

Glover Creek Solar, LLC
Kentucky State Board on Electric
Generation and Transmission Application

Site Assessment Report

Case No. 2020-00043

March 2020



**APPLICATION OF GLOVER CREEK SOLAR, LLC
FOR A CONSTRUCTION CERTIFICATE TO CONSTRUCT A
MERCHANT ELECTRIC GENERATING FACILITY
METCALFE COUNTY, KENTUCKY
CASE NO. 2020-00043**

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 KRS 278.706(2)(1)
 Persons Responsible: Carson Harkrader

EXHIBITS

- A. Property Value Impact Report
- B. Legal Description of Site
- C. Noise and Traffic Study
- D. Environmental Site Assessment – Phase 1
- E. Preliminary Site Layout

1. Description of Proposed Site

REQUIREMENT: per KRS 278.708 (3)(a); *A description of the proposed facility that shall include a proposed site development plan that describes:*

- 1. Surrounding land uses for residential, commercial, agricultural, and recreational purposes;*
- 2. The legal boundaries of the proposed site;*
- 3. Proposed access control to the site;*
- 4. The location of facility buildings, transmission lines, and other structures;*
- 5. Location and use of access ways, internal roads, and railways;*
- 6. Existing or proposed utilities to service the facility;*
- 7. Compliance with applicable setback requirements as provided under KRS 278.704(2), (3), (4), or (5); and*
- 8. Evaluation of the noise levels expected to be produced by the facility*

COMPLIANCE: The proposed Glover Creek Solar Facility (the Project) will be a 55 megawatt alternating current (MWac) photovoltaic electricity generation facility. The project is to be located in Metcalfe County, at approximately 7449 Randolph-Summer Shade Road, Summer Shade, KY 42166. The power generated by the project will be sold on the open market through the existing transmission line that crosses the property.

The project will cover approximately 400 acres which has historically been used as pasture and crop land. The equipment onsite will consist of crystalline solar panels, an energy storage system, inverters, a substation transformer, and an associated wiring and balance of system.

The racking system, which is used to fix the solar panels to the ground, has a small footprint that does not use any concrete, and the panels are not considered impervious as rainwater can travel over and around the panels, making this a low impact development. A fence meeting the national electrical code requirements, typically a six-foot fence with three strings of barbed wire at the top, will enclose the facility. Where there are potential visual impacts created by the facility, a 15' wide vegetative buffer will be planted as shown on the attached site plan map. The buffer will consist of two staggered rows of evergreen shrubs at least three feet in height at time of planting.

1. A detailed description of the surrounding land uses is identified in the Impact Study conducted by Kirkland Appraisals, LLC, and attached as Attachment A. A summary of the surrounding land use is contained in the chart below

	Acreage	Parcels
Residential	5.78%	37.5%
Agricultural	25.01%	16.67%
Agri/Res	69.21%	45.83%

2. Attachment B contains the boundary survey, as well as the legal description of the proposed site.
3. The proposed facility layout is located in Attachment E. The layout shows the proposed access to the site. Please note, the property boundary includes as additional entrance not included in the layout. This additional entrance was discovered during the property boundary survey.
4. The Summer Shade – Patton Rd Jct 69kv transmission line would serve the facility and carry power generated by the Project. At this time, it is not anticipated that the Project will need to receive external utility services during typical plant operation.
5. The applicable setback requirements are identified in the Map of Surrounding Residential Neighborhoods that is Attachment A in Volume I of the application. Turkey Creek will seek a deviation from the setback requirements.
6. Attachment C is the report showing noise levels expected to be produced by the facility. It indicates, on page 5-6, that “[P]eriodic noise associated with solar panel tracking system and the relatively constant noise of inverters, transformers, and battery storage units will occur during operation. This increase in noise is also negligible due to the distance of noise generating solar equipment from the nearest noise receptor and the implementation of two rows of evergreen shrubbery. The noise produced by the inverters is 67.0 dBA, which is slightly above that of a typical person-to-person conversation (i.e., 60.0), and will not be a contributor of noise to the nearest receptor (i.e., single-family home) locate 2,000+ feet away with a planted buffer between the source and receptor. Site visits and maintenance activities, such as mowing, will take place during daylight hours and will not significantly contribute to noise. The noise associated with these activities is very similar to those currently generated onsite by farming activities and offsite by commercial and farm uses.”

2. Compatibility with Scenic Surroundings

REQUIREMENT: per KRS 278.708 (3)(b); *An evaluation of the compatibility of the facility with scenic surroundings*

COMPLIANCE:

Please refer to Sections III-VI from Attachment A, which address appropriate setbacks, topography, harmony of use, and compatibility in detail.

An excerpt from Section IV, page 103, reads as follows:

“[L]arger solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. . . . 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.”

The property where the Project is located is at a raised elevation to the surrounding rural agricultural and residential properties, which shields the Project from the view of most of its neighbors. As noted in Section 6 of the Siting Board Application, representatives from Carolina Solar Energy have met personally on various occasions with two adjoining landowners to address their concerns, which they voiced to us at the neighborhood dinner, about the viewsheds from their particular properties. These neighbors have had input in the placement of some of the visual buffers associated with the facility.

Sections of the Project that adjoin roadways and other properties will have a vegetative buffer planted if one does not already exist. This buffer will consist of two staggered rows of evergreen shrubs, approximately 15 feet wide and at least three feet in height at time of planting. See the site plan, Attachment E, for the planned locations of the buffer.

3. Property Value Impacts

REQUIREMENT: per KRS 278.708 (3)(c); *The potential changes in property values and land use resulting from the siting, construction, and operation of the proposed facility for property owners adjacent to the facility*

COMPLIANCE: See Attachment A for a report studying potential property value impacts to owners adjacent to the proposed facility by a certified real estate appraiser. The conclusion of the report reads as follows:

“The matched pair analysis shows no 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 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.

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. Industrial uses rarely absorb negative impacts from adjoining uses.

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 property 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 no traffic.”

4. Anticipated Noise Levels at Property Boundary

REQUIREMENT: per KRS 278.708 (3)(d); *Evaluation of anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary*

COMPLIANCE: See Attachment C for a report studying the anticipated peak and average noise levels associated with the facility's construction and operation at the property boundary. See the excerpt below for a brief summary, found on pages 5-6 of Attachment C.

“Noise during the construction phase is expected to temporarily increase during daylight hours, and will be in the form of heavy equipment, passenger cars and trucks, and tool use during assembly of the solar facilities. Noise will be present on the project site during construction; however, due to the size of the project site and the distance to the nearest receptors, construction will not contribute to a significant noise increase when compared to noise currently occurring on site (i.e., the operation of farming equipment for livestock, hay production, and crop harvesting). In addition, periodic noise associated with the solar panel tracking system and the relatively constant noise of inverters will occur during operation. This increase in noise is also negligible due to the distance of noise generating solar equipment from the nearest noise receptor and the implementation of two rows of evergreen shrubbery. The noise produced by the inverters is 67.0 dBA, which is slightly above that of a typical person-to-person conversation (i.e., 60.0), and will not be a contributor of noise to the nearest receptor (i.e., single-family home) located at 626 feet away with a planted buffer and a strip of trees between the source and receptor. Site visits and maintenance activities, such as mowing, will take place during daylight hours and will not significantly contribute to noise. The noise associated with these activities is very similar to those currently generated onsite by farming activities and offsite by commercial and farm uses. All construction, operation, and maintenance activities will take place in daylight hours and within the Garrard County Noise Control Ordinance requirements (i.e., between 6am and 11pm).”

5. Effect on Road, Railways, and Fugitive Dust

REQUIREMENT: per KRS 278.708 (3)(e); *The impact of the facility's operation on road and rail traffic to and within the facility, including anticipated levels of fugitive dust created by the traffic and any anticipated degradation of roads and lands in the vicinity of the facility*

COMPLIANCE: See Attachment C for a report on the Project's impact on road and rail traffic, and anticipated levels of fugitive dust created by the traffic and degradation of roads caused by traffic created by the Project.

"Traffic in the project vicinity is predicted to increase temporarily during the construction phase of the project. This includes daily morning and evening peaks for construction laborers entering and exiting the project site and periodic delivery of construction materials and equipment. Appropriate signage and traffic directing will occur as necessary to increase driver safety and reduce risk of collisions for approaching traffic. There are not anticipated damages to the existing roadway infrastructure. For facility operation and maintenance, there is no significant increase in traffic (i.e., the expected traffic to be contributed to the area will be less than a typical single-family home)."

"Land disturbing activities associated with the proposed project may temporarily contribute to airborne materials. To reduce wind erosion of recently disturbed areas, appropriate revegetation measures, application of water, or covering of spoil piles may occur. In addition, any open-bodied truck transporting dirt will be covered when the vehicle is in motion. The size of the project site, distance to nearby structures and roadways, combined with vegetated buffers along the property boundaries and fencerows will aid in managing off-site dust impacts. Internal roads will be compacted gravel, which may result in an increase in airborne dust particles during dry conditioned and internal road traffic is heavy. During construction activities water may be applied to internal road system to reduce dust generation. Water used for dust control is authorized under the Kentucky Pollutant Discharge Elimination System (KPDES) as a non-stormwater discharge activity, which will be required for the proposed project."

The Project will not be using railways for any construction or operation activities.

6. Mitigation Measures

REQUIREMENT: per KRS 278.708(4); *The site assessment report shall also suggest any mitigating measures to be implemented by the applicant to minimize or avoid adverse effects identified in the site assessment report*; and per KRS 278.708(6); *The applicant shall be given the opportunity to present evidence to the board regarding any mitigation measures. As a condition of approval for an application to obtain a construction certificate, the board may require the implementation of any mitigation measures that the board deems appropriate.*

COMPLIANCE: Specific of mitigation measures are listed below.

1. Planting of native evergreen species as a visual buffer to mitigate viewshed impacts. Plantings to primarily be in areas directly adjacent to the Project without existing vegetation; see Attachment E for anticipated planting areas and the specifics of the plantings. Members of the development team have been meeting with neighbors to discuss specific viewshed concerns.
2. Cultivation of at least 2 acres of native pollinator-friendly species onsite; see Attachment E for anticipated pollinator area.
3. Turkey Creek Solar had an Environmental Site Assessment (ESA) Phase 1 completed for the site. See Attachment D for the results of this study.

The regulation and permitting of utility scale solar impacts to wetlands, waters of the US, and stormwater will be addressed separately to this Siting Board application, and are as follows. Turkey Creek Solar, LLC has engaged Copperhead Environmental Consulting, Inc., a 20-person environmental engineering company based in Garrard County, KY, to perform an on-site wetlands delineation (which is in progress) and an Approved Jurisdictional Determination (AJD) application. Other permit applications will follow to the appropriate regulatory body as described below, as the project prepares for construction.

1. Stormwater Discharges Associate with Construction Activity

Regulatory Agency: Kentucky Energy & Environment Cabinet – Department for Environmental Protection – Division of Water (DOW)

The Project will obtain a Kentucky Department of Environmental Protection Stormwater Construction General Permit (Permit) from the Kentucky DOW for construction projects that disturb one or more acres of land in compliance with the National Pollutant Discharge Elimination System (NPDES) of the Clean Water Act (CWA). The Kentucky Pollution Discharge Elimination System (KPDES) permit (KPDES No: KYR100000) is a General Permit for Stormwater Discharges Associated with Construction Activity.

2. Wetlands and Waters of the United States

Federal Regulatory Agency: United States Army Corps of Engineers – Louisville District

An Approved Jurisdictional Determination (AJD) will be requested through the U.S. Army Corps of Engineers (USACE) – Louisville District. The AJD process will include the USACE Louisville District determining which aquatic features are considered federally jurisdictional under the Clean Water Act (CWA). If project design proposes to impact aquatic features, features that are deemed federally jurisdictional, a Section 404 of the CWA permit will be needed from the USACE.

The type of USACE permit required will depend on amount of impact (e.g., acres or linear feet) to jurisdictional wetlands and/or Waters of the US. If the proposed activity has minimal impacts, it may be authorized under a Nationwide Permit. If Project impacts exceed threshold requirements of the Nationwide Permits, an Individual Permit may be necessary.

Kentucky Regulatory Agency: Kentucky Energy & Environment Cabinet – Department for Environmental Protection – Division of Water

Depending on Project impacts and type of Section 404 permit necessary (discussed above), a Section 401 Water Quality Certification may be needed.

An applicant seeking a Section 401 Water Quality Certification must submit an Application for Permit to Construct Across or Along a Stream and/or Water Quality Certification to the Division of Water (DOW). DOW reviews projects jointly for potential impacts to water and floodplains. Projects proposing to minimally affect waters of the State may be authorized under General Certifications of USACE Nationwide Permits. General Certifications may include impact thresholds and specific conditions for the proposed activity. If the proposed activity qualifies for coverage under the Nationwide Permit and the corresponding General Certification, an applicant does not need anything from DOW. An applicant can request a letter from DOW that the project meets the requirements of a Nationwide Permit. An Individual Water Quality Certification is required if the activity does not qualify for General Certification.



Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI
9408 Northfield Court
Raleigh, North Carolina 27603
Phone (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

March 4, 2020

Carson Harkrader
Carolina Solar Energy
400 West Main Street, Suite 503
Durham, NC 27701

RE: Glover Creek Solar Impact Study, Metcalfe County, KY

Ms. Harkrader

At your request, I have considered the impact of a solar farm proposed to be constructed on approximately 322.44 acres out of a parent tract assemblage of 968.20 acres located on Randolph Summer Shade Road, Summer Shade, 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 Carolina Solar Energy represented to me by Carson Harkrader. My findings support the Kentucky Siting Board application. The effective date of this consultation is March 4, 2020.

While based in NC, I am also a Kentucky State Certified General Appraiser #5522.

Standards and Methodology

I conducted this analysis using the standards and practices established by the Kentucky Appraisal Board, 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.

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. NCDEQ does not consider the panels to be impervious surfaces that impede groundwater absorption or cause runoff.
- 5) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbor from fully using their homes or farms or businesses for the use intended.

Proposed Use Description

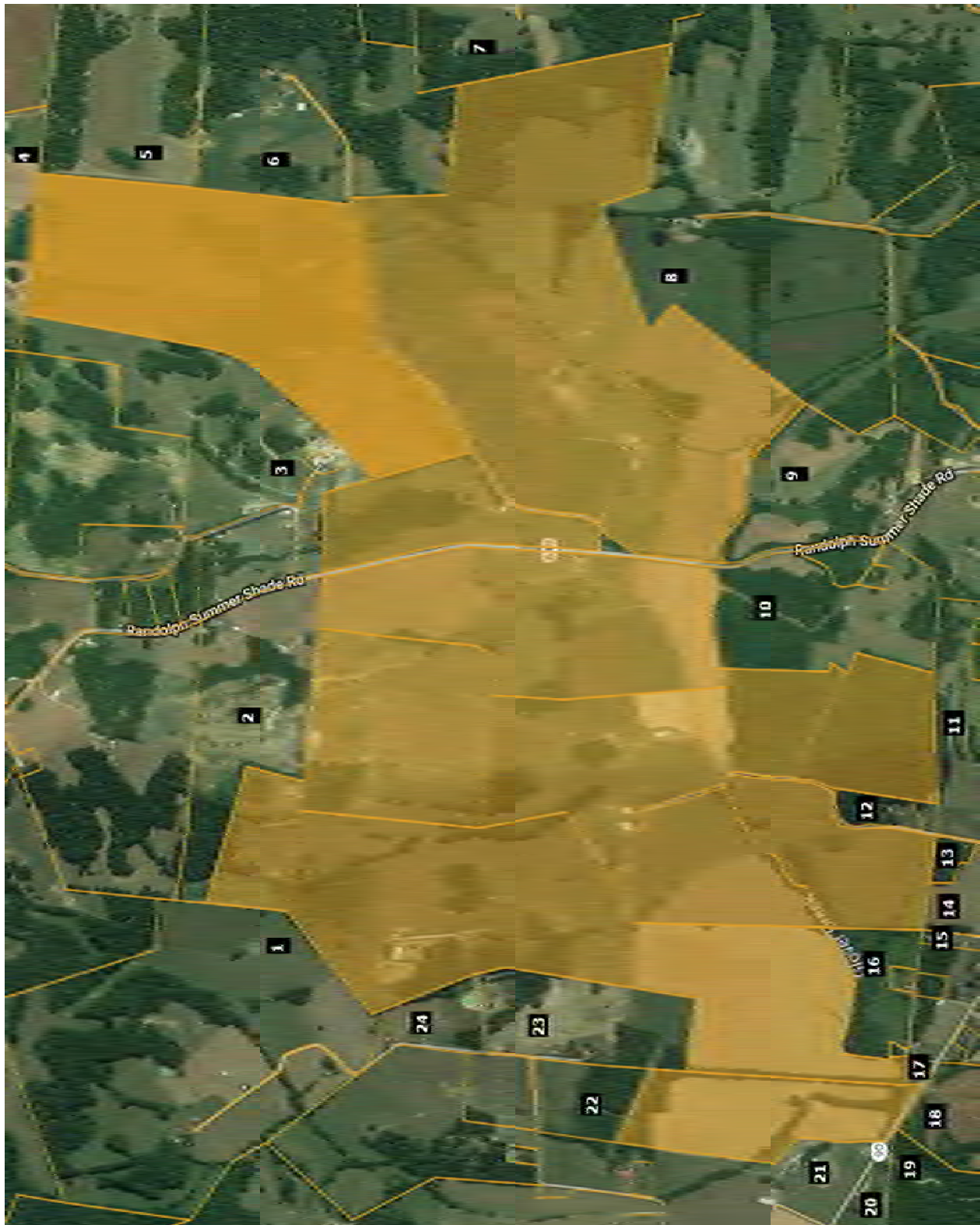
The proposed solar farm is to be constructed on approximately 322.44 acres out of a parent tract assemblage of 968.20 acres located on Randolph Summer Shade Road, Summer Shade, Kentucky. Adjoining land is a mix of residential and agricultural uses.

