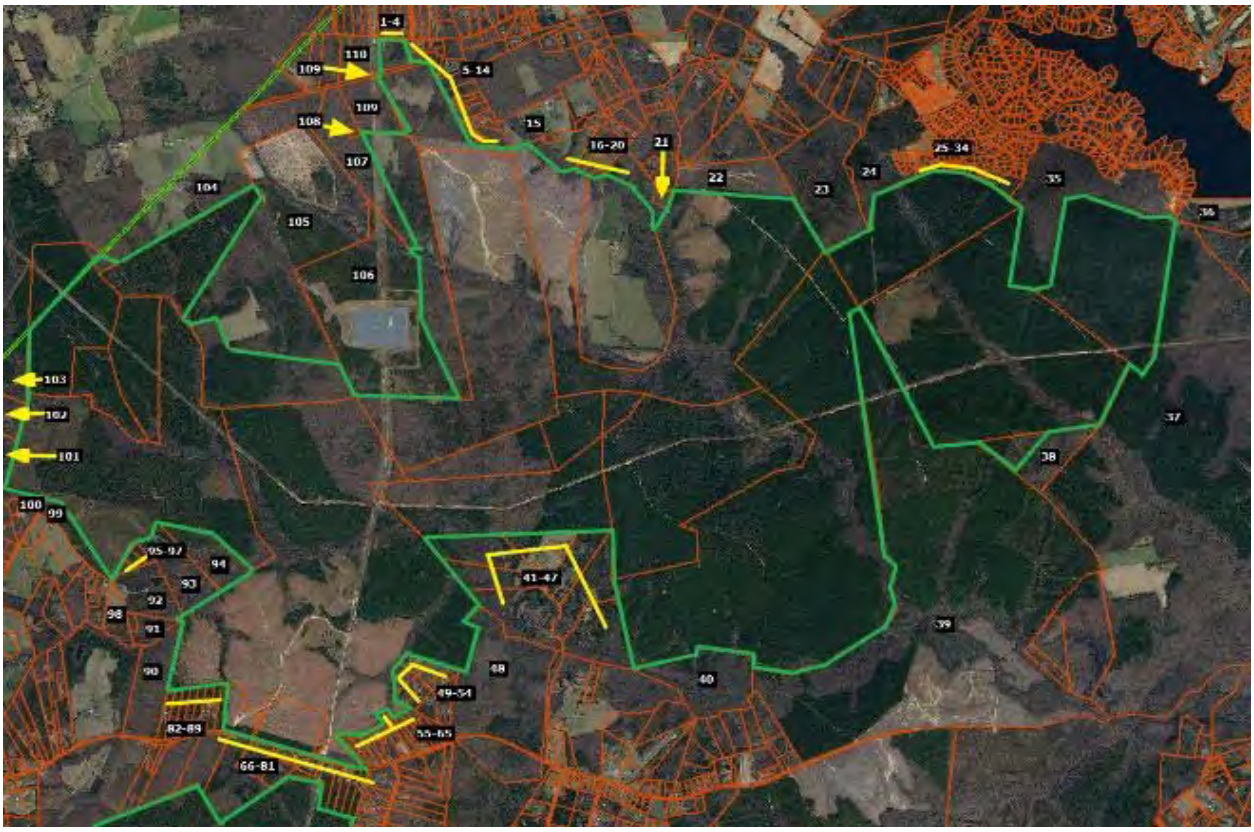
Adjoining Residential Sales After Solar Farm Approved

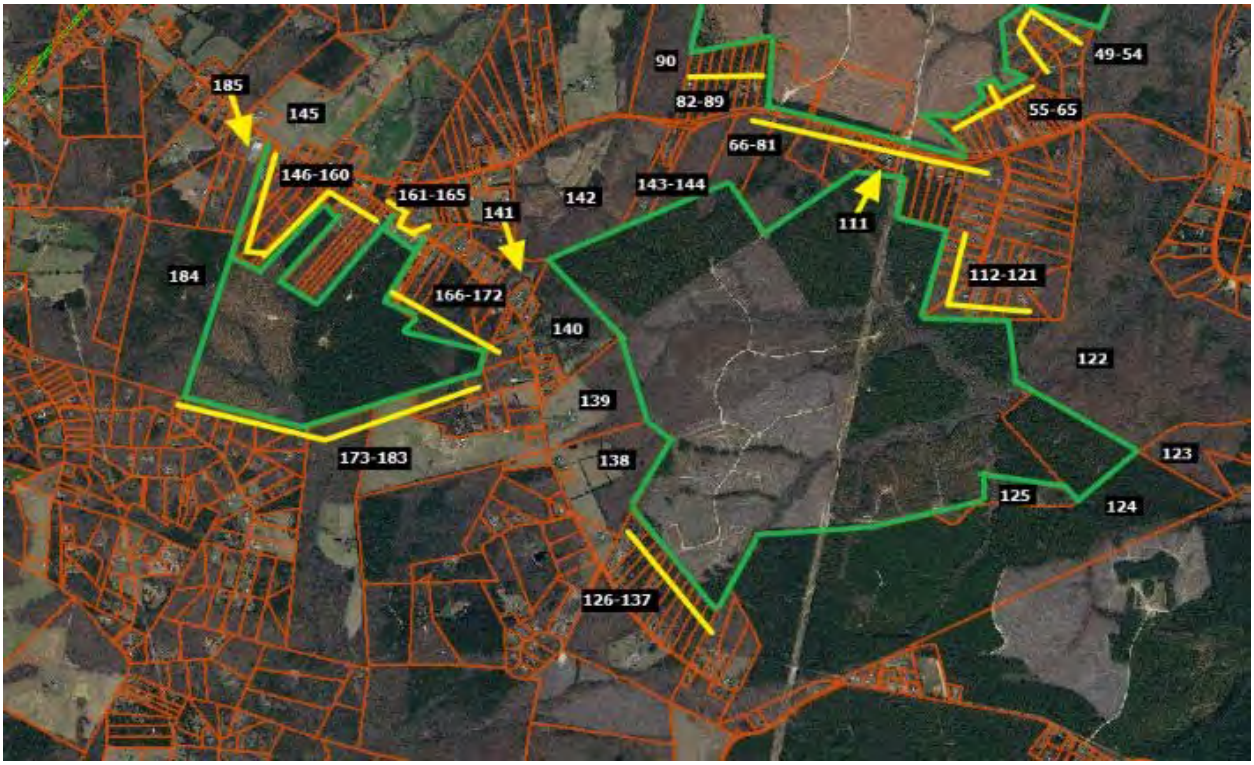
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
26	Adjoins	13600 SW 182nd	4.20	11/5/2020	$1,684,000	2008	6,427	$262.02	5/5.5	3 Gar	CBS Rnch	Pl/Guest
	Not	18090 SW 158th	5.73	10/8/2020	$1,050,000	1997	3,792	$276.90	5/4	3 Gar	CBS Rnch	
	Not	14311 SW 187th	4.70	10/22/2020	$1,100,000	2005	3,821	$287.88	6/5	3 Gar	CBS Rnch	Pool
	Not	17950 SW 158th	6.21	10/22/2020	$1,730,000	2000	6,917	$250.11	6/5.5	2 Gar	CBS Rnch	Pool

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
13600 SW 182nd								$1,684,000			1390
18090 SW 158th	$2,478		$57,750	$583,703	$30,000			$1,723,930	-2%		
14311 SW 187th	$1,298		$16,500	$600,178	$10,000			$1,727,976	-3%		
17950 SW 158th	$2,041		$69,200	-$98,043		$10,000		$1,713,199	-2%		
										-2%	

23. Matched Pair – Spotsylvania Solar, Paytes, VA





This solar farm is being built in four phases with the area known as Site C having completed construction in November 2020 after the entire project was approved in April 2019. Site C, also known as Pleinmont 1 Solar, includes 99.6 MW located in the southeast corner of the project and shown on the maps above with adjoining parcels 111 through 144. The entire Spotsylvania project totals 617 MW on 3500 acres out of a parent tract assemblage of 6,412 acres.

I have identified three adjoining home sales that occurred during construction and development of the site in 2020.

The first is located on the north side of Site A on Orange Plank Road. The second is located on Nottoway Lane just north of Caparthin Road on the south side of Site A and east of Site C. The third is located on Post Oak Road for a home that backs up to Site C that sold in September 2020 near the completion of construction for Site C.