Adjoining Properties

I have considered adjoining uses and included a map to identify each parcel's location. The closest home is 375 feet away and the average distance to adjoining homes is 1,731 feet. Matched pairs that I have researched show no impact for distances as close as 125 feet.

The breakdown of those uses by acreage and number of parcels is summarized below.

Adjoining Use Breakdown		
	Acreage	Parcels
Residential	5.78%	37.50%
Agricultural	25.01%	16.67%
Agri/Res	69.21%	45.83%
Total	100.00%	100.00%



Surrounding Uses

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
1	160000002100	Vibbert	153.60	Agri/Res	12.36%	4.17%	3,450
2	170000000700	Isenberg	51.30	Agri/Res	4.13%	4.17%	525
3	290000001400	Harbison	64.60	Agricultural	5.20%	4.17%	N/A
4	290000000600	Estes	64.30	Agri/Res	5.18%	4.17%	4,005
5	290000001000	White	63.80	Agri/Res	5.14%	4.17%	3,745
6	29000001300	White	91.40	Agri/Res	7.36%	4.17%	2,125
7	29000001301	Welsh	91.40	Agricultural	7.36%	4.17%	N/A
8	2900001600	Branstetter	179.80	Agri/Res	14.47%	4.17%	820
9	29000001900	Poore	40.70	Agri/Res	3.28%	4.17%	1,520
10	17000002700	Wade	44.60	Agricultural	3.59%	4.17%	N/A
11	17000002800	Brown	45.70	Agri/Res	3.68%	4.17%	2,175
12	17000002600	Wade	5.00	Residential	0.40%	4.17%	1,225
13	17000002900	Pedigo	2.80	Residential	0.23%	4.17%	1,490
14	17000002500	Gillam	12.10	Residential	0.97%	4.17%	2,060
15	17000002403	Ellis	2.40	Residential	0.19%	4.17%	1,505
16	170000001106	Anderson	16.40	Residential	1.32%	4.17%	N/A
17		Unknown	0.75	Residential	0.06%	4.17%	1,035
18	17000002300	Spears	97.10	Agri/Res	7.82%	4.17%	2,185
19	17000002200	Dickerson	110.10	Agricultural	8.86%	4.17%	N/A
20		Unknown	8.58	Residential	0.69%	4.17%	1,080
21		Unknown	38.42	Agri/Res	3.09%	4.17%	375
22	17000000305	Durant	14.30	Residential	1.15%	4.17%	N/A
23	17000000400	Beets	33.70	Agri/Res	2.71%	4.17%	680
24		Unknown	9.50	Residential	0.76%	4.17%	1,160
Total			1242.350		100.00%	100.00%	1,731

I. 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 four solar farms in Kentucky for analysis at this time.

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 as compared to most of the states that I have searched before 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 NC 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 impact at the subject site.

Solar #	County	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Topo Shift	Adjoining Use by Acre			
										Res	Agri	Agri/Res	Com
611	Warren	Bowling Green	Bowling Green	2	17.36	17.36	720	720	12	1%	64%	0%	36%
612	Clarky	Winchester	Cooperative Solar I	8.5	181.5	63	2,110	2,040	40	0%	96%	3%	0%
613	Kenton	Walton	Walton 2	2	58.03	58.03	891	120	90	21%	0%	60%	19%
614	Grant	Crittenden	Crittenden	2.7	181.7	34.1	1,035	345	40	22%	27%	51%	0%
Total Number of Solar Farms				4									
Average				3.80	109.6	43.1	1189	806	46	11%	47%	29%	14%
Median				2.35	119.8	46.1	963	533	40	11%	46%	27%	10%
High				8.50	181.7	63.0	2110	2040	90	22%	96%	60%	36%
Low				2.00	17.4	17.4	720	120	12	0%	0%	0%	0%

611: 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%

612: 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%

613: 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%

614: 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%

II. 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 property. 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

Wherever I have looked at solar farms, I have derived a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use similar to the breakdown that I've shown for the subject property on the previous page. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Harmony of Use 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 600 studies, I have found a striking repetition of that same typical adjoining 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 broken this down to show the data in Kentucky first and then followed that up with data from across the country including Kentucky for additional support.

A. Kentucky 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 four home sales to the north of this solar farm on Claiborne 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 Claiborne 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 on lots being marketed for \$28,000 to \$29,000.

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%	

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										Avg		
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% 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 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 expected in real estate transactions. This indication is higher than that and suggests a positive relationship.

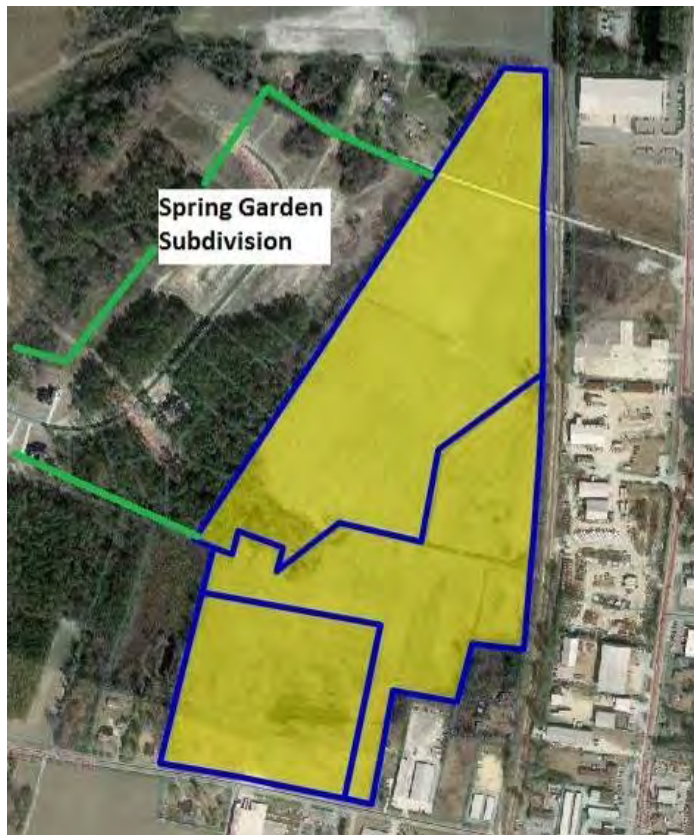
The four matched pairs considered in this analysis includes two that show no impact on value, one that shows a negative impact on value, and one that shows a positive impact. The negative indication supported by one matched pair is -7% and the positive impact of another is +7%. The two neutral indications show impacts of -1% and +3%. The average indicated impact is +1% when all four of these indicators are blended.

Furthermore, the comments of the local 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.

B. National Data

1. Matched Pair – AM Best Solar Farm, Goldsboro, NC

This 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.

	<p>Americana SqFt: 3,194 Bed / Bath: 3 / 3.5</p>	<p>Price: \$237,900 View Now »</p>		<p>Washington SqFt: 3,292 Bed / Bath: 4 / 3.5</p>	<p>Price: \$244,900 View Now »</p>
	<p>Presidential SqFt: 3,400 Bed / Bath: 5 / 3.5</p>	<p>Price: \$247,900 View Now »</p>		<p>Kennedy SqFt: 3,494 Bed / Bath: 5 / 3</p>	<p>Price: \$249,900 View Now »</p>
	<p>Virginia SqFt: 3,449 Bed / Bath: 5 / 3</p>	<p>Price: \$259,900 View Now »</p>			

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 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. This is similar to the discount you see in any market where there is a discount for buying larger volumes. So when you buy a 2 liter coke you pay less per ounce than if you buy a 16 oz. coke. 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		
												Avg	
	Adjoins	103 Granville Pl										Total	% Diff
	Not	2219 Granville	\$4,382		\$1,300	\$0						\$265,000	-2%
	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		
												Avg	
	Adjoins	104 Erin										Total	% Diff
	Not	2219 Granville	-\$4,448		\$2,600	\$16,238						\$280,000	0%
	Not	634 Friendly	-\$17,370		-\$5,340	\$34,702	-\$10,000					\$274,390	2%
	Not	2403 Granville	-\$15,029		\$0	\$48,285						\$268,992	4%
												\$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		
												Avg	
	Adjoins	2312 Granville										Total	% Diff
	Not	2219 Granville	\$2,476		\$1,300	\$10,173						\$284,900	1%
	Not	634 Friendly	-\$10,260		-\$6,675	\$27,986	-\$10,000					\$273,948	4%
	Not	2403 Granville	-\$7,972		-\$1,325	\$47,956						\$268,051	6%
												\$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		
												Avg	
	Adjoins	2310 Granville										Total	% Diff
	Not	2219 Granville	\$10,758		\$1,300	\$0						\$280,000	1%
	Not	634 Friendly	-\$1,755		-\$6,675	\$16,721	-\$10,000					\$272,058	3%
	Not	2403 Granville	\$469		-\$1,325	\$31,356						\$265,291	5%
												\$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		Second Sale		Year Diff	Apprec.	% Apprec.	Apprec. %/Year
	Date	Price	Date	Price				
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 – White Cross Solar Farm, Chapel Hill, NC



A new solar farm was built at 2159 White Cross Road in Chapel Hill, Orange County in 2013. After construction, the owner of the underlying land sold the balance of the tract not encumbered by the solar farm in July 2013 for \$265,000 for 47.20 acres, or \$5,606 per acre. This land adjoins the solar farm to the south and was clear cut of timber around 10 years ago. I compared this purchase to a nearby transfer of 59.09 acres of timber land just south along White Cross Road that sold in November 2010 for \$361,000, or \$6,109 per acre. After purchase, this land was divided into three mini farm tracts of 12 to 20 acres each. These rates are very similar and the difference in price per acre is attributed to the timber value and not any impact of the solar farm.

Type	TAX ID	Owner	Acres	Date	Price	\$/Acre	Notes	Conf By
Adjoins Solar	9748336770	Haggerty	47.20	Jul-13	\$265,000	\$5,614	Clear cut	Betty Cross, broker
Not Near Solar	9747184527	Purcell	59.09	Nov-10	\$361,000	\$6,109	Wooded	Dickie Andrews, broker

The difference in price is attributed to the trees on the older sale.

No impact noted for the adjacency to a solar farm according to the broker.

I looked at a number of other nearby land sales without proximity to a solar farm for this matched pair, but this land sale required the least allowance for differences in size, utility and location.

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$5,614	\$5,614	\$6,109	\$6,109
Adjustment for Timber	\$500	\$500		
Adjusted	\$6,114	\$6,114	\$6,109	\$6,109
Tract Size	47.20	47.20	59.09	59.09

Percentage Differences

Median Price Per Acre 0%

This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

3. Matched Pair – Wagstaff Farm, Roxboro, NC



This solar farm is located at the northeast corner of a 594-acre farm with approximately 30 acres of solar farm area. This solar farm was approved and constructed in 2013.

After approval, 18.82 acres were sold out of the parent tract to an adjoining owner to the south. This sale was at a similar price to nearby land to the east that sold in the same time from for the same price per acre as shown below.

Type	TAX ID	Owner	Acres	Present Use	Date Sold	Price	\$/AC
Adjoins Solar	0918-17-11-7960	Piedmont	18.82	Agricultural	8/19/2013	\$164,000	\$8,714
Not Near Solar	0918-00-75-9812 et al	Blackwell	14.88	Agricultural	12/27/2013	\$130,000	\$8,739

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	Median	Average	Median
Sales Price	\$8,714	\$8,714	\$8,739	\$8,739
Tract Size	18.82	18.82	14.88	14.88

Percentage Differences

Median Price Per Acre 0%

This matched pair again supports the conclusion that adjacency to a solar farm has no impact on adjoining residential/agricultural land.

4. Matched Pair – Mulberry, Selmer, TN



This solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet away.

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 Hearnberger 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%

From the above map, I identified four recent sales of homes that occurred adjoining the solar farm both before and after the announcement of the solar farm. I have adjusted each of these for differences in size and age in order to compare these sales among themselves. As shown below after adjustment, the median value is \$130,776 and the sales prices are consistent with one outlier which is also the least comparable home considered. The close grouping and the similar price per point overall as well as the similar price per square foot both before and after the solar farm.

Matched Pairs

#	TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	\$/GBA	Style	Parking
6&7	0900 A 011.00	Henson	Jul-14	\$130,000	2.65	2007	1,511	\$86.04	1 Story	2 Garage
12	0900 A 003.00	Amerson	Aug-12	\$130,000	1.20	2011	1,586	\$81.97	1 Story	2 Garage
15	099C A 003.00	Smallwood	May-12	\$149,900	1.00	2002	1,596	\$93.92	1 Story	4 Garage
16	099C A 002.00	Hessing	Jun-15	\$130,000	1.00	1999	1,782	\$72.95	1 Story	2 Garage
		Average		\$134,975	1.46	2005	1,619	\$83.72		
		Median		\$130,000	1.10	2005	1,591	\$84.00		

#	TAX ID	Owner	Date Sold	Sales Price	Adjustments*					
					Acres	Built	GBA	Style	Parking	Total
6&7	0900 A 011.00	Henson	Jul-14	\$130,000	-\$7,500	\$2,600	\$6,453	\$0	\$0	\$131,553
12	0900 A 003.00	Amerson	Aug-12	\$130,000	\$0	\$0	\$0	\$0	\$0	\$130,000
15	099C A 003.00	Smallwood	May-12	\$149,900	\$0	\$6,746	-\$939	\$0	-\$15,000	\$140,706
16	099C A 002.00	Hessing	Jun-15	\$130,000	\$0	\$7,800	-\$14,299	\$0	\$0	\$123,501
		Average		\$134,975	-\$1,875	\$4,286	-\$2,196	\$0	-\$3,750	\$131,440
		Median		\$130,000	\$0	\$4,673	-\$470	\$0	\$0	\$130,776

* I adjusted all of the comparables to a base line 2011 Year Built and 1,586 s.f. based on Lot 12

I also considered a number of similar home sales nearby that were both before and after the solar farm was announced as shown below. These homes are generally newer in construction and include a number of larger homes but show a very similar price point per square foot.

Nearby Sales Before Solar Farm Announced

TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	\$/GBA	Style	Parking
099B A 019	Durrance	Sep-12	\$165,000	1.00	2012	2,079	\$79.37	1 Story	2 Garage
099B A 021	Berryman	Apr-12	\$212,000	2.73	2007	2,045	\$103.67	1 Story	2 Garage
0900 A 060	Nichols	Feb-13	\$165,000	1.03	2012	1,966	\$83.93	1 Story	2 Garage
	Average		\$180,667	1.59	2010	2,030	\$88.99		
	Median		\$165,000	1.03	2012	2,045	\$83.93		

Nearby Sales After Solar Farm Announced

TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	\$/GBA	Style	Parking
090N A 040	Carrithers	Mar-15	\$120,000	1.00	2010	1,626	\$73.80	1 Story	2 Garage
099C A 043	Cherry	Feb-15	\$148,900	2.34	2008	1,585	\$93.94	1 Story	2 Garage
	Average		\$134,450	1.67	2009	1,606	\$83.87		
	Median		\$134,450	1.67	2009	1,606	\$83.87		

I then adjusted these nearby sales using the same criteria as the adjoining sales to derive the following breakdown of adjusted values based on a 2011 year built 1,586 square foot home. The adjusted values are consistent with a median rate of \$128,665, which is actually lower than the values for the homes that back up to the solar farm.

Nearby Sales Adjusted				Adjustments*					
TAX ID	Owner	Date Sold	Sales Price	Acres	Built	GBA	Style	Parking	Total
099B A 019	Durrance	Sep-12	\$165,000	\$0	-\$825	-\$39,127	\$0	\$0	\$125,048
099B A 021	Berryman	Apr-12	\$212,000	-\$7,500	\$4,240	-\$47,583	\$0	\$0	\$161,157
090O A 060	Nichols	Feb-13	\$165,000	\$0	-\$825	-\$31,892	\$0	\$0	\$132,283
090N A 040	Carrithers	Mar-15	\$120,000	\$0	\$600	-\$2,952	\$0	\$0	\$117,648
099C A 043	Cherry	Feb-15	\$148,900	-\$7,500	\$2,234	\$94	\$0	\$0	\$143,727
	Average		\$165,500	-\$1,875	\$798	-\$30,389	\$0	\$0	\$134,034
	Median		\$165,000	\$0	-\$113	-\$35,510	\$0	\$0	\$128,665

* I adjusted all of the comparables to a base line 2011 Year Built and 1,586 s.f. based on Lot 12

If you consider just the 2015 nearby sales, the range is \$117,648 to \$143,727 with a median of \$130,688. If you consider the recent adjoining sales the range is \$123,501 to \$131,553 with a median of \$127,527.

This difference is less than 3% in the median and well below the standard deviation in the sales. The entire range of the adjoining sales prices is overlapped by the range from the nearby sales. These are consistent data sets and summarized below.

Matched Pair Summary

	Adjoins Solar Farm		Nearby After Solar Farm	
	Average	Median	Average	Median
Sales Price	\$134,975	\$130,000	\$134,450	\$134,450
Year Built	2005	2005	2009	2009
Size	1,619	1,591	1,606	1,606
Price/SF	\$83.72	\$84.00	\$83.87	\$83.87

Based on the data presented above, I find that the price per square foot for finished homes is not being impacted negatively by the announcement of the solar farm. The difference in pricing in homes in the neighborhood is accounted for by differences in size, building age, and lot size. The median price for a home after those factors are adjusted for are consistent throughout this subdivision and show no impact due to the proximity of the solar farm. This is consistent with the comments from the broker I spoke with for this subdivision as well.

I have also 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	Acres	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.

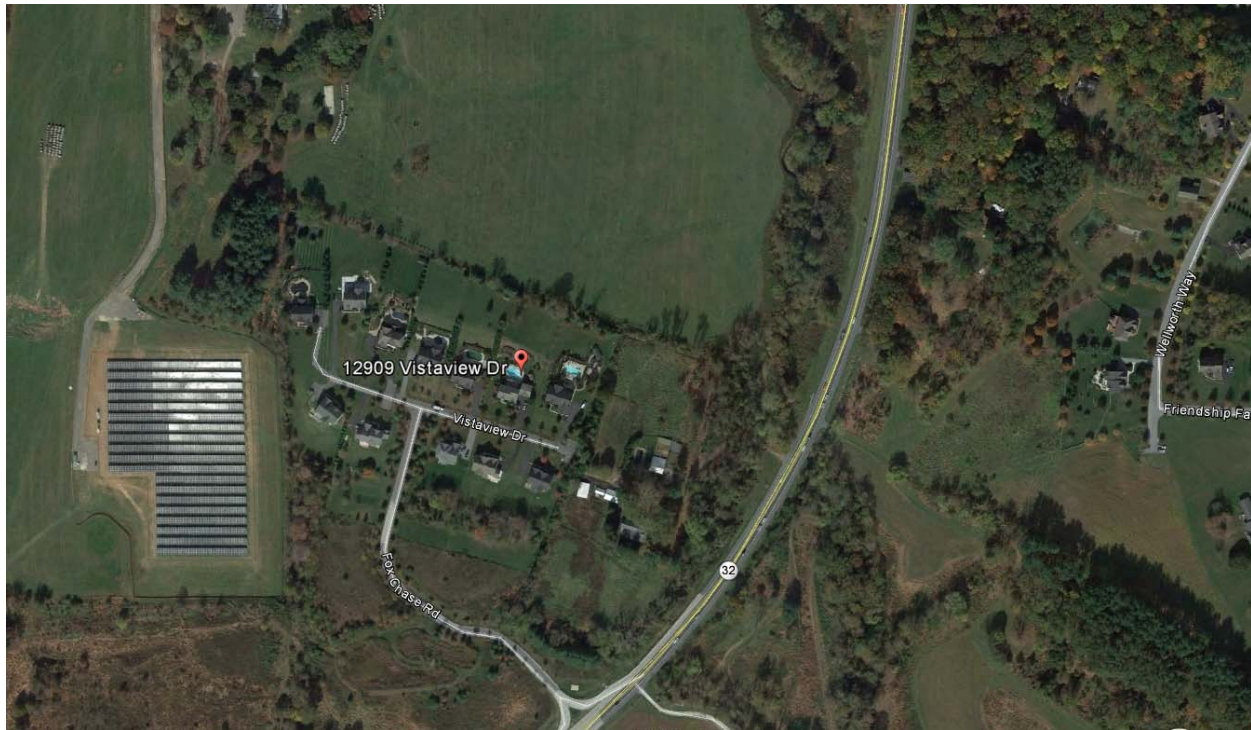
The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm.

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	\$/AC	4/18/2019
						Adj for Time		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%	

5. Matched Pair – Nixon’s Solar Farm, West Friendship, MD



This smaller 2 MW solar farm being developed in phases mostly adjoins agricultural and residential uses as shown above. This is part of what will eventually be a 10 MW facility.

I compared a recent sale of 12909 Vistaview Drive to 2713 Friendship Farm Court. While this does not look at an adjacent home sale, it is close proximity and based on the matched pair data in the report it shows a \$16,640 positive impact on value due to proximity to the solar farm, or 2.16%. This is within typical market friction and supports an indication of no impact on property value.

I have shown this data below.

Nixon’s Farm Solar Farm, West Friendship, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	\$/GBA	Style	BR/BA	Park
12909 Vistaview	Nearby	0.92	9/12/2014	\$771,640	2003	2,692	\$286.64	Colonial	4/3.5	2 Car Det
2713 Friendship Farm	Not	0.98	6/20/2014	\$690,000	2000	2,792	\$247.13	Colonial	4/2.5	2 Car Att

*\$3,360 concession deducted from sale price for Vistaview

Adjoining Sales Adjusted

Address	Date Sold	Sales Price	Time	Adjustments			BR/BA	Other	Total
				Acres	YB				
12909 Vistaview	9/12/2014	\$771,640						\$771,640	
2713 Friendship Farm	6/20/2014	\$690,000		\$0	\$0	\$0	\$10,000	\$55,000	\$755,000

Difference Attributable to Location \$16,640
2.16%

6. Matched Pair – Leonard Road Solar Farm, Hughesville, MD



This solar farm 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.

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

Address	Date Sold	Sales Price	Time	Adjustments				Total
				GLA	Bsmt	Upgrades	Other	
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.

7. Matched Pair – Talbot County Community Center Solar Farm, Easton, MD



This solar farm mostly adjoins agricultural and residential uses but also the Community center and located across the street from a golf course which can be seen just to the east. I looked at a 2012 sale of a home 1,000 feet to the west of the solar farm with a slight positive impact on value nearby the solar farm.

I have shown this data below.

Talbot County Community Center, Easton, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	\$/GBA	Style	BR/BA	Park	Upgrades
10193 Hiners	Nearby	1.06	10/31/2012	\$136,092	1947	776	\$175.38	Bungalow	2/1	3 Car Det	N/A
10711 Hiners	Not	0.60	12/15/2012	\$135,000	1957	832	\$162.26	Bungalow	2/1	1 Car Det	Upd. Bath

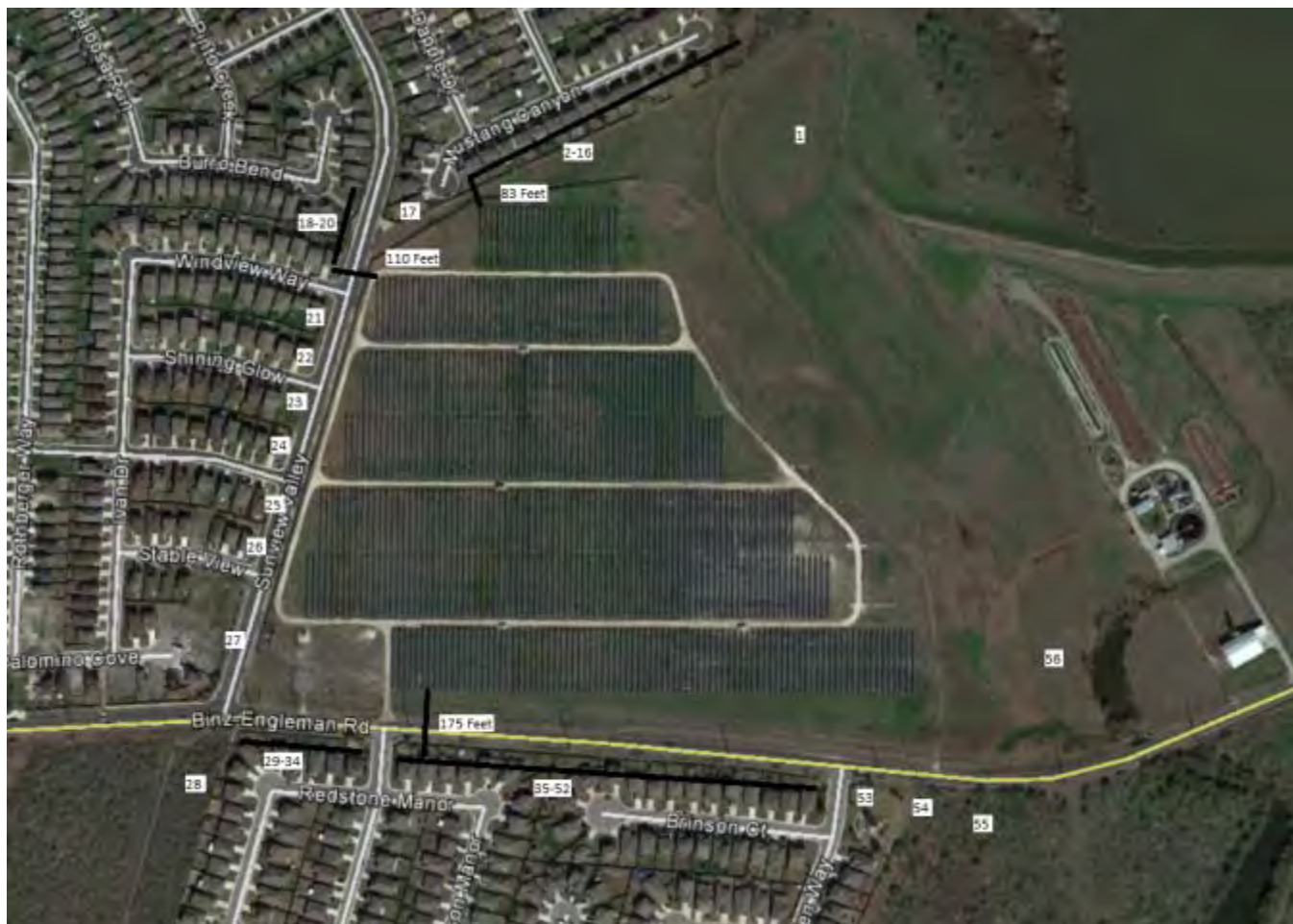
*\$5,908 concessions deducted from 10193 Hiners sales price

Adjoining Sales Adjusted

Address	Date Sold	Sales Price	Age	Adjustments				Total	
				Acres	Park	Upgrades	Other		
10193 Hiners	10/31/2012	\$136,092						\$136,092	
10711 Hiners	12/15/2012	\$135,000		-\$6,750	\$4,000	\$6,000	-\$3,000	\$0	\$135,250

Difference Attributable to Location \$842

8. Matched Pair – Alamo II, San Antonio, Texas



This project is located at 8203 Binz-Engleman Road, Converse, Texas, on 98.37 acres with a 4.4 MW output. This project is located with small lot residential development on to the north west and south. There appears to be minimal landscaping along this project. The closest home to the north is 83 feet from the solar panels, while the homes to the west are 110 feet and the homes to the south are 175 feet away from the solar panels.

This solar farm strongly shows an acceptance of nearby residential development and solar farms as the minimal landscaping, close proximity, small adjoining lot sizes, and the development of homes on three sides of the solar farm are all indicators of a harmony of uses.

Adjoining Use Breakdown

Acreeage	Parcels
Residential	94.64%
Agricultural	5.36%
Total	100.00%

I have considered home sales in the three adjoining subdivisions to look at matched pair data. There are sales and resales of homes in Glenloch and Mustang Valley subdivisions to the south and west of this solar farm.

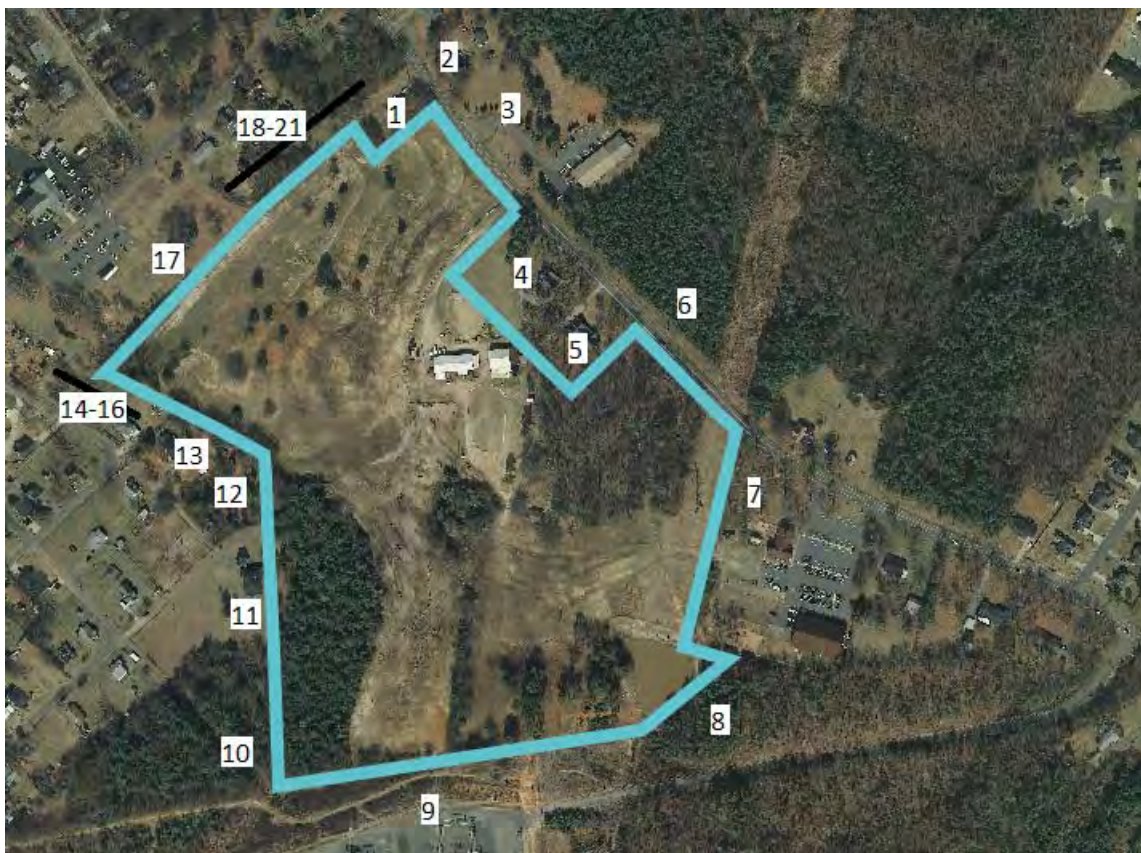
I have considered multiple matched pairs from these subdivisions to show typical appreciation and no impact on property value both before and after the solar farm was constructed in 2013. I have

looked at a number of home sales and resales in the larger subdivisions, but I have focused on those directly adjoining/facing the solar farm in the examples shown below. These are sales and resales of the homes adjoining the solar farm both before and after the solar farm project in 2013.