Spotsylvania Solar Farm

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	12901 Orng Plnk	5.20	8/27/2020	$319,900	1984	1,714	$186.64	3/2	Drive	1.5	Un Bsmt
Not	8353 Gold Dale	3.00	1/27/2021	$415,000	2004	2,064	$201.07	3/2	3 Gar	Ranch	
Not	6488 Southfork	7.26	9/9/2020	$375,000	2017	1,680	$223.21	3/2	2 Gar	1.5	Barn/Patio
Not	12717 Flintlock	0.47	12/2/2020	$290,000	1990	1,592	$182.16	3/2.5	Det Gar	Ranch	

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
12901 Orng Plnk								$319,900		1270
8353 Gold Dale	-$5,219	$20,000	-$41,500	-$56,298		-$20,000		$311,983	2%	
6488 Southfork	-$401	-$20,000	-$61,875	$6,071		-$15,000		$283,796	11%	
12717 Flintlock	-$2,312	$40,000	-$8,700	$17,779	-$5,000	-$5,000		$326,767	-2%	
							Average Diff		4%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	9641 Nottoway	11.00	5/12/2020	$449,900	2004	3,186	$141.21	4/2.5	Garage	2-Story	Un Bsmt
Not	26123 Lafayette	1.00	8/3/2020	$390,000	2006	3,142	$124.12	3/3.5	Gar/DtG	2-Story	
Not	11626 Forest	5.00	8/10/2020	$489,900	2017	3,350	$146.24	4/3.5	2 Gar	2-Story	
Not	10304 Pny Brnch	6.00	7/27/2020	$485,000	1998	3,076	$157.67	4/4	2Gar/Dt2	Ranch	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
9641 Nottoway								$449,900		1950
26123 Lafayette	-$2,661	$45,000	-$3,900	$4,369	-$10,000	-$5,000		$417,809	7%	
11626 Forest	-$3,624		-$31,844	-$19,187		-$5,000		$430,246	4%	
10304 Pny Brnch	-$3,030		$14,550	$13,875	-$15,000	-$15,000	-$10,000	$470,396	-5%	
							Average Diff		2%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	13353 Post Oak	5.20	9/21/2020	$300,000	1992	2,400	$125.00	4/3	Drive	2-Story	Fn Bsmt
Not	9609 Logan Hgt	5.86	7/4/2019	$330,000	2004	2,352	$140.31	3/2	2Gar	2-Story	
Not	12810 Catharpian	6.18	1/30/2020	$280,000	2008	2,240	$125.00	4/2.5	Drive	2-Story	Bsmt/Nd Pnt
Not	10725 Rbrt Lee	5.01	10/26/2020	$295,000	1995	2,166	$136.20	4/3	Gar	2-Story	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
13353 Post Oak								$300,000		1171
9609 Logan Hgt	$12,070		-$19,800	$5,388		-$15,000	$15,000	$327,658	-9%	
12810 Catharpian	$5,408		-$22,400	$16,000	$5,000		$15,000	$299,008	0%	
10725 Rbrt Lee	-$849		-$4,425	$25,496		-$10,000		$305,222	-2%	
							Average Diff		-4%	

All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

Conclusion – SouthEast Over 5 MW

Southeast USA Over 5 MW
Matched Pair Summary

							Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Pop.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	$37,358	$148,375	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	$106,550	$350,000	Light
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	$35,057	$126,562	Light
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
6	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	$43,940	$99,219	Heavy
7	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
8	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
9	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	$36,439	$137,884	Light
10	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
11	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
12	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	$51,002	$107,171	Medium
13	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
14	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
15	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
16	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	$63,652	$253,138	Light
17	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Light
18	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	$84,426	$230,288	Light
19	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Light
20	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	$46,867	$171,939	Light
21	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
22	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
23	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Md to Hvy
	Average			485	57.04	38	24%	48%	22%	6%	923	$63,955	$237,700	
	Median			234	20.00	20	17%	59%	11%	0%	467	$60,037	$231,408	
	High			3,500	617.00	160	76%	98%	94%	44%	4,689	$120,861	$483,333	
	Low			35	5.00	0	1%	0%	0%	0%	48	$35,057	$99,219	

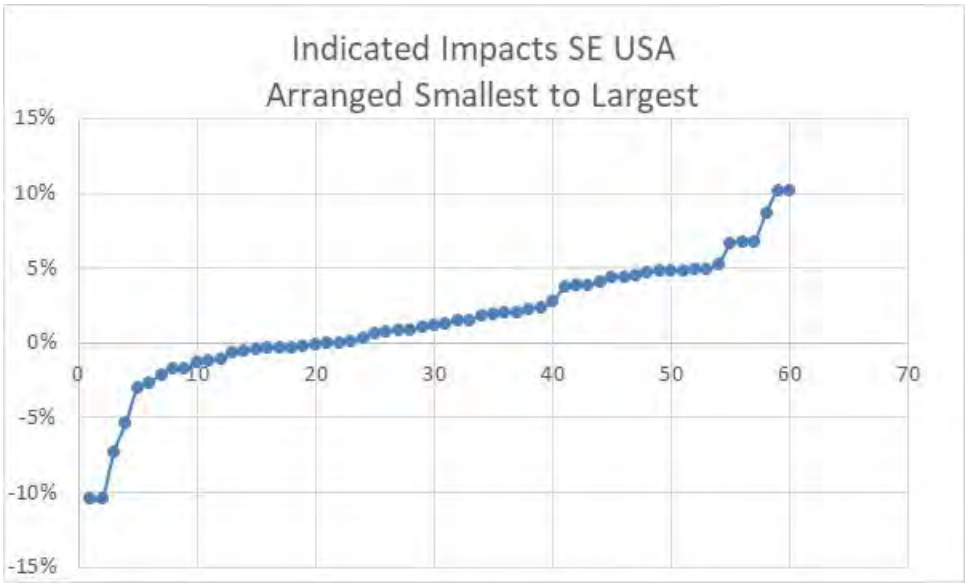
The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in farm more urban areas. The median income for the population within 1 mile of a solar farm is $60,037 with a median housing unit value of $231,408. Most of the comparables are under $300,000 in the home price, with $483,333 being the high end of the set, though I have matched pairs in multiple states over $1,000,000 adjoining solar farms. The adjoining uses show that residential and agricultural uses are the predominant adjoining uses. These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for Virginia and adjoining states as well as the proposed subject property.

Based on the similarity of adjoining uses and demographic data between these sites and the subject property, I consider it reasonable to compare these sites to the subject property.

I have pulled 56 matched pairs from the above referenced solar farms to provide the following summary of home sale matched pairs and land sales next to solar farms. The summary shows that the range of differences is from -10% to +10% with an average of +1% and median of +1%. This means that the average and median impact is for a slight positive impact due to adjacency to a solar farm. However, this +1 to rate is within the typical variability I would expect from real estate. I therefore conclude that this data shows no negative or positive impact due to adjacency to a solar farm.

While the range is seemingly wide, the graph below clearly shows that the vast majority of the data falls between -5% and +5% and most of those are clearly in the 0 to +5% range. This data strongly supports an indication of no impact on adjoining residential uses to a solar farm.

I therefore conclude that these matched pairs support a finding of no impact on value at the subject property for the proposed project, which as proposed will include a landscaped buffer to screen adjoining residential properties.