The comparables shown below are compared to an earlier sale prior to the solar farm announcement or construction followed by a second sale after the solar farm. The first two have solar farms in the Backyard (B), while the other has the solar farm in the Side yard (S). All of these sales show appreciation that falls within the typical annual appreciation for homes in this area over this time period.

7703 Redstone Mnr (B)			7807 Redstone Mnr (B)			7734 Sundew Mist (S)		
	<u>Date</u>	<u>Price</u>		<u>Date</u>	<u>Price</u>		<u>Date</u>	<u>Price</u>
Sale	10/3/2012	\$149,980	Sale	5/11/2012	\$136,266	Sale	5/23/2012	\$117,140
Sale	3/24/2016	\$166,000	Sale	8/11/2014	\$147,000	Sale	11/18/2014	\$134,000
	<u>Time - YRS</u>	<u>% Incr.</u>		<u>Time - YRS</u>	<u>% Incr.</u>		<u>Time - YRS</u>	<u>% Incr.</u>
	3.47	10.7%		2.25	7.9%		2.49	14.4%
	<u>Per Year</u>	<u>3.1%</u>		<u>Per Year</u>	<u>3.5%</u>		<u>Per Year</u>	<u>5.8%</u>
Years	3.5	<u>10.8%</u>	Years	2.5	<u>8.7%</u>	Years	2	<u>11.6%</u>

I therefore conclude that this set of matched pairs shows no impact on property value and that homes in the area are showing typical appreciation consistent with other homes not in the vicinity of solar farms.

9. Matched Pair – Neal Hawkins Solar, Gastonia, NC

This 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.

10. 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%		

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
53	Adjoins	105 Pinto	4.99	12/16/2016	\$206,000	1978	1,484	\$138.81	3/2	Det Gar	Ranch		2,020
	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	0.99	6/9/2015	\$219,900	1988	1,910	\$115.13	3/2	Gar/3Gar	Ranch		
	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	
	Adjoins	105 Pinto								\$206,000		11%	
	Not	111 Spur	\$6,918	\$10,000	-\$6,755	-\$25,359				\$177,803	14%		
	Not	103 Marshall	-\$2,268	\$10,000	-\$24,500	-\$8,227		\$5,000		\$176,005	15%		
	Not	127 Ranchland	\$13,738	\$10,000	-\$10,995	-\$24,523		-\$10,000		\$198,120	4%		

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%		

11. Matched Pair – White Cross II, Chapel Hill, NC



This project is located in rural Orange County on White Cross Road with a 2.8 MW facility. This project is a few parcels south of White Cross Solar Farm that was developed by a different company. An adjoining home sold after construction as presented below.

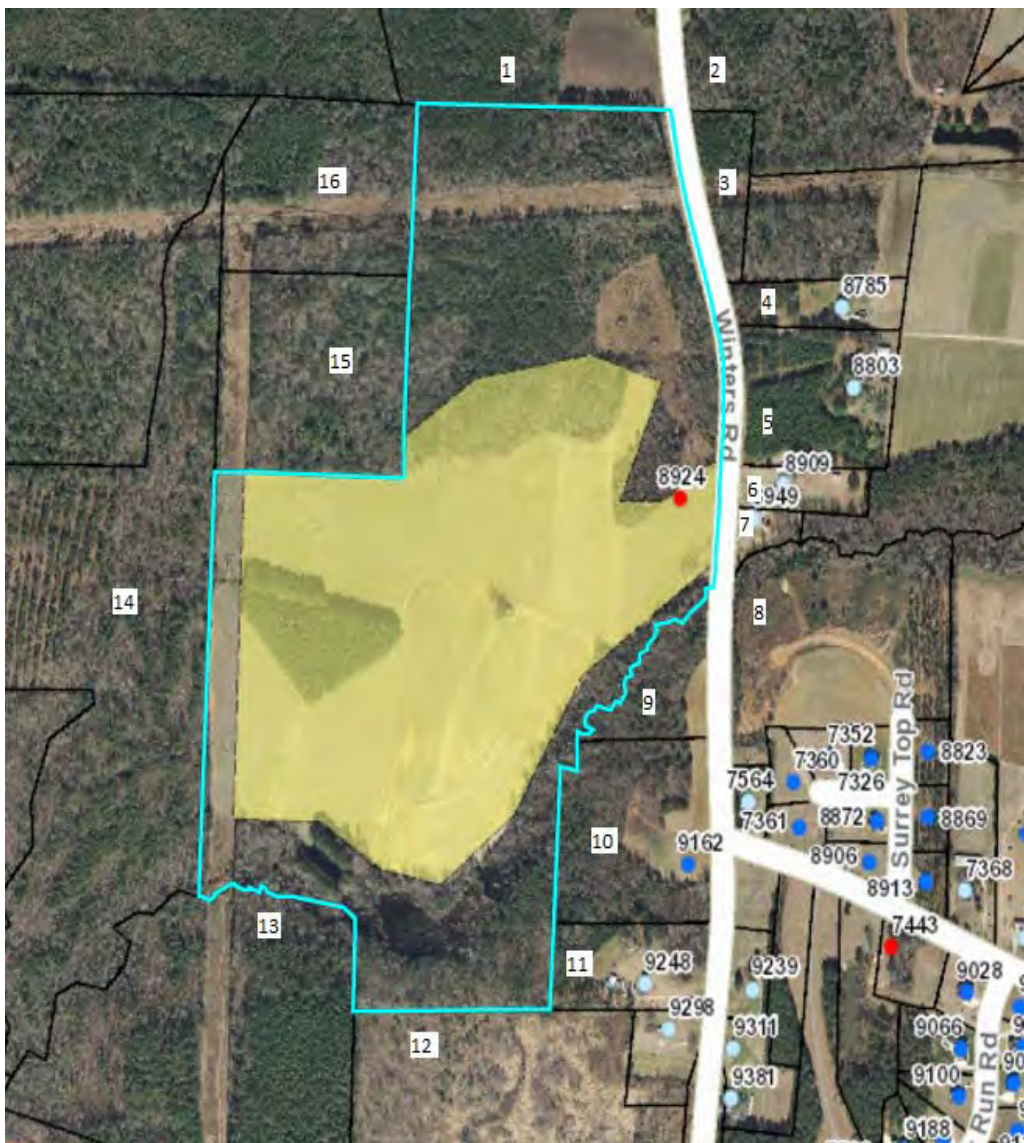
Adjoining Residential Sales After Solar Farm Completed

Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	97482114578	11.78	2/29/2016	\$340,000	1994	1,601	\$212.37	3/3	Garage	Ranch
Not	4200B Old Greensbor	12.64	12/28/2015	\$380,000	2000	2,075	\$183.13	3/2.5	Garage	Ranch

Adjoining Residential Sales After Solar Farm Adjoining Sales Adjusted

Solar	TAX ID/Address	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Total	% Diff
Adjoins	97482114578	\$340,000							\$340,000	
Not	4200B Old Greensbor	\$380,000	\$3,800	\$0	-\$15,960	-\$43,402	\$5,000	\$0	\$329,438	3%

12. 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. 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.

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	s	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.

13. 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, 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.

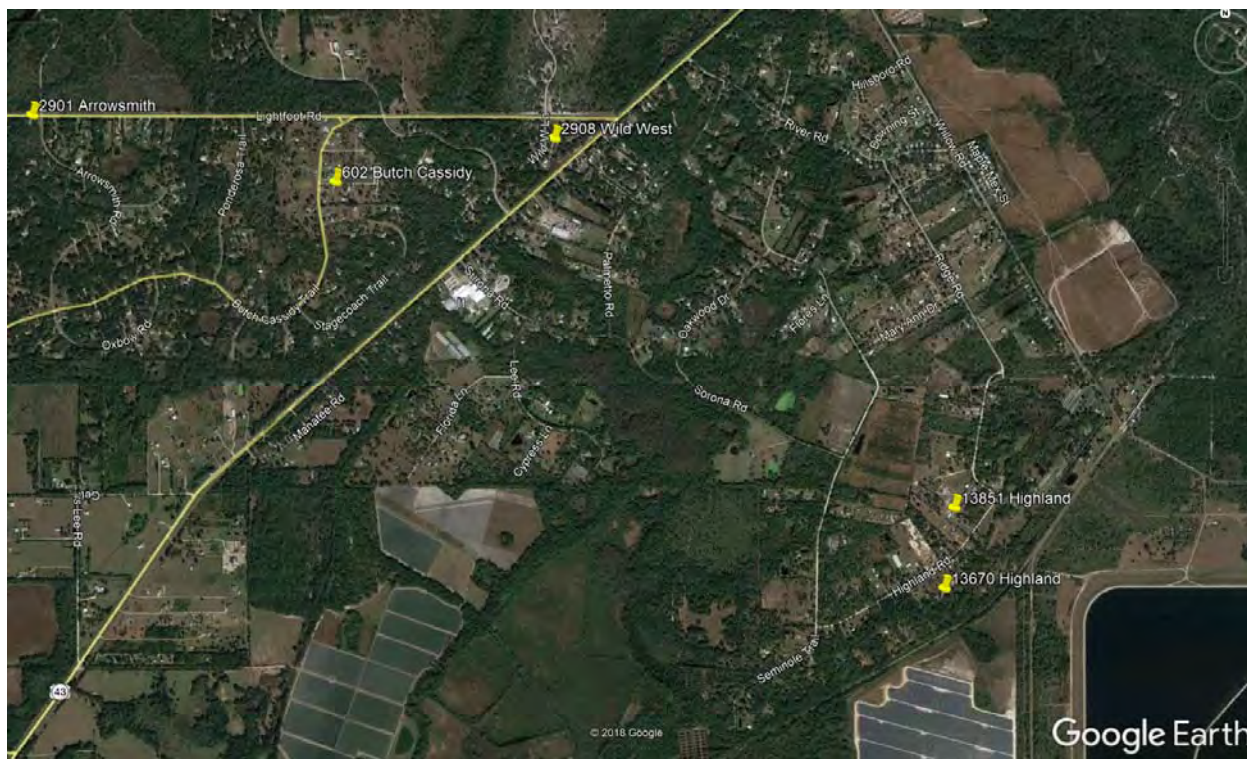
Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Note
Adjoins	13670 Highland	5.00	8/21/2017	\$255,000	1997	1,512	\$168.65	3/3	Carport/Wrkshp	Ranch	Renov.
Not	2901 Arrowsmith	1.91	1/31/2018	\$225,000	1979	1,636	\$137.53	3/2	2 Garage/Wrkshp	Ranch	
Not	602 Butch Cassidy	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.

Solar	TAX ID/Address	Adjoining Sales Adjusted							Total	% Diff
		Time	Acres	YB	GLA	BR/BA	Park	Note		
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.



14. 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.

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%

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 and within the typical range of real estate transactions. I therefore conclude that these matched pairs show no impact on value.

I note that the home at 4380 Joyner Road is 275 feet from the closest proposed solar panel.

I also considered the recent sale of a lot on 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. 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 other lots on Kristi Lane are likely to sale soon at similar prices. Ms. Dabbs indicated that they have had these lots on the market for about 5 years at asking prices that were probably a little high and they are now selling and they have another under contract.

15. Matched Pair – Yamhill II, Amity, OR



This solar farm has a 1.2 MW output and is located on a 186.60 acre tract using less than 10 of those acres. The project was built in 2011.

I have considered the recent sale of Parcel 11 shown above, which sold on July 22, 2015 after the solar farm was built. The property sold for \$326,456 for a 2.12 acre site with a home built in 1912 with 2,154 s.f. and 4 BR and 2 BA. It was noted as a recently remodeled residence with outbuildings that sold for \$151.56 per square foot. I compared this to a number of similar older residences on similar acreage as shown below.

Adjoining Residential Sales After Solar Farm Approved										Adjust for		
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Time	Adjusted Sales	Adjusted \$/SF	
Adjoins	12001 SW Bellevue, Amity	2.12	7/22/2015	\$326,456	1912	2,154	\$151.56	4/2				
Not	19915 SW Muddy, McMinnville	1.82	2/28/2011	\$213,400	1910	1,798	\$118.69	3/2	27%	\$271,018	\$150.73	
Not	22600 Hopewell, Salem	1.00	10/15/2014	\$256,000	1910	1,966	\$130.21	3/2	5%	\$268,800	\$136.72	
Not	22355 Hopewell, Salem	1.00	11/13/2015	\$320,000	1930	2,592	\$123.46	3/2	-2%	\$313,600	\$120.99	
Not	9955 Bethel, Amity	2.86	2/17/2016	\$289,900	1936	2,028	\$142.95	3/2	-4%	\$278,304	\$137.23	
Not	3361 Lone Oak, McMinnville	2.91	3/1/2016	\$465,000	1937	2,950	\$157.63	3/2	-7%	\$432,450	\$146.59	
										Average	\$138.45	
										Median	\$137.23	

The sales prices of the comparables were only adjusted for time and provide a range of adjusted values of \$120.99 per square foot to \$150.73 per square foot. The subject property sold for above the high end of this range despite being on the older end of the range of comparables. Considering 9955 Bethel as the most similar in acreage, age and size and the price per square foot which adjusted to the median rate at \$137.23 per square foot. Applying that rate to the subject property square footage, the indicated value is \$295,593 for that matched pair, suggesting a 9% enhancement due to the adjacency to the solar farm.

This set of matched pair data falls in line with the data seen in other states. The home is 700 feet from the closest solar panel.

16. Matched Pair – Marion Solar, Aurora, OR



This solar farm has a 0.3 MW output and is located on a 2-acre portion of a 31.76-acre tract. The project was built in 2014.

I have considered the recent sale of Parcels 5 and 6 shown above, which sold on August 6, 2014 after the solar farm was built for \$259,000, or \$16,444 per acre for a combined 15.75 acres. This was sold as vacant agricultural land with a permitted home site.

I compared this to a number of similar land sales as shown below.

Adjoining Residential Land Sales After Solar Farm Approved								Adj for	Adjusted	Adjusted
Solar	Address	Acres	Date Sold	Sales Price	\$/Ac	Soils	Homesite	Time	Sales	\$/SF
Adjoins	18916 Butteville, Aurora	15.75	8/6/2014	\$259,000	\$16,444	2&3	Est.			
Not	15961 Wilsonville, Wilsonville	50.50	5/20/2014	\$950,000	\$18,812	2&3	Est.	1.5%	\$964,250	\$19,094
Not	11471 Wilco, Mt. Angel	13.31	11/10/2014	\$159,500	\$11,983	2&4	N/A	-1.5%	\$157,108	\$11,804
Not	Waconda, Salem	11.86	9/9/2015	\$215,000	\$18,128	2	N/A	-6.5%	\$201,025	\$16,950
									Average	\$15,949
									Median	\$16,950

The sales price for the subject property is in line and between the average and median rates from the comparables. The sale at 11471 Wilco is the most similar in terms of acreage, time, and location. The sale on Waconda is similar in size, but newer and required more adjustment. I therefore conclude that no impact due to the proximity of the solar farm.

17. Matched Pair – Clackamas II, Aurora, OR



This solar farm has a 0.22 MW output and is located on a 1-acre portion of a 156.32-acre tract. The project was built in 2014.

I have considered the homesales along SW Fairway Drive both before and after the solar farm was announced to see if there was any impact on total sales price or price per square foot. As can be seen in the chart below, the sales prices continued to trend upward after the announcement and the price per square foot continued to trend upward. These homes are all approximately 125 feet from the closest solar panel.

I adjusted these based on 0.75% per month difference in date of sale to January 1, 2014. The indicated average and median rate are right in line with the sales before and after the solar farm was built. These comparables strongly indicate no impact in sales price.

Adjoining Residential Sales Before and After Solar Farm Announced									Adjust	Adjusted	Adjusted
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	Time	Sales	\$/SF	
Prior	7500 SW Fairway	0.20	12/9/2011	\$365,000	1992	2,435	\$149.90	18.8%	\$433,620	\$178.08	
Prior	7580 SW Fairway	0.30	11/21/2012	\$335,000	1990	2,256	\$148.49	11%	\$370,175	\$164.08	
Prior	7480 SW Fairway	0.19	6/27/2013	\$365,000	1992	2,244	\$162.66	5%	\$384,345	\$171.28	
							\$153.68	Average		\$171.15	
							\$149.90	Median		\$171.28	
After	7620 SW Fairway	0.27	7/1/2013	\$365,000	1992	2,212	\$165.01	3.8%	\$378,870	\$171.28	
After	7700 SW Fairway	0.18	6/11/2014	\$377,100	1991	2,328	\$161.98	-2%	\$371,444	\$159.55	
After	7380 SW Fairway	0.19	7/18/2014	\$415,000	1989	2,115	\$196.22	-6%	\$390,100	\$184.44	
							\$174.40	Average		\$171.76	
							\$165.01	Median		\$171.28	

18. 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.

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	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.

19. 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.

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

TAX ID	Date Sold	Adjustments		\$/Sf
		Time	Total	
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.

Land Sale Adjustment Chart

TAX ID	Date Sold	Adjustments		\$/Acre
		Time	Total	
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.

20. 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.

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.

21. Matched Pair – Beetle-Shelby Solar, Cleveland County, NC



This project is located on Bachelor Road at Timber Drive, Mooresboro, NC. This is a 4 MW facility on a parent tract of 24 acres.

I have considered a custom home on a nearby property adjoining this solar farm. This home is located on 10.08 acres, was built in 2013, and has a gross living area of 3,196 s.f. This property sold on October 1, 2018 \$416,000. I compared this to several nearby homes of similar size on large lots as shown below.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	1715 Timber	10.08	10/1/2018	\$416,000	2013	3,196	\$130.16	4/3.5	2xGar	1.5 story	Pool, Scrn Prch
Not	1021 Posting	2.45	2/15/2019	\$414,000	2000	4,937	\$83.86	4/4.5	2xGar	1.5 story	Scrn Prch
Not	2521 Wood	3.25	7/30/2017	\$350,000	2003	3,607	\$97.03	4/4	4xGar	1.5 story	Pool, sunroom
Not	356 Whitaker	7.28	1/9/2017	\$340,000	1997	3,216	\$105.72	4/4	2xGar	Ranch	Pole barn

Adjoining Sales Adjusted

Time	Acres	YB	GLA	BR/BA	Park	Other	Total	% Diff
							\$416,000	
	\$15,000	\$37,674	-\$58,398	-\$10,000			\$398,276	4%
\$10,500	\$12,000	\$24,500	-\$15,952	-\$5,000	-\$5,000		\$371,048	11%
\$15,300	\$5,000	\$38,080	-\$846	-\$5,000			\$392,534	6%
							Average	7%

The data on these sales all show that the subject property adjoining the solar farm sold for more than these other comparable sales. These sales suggest a mild increase in value due to proximity to the solar farm; however, the subject property is a custom home with upgrades that would balance out that difference. I therefore conclude that these matched pairs support an indication of no impact on property value.

22. Matched Pair – Courthouse Solar, Gaston County, NC



This project is a 5 MW facility located on 161.92 acres on Tryon Courthouse Road near Bessemer City that was approved in late 2016 but has not yet been constructed due to delays in the power purchase agreement process with Duke Progress Energy.

I have considered a recent sale of a home (Parcel 13) located across from this approved solar farm project as well as an adjoining lot sale (Parcel 25) to the west of this approved project.

I compared the home sale to similar sized homes with similar exposure to county roads as shown below. I considered three similar sales that once adjusted for differences show a positive relationship due to proximity to the solar farm. The positive impact is less than 5% which is a standard deviation for real estate transaction and indicates no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000	2001	1,272	\$87.26	3/2	Drive	Ranch
Not	214 Kiser	1.14	1/5/2017	\$94,000	1987	1,344	\$69.94	3/2	Drive	Ranch
Not	101 Windward	0.30	3/30/2017	\$104,000	1995	1,139	\$91.31	3/2	Drive	Ranch
Not	5550 Lennox	1.44	10/12/2018	\$115,000	2002	1,224	\$93.95	3/2	Drive	Ranch

Adjoining Residential Sales After Solar Farm Approved

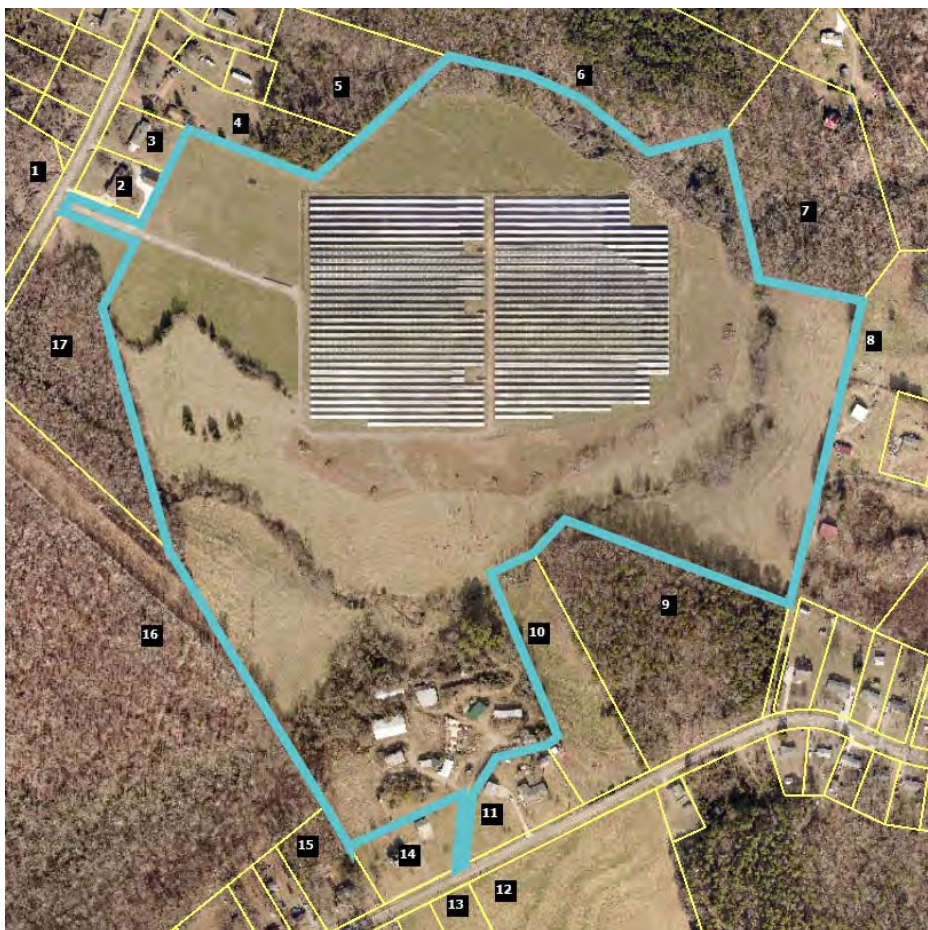
Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	Total	% Diff
Adjoins	2134 Tryon Court.	0.85	3/15/2017	\$111,000					\$111,000	
Not	214 Kiser	1.14	1/5/2017	\$94,000	\$533		\$9,212	-\$1,511	\$102,234	8%
Not	101 Windward	0.30	3/30/2017	\$104,000	-\$128		\$4,368	\$5,615	\$113,855	-3%
Not	5550 Lennox	1.44	10/12/2018	\$115,000	-\$5,444		-\$805	-\$2,396	\$106,355	4%
									Average	3%

Similarly, I compared the lot sale to four nearby land sales. Parcel 25 could not be subdivided and was a single estate lot. There were a number of nearby lot sales along Weaver Dairy that sold for \$43,000 to \$30,000 per lot for 4-acre home lots. Estate lots typically sell at a base homesite rate

that would be represented by those prices plus a diminishing additional value per additional acre. The consideration of the larger tract more accurately illustrates the value per acre for larger tracts. After adjustments, the land sales show a mild positive impact on land value with an average increase of 9%, which supports a positive impact.

Adjoining Residential Land Sales After Solar Farm Approved						Adjoining Sales Adjusted				
Solar	Address	Acres	Date Sold	Sales Price	\$/Ac	Time	Acres	Total	% Diff	Note
Adjoins	5021 Buckland	9.66	3/21/2018	\$58,500	\$6,056			\$58,500		1 homesite only
Not	Campbell	6.75	10/31/2018	\$42,000	\$6,222	-\$773	\$18,107	\$59,333	-1%	
Not	Kiser	17.65	11/27/2017	\$69,000	\$3,909	\$647	-\$19,508	\$50,139	14%	6 acres less usable due to shape (50%)
Not	522 Weaver Dairy	3.93	2/26/2018	\$30,000	\$7,634	\$57	\$25,000	\$55,057	6%	
Not	779 Sunnyside	6.99	3/6/2017	\$34,000	\$4,864	\$1,062	\$12,987	\$48,049	18%	
Average									9%	

23. 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 Blacksnsake 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.

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 Blacksnsake	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.

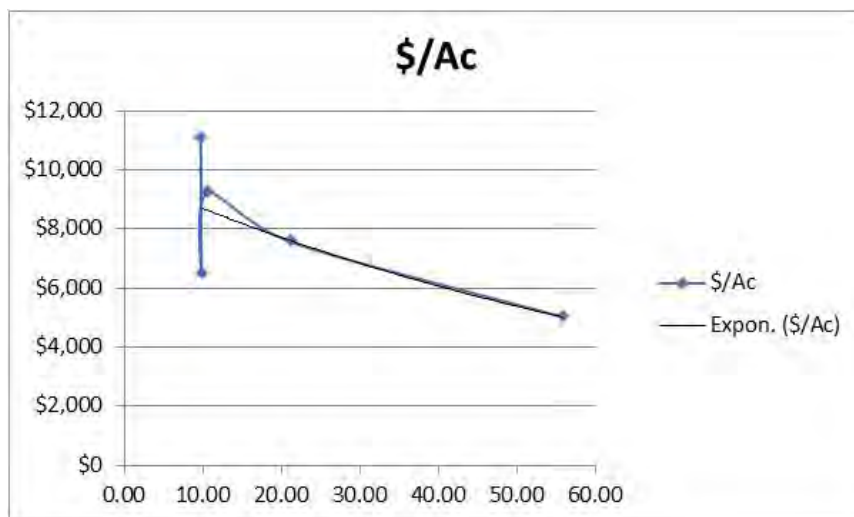
Adjoining Residential Sales After Solar Farm Approved												
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	
Adjoins	242 Mariposa	2.91	9/21/2015	\$180,000	1962	1,880	\$95.74	3/2	Carport	Br/Rnch	Det Wrkshop	
Not	249 Mariposa	0.48	3/1/2019	\$153,000	1974	1,792	\$85.38	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

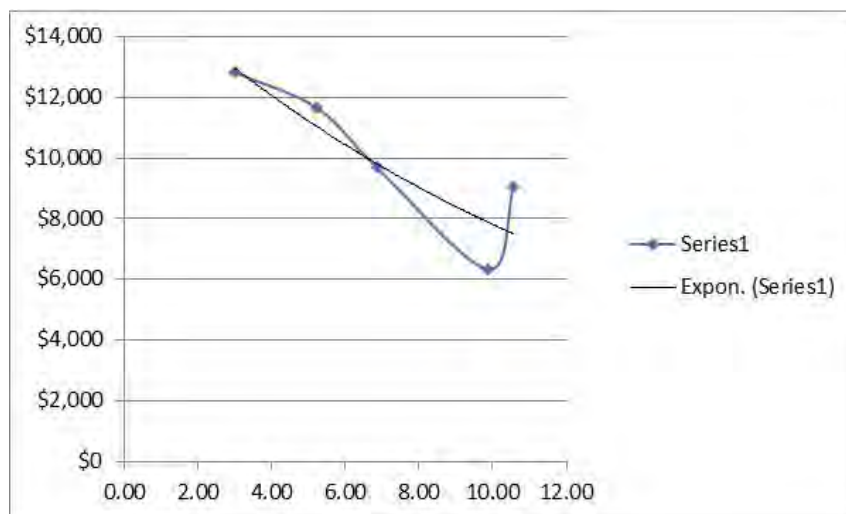


Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to 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



24. 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 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.