Indicated Impacts SE USA
Arranged Smallest to Largest
15%
10%
5%
0%
-5%
-10%
-15%
0
10
20
30
40
50
60
70

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
1	AM Best	Goldsboro	NC	5	280	3600195570	Sep-13	$250,000			Light
						3600198928	Mar-14	$250,000	$250,000	0%	
2	AM Best	Goldsboro	NC	5	280	3600195361	Sep-13	$260,000			Light
						3600194813	Apr-14	$258,000	$258,000	1%	
3	AM Best	Goldsboro	NC	5	280	3600199891	Jul-14	$250,000			Light
						3600198928	Mar-14	$250,000	$250,000	0%	
4	AM Best	Goldsboro	NC	5	280	3600198632	Aug-14	$253,000			Light
						3600193710	Oct-13	$248,000	$248,000	2%	
5	AM Best	Goldsboro	NC	5	280	3600196656	Dec-13	$255,000			Light
						3601105180	Dec-13	$253,000	$253,000	1%	
6	AM Best	Goldsboro	NC	5	280	3600182511	Feb-13	$247,000			Light
						3600183905	Dec-12	$240,000	$245,000	1%	
7	AM Best	Goldsboro	NC	5	280	3600182784	Apr-13	$245,000			Light
						3600193710	Oct-13	$248,000	$248,000	-1%	
8	AM Best	Goldsboro	NC	5	280	3600195361	Nov-15	$267,500			Light
						3600195361	Sep-13	$260,000	$267,800	0%	
9	Mulberry	Selmer	TN	5	400	0900A011	Jul-14	$130,000			Light
						099CA043	Feb-15	$148,900	$136,988	-5%	
10	Mulberry	Selmer	TN	5	400	099CA002	Jul-15	$130,000			Light
						0990NA040	Mar-15	$120,000	$121,200	7%	
11	Mulberry	Selmer	TN	5	480	491 Dusty	Oct-16	$176,000			Light
						35 April	Aug-16	$185,000	$178,283	-1%	
12	Mulberry	Selmer	TN	5	650	297 Country	Sep-16	$150,000			Medium
						53 Glen	Mar-17	$126,000	$144,460	4%	
13	Mulberry	Selmer	TN	5	685	57 Cooper	Feb-19	$163,000			Medium
						191 Amelia	Aug-18	$132,000	$155,947	4%	
14	Leonard Rd	Hughesville	MD	5.5	230	14595 Box Elder	Feb-16	$291,000			Light
						15313 Bassford Rd	Jul-16	$329,800	$292,760	-1%	
15	Neal Hawkins	Gastonia	NC	5	225	609 Neal Hawkins	Mar-17	$270,000			Light
						1418 N Modena	Apr-18	$225,000	$242,520	10%	
16	Summit	Moyock	NC	80	1,060	129 Pinto	Apr-16	$170,000			Light
						102 Timber	Apr-16	$175,500	$175,101	-3%	
17	Summit	Moyock	NC	80	980	105 Pinto	Dec-16	$206,000			Light
						127 Ranchland	Jun-15	$219,900	$198,120	4%	
18	Tracy	Bailey	NC	5	780	9162 Winters	Jan-17	$255,000			Heavy
						7352 Red Fox	Jun-16	$176,000	$252,399	1%	
19	Manatee	Parrish	FL	75	1180	13670 Highland	Aug-18	$255,000			Heavy
						13851 Highland	Sep-18	$240,000	$255,825	0%	
20	McBride Place	Midland	NC	75	275	4380 Joyner	Nov-17	$325,000			Medium
						3870 Elkwood	Aug-16	$250,000	$317,523	2%	
21	McBride Place	Midland	NC	75	505	5811 Kristi	Mar-20	$530,000			Medium
						3915 Tania	Dec-19	$495,000	$504,657	5%	
22	Mariposa	Stanley	NC	5	1155	215 Mariposa	Dec-17	$249,000			Light
						110 Airport	May-16	$166,000	$239,026	4%	
23	Mariposa	Stanley	NC	5	570	242 Mariposa	Sep-15	$180,000			Light
						110 Airport	Apr-16	$166,000	$175,043	3%	
24	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Jan-17	$295,000			Light
						6801 Middle	Dec-17	$249,999	$296,157	0%	
25	Candace	Princeton	NC	5	488	499 Herring	Sep-17	$215,000			Medium
						1795 Bay Valley	Dec-17	$194,000	$214,902	0%	
26	Walker	Barhamsville	VA	20	250	5241 Barham	Oct-18	$264,000			Light
						9252 Ordinary	Jun-19	$277,000	$246,581	7%	
27	AM Best	Goldsboro	NC	5	385	103 Granville Pl	Jul-18	$265,000			Light
						2219 Granville	Jan-18	$260,000	$265,682	0%	
28	AM Best	Goldsboro	NC	5	315	104 Erin	Jun-17	$280,000			Light
						2219 Granville	Jan-18	$265,000	$274,390	2%	
29	AM Best	Goldsboro	NC	5	400	2312 Granville	May-18	$284,900			Light
						2219 Granville	Jan-18	$265,000	$273,948	4%	

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
30	AM Best	Goldsboro	NC	5	400	2310 Granville	May-19	$280,000			Light
						634 Friendly	Jul-19	$267,000	$265,291	5%	
31	Summit	Moyock	NC	80	570	318 Green View	Sep-19	$357,000			Light
						336 Green View	Jan-19	$365,000	$340,286	5%	
32	Summit	Moyock	NC	80	440	164 Ranchland	Apr-19	$169,000			Light
						105 Longhorn	Oct-17	$184,500	$186,616	-10%	
33	Summit	Moyock	NC	80	635	358 Oxford	Sep-19	$478,000			Light
						176 Providence	Sep-19	$425,000	$456,623	4%	
34	Summit	Moyock	NC	80	970	343 Oxford	Mar-17	$490,000			Light
						218 Oxford	Apr-17	$525,000	$484,064	1%	
35	Innov 46	Hope Mills	NC	78.5	435	6849 Roslin Farm	Feb-19	$155,000			Light
						109 Bledsoe	Jan-19	$150,000	$147,558	5%	
36	Innov 42	Fayetteville	NC	71	340	2923 County Line	Feb-19	$385,000			Light
						2109 John McMillan	Apr-18	$320,000	$379,156	2%	
37	Innov 42	Fayetteville	NC	71	330	2935 County Line	Jun-19	$266,000			Light
						7031 Glynn Mill	May-18	$255,000	$264,422	1%	
38	Sunfish	Willow Sprng	NC	6.4	205	7513 Glen Willow	Sep-17	$185,000			Light
						205 Pine Burr	Dec-17	$191,000	$172,487	7%	
39	Neal Hawkins	Gastonia	NC	5	145	611 Neal Hawkins	Jun-17	$288,000			Light
						1211 Still Forrest	Jul-18	$280,000	$274,319	5%	
40	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Aug-19	$385,000			Light
						2393 Old Chapel	Aug-20	$330,000	$389,286	-1%	
41	Sappony	Stony Creek	VA	20	1425	12511 Palestine	Jul-18	$128,400			Medium
						6494 Rocky Branch	Nov-18	$100,000	$131,842	-3%	
42	Camden Dam	Camden	NC	5	342	122 N Mill Dam	Nov-18	$350,000			Light
						548 Trotman	May-18	$309,000	$352,450	-1%	
43	Grandy	Grandy	NC	20	405	120 Par Four	Aug-19	$315,000			Light
						116 Barefoot	Sep-20	$290,000	$299,584	5%	
44	Grandy	Grandy	NC	20	477	269 Grandy	May-19	$275,000			Light
						103 Spring Leaf	Aug-18	$270,000	$275,912	0%	
45	Champion	Pelion	SC	10	505	517 Old Charleston	Aug-20	$110,000			Light
						1429 Laurel	Feb-19	$126,000	$107,856	2%	
46	Barefoot Bay	Barefoot Bay	FL	74.5	765	465 Papaya	Jul-19	$155,000			Medium
						1132 Waterway	Jul-20	$129,000	$141,618	9%	
47	Barefoot Bay	Barefoot Bay	FL	74.5	750	455 Papaya	Sep-20	$183,500			Medium
						904 Fir	Sep-20	$192,500	$186,697	-2%	
48	Barefoot Bay	Barefoot Bay	FL	74.5	690	419 Papaya	Jul-19	$127,500			Medium
						865 Tamarind	Feb-19	$133,900	$124,613	2%	
49	Barefoot Bay	Barefoot Bay	FL	74.5	690	413 Papaya	Jul-20	$130,000			Medium
						1367 Barefoot	Jan-21	$130,500	$139,507	-7%	
50	Barefoot Bay	Barefoot Bay	FL	74.5	690	343 Papaya	Dec-19	$145,000			Light
						865 Tamarind	Feb-19	$133,900	$142,403	2%	
51	Barefoot Bay	Barefoot Bay	FL	74.5	710	335 Papaya	Apr-18	$110,000			Light
						865 Tamarind	Feb-19	$133,900	$110,517	0%	
52	Miami-Dade	Miami	FL	74.5	1390	13600 SW 182nd	Nov-20	$1,684,000			Light
						17950 SW 158th	Oct-20	$1,730,000	$1,713,199	-2%	
53	Spotsylvania	Paytes	VA	617	1270	12901 Orange Plnk	Aug-20	$319,900			Medium
						12717 Flintlock	Dec-20	$290,000	$326,767	-2%	
54	Spotsylvania	Paytes	VA	617	1950	9641 Nottoway	May-20	$449,900			Medium
						11626 Forest	Aug-20	$489,900	$430,246	4%	
55	Spotsylvania	Paytes	VA	617	1171	13353 Post Oak	Sep-20	$300,000			Heavy
						12810 Catharpin	Jan-20	$280,000	$299,008	0%	
56	McBride Place	Midland	NC	75	470	5833 Kristi	Sep-20	$625,000			Light
						4055 Dakeita	Dec-20	$600,000	$594,303	5%	

MW	Avg. Distance
64.91	612
20.00	479
617.00	1,950
5.00	145

	Indicated Impact
Average	1%
Median	1%
High	10%
Low	-10%

I have further broken down these results based on the MWs, Landscaping, and distance from panel to show the following range of findings for these different categories.

Most of the findings are for homes between 201 and 500 feet. Most of the findings are for Light landscaping screens.

Light landscaping screens are showing no impact on value at any distances, including for solar farms over 75.1 MW.

MW Range 4.4 to 10									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	1	19	2	0	1	2	0	0	1
Average	5%	2%	3%	N/A	0%	4%	N/A	N/A	1%
Median	5%	1%	3%	N/A	0%	4%	N/A	N/A	1%
High	5%	10%	4%	N/A	0%	4%	N/A	N/A	1%
Low	5%	-5%	3%	N/A	0%	4%	N/A	N/A	1%

10.1 to 30									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	3	2	0	0	1	0	0	0
Average	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
Median	N/A	5%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
High	N/A	7%	0%	N/A	N/A	-3%	N/A	N/A	N/A
Low	N/A	0%	-1%	N/A	N/A	-3%	N/A	N/A	N/A

30.1 to 75									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	3	0	0	4	0	0	0
Average	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
Median	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
High	N/A	2%	2%	N/A	N/A	9%	N/A	N/A	N/A
Low	N/A	1%	-2%	N/A	N/A	-7%	N/A	N/A	N/A

75.1+									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	5	0	0	2	0	0	1
Average	N/A	-3%	2%	N/A	N/A	1%	N/A	N/A	0%
Median	N/A	-3%	4%	N/A	N/A	1%	N/A	N/A	0%
High	N/A	5%	5%	N/A	N/A	4%	N/A	N/A	0%
Low	N/A	-10%	-3%	N/A	N/A	-2%	N/A	N/A	0%

C. Summary of National Data on Solar Farms

I have worked in 19 states related to solar farms and I have been tracking matched pairs in most of those states. On the following pages I provide a brief summary of those findings showing 37 solar farms over 5 MW studied with each one providing matched pair data supporting the findings of this report.

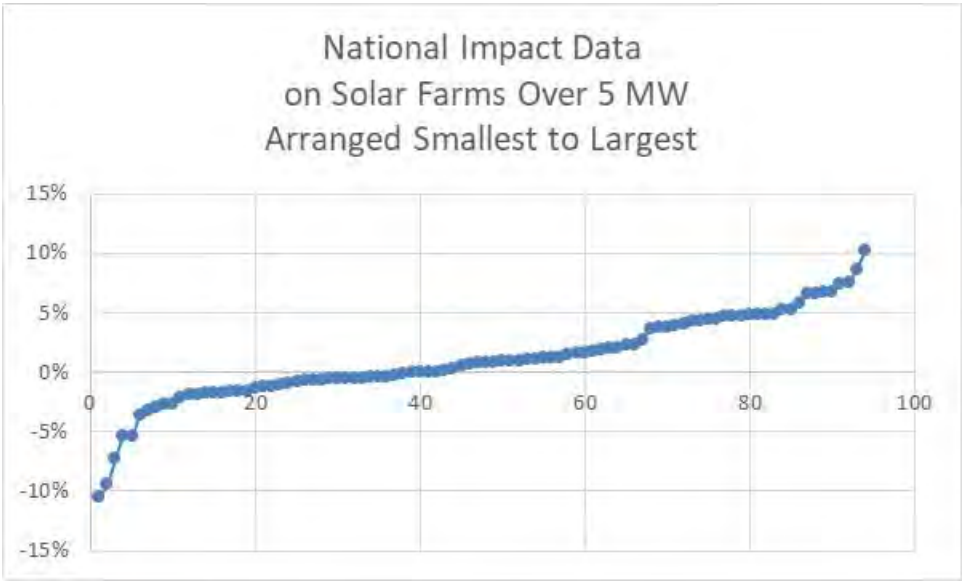
The solar farms summary is shown below with a summary of the matched pair data shown on the following page.

Matched Pair Summary							**Adj. Uses By Acreage**				**1 mile Radius (2010-2020 Data)**			
	Name	**City**	**State**	**Acres**	**MW**	**Topo Shift**	**Res**	**Ag**	**Ag/Res**	**Com/Ind**	**Popl.**	**Med. Income**	**Avg. Housing Unit**	**Veg. Buffer**
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	$37,358	$148,375	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	$106,550	$350,000	Light
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	$35,057	$126,562	Light
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
7	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	$43,940	$99,219	Heavy
8	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
9	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
10	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
11	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	$61,115	$167,515	Light
12	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	$36,439	$137,884	Light
13	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
14	Flemington	Flemington	NJ	120	9.36	N/A	13%	50%	28%	8%	3,477	$105,714	$444,696	Lt to Med
15	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	35%	29%	0%	457	$111,562	$515,399	Light
16	McGraw	East Windsor	NJ	95	14.00	N/A	27%	44%	0%	29%	7,684	$78,417	$362,428	Light
17	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	$92,346	$343,492	Light
18	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
19	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	$51,002	$107,171	Medium
20	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
21	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
22	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
23	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	$47,208	$187,214	Light
24	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	$46,839	$110,361	Light
25	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	$63,652	$253,138	Light
26	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	$81,081	$280,172	None
27	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	$80,997	$292,308	None
28	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Medium
29	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	$84,426	$230,288	Light
30	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Light
31	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	$46,867	$171,939	Light
32	Eddy II	Eddy	TX	93	10.00	N/A	15%	25%	58%	2%	551	$59,627	$139,088	Light
33	Somerset	Somerset	TX	128	10.60	N/A	5%	95%	0%	0%	1,293	$41,574	$135,490	Light
34	DG Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	$38,919	$96,555	Light
45	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
36	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
37	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			362	42.05	32	24%	52%	19%	6%	1,515	$66,292	$242,468	
	Median			150	17.80	10	16%	59%	7%	0%	560	$62,384	$230,848	
	High			3,500	617.00	160	98%	98%	94%	44%	7,684	$120,861	$515,399	
	Low			35	5.00	0	1%	0%	0%	0%	48	$35,057	$96,555	

From these 37 solar farms, I have derived 94 matched pairs. The matched pairs show no negative impact at distances as close as 105 feet between a solar panel and the nearest point on a home. The range of impacts is -10% to +10% with an average and median of +1%.

	MW	Avg. Distance		Indicated Impact
Average	44.80	569	**Average**	1%
Median	14.00	400	**Median**	1%
High	617.00	1,950	**High**	10%
Low	5.00	145	**Low**	-10%

While the range is broad, the two charts below show the data points in range from lowest to highest. There is only 3 data points out of 94 that show a negative impact. The rest support either a finding of no impact or 9 of the data points suggest a positive impact due to adjacency to a solar farm. As discussed earlier in this report, I consider this data to strongly support a finding of no impact on value as most of the findings are within typical market variation and even within that, most are mildly positive findings.



D. Larger Solar Farms

I have also considered larger solar farms to address impacts related to larger projects. Projects have been increasing in size and most of the projects between 100 and 1000 MW are newer with little time for adjoining sales. I have included a breakdown of solar farms with 20 MW to 80 MW facilities with one 617 MW facility.