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

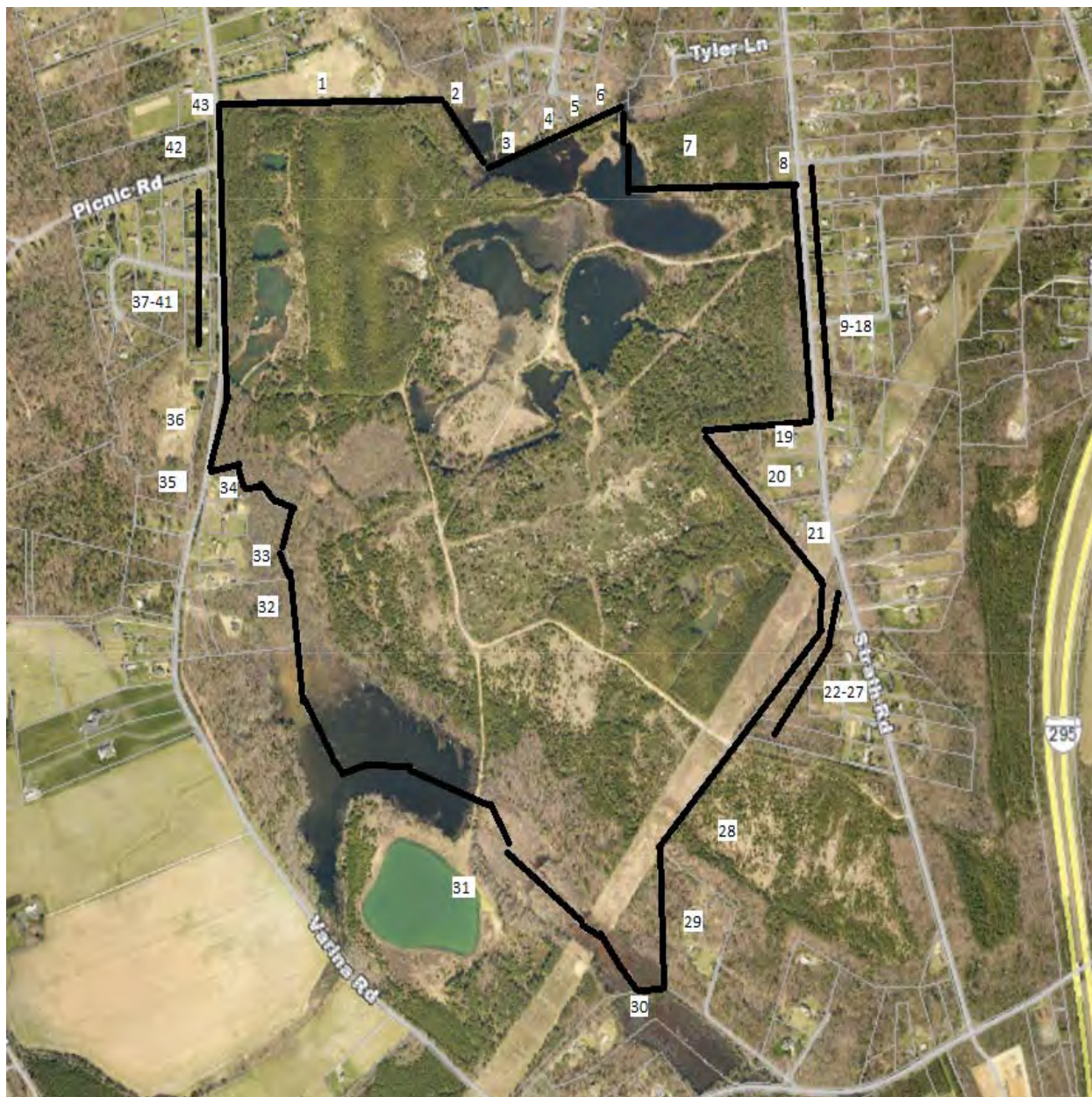
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
Adjoins	833 Nations Spr	5.13	1/9/2017	\$295,000	1979	1,392	\$211.93	3/2	Det Gar	Ranch	Unfin bsmt
Not	85 Ashby	5.09	9/11/2017	\$315,000	1982	2,333	\$135.02	3/2	2 Gar	Ranch	
Not	541 Old Kitchen	5.07	9/9/2018	\$370,000	1986	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%

25. Matched Pair – Turner Solar, Henrico County, VA



This project is a 20 MW facility located on 250 acres of a 463-acre parent tract that was approved in July 2018 and proposed to be constructed in 2019.

I have considered a recent sale of Parcel 15. The home on this parcel is 1,540 feet from the closest panel as measured on the site plan.

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 neutral impact on 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	8573 Strath	1.06	2/4/2019	\$204,900	1976	1,539	\$133.14	3/2	Drive	Br Ranch	Renov
Before	8501 Strath	0.82	5/2/2016	\$125,000	1974	912	\$137.06	3/1	Drive	Ranch	
Not	9300 Varina	1.03	12/17/2018	\$186,000	1964	1,442	\$128.99	3/1.5	Drive	Br Ranch	Renov
Not	2340 Mill	2.50	4/10/2018	\$179,500	1952	1,706	\$105.22	3/2.5	2 Gar	Br Ranch	2 Det Gar

Adjoining Residential Sales After Solar Farm Approved Adjoining Sales Adjusted

Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Style	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	8573 Strath	1.06	2/4/2019	\$204,900								\$204,900	
Before	8501 Strath	0.82	5/2/2016	\$125,000	\$13,750	\$1,750	\$6,250	\$25,781	\$10,000		\$20,000	\$202,531	1%
Not	9300 Varina	1.03	12/17/2018	\$186,000	\$1,860	\$15,624		\$3,754				\$207,238	-1%
Not	2340 Mill	2.50	4/10/2018	\$179,500	\$1,296	\$30,156		-\$5,271		-\$10,000	\$10,000	\$205,681	0%
Average													0%

26. Matched Pair – Flemington Solar, Flemington, NJ



This solar farm is located off Kuhl Road and is south of Hart Boulevard. I spoke with Gerry Giles a local realtor who is familiar with the adjoining neighborhood as she has lived in that neighborhood. She indicated that in her opinion the adjoining solar farm is a quiet neighbor and would not have a negative impact on property value.

Furthermore, I spoke with her specifically about the recent sale of 10 Coventry, which I have included in the matched pairs. She noted that the seller was a divorced bachelor who had set the place up like a dorm and that it showed terribly. She believes proper staging of the interior would have significantly improved the sales price on this home. I adjusted for that factor in the comparables in that analysis based on that information.

I have identified four recent sales of homes adjoining this subdivision along Hart Boulevard and the side streets off of Hart Boulevard.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
8	Adjoins	10 Coventry	0.36	3/19/2018	\$370,000	1986	1,829	\$202.30	3/2.5	2-Gar	2-Story	Staging
	Not	58 Wellington	0.45	6/8/2018	\$334,500	1984	1,757	\$190.38	3/2.5	2-Gar	2-Story	
	Not	28 Bristol	0.35	1/17/2018	\$398,000	1985	1,757	\$226.52	3/2.5	2-Gar	2-Story	
	Not	1 Sheffield	0.35	12/15/2017	\$399,900	1984	1,870	\$213.85	4/2.5	2-Gar	2-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$370,000			295
-\$2,283	\$3,345	\$8,224			-\$10,035	\$333,751	10%		
\$2,046	\$1,990	\$9,786			-\$11,940	\$399,882	-8%		
\$3,168	\$3,999	-\$5,261			-\$11,997	\$389,809	-5%	-1%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
14	Adjoins	54 Hart	0.36	7/25/2016	\$420,000	1986	2,680	\$156.72	4/2.5	2-Gar	2-Story	
	Not	43 Aberdeen	0.36	11/21/2016	\$417,000	1987	2,524	\$165.21	4/2.5	2-Gar	2-Story	
	Not	42 Aberdeen	0.34	2/7/2017	\$454,900	1988	2,734	\$166.39	5/3	2-Gar	2-Story	
	Not	18 Aberdeen	0.34	11/6/2017	\$437,500	1988	2,687	\$162.82	4/2.5	2-Gar	2-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$420,000			375
-\$4,182	-\$2,085	\$15,464				\$426,197	-1%		
-\$7,552	-\$4,549	-\$5,391	-\$5,000			\$432,408	-3%		
-\$17,291	-\$4,375	-\$684				\$415,150	1%	-1%	

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	6 Portsmouth	0.36	6/19/2015	\$410,000	1991	2,687	\$152.59	4/2.5	2-Gar	2-Story	
	Not	43 Aberdeen	0.36	11/21/2016	\$417,000	1987	2,524	\$165.21	4/2.5	2-Gar	2-Story	
	Not	42 Aberdeen	0.34	2/7/2017	\$454,900	1988	2,734	\$166.39	5/3	2-Gar	2-Story	
	Not	18 Aberdeen	0.34	11/6/2017	\$437,500	1988	2,687	\$162.82	4/2.5	2-Gar	2-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$410,000			425
-\$18,308	\$8,340	\$16,158				\$423,190	-3%		
-\$22,962	\$6,824	-\$4,692	-\$5,000			\$429,069	-5%		
-\$32,112	\$6,563	\$0				\$411,950	0%	-3%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
19	Adjoins	12 Stratford	0.55	11/30/2017	\$414,900	1991	1,828	\$226.97	3/2.5	2-Gar	2-Story	
	Not	58 Wellington	0.45	6/8/2018	\$334,500	1984	1,757	\$190.38	3/2.5	2-Gar	2-Story	
	Not	28 Bristol	0.35	1/17/2018	\$398,000	1985	1,757	\$226.52	3/2.5	2-Gar	2-Story	
	Not	1 Sheffield	0.35	12/15/2017	\$399,900	1984	1,870	\$213.85	4/2	Gar	2-Story	

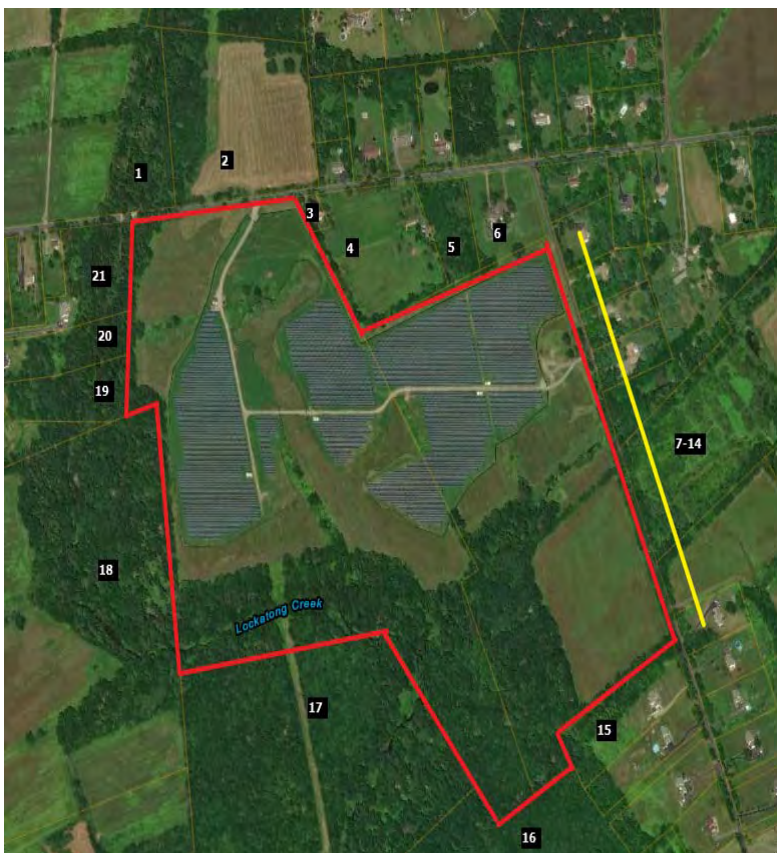
Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$414,900			345
-\$5,356	\$11,708	\$8,110				\$348,962	16%		
-\$1,610	\$11,940	\$9,650				\$417,980	-1%		
-\$505	\$13,997	-\$5,389	\$5,000	\$7,000		\$420,002	-1%	5%	

The range of impact identified by these matched pairs ranges are therefore -3% to +5% for distances ranging from 295 feet to 425 feet with an average difference from these four indicators of 0%. As noted earlier this range is within the typical plus or minus for any real estate transaction and indicates no impact on property value.

The broker Gerry Giles indicated that she has not seen the solar farm having any impact on adjoining property value. She noted that the solar farm is visible from Hart Boulevard and from a number of these backyards, but is still heavily screened.

27. Matched Pair – Frenchtown Solar, Frenchtown, NJ



This solar farm is located off Muddy Run Road. I spoke with Gerry Giles a local realtor who helped a buyer purchase 5 Muddy Town Road. She indicated that his home adjoining the solar farm had multiple offers and that most of those offers were higher than the offer she presented, but her buyer provided an all cash offer. This was important as the property was being purchased while the septic system required repairs and updates that the seller paid for but completed the work during/after the purchase. The solar farm was not considered a negative by her buyer.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
7	Adjoins	5 Muddy Run	2.14	6/23/2017	\$385,000	1985	2,044	\$188.36	4/2.5	2-Gar	2-Story	Updated
	Not	319 Barbertown	2.00	5/21/2019	\$358,000	1988	2,240	\$159.82	4/3	Gar	2-Story	
	Not	132 Kingwood	3.17	10/31/2016	\$380,000	1996	2,392	\$158.86	3/2.5	Det 2	2-Story	
	Not	26 Barbertown	2.03	5/21/2019	\$360,000	1998	2,125	\$169.41	4/3	2-Gar	2-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$385,000			250
-\$13,673	-\$5,370	-\$18,795	-\$5,000	\$10,000	\$20,000	\$345,162	10%		
\$4,893	-\$20,900	-\$33,171		\$5,000	\$20,000	\$355,823	8%		
-\$13,749	-\$23,400	-\$8,233	-\$5,000		\$20,000	\$329,618	14%		
								11%	

After typical adjustments including a \$20,000 increase in the comparable sales for updates, the subject property is showing a significant premium that may be attributable to the adjoining solar farm.

28. Matched Pair – McGraw Solar, East Windsor, NJ



This solar farm is located off Oak Creek Road. The matched pairs considered at this solar farm involve the townhome/duplexes located off Wyndmoor Drive and a single family home off Wilmor Drive.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	153 Wyndmoor	N/A	4/25/2017	\$215,000	1987	1,532	\$140.34	3/3	Gar	2-Story
	Not	164 Wyndmoor	N/A	5/13/2019	\$258,000	1987	1,532	\$168.41	3/3	Gar	2-Story
	Not	33 Monroe	N/A	2/6/2018	\$261,000	1987	1,532	\$170.37	3/3	Gar	2-Story
	Not	20 Spyglass	N/A	12/19/2017	\$240,000	1987	1,532	\$156.66	3/3	Gar	2-Story

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$215,000			175
-\$15,862	\$0	\$0				\$242,138	-13%		
-\$6,157	\$0	\$0				\$254,843	-19%		
-\$4,695	\$0	\$0				\$235,305	-9%	-14%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	149 Wyndmoor	N/A	5/24/2017	\$206,000	1987	1,236	\$166.67	2/1.5	Gar	2-Story
	Not	97 Wyndmoor	N/A	4/17/2017	\$210,000	1987	1,236	\$169.90	2/1.5	Gar	2-Story
	Not	24 Monroe	N/A	12/23/2016	\$217,979	1987	1,560	\$139.73	3/2.5	Gar	2-Story
	Not	81 Wyndmoor	N/A	1/31/2018	\$204,000	1987	1,254	\$162.68	2/2.5	Gar	2-Story

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$206,000			175
\$639	\$0	\$0				\$210,639	-2%		
\$2,723	\$0	-\$27,164				\$193,539	6%		
-\$4,225	\$0	-\$1,757				\$198,018	4%	3%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style
	Adjoins	26 Wilmor	0.46	3/19/2019	\$286,000	1961	1,092	\$261.90	3/1.5	Gar	Ranch
	Not	25 Pinehurst	0.48	5/17/2019	\$315,000	1967	1,314	\$239.73	3/1&2	Gar	Ranch
	Not	15 Maple Stream	0.40	6/6/2017	\$285,000	1964	1,202	\$237.10	3/1.5	Gar	Ranch
	Not	3 Amy	0.29	10/11/2018	\$286,000	1969	1,229	\$232.71	3/1.5	Gar	Ranch

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$286,000			400
-\$1,566	-\$9,450	-\$31,932	-\$5,000			\$267,052	7%		
\$15,635	-\$4,275	-\$15,649				\$280,711	2%		
\$3,832	-\$11,440	-\$19,129				\$259,263	9%	6%	
						Average		-2%	250

The range of impact identified by these matched pairs ranges are therefore -14% to +6% for distances ranging from 175 feet to 400 feet with an average difference from these three indicators of -2%. As noted earlier this range is within the typical plus or minus for any real estate transaction and indicates no impact on property value.

This set of matched pairs is interesting and there appears to be more going on when you compare the two townhome properties. One shows a significant discount and the other shows no impact. When I compare the two townhomes that both back up to the same solar farm, the townhome that includes 1,532 s.f. sold for only \$9,000 more than the townhome that has 1,236 s.f. I attempted to speak with the broker involved with these but was unable to get a reply. The difference there strongly indicates that something else is going on with the larger townhome. I will not rely heavily on that matched pair, but I have included it to be complete.