Matched Pair Summary - @20 MW And Larger							Adj. Uses By Acreage				1 mile Radius (2010-2019 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
4	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
5	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
6	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
7	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
8	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
9	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
10	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	$47,208	$187,214	Light
11	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	$46,839	$110,361	Light
12	Picure Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	$81,081	$280,172	Light
13	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	$80,997	$292,308	None
14	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	None
15	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Medium
16	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
17	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
18	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			640	76.03		19%	64%	17%	4%	721	$69,501	$262,659	
	Median			335	29.20		12%	68%	2%	0%	293	$72,579	$273,135	
	High			3,500	617.00		75%	98%	94%	25%	2,446	$120,861	$483,333	
	Low			121	19.60		1%	0%	0%	0%	48	$36,737	$110,361	

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set. The matched pairs for each of these were considered earlier and support a finding of no negative impact on the adjoining home values.

I have included a breakdown of solar farms with 50 MW to 617 MW facilities adjoining.

Matched Pair Summary - @50 MW And Larger							Adj. Uses By Acreage				1 mile Radius (2010-2019 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
4	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
5	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
6	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
7	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
8	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			1,142	143.19		19%	58%	23%	1%	786	$73,128	$289,964	
	Median			580	75.00		15%	67%	0%	0%	390	$69,339	$279,039	
	High			3,500	617.00		41%	97%	94%	3%	2,446	$120,861	$483,333	
	Low			347	71.00		2%	0%	0%	0%	48	$36,737	$143,320	

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set. The matched pairs for each of these were considered earlier and support a finding of no negative impact on the adjoining home values.

The data for these larger solar farms is shown in the SE USA and the National data breakdowns with similar landscaping, setbacks and range of impacts that fall mostly in the +/-5% range as can be seen earlier in this report.

On the following page I show 81 projects ranging in size from 50 MW up to 1,000 MW with an average size of 111.80 MW and a median of 80 MW. The average closest distance for an adjoining home is 263 feet, while the median distance is 188 feet. The closest distance is 57 feet. The mix of adjoining uses is similar with most of the adjoining uses remaining residential or agricultural in nature. This is the list of solar farms that I have researched for possible matched pairs and not a complete list of larger solar farms in those states.

Parcel #	State	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
									Res	Agri	Ag/R	Com
78	NC	Moyock	Summit/Ranchland	80	2034		674	360	4%	94%	0%	2%
133	MS	Hattiesburg	Hattiesburg	50	1129	479.6	650	315	35%	65%	0%	0%
179	SC	Ridgeland	Jasper	140	1600	1000	461	108	2%	85%	13%	0%
211	NC	Enfield	Chestnut	75	1428.1		1,429	210	4%	96%	0%	0%
222	VA	Chase City	Grasshopper	80	946.25				6%	87%	5%	1%
226	VA	Louisa	Belcher	88	1238.1			150	19%	53%	28%	0%
305	FL	Dade City	Mountain View	55	347.12		510	175	32%	39%	21%	8%
319	FL	Jasper	Hamilton	74.9	1268.9	537	3,596	240	5%	67%	28%	0%
336	FL	Parrish	Manatee	74.5	1180.4		1,079	625	2%	50%	1%	47%
337	FL	Arcadia	Citrus	74.5	640				0%	0%	100%	0%
338	FL	Port Charlotte	Babcock	74.5	422.61				0%	0%	100%	0%
353	VA	Oak Hall	Amazon East(ern sh	80	1000		645	135	8%	75%	17%	0%
364	VA	Stevensburg	Greenwood	100	2266.6	1800	788	200	8%	62%	29%	0%
368	NC	Warsaw	Warsaw	87.5	585.97	499	526	130	11%	66%	21%	3%
390	NC	Ellerbe	Innovative Solar 34	50	385.24	226	N/A	N/A	1%	99%	0%	0%
399	NC	Midland	McBride	74.9	974.59	627	1,425	140	12%	78%	9%	0%
400	FL	Mulberry	Alafia	51	420.35		490	105	7%	90%	3%	0%
406	VA	Clover	Foxhound	91	1311.8		885	185	5%	61%	17%	18%
410	FL	Trenton	Trenton	74.5	480		2,193	775	0%	26%	55%	19%
411	NC	Battleboro	Fern	100	1235.4	960.71	1,494	220	5%	76%	19%	0%
412	MD	Goldsboro	Cherrywood	202	1722.9	1073.7	429	200	10%	76%	13%	0%
434	NC	Conetoe	Conetoe	80	1389.9	910.6	1,152	120	5%	78%	17%	0%
440	FL	Debary	Debary	74.5	844.63		654	190	3%	27%	0%	70%
441	FL	Hawthorne	Horizon	74.5	684				3%	81%	16%	0%
484	VA	Newsoms	Southampton	100	3243.9		-	-	3%	78%	17%	3%
486	VA	Stuarts Draft	Augusta	125	3197.4	1147	588	165	16%	61%	16%	7%
491	NC	Misenheimer	Misenheimer 2018	80	740.2	687.2	504	130	11%	40%	22%	27%
494	VA	Shacklefords	Walnut	110	1700	1173	641	165	14%	72%	13%	1%
496	VA	Clover	Piney Creek	80	776.18	422	523	195	15%	62%	24%	0%
511	NC	Scotland Neck	American Beech	160	3255.2	1807.8	1,262	205	2%	58%	38%	3%
514	NC	Reidsville	Williamsburg	80	802.6	507	734	200	25%	12%	63%	0%
517	VA	Luray	Cape	100	566.53	461	519	110	42%	12%	46%	0%
518	VA	Emporia	Fountain Creek	80	798.3	595	862	300	6%	23%	71%	0%
525	NC	Plymouth	Macadamia	484	5578.7	4813.5	1,513	275	1%	90%	9%	0%
526	NC	Mooresboro	Broad River	50	759.8	365	419	70	29%	55%	16%	0%
555	FL	Mulberry	Durrance	74.5	463.57	324.65	438	140	3%	97%	0%	0%
560	NC	Yadkinville	Sugar	60	477	357	382	65	19%	39%	20%	22%
561	NC	Enfield	Halifax 80mw 2019	80	1007.6	1007.6	672	190	8%	73%	19%	0%
577	VA	Windsor	Windsor	85	564.1	564.1	572	160	9%	67%	24%	0%
579	VA	Paytes	Spotsylvania	500	6412	3500			9%	52%	11%	27%
582	NC	Salisbury	China Grove	65	428.66	324.26	438	85	58%	4%	38%	0%
583	NC	Walnut Cove	Lick Creek	50	1424	185.11	410	65	20%	64%	11%	5%
584	NC	Enfield	Sweetleaf	94	1956.3	1250	968	160	5%	63%	32%	0%
586	VA	Aylett	Sweet Sue	77	1262	576	1,617	680	7%	68%	25%	0%
593	NC	Windsor	Sumac	120	3360.6	1257.9	876	160	4%	90%	6%	0%
599	TN	Somerville	Yum Yum	147	4000	1500	1,862	330	3%	32%	64%	1%
602	GA	Waynesboro	White Oak	76.5	516.7	516.7	2,995	1,790	1%	34%	65%	0%
603	GA	Butler	Butler GA	103	2395.1	2395.1	1,534	255	2%	73%	23%	2%
604	GA	Butler	White Pine	101.2	505.94	505.94	1,044	100	1%	51%	48%	1%
605	GA	Metter	Live Oak	51	417.84	417.84	910	235	4%	72%	23%	0%
606	GA	Hazelhurst	Hazelhurst II	52.5	947.15	490.42	2,114	105	9%	64%	27%	0%
607	GA	Bainbridge	Decatur Parkway	80	781.5	781.5	1,123	450	2%	27%	22%	49%
608	GA	Leslie-DeSoto	Americus	1000	9661.2	4437	5,210	510	1%	63%	36%	0%
616	FL	Fort White	Fort White	74.5	570.5	457.2	828	220	12%	71%	17%	0%
621	VA	Spring Grove	Loblolly	150	2181.9	1000	1,860	110	7%	62%	31%	0%
622	VA	Scottsville	Woodridge	138	2260.9	1000	1,094	170	9%	63%	28%	0%
625	NC	Middlesex	Phobos	80	754.52	734	356	57	14%	75%	10%	0%
628	MI	Deerfield	Carroll Road	200	1694.8	1694.8	343	190	12%	86%	0%	2%
633	VA	Emporia	Brunswick	150.2	2076.4	1387.3	1,091	240	4%	85%	11%	0%
634	NC	Elkin	Partin	50	429.4	257.64	945	155	30%	25%	15%	30%

Parcel #	State	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre Res	Agri	Ag/R	Com
638	GA	Dry Branch	Twiggs	200	2132.7	2132.7	-	-	10%	55%	35%	0%
639	NC	Hope Mills	Innovative Solar 46	78.5	531.87	531.87	423	125	17%	83%	0%	0%
640	NC	Hope Mills	Innovative Solar 42	71	413.99	413.99	375	135	41%	59%	0%	0%
645	NC	Stanley	Hornet	75	1499.5	858.4	663	110	30%	40%	23%	6%
650	NC	Grifton	Grifton 2	56	681.59	297.6	363	235	1%	99%	0%	0%
651	NC	Grifton	Buckleberry	52.1	367.67	361.67	913	180	5%	54%	41%	0%
657	KY	Greensburg	Horseshoe Bend	60	585.65	395	1,394	63	3%	36%	61%	0%
658	KY	Campbellsville	Flat Run	55	429.76	429.76	408	115	13%	52%	35%	0%
666	FL	Archer	Archer	74.9	636.94	636.94	638	200	43%	57%	0%	0%
667	FL	New Smyrna Bea	Pioneer Trail	74.5	1202.8	900	1,162	225	14%	61%	21%	4%
668	FL	Lake City	Sunshine Gateway	74.5	904.29	472	1,233	890	11%	80%	8%	0%
669	FL	Florahome	Coral Farms	74.5	666.54	580	1,614	765	19%	75%	7%	0%
672	VA	Appomattox	Spout Spring	60	881.12	673.37	836	335	16%	30%	46%	8%
676	TX	Stamford	Alamo 7	106.4	1663.1	1050	-	-	6%	83%	0%	11%
677	TX	Fort Stockton	RE Roserock	160	1738.2	1500	-	-	0%	100%	0%	0%
678	TX	Lamesa	Lamesa	102	914.5	655	921	170	4%	41%	11%	44%
679	TX	Lamesa	Ivory	50	706	570	716	460	0%	87%	2%	12%
680	TX	Uvalde	Alamo 5	95	830.35	800	925	740	1%	93%	6%	0%
684	NC	Waco	Brookcliff	50	671.03	671.03	560	150	7%	21%	15%	57%
689	AZ	Arlington	Mesquite	320.8	3774.5	2617	1,670	525	8%	92%	0%	0%
692	AZ	Tucson	Avalon	51	479.21	352	-	-	0%	100%	0%	0%
				81								
			Average	111.80	1422.4	968.4	1031	263	10%	62%	22%	6%
			Median	80.00	914.5	646.0	836	188	7%	64%	17%	0%
			High	1000.00	9661.2	4813.5	5210	1790	58%	100%	100%	70%
			Low	50.00	347.1	185.1	343	57	0%	0%	0%	0%

VII. Distance Between Homes and Panels

I have measured distances at matched pairs as close as 105 feet between panel and home to show no impact on value. This measurement goes from the closest point on the home to the closest solar panel. This is a strong indication that at this distance there is no impact on adjoining homes.

However, in tracking other approved solar farms across Kentucky, North Carolina and other states, I have found that it is common for there to be homes within 100 to 150 feet of solar panels. Given the visual barriers in the form of privacy fencing or landscaping, there is no sign of negative impact.

I have also tracked a number of locations where solar panels are between 50 and 100 feet of single-family homes. In these cases the landscaping is typically a double row of more mature evergreens at time of planting. There are many examples of solar farms with one or two homes closer than 100-feet, but most of the adjoining homes are further than that distance.

VIII. Topography

As shown on the summary charts for the solar farms, I have been identifying the topographic shifts across the solar farms considered. Differences in topography can impact visibility of the panels, though typically this results in distant views of panels as opposed to up close views. The topography noted for solar farms showing no impact on adjoining home values range from as much as 160-foot shifts across the project. Given that appearance is the only factor of concern and that distance plus landscape buffering typically addresses up close views, this leaves a number of potentially distant views of panels. I specifically note that in Crittenden in KY there are distant views of panels from the adjoining homes that showed no impact on value.

General rolling terrain with some distant solar panel views are showing no impact on adjoining property value.

IX. Potential Impacts During Construction

I have previously been asked by the Kentucky Siting Board about potential impacts during construction. This is not a typical question I get as any development of a site will have a certain amount of construction, whether it is for a commercial agricultural use such as large-scale poultry operations or a new residential subdivision. Construction will be temporary and consistent with other development uses of the land and in fact dust from the construction will likely be less than most other construction projects given the minimal grading. I would not anticipate any impacts on property value due to construction on the site.

I note that in the matched pairs that I have included there have been a number of home sales that happened after a solar farm was approved but before the solar farm was built showing no impact on property value. Therefore the anticipated construction had no impact as shown by that data.

X. Scope of Research

I have researched over 750 solar farms and sites on which solar farms are existing and proposed in Kentucky, Illinois, Tennessee, North Carolina, Virginia as well as other states to determine what uses are typically found in proximity with a solar farm. The data I have collected and provide in this report strongly supports the assertion that solar farms are having no negative consequences on adjoining agricultural and residential values.

Beyond these references, I have quantified the adjoining uses for a number of solar farm comparables to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining or abutting uses by total acreage.

Percentage By Adjoining Acreage

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	2%	6%	887	344	91%	8%
Median	11%	56%	11%	0%	0%	708	218	100%	0%
High	100%	100%	100%	93%	98%	5,210	4,670	100%	98%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

I have also included a breakdown of each solar farm by number of adjoining parcels to the solar farm rather than based on adjoining acreage. Using both factors provides a more complete picture of the neighboring properties.

Percentage By Number of Parcels Adjoining

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	887	344	93%	6%
Median	65%	19%	5%	0%	0%	708	218	100%	0%
High	100%	100%	100%	60%	78%	5,210	4,670	105%	78%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. Every single solar farm considered included an adjoining residential or residential/agricultural use.

XI. Specific Factors Related To Impacts on Value

I have completed a number of Impact Studies related to a variety of uses and I have found that the most common areas for impact on adjoining values typically follow a hierarchy with descending levels of potential impact. I will discuss each of these categories and how they relate to a solar farm.

1. Hazardous material
2. Odor
3. Noise
4. Traffic
5. Stigma
6. Appearance

1. Hazardous material

A solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development and even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known environmental impacts associated with the development and operation.

2. Odor

The various solar farms that I have inspected produced no odor.

3. Noise

Whether discussing passive fixed solar panels, or single-axis trackers, there is no negative impact associated with noise from a solar farm. The transformer reportedly has a hum similar to an HVAC that can only be heard in close proximity to this transformer and the buffers on the property are sufficient to make emitted sounds inaudible from the adjoining properties. No sound is emitted from the facility at night.

The various solar farms that I have inspected were inaudible from the roadways.

4. Traffic

The solar farm will have no onsite employee's or staff. The site requires only minimal maintenance. Relative to other potential uses of the site (such as a residential subdivision), the additional traffic generated by a solar farm use on this site is insignificant.

5. Stigma

There is no stigma associated with solar farms and solar farms and people generally respond favorably towards such a use. While an individual may express concerns about proximity to a solar farm, there is no specific stigma associated with a solar farm. Stigma generally refers to things such as adult establishments, prisons, rehabilitation facilities, and so forth.

Solar panels have no associated stigma and in smaller collections are found in yards and roofs in many residential communities. Solar farms are adjoining elementary, middle and high schools as well as churches and subdivisions. I note that one of the solar farms in this report not only adjoins a church, but is actually located on land owned by the church. Solar panels on a roof are often cited as an enhancement to the property in marketing brochures.

I see no basis for an impact from stigma due to a solar farm.

6. Appearance

I note that larger solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. As shown below, solar farms are comparable to larger greenhouses. This is not surprising given that a greenhouse is essentially another method for collecting passive solar energy. The greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.

The solar panels are all less than 15 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as these proposed panels.

Whenever you consider the impact of a proposed project on viewshed or what the adjoining owners may see from their property it is important to distinguish whether or not they have a protected viewshed or not. Enhancements for scenic vistas are often measured when considering properties that adjoin preserved open space and parks. However, adjoining land with a preferred view today conveys no guarantee that the property will continue in the current use. Any consideration of the impact of the appearance requires a consideration of the wide variety of other uses a property already has the right to be put to, which for solar farms often includes subdivision development, agricultural business buildings such as poultry, or large greenhouses and the like.