29. Matched Pair – Tinton Falls Solar, Tinton Falls, NJ



This solar farm is located off W. Park Avenue. The tract with the solar farm also has a condo/townhome project from which I have considered recent sales activity. I note that the developer of the solar farm and the townhome community clearly did not see any negative impact from the combined use. These units are still being constructed with new sales expected in the near future.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	111 Kyle	N/A	8/8/2018	\$402,000	2015	2,200	\$182.73	3/2.5	Gar	3-Story	End
	Not	80 Kyle	N/A	9/18/2017	\$410,000	2015	2,226	\$184.19	2/2.5	Gar	3-Story	End/Park
	Not	15 Michael	N/A	9/19/2018	\$412,000	2016	2,157	\$191.01	3/2.5	Gar	3-Story	End
	Not	31 Michael	N/A	4/1/2019	\$390,000	2016	2,200	\$177.27	3/2.5	Gar	3-Story	End
	Not	15 Michael	N/A	9/9/2018	\$412,000	2016	2,157	\$191.01	3/2.5	Gar	3-Story	End

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$402,000			185
\$11,194	\$0	-\$2,873			-\$20,500	\$397,821	1%		
-\$1,458	-\$2,060	\$4,928				\$413,410	-3%		
-\$7,756	-\$1,950	\$0				\$380,294	5%		
-\$1,111	-\$2,060	\$4,928				\$413,757	-4%		

1%

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	47 Kyle	N/A	8/31/2018	\$260,000	2016	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	26 Jake	N/A	10/31/2017	\$268,000	2014	1,140	\$235.09	2/2	Gar	3-Story	End
	Not	4 Michael	N/A	11/8/2018	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	36 Kyle	N/A	1/10/2019	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$260,000			155
\$6,866	\$2,680	\$0				\$277,546	-7%		
-\$1,512	\$1,300	\$0				\$259,788	0%		
-\$2,892	\$1,300	\$0			\$7,800	\$266,208	-2%	-3%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	7 Kyle	N/A	6/15/2017	\$262,195	2017	1,140	\$230.00	2/2	Gar	3-Story	End
	Not	26 Jake	N/A	10/31/2017	\$268,000	2014	1,140	\$235.09	2/2	Gar	3-Story	End
	Not	4 Michael	N/A	11/8/2018	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	36 Kyle	N/A	1/10/2019	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$262,195			150
-\$3,117	\$4,020	\$0				\$268,903	-3%		
-\$11,196	\$2,600	\$0	-\$5,000			\$246,404	6%		
-\$12,576	\$2,600	\$0			\$7,800	\$257,824	2%	2%	

Adjoining Residential Sales After Solar Farm Approved

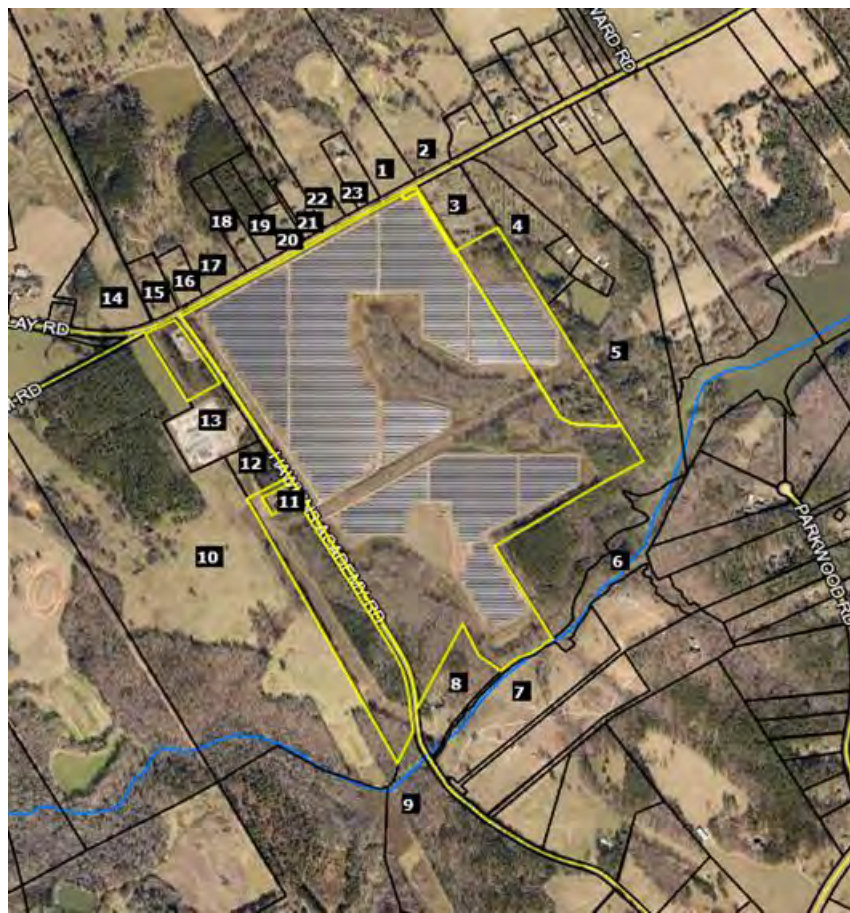
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	1 Samantha	N/A	9/1/2017	\$258,205	2017	1,140	\$226.50	2/2	Gar	3-Story	End
	Not	26 Jake	N/A	10/31/2017	\$268,000	2014	1,140	\$235.09	2/2	Gar	3-Story	End
	Not	4 Michael	N/A	11/8/2018	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	End
	Not	36 Kyle	N/A	1/10/2019	\$260,000	2015	1,140	\$228.07	2/2	Gar	3-Story	

Adjoining Sales Adjusted

Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
						\$258,205			155
-\$1,355	\$4,020	\$0	-\$5,000			\$265,665	-3%		
-\$9,487	\$2,600	\$0				\$253,113	2%		
-\$10,867	\$2,600	\$0			\$7,800	\$259,533	-1%	0%	

The range of impact identified by these matched pairs ranges are therefore -3% to +2% for distances ranging from 150 feet to 185 feet with an average difference from these four indicators of 0%. As noted earlier this range is within the typical plus or minus for any real estate transaction and indicates no impact on property value.

30. Matched Pair – Simon Solar, Social Circle, GA



This 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.

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 ranges are therefore -12% to +14% for with an average of 0%. 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%.

31. Matched Pair – Candace Solar, Princeton, NC



This 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.

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													
Parcel	Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % 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%		
Average												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.

32. 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 four home sales to the north of this solar farm on Claiborne 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 Claiborne 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 on lots being marketed for \$28,000 to \$29,000.

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											Avg	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% 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	\$213,000	2003	1,568	\$135.84	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											Avg	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% 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											Avg	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% 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%	

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

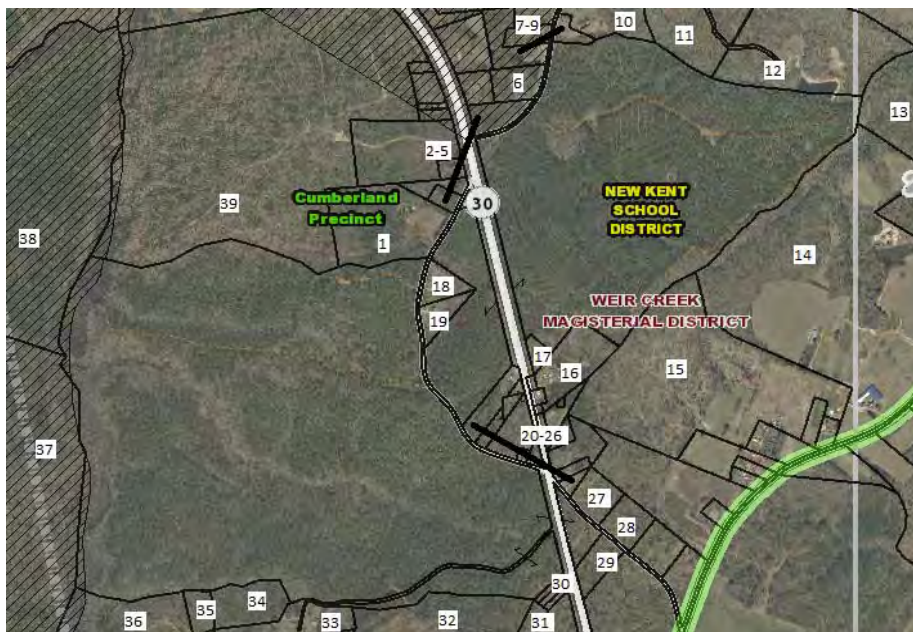
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other
	Adjoins	370 Claiborne	1.06	8/22/2019	\$273,000	2005	1,570	\$173.89	4/3	2-Car	2-Story	Brick
	Not	2160 Sherman	1.46	6/1/2019	\$265,000	2005	1,735	\$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	2290 Dry	1.53	5/2/2019	\$239,400	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											Avg	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% 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 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 static of real estate transactions. This indication is higher than that and suggests a positive relationship.

The four matched pairs considered in this analysis includes two that show no impact on value, one that shows a negative impact on value, and one that shows a positive impact. The negative indication supported by one matched pair is -7% and the positive impact of another is +7%. The two neutral indications show impacts of -1% and +3%. The average indicated impact is +1% when all four of these indicators are blended.

33. 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.

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.

34. 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.

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%	

35. 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 followed by a more recent map showing the panels at this site.

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.



36. Matched Pair – Demille Solar, Demille Road, Lapeer, MI



This solar farm is located on 160 acres of a parent tract assemblage of 311.40 acres with a 28.4 MW output. This was built in 2017.

I have identified several home sales adjoining this solar farm at the southeast corner where the red line shows adjoining Parcels 5 through 17 on the map above.

The first is Parcel 8 in the map above, 1120 Don Wayne Drive, that sold in August 2019. I have compared this to multiple home sales as shown below. I consider 1231 Turrill to be the best comparable of this set as it required the least adjustment and was the most similar in size, age, and date of sale.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1120 Don Wayne	0.47	8/28/2019	\$194,000	1976	1,700	\$114.12	3/3.5	2-Car	Ranch	Brick/FinBsmt	310
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1231 Turrill	1.21	4/25/2019	\$182,000	1971	1,560	\$116.67	3/2	2-Car	Ranch	Brick/Wrkshp	
Not	1000 Baldwin	3.11	8/1/2017	\$205,000	1993	1,821	\$112.58	3/2.5	2-Car	Ranch	Vinyl	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1120 Don Wayne								\$194,000		-1%
Not	1127 Don Wayne	-\$258		\$1,769	\$24,171	\$10,000			\$212,582	-10%	
Not	1231 Turrill	\$1,278	-\$10,000	\$4,550	\$13,067	\$10,000			\$200,895	-4%	
Not	1000 Baldwin	\$8,718	-\$20,000	-\$17,425	-\$10,897	\$10,000			\$175,396	10%	

Next I considered Parcel 9, 1126 Don Wayne Drive, which I have compared to two similar home sales nearby that are not adjoining a solar farm as shown below. This home sold in May 2018 after the solar farm was built.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1126 Don Wayne	0.47	5/16/2018	\$160,000	1971	1,900	\$84.21	3/2.5	2-Car	Ranch	Brick,FinBsmt	310
Not	70 Sterling Dr	0.32	8/2/2018	\$137,500	1960	1,800	\$76.39	3/1.5	1-Car	Ranch	Brick	
Not	3565 Garden Dr	0.34	5/15/2019	\$165,000	1960	2,102	\$78.50	3/1.5	2-Car	Ranch	Brick	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1126 Don Wayne								\$160,000		-3%
Not	70 Sterling Dr	-\$603		\$7,563	\$6,111	\$10,000	\$5,000		\$165,571	-3%	
Not	3565 Garden Dr	-\$3,374		\$9,075	-\$12,685	\$5,000			\$163,016	-2%	

Next I looked at Parcel 11, 1138 Don Wayne Drive, that sold in August 2019. I have compared this to three similar sales as shown below. I attributed no value to the pool at 1138 Don Wayne Drive.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1138 Don Wayne	0.47	8/28/2019	\$191,000	1975	2,128	\$89.76	4/1.5	2-Car	2-Story	Brick	380
Not	1331 W Genessee	0.45	10/25/2019	\$160,707	1940	1,955	\$82.20	4/1.5	Drive	1.5 Story	Vinyl/UnBsmt	
Not	1128 Gwen Dr	0.47	8/24/2018	\$187,500	1973	2,040	\$91.91	3/2.5	2-Car	2 Story	Brick/UnBsmt	
Not	1227 Oakridge	1.05	6/11/2017	\$235,000	1980	2,500	\$94.00	4/2.5	2-Car	2 Story	Brk/PFinBsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1138 Don Wayne								\$191,000		-1%
Not	1331 W Genessee	-\$524		\$16,874	\$11,377		\$10,000		\$198,434	-4%	
Not	1128 Gwen Dr	\$3,887		\$1,875	\$6,471	-\$10,000			\$189,733	1%	
Not	1227 Oakridge	\$10,667	-\$10,000	-\$5,875	-\$27,974	-\$10,000			\$191,818	0%	

Parcel 13, 1168 Alice Drive, sold in October 2019. I spoke with Tanya Biernat the buyer's agent who handled that sale and she indicated that the property was placed on the market below market for a fast sale by the sellers. The buyers expressed no concern regarding the adjacent solar farm and it had no impact on marketing or selling the property, though it did sell for a low price. I also spoke with Chantel Fink's office, the selling agent. They confirmed that the solar farm was not an issue in the sales price or marketing of the property. Given that this sale was noted as below market for a fast sale, I have not attempted to set it up as a matched pair.

Parcel 14, 1174 Alice Drive, sold in January 2019. I have compared that sale to three similar properties as shown below. I included 1135 Gwen Drive as a nearby comparable, but it is not a good comparable. According to the broker, Paul Coulter, that home had many recent and significant upgrades that made it superior to similar housing in the neighborhood. It is notably the highest sales price in the neighborhood. I have shown that one but I made no adjustment for those upgrades, but I won't rely on that sale for the matched pairs. I consider the 1127 Don Wayne Drive comparable to be a more reasonable comparison. I spoke with Chris Ferguson the broker for that sale who confirmed that it was arm's length and that while across Don Wayne Drive from the homes that adjoin the solar farm, this home had no view of the solar farm and was not an issue in marketing this home.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1174 Alice Dr	0.54	1/14/2019	\$165,000	1973	1,400	\$117.86	3/1.5	2-Car	Ranch	Brick/Fin Bsmt	280
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1135 Gwen Dr	0.43	7/26/2019	\$205,000	1967	1,671	\$122.68	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1160 Beth Dr	0.46	6/20/2019	\$147,500	1970	1,482	\$99.53	4/1.5	2-Car	Ranch	Brick/Fin Bsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1174 Alice Dr								\$165,000		2%
Not	1127 Don Wayne	-\$2,504		-\$885	-\$5,068	-\$5,000			\$163,443	1%	
Not	1135 Gwen Dr	-\$2,223		\$6,150	-\$26,597	-\$5,000			\$177,330	-7%	
Not	1160 Beth Dr	-\$1,301		\$2,213	-\$6,529				\$141,883	14%	

The four matched pairs identified show a range of -3% to +2% based on the average difference for each set of matched pairs. This is a very similar range I have found in most sales adjoining solar farms and strongly supports the assertion that the solar farm is not having a negative impact on adjoining property values.

Furthermore, two brokers active in the sale of a home adjoining the solar farm both confirmed that Parcel 13 was not impacted by the presence of the solar farm on the adjacent tract.

37. Matched Pair – Turrill Solar, Turrill Road, Lapeer, MI



This solar farm is located on approximately 230 acres with a 19.6 MW output. This was built in 2017.

I have identified several home sales adjoining this solar farm on the west side of this solar farm on Cliff Drive.