Dr. Randall Bell, MAI, PhD, and author of the book **Real Estate Damages**, Third Edition, on Page 146 "Views of bodies of water, city lights, natural settings, parks, golf courses, and other amenities are considered desirable features, particularly for residential properties." Dr. Bell continues on Page 147 that "View amenities may or may not be protected by law or regulation. It is sometimes argued that views have value only if they are protected by a view easement, a zoning ordinance, or covenants, conditions, and restrictions (CC&Rs), although such protections are relatively

uncommon as a practical matter. The market often assigns significant value to desirable views irrespective of whether or not such views are protected by law."

Dr. Bell concludes that a view enhances adjacent property, even if the adjacent property has no legal right to that view. He then discusses a "borrowed" view where a home may enjoy a good view of vacant land or property beyond with a reasonable expectation that the view might be partly or completely obstructed upon development of the adjoining land. He follows that with "This same concept applies to potentially undesirable views of a new development when the development conforms to applicable zoning and other regulations. Arguing value diminution in such cases is difficult, since the possible development of the offending property should have been known." In other words, if there is an allowable development on the site then arguing value diminution with such a development would be difficult. This further extends to developing the site with alternative uses that are less impactful on the view than currently allowed uses.

This gets back to the point that if a property has development rights and could currently be developed in such a way that removes the viewshed such as a residential subdivision, than a less intrusive use such as a solar farm that is easily screened by landscaping would not have a greater impact on the viewshed of any perceived value adjoining properties claim for viewshed. Essentially, if there are more impactful uses currently allowed, then there is no viewshed enhancement to adjoining parcels.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will not negatively impact adjoining property values. The only category of impact of note is appearance, which is addressed through setbacks and landscaping buffers. The matched pair data supports that conclusion.

XII. Conclusion

The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all support a finding of no impact on property value.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by appellate courts. Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments.

I have found no difference in the mix of adjoining uses or proximity to adjoining homes based on the size of a solar farm and I have found no significant difference in the matched pair data adjoining larger solar farms versus smaller solar farms. The data in the SouthEast is consistent with the larger set of data that I have nationally, as is the more specific data located in and around Kentucky.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no negative impact on the value of adjoining or abutting property. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is no traffic.

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Professional Experience

Kirkland Appraisals, LLC, Raleigh, N.C. — 2003 – Present
Commercial appraiser

Hester & Company, Raleigh, N.C.
Commercial appraiser — 1996 – 2003

Professional Affiliations

MAI (Member, Appraisal Institute) designation #11796 — 2001
NC State Certified General Appraiser # A4359 — 1999
VA State Certified General Appraiser # 4001017291
SC State Certified General Appraiser # 6209
FL State Certified General Appraiser # RZ3950
IL State Certified General Appraiser # 553.002633
KY State Certified General Appraiser # 5522

Education

Bachelor of Arts in English, University of North Carolina, Chapel Hill — 1993

Continuing Education

Florida Appraisal Laws and Regulations	2020
Michigan Appraisal Law	2020
Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017
Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012

Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005
Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996

27. Refer to Section 4 of the SAR, Anticipated Noise Levels at Property Boundary:

a. The section states that construction would primarily occur during daylight hours. Define what 'daylight hours' means in terms of clock times, and whether those hours would vary during the construction schedule or at different times of the year.

b. Describe any exceptions in which construction would take place outside of these hours.

c. Provide the estimated time in days required to install the overhead fiber-optic wire near to the Springfield-Logan transmission line. In particular, state during how many days a helicopter is expected to be used at the site.

Response:

a. Noise-causing work and general construction activities would occur Monday through Saturday during daylight hours, meaning the hours when natural light allows unlit work, generally 8 AM to 6 PM. Given that daylight hours differ throughout the year, work times may adjust according to changes in natural light.

b. Non-noise causing and non-construction activities on the site, including field visits, arrival, departure, planning meetings, and surveying, etc., would be an exception to the aforementioned work hours, and would occur between 7 a.m. and 10 p.m., Monday through Sunday.

c. Installation of overhead fiber-optic wire ("OPGW") would be performed either using ground equipment or by helicopter. A lineman would work from structure to structure unclipping the existing OHGW and installing a pulley. Equipment would be placed at either the

north or south end of the TL upgrade areas, including the one anticipated OPGW reel (enough to extend 2,500 feet). The OHGW would be removed while a rope is pulled through the newly installed pulleys. Afterward, the lineman would revisit each structure to clip the OPGW to the structure and remove the pulley. Using this method, the OPGW would be installed in approximately two working days, weather permitting.

Witness: Stefan Eckmann

28. Describe the sheep operations that will occur onsite during the operational life of the project, including the impact of those operations on both noise and traffic. Disclose how large the herds will be that will be grazing on the site, how often shepherds will require access to the site, how often herds will be transported to and from the site and what vehicle class will be required to transport the sheep.

Response: Managed sheep grazing is performed using a variant of rotational grazing practices, specifically Adaptive Multi-Paddock Grazing (AMP Grazing). Within array fencing, temporary electric fence will be used to subdivide the array into various 'paddocks', where flocks of sheep are rotated rapidly through each paddock, typically spending 3-days or less in each paddock to avoid overgrazing. Sheep are not rotated back to previous paddocks for 40-60 days, depending on weather and other abiotic factors, allowing vegetation adequate 'recovery period' to regrow. Manure is evenly distributed across the project due to the rapid rotations, serving as a fertilizer that further supports perennial vegetation health while reducing instance of erosion. This technique mimics the way bison and grasslands co-evolved over millions of years in the great plains of North America, and over time the overall functionality of the solar-grassland ecosystem will be improved. Flock size varies throughout the year based on seasonal weather patterns and lambing schedule, with the resident flock size assumed to be between 1,000 and 2,000 sheep of various classes. Shepherds are onsite daily for livestock operations. Vehicle class would be typical of Kentucky's cattle and sheep industry, noise and traffic impacts are not expected to exceed those from previous land use. Mechanical 'finish mowing' is used as a support tool to manage vegetation to remain compliant with solar industry vegetation management performance

specifications. Pollinator habitat established in shading buffers will be managed such that woody perennial species are prevented from establishing, while accommodating various habitat and nesting needs of wildlife.

Witness: Michael Baute, Silicon Ranch

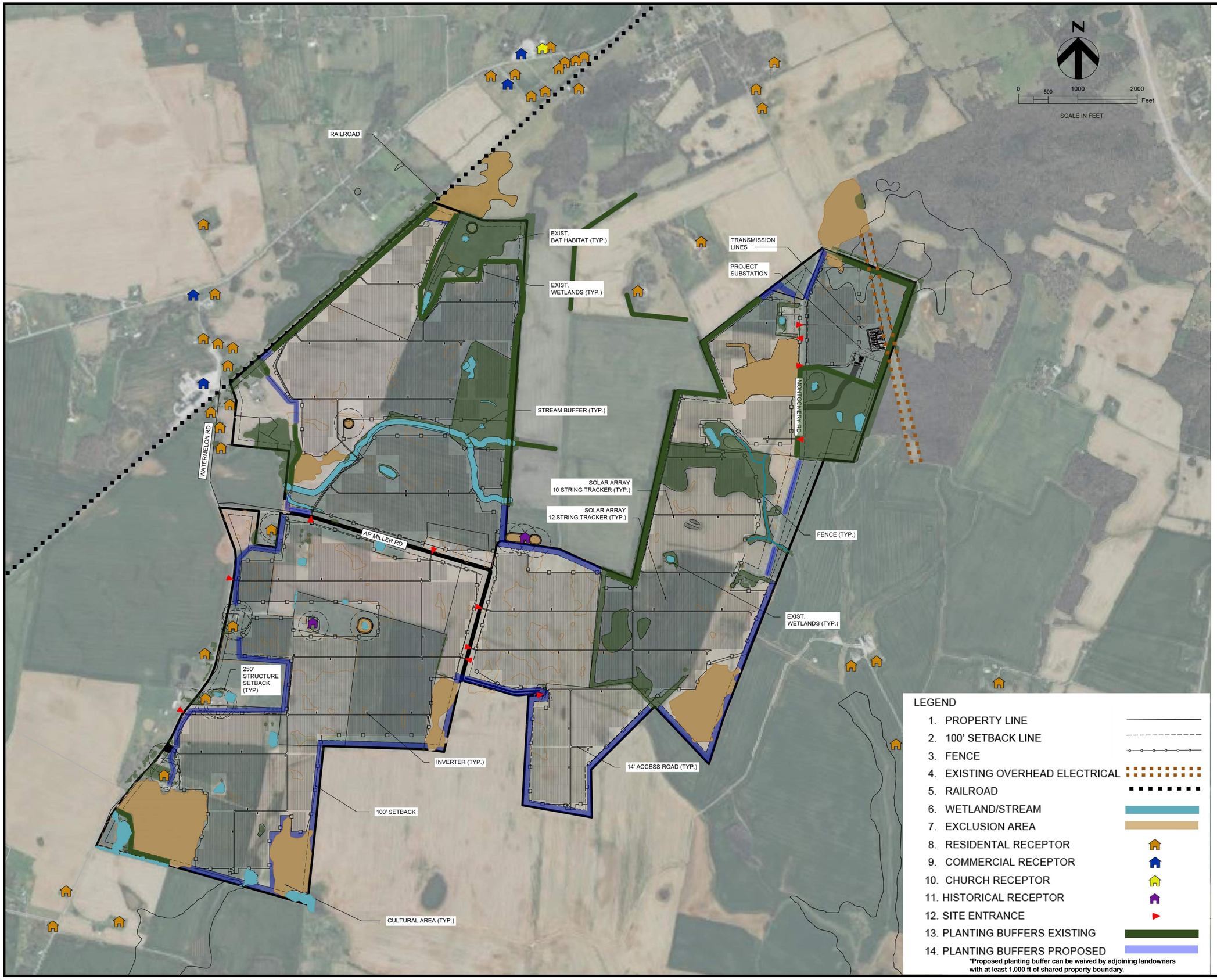
29. Refer to Exhibit D of the SAR, Preliminary Site Layout:

a. Provide an update to this map with a closer-scale map of the project site to allow for adequate viewing of the locations of site access points.

b. Explain the color-coding of the receptor icons.

Response: Please see the attached updated Preliminary Site Layout with a revised legend to include site entrance locations and the meaning of the color coding of the receptors; the map size should allow for zooming in to view the entrance locations.

Witness: Harriet Richardson Seacat, HDR



LEGEND

1. PROPERTY LINE
2. 100' SETBACK LINE
3. FENCE
4. EXISTING OVERHEAD ELECTRICAL
5. RAILROAD
6. WETLAND/STREAM
7. EXCLUSION AREA
8. RESIDENTAL RECEPTOR
9. COMMERCIAL RECEPTOR
10. CHURCH RECEPTOR
11. HISTORICAL RECEPTOR
12. SITE ENTRANCE
13. PLANTING BUFFERS EXISTING
14. PLANTING BUFFERS PROPOSED

***Proposed planting buffer can be waived by adjoining landowners with at least 1,000 ft of shared property boundary.**

HDR

SILICON RANCH

NOT FOR CONSTRUCTION

LOGAN COUNTY SOLAR

RUSSELLVILLE, KY

LAT: 36.788944°N
LON: -86.947884°W

REV. NO	DESCRIPTION	DATE

SHEET TITLE:

PRELIMINARY SITE LAYOUT

PROJ. MGR.	PROJ. ENGR.	DATE:
HRS	MWB	04/26/2022
DRAWN BY:	CHECKED BY:	SCALE:
KH/ AM		1" = 700'

DRAWING NO.

L100

30. Refer to Section 5 of the SAR, Effect on Road, Railways, and Fugitive Dust.

a. Provide the number and approximate weight classes of the heavy and light duty trucks anticipated on site per day during the construction phase.

b. Provide detail regarding the estimated weight of the project's required substation transformer and the truck class necessary for its delivery

c. Provide detail regarding anticipated peaks in equipment deliveries throughout the construction period, as well as ebbs and flows in the number of workers on site across the duration of the construction phase.

d. Confirm that the anticipated duration of the construction phase is 18 months.

Response:

a. During the construction phase Russellville Solar anticipates approximately 30 light duty trucks (Class 2 weight class) on site per day, not including personal vehicles. During deliveries, approximately 10 heavy duty trucks (Class 8) would be expected to deliver modules and tracker parts could be expected on site per day, until all the components are delivered. Deliveries are expected to be made over a period of approximately 3-4 months with variation in frequency of deliveries. Inverter deliveries would be made by 2-3 heavy duty trucks (Class 8) per day until delivery is completed.

b. Estimated weight of the substation transformer is 353,799 lbs or approximately 177 tons, which would be delivered by an extra-long semi-truck and trailer.

c. In the initial phase of construction from construction mobilization to the end of the civil stage and site work (approximately first 3 months) approximately 20 workers would be on site. This would ramp up by an additional 20-30 (50 total) for electrical and underground collection work over the next 4 months and then ramp up to a max peak manpower of approximately 250 when in full production of racking, trackers and module installation, with a steep decline after modules are installed. Modules would be installed over a period of approximately 5 months. After component installation, approximately 30 workers would be on site for civil reclaim and clean up.

d. The anticipated duration of the construction phase is 13-15 months from breaking ground to commissioning.

Witness: Stefan Eckmann

31. Describe and provide any correspondence that Russellville Solar had with the Kentucky Transportation Cabinet regarding road weight ratings for heavy deliveries to the site and any anticipated road/shoulder damage or mitigation measures.

Response: Russellville Solar contacted Joe Plunk, Chief District Engineer of the Kentucky Transportation Cabinet Highway District 3 on April 27, 2022. This was the first contact with District 3 due to timing, as the EPC contractor who would ultimately coordinate with the Transportation Cabinet has not yet been selected. The Project discussed expected weight of deliveries and number of deliveries along State roads including Watermelon Rd and Clarksville Rd (KY 79). As a Controlled Access Highway, Clarksville Rd is a "AAA" rated highway (80,000 lbs.) while Watermelon Rd is a "A" rated Rural Highway (44,000 lbs.). Deviations from the weight ratings for heavy equipment, such as the substation transformer will require a proper permit submitted via the drive.ky.gov site. Russellville Solar and the selected EPC contractor would obtain the proper permits from this site for deliveries and coordinate with District 3 to minimize any road impacts.

Witness: Stefan Eckmann

32. Describe and provide any correspondence that Russellville Solar has had with the Logan County Road department regarding the proposed project, traffic impacts, and heavy deliveries to site.

Response: AP Miller Rd. and J. Montgomery Rd. are Logan County Roads proposed as construction access points for the Project. Russellville Solar met with Kelly Wilson, Foreman of the Logan County Roads Department on April 26, 2022 to begin discussions on the project, potential traffic impacts and heavy deliveries to the site. The number of light and heavy duty trucks and frequency of expected deliveries were discussed with Mr. Wilson, including the weight of the substation transformer, expected to be approximately 177 tons and delivered via an extra-long semi-truck and trailer via J. Montgomery Rd. Mr. Wilson noted these roads should be able to sustain most of the deliveries without damage but mentioned the width of AP Miller Rd. may be problematic. Russellville Solar indicated that roads would be improved as needed and maintained to ensure minimal impacts to traffic during construction and road infrastructure. The Project team and EPC contractor propose to continue discussions with Mr. Wilson as designs would be finalized.

Witness: Stefan Eckmann

COMMONWEALTH OF KENTUCKY
BEFORE THE KENTUCKY STATE BOARD
ON ELECTRIC GENERATION AND TRANSMISSION SITING

In the Matter of:	)	
	)	
APPLICATION OF RUSSELLVILLE SOLAR LLC	)	
FOR CERTIFICATE OF CONSTRUCTION FOR: AN	)	
APPROXIMATELY 173-MEGAWATT MERCHANT	)	**Case No. 2021-00235**
ELECTRIC SOLAR GENERATING FACILITY IN	)	
LOGAN COUNTY, KENTUCKY PURSUANT TO KRS	)	
278.700, ET SEQ., AND 807 KAR 5:110	)	

CERTIFICATION

This is to certify that I have supervised the preparation of Russellville Solar LLC's responses to the Siting Board Staff's Initial Request for Information and that the responses are true and accurate to the best of my knowledge, information, and belief after reasonable inquiry.

Date: 4/28/2022

Stefan Eckmann