The first is 1060 Cliff Drive that sold in September 2018. I compared this to multiple nearby home sales 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	Distance
Adjoins	1060 Cliff Dr	1.03	9/14/2018	\$200,500	1970	2,114	\$94.84	4/2.5	2-Car	2 Story	Brick	290
Not	1331 W Genessee	0.45	10/25/2019	\$160,707	1940	1,955	\$82.20	4/1.5	Drive	1.5 Story	Vinyl/Unfin Bsmt	
Not	1128 Gwen Dr	0.47	8/24/2018	\$187,500	1973	2,040	\$91.91	3/2.5	2-Car	2 Story	Brick/Unfin Bsmt	
Not	1227 Oakridge	1.05	6/11/2017	\$235,000	1980	2,500	\$94.00	4/2.5	2-Car	2 Story	Brk/Prt Fin Bsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1060 Cliff Dr								\$200,500		-2%
Not	1331 W Genessee	-\$3,666	\$10,000	\$14,464	\$10,456	\$10,000	\$10,000		\$211,961	-6%	
Not	1128 Gwen Dr	\$221	\$10,000	-\$2,813	\$5,441				\$200,350	0%	
Not	1227 Oakridge	\$6,073		-\$11,750	-\$29,027				\$200,296	0%	

Next I considered 1040 Cliff Drive as shown below. Comparing to the 1127 Don Wayne Drive, I show no impact. I included 1135 Gwen Drive as a nearby comparable, but it is not a good comparable. According to the broker, Paul Coulter, that home had many recent and significant upgrades that made it superior to similar housing in the neighborhood. It is notably the highest sales price in the neighborhood. I have shown that one but I made no adjustment for those upgrades, but I won't rely on that sale for the matched pairs. This leaves 1127 Don Wayne Drive which shows no impact and 1160 Beth Drive, which had the fewest adjustments shows a 12% premium or enhancement for adjoining the solar farm. I consider the Don Wayne Drive match up to be the better of these two comparables even with a higher number of adjustments.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	1040 Cliff Dr	1.03	6/29/2017	\$145,600	1960	1,348	\$108.01	3/1.5	3-Car	Ranch	Brick/Wrkshp	255
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1135 Gwen Dr	0.43	7/26/2019	\$205,000	1967	1,671	\$122.68	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1160 Beth Dr	0.46	6/20/2019	\$147,500	1970	1,482	\$99.53	4/1.5	2-Car	Ranch	Brick/Fin Bsmt	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	1040 Cliff Dr								\$145,600		1%
Not	1127 Don Wayne	-\$8,110		-\$12,383	-\$10,136	-\$5,000	\$5,000		\$146,271	0%	
Not	1135 Gwen Dr	-\$8,718		-\$7,175	-\$31,701	-\$5,000	\$5,000		\$157,406	-8%	
Not	1160 Beth Dr	-\$5,975		-\$7,375	-\$10,669		\$5,000		\$128,481	12%	

The two matched pairs identified show a range of -2% to +1% based on the average difference for each set of matched pairs. This is a very similar range I have found in most sales adjoining solar farms and strongly supports the assertion that the solar farm is not having a negative impact on adjoining property values.

Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, with most of the projects being in areas with a 1-mile radius population under 1,000, 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 \$63,678 with a median housing unit value of \$256,306. Most of the comparables are under \$350,000 in the home price, with \$770,000 being the high end of the set of matched pairs. 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 Kentucky and the proposed subject property.

Matched Pair Summary					Adj. Uses By Acreage					1 mile Radius (2010-2019 Data)			
Name	City	State	Acres	MW	Topo Shift	Res	Ag/Res	Ag	Com/Ind	Population	Med. Income	Avg. Housing Unit	
1	AM Best	Goldsboro	NC	38	5.00	2	38%	23%	0%	39%	1,523	\$37,358	\$148,375
2	White Cross	Chapel Hill	NC	45	5.00	50	5%	51%	44%	0%	213	\$67,471	\$319,929
3	Wagstaff	Roxboro	NC	30	5.00	46	7%	89%	4%	0%	336	\$41,368	\$210,723
4	Mulberry	Selmer	TN	160	5.00	60	13%	10%	73%	3%	467	\$40,936	\$171,746
5	Nixon's	W. Friendship	MD	97	2.00	40	79%	4%	17%	0%	939	\$166,958	\$770,433
6	Leonard	Hughesville	MD	47	5.00	20	18%	0%	75%	6%	525	\$106,550	\$350,000
7	Talbot	Easton	MD	50	0.55	0	81%	0%	19%	0%	536	\$47,136	\$250,595
8	Alamo II	Converse	TX	98	4.40	30	95%	0%	5%	0%	9,257	\$62,363	\$138,617
9	Gastonia SC	Gastonia	NC	35	5.00	48	33%	23%	0%	44%	4,689	\$35,057	\$126,562
10	Summit	Moyock	NC	2,034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
11	White Cross II	Chapel Hill	NC	34	2.80	35	25%	75%	0%	0%	213	\$67,471	\$319,929
12	Tracy	Bailey	NC	50	5.00	10	29%	71%	0%	0%	312	\$43,940	\$99,219
13	Manatee	Parrish	FL	1,180	75.00	20	2%	1%	97%	0%	48	\$75,000	\$291,667
14	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
15	Yamhill II	Amity	OR	186	1.20	20	2%	0%	97%	1%	97	\$58,248	\$342,391
16	Marion	Aurora	OR	32	0.30	0	2%	37%	61%	0%	267	\$75,355	\$370,833
17	Clackamas II	Aurora	OR	156	0.22	0	7%	25%	68%	0%	3,062	\$70,911	\$464,501
18	Grand Ridge	Streator	IL	160	20.00	1	8%	5%	87%	0%	96	\$70,158	\$187,037
19	Portage	Portage	IN	56	2.00	0	19%	0%	81%	0%	6,642	\$65,695	\$186,463
20	Dominion	Indianapolis	IN	134	8.60	20	3%	0%	97%	0%	3,774	\$61,115	\$167,515
21	Beetle-Shelby	Shelby	NC	24	4.00	52	22%	0%	77%	1%	218	\$53,541	\$192,692
22	Courthouse	Bessemer	NC	52	5.00	150	48%	52%	0%	0%	551	\$45,968	\$139,404
23	Mariposa	Stanley	NC	36	5.00	96	48%	52%	0%	0%	1,716	\$36,439	\$137,884
24	Clarke Cnty	White Post	VA	234	20.00	70	14%	46%	39%	1%	578	\$81,022	\$374,453
25	Turner	Henrico	VA	250	20.00	49	63%	0%	37%	0%	911	\$76,283	\$292,807
26	Flemington	Flemington	NJ	120	9.36	N/A	13%	28%	50%	8%	3,477	\$105,714	\$444,696
27	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	29%	35%	0%	457	\$111,562	\$515,399
28	McGraw	East Windsor	NJ	95	14.00	N/A	27%	0%	44%	29%	7,684	\$78,417	\$362,428
29	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	\$92,346	\$343,492
30	Simon	Social Circle	GA	237	30.00	71	1%	36%	63%	0%	203	\$76,155	\$269,922
31	Candace	Princeton	NC	54	5.00	22	76%	0%	24%	0%	448	\$51,002	\$107,171
32	Crittenden	Crittenden	KY	34	2.70	40	22%	27%	51%	0%	1,419	\$60,198	\$178,643
33	Walker	Barhamsville	VA	485	20.00	N/A	12%	20%	68%	0%	203	\$80,773	\$320,076
34	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
35	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
36	Demille	Lapeer	MI	160	28.40	10	10%	0%	68%	22%	2,010	\$47,208	\$187,214
37	Turrill	Lapeer	MI	230	19.60	10	75%	0%	59%	25%	2,390	\$46,839	\$110,361
Average				228	17.93	35	30%	24%	43%	5%	1,717	\$67,516	\$267,324
Median				100	5.00	21	19%	10%	44%	0%	551	\$63,678	\$256,306
High				2,034	80.00	150	98%	94%	97%	44%	9,257	\$166,958	\$770,433
Low				24	0.22	0	1%	0%	0%	0%	48	\$35,057	\$99,219
Subject:	Glover Creek		322		90	6%	69%	25%	0%		197	\$37,787	\$136,905

I have pulled 81 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 +9% 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% 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.

Similarly, the 10 land sales shows a median impact of 0% due to adjacency to a solar farm. The range of these adjustments range from -12% to +17%. Land prices tend to vary more widely than residential homes, which is part of that greater range. I consider this data to support no negative or positive impact due to adjacency to a solar farm.

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
1	AM Best	Goldsboro	NC	Suburban	5	280	3600195570	Sep-13	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
2	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Sep-13	\$260,000		
							3600194813	Apr-14	\$258,000	\$258,000	1%
3	AM Best	Goldsboro	NC	Suburban	5	280	3600199891	Jul-14	\$250,000		
							3600198928	Mar-14	\$250,000	\$250,000	0%
4	AM Best	Goldsboro	NC	Suburban	5	280	3600198632	Aug-14	\$253,000		
							3600193710	Oct-13	\$248,000	\$248,000	2%
5	AM Best	Goldsboro	NC	Suburban	5	280	3600196656	Dec-13	\$255,000		
							3601105180	Dec-13	\$253,000	\$253,000	1%
6	AM Best	Goldsboro	NC	Suburban	5	280	3600182511	Feb-13	\$247,000		
							3600183905	Dec-12	\$240,000	\$245,000	1%
7	AM Best	Goldsboro	NC	Suburban	5	280	3600182784	Apr-13	\$245,000		
							3600193710	Oct-13	\$248,000	\$248,000	-1%
8	AM Best	Goldsboro	NC	Suburban	5	280	3600195361	Nov-15	\$267,500		
							3600195361	Sep-13	\$260,000	\$267,800	0%
9	Mulberry	Selmer	TN	Rural	5	400	0900A011	Jul-14	\$130,000		
							099CA043	Feb-15	\$148,900	\$136,988	-5%
10	Mulberry	Selmer	TN	Rural	5	400	099CA002	Jul-15	\$130,000		
							0990NA040	Mar-15	\$120,000	\$121,200	7%
11	Mulberry	Selmer	TN	Rural	5	480	491 Dusty	Oct-16	\$176,000		
							35 April	Aug-16	\$185,000	\$178,283	-1%
12	Mulberry	Selmer	TN	Rural	5	650	297 Country	Sep-16	\$150,000		
							53 Glen	Mar-17	\$126,000	\$144,460	4%
13	Mulberry	Selmer	TN	Rural	5	685	57 Cooper	Feb-19	\$163,000		
							191 Amelia	Aug-18	\$132,000	\$155,947	4%
14	Pine Valley	West End	NC	Rural	5	175	16893	Aug-16	\$66,000		
							16897	Aug-16	\$59,000	\$65,490	1%
15	Nixon's	W. Friendship	MD	Rural	2	660	12909 Vistaview	Sep-14	\$775,000	\$771,640	
							2712 Friendship Farm	Jun-14	\$690,000	\$755,000	2%
16	Leonard Rd	Hughesville	MD	Rural	5.5	230	14595 Box Elder	Feb-16	\$291,000		
							15313 Bassford Rd	Jul-16	\$329,800	\$292,760	-1%
17	Talbot Cnty	Easton	MD	Rural	0.55	1000	10193 Hiners	Oct-12	\$136,092		
							10711 Hiners	Dec-12	\$135,000	\$135,250	1%
18	Alamo II	San Antonio	TX	Suburban	4.4	360	7703 Redstone Mnr	Mar-16	\$166,000		
							7703 Redstone Mnr	Oct-12	\$149,980	\$165,728	0%
19	Alamo II	San Antonio	TX	Suburban	4.4	170	7807 Redstone Mnr	Aug-14	\$147,000		
							7807 Redstone Mnr	May-12	\$136,266	\$145,464	1%
20	Alamo II	San Antonio	TX	Suburban	4.4	150	7734 Sundew Mist	Nov-14	\$134,000		
							7734 Sundew Mist	May-12	\$117,140	\$125,928	6%
21	Neal Hawkins	Gastonia	NC	Suburban	5	275	139179	Mar-17	\$270,000		
							139179	Mar-17	\$270,000	\$270,000	0%
22	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto	Apr-16	\$170,000		
							102 Timber	Apr-16	\$175,500	\$175,101	-3%
23	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto	Dec-16	\$206,000		
							127 Ranchland	Jun-15	\$219,900	\$198,120	4%
24	White Cross II	Chapel Hill	NC	Rural	2.8	1,479	2018 Elkins	Feb-16	\$340,000		
							4200B Old Greensbor	Dec-15	\$380,000	\$329,438	3%
25	Tracy	Bailey	NC	Rural	5	780	9162 Winters	Jan-17	\$255,000		
							7352 Red Fox	Jun-16	\$176,000	\$252,399	1%
26	Manatee	Parrish	FL	Rural	75	1180	13670 Highland	Aug-18	\$255,000		
							13851 Highland	Sep-18	\$240,000	\$255,825	0%
27	McBride Place	Midland	NC	Rural	75	275	4380 Joyner	Nov-17	\$325,000		
							3870 Elkwood	Aug-16	\$250,000	\$317,523	2%
28	Yamhill II	Amity	OR	Rural	1.2	700	12001 SW Bellerus	Jul-15	\$326,456		
							9955 Bethel	Feb-16	\$289,900	\$295,593	9%
29	Clackamas II	Aurora	OR	Suburban	0.22	125	7620 SW Fairway	Jul-13	\$365,000		
							7480 SW Fairway	Jun-13	\$365,000	\$365,000	0%
30	Clackamas II	Aurora	OR	Suburban	0.22	125	7700 SW Fairway	Jun-14	\$377,100		
							7500 SW Fairway	Dec-11	\$365,000	\$370,175	2%
31	Clackamas II	Aurora	OR	Suburban	0.22	125	7380 SW Fairway	Jul-14	\$415,000		
							7480 SW Fairway	Jun-13	\$365,000	\$384,345	7%

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff	Notes
						Distance	Tax ID/Address					
32	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st	Oct-16	\$186,000			
							712 Columbus	Jun-16	\$166,000	\$184,000	1%	
33	Portage	Portage	IN	Rural	2	1320	836 N 450 W	Sep-13	\$149,800			
							336 E 1050 N	Jan-13	\$155,000	\$144,282	4%	
34	Dominion	Indianapolis	IN	Rural	8.6	400	2013249 (Tax ID)	Dec-15	\$140,000			
							5723 Minden	Nov-16	\$139,900	\$132,700	5%	Adjusted f
35	Dominion	Indianapolis	IN	Rural	8.6	400	2013251 (Tax ID)	Sep-17	\$160,000			
							5910 Mosaic	Aug-16	\$146,000	\$152,190	5%	
36	Dominion	Indianapolis	IN	Rural	8.6	400	2013252 (Tax ID)	May-17	\$147,000			
							5836 Sable	Jun-16	\$141,000	\$136,165	7%	Adjusted f
37	Dominion	Indianapolis	IN	Rural	8.6	400	2013258 (Tax ID)	Dec-15	\$131,750			
							5904 Minden	May-16	\$130,000	\$134,068	-2%	Adjusted f
38	Dominion	Indianapolis	IN	Rural	8.6	400	2013260 (Tax ID)	Mar-15	\$127,000			
							5904 Minden	May-16	\$130,000	\$128,957	-2%	Adjusted f
39	Dominion	Indianapolis	IN	Rural	8.6	400	2013261 (Tax ID)	Feb-14	\$120,000			
							5904 Minden	May-16	\$130,000	\$121,930	-2%	Adjusted f
40	Beetle-Shelby	Mooresboro	NC	Rural	4	945	1715 Timber	Oct-18	\$416,000			
							1021 Posting	Feb-19	\$414,000	\$398,276	4%	Adjusted f
41	Courthouse	Bessemer	NC	Rural	5	375	2134 Tryon Court.	Mar-17	\$111,000			
							5550 Lennox	Oct-18	\$115,000	\$106,355	4%	Adjusted f
42	Mariposa	Stanley	NC	Suburban	5	1155	215 Mariposa	Dec-17	\$249,000			
							110 Airport	May-16	\$166,000	\$239,026	4%	Adjusted f
43	Mariposa	Stanley	NC	Suburban	5	570	242 Mariposa	Sep-15	\$180,000			
							110 Airport	Apr-16	\$166,000	\$175,043	3%	Adjusted f
44	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr	Jan-17	\$295,000			
							541 Old Kitchen	Sep-18	\$370,000	\$279,313	5%	Adjusted f
45	Turner	Henrico	VA	Rural	20	1540	8573 Strath	Feb-19	\$204,900			
							9300 Varina	Dec-18	\$186,000	\$207,238	-1%	Adjusted f
46	Flemington	Flemington	NJ	Suburban	9.36	295	10 Coventry	Mar-18	\$370,000			
							1 Sheffield	Dec-17	\$399,900	\$389,809	-5%	Adjusted f
47	Flemington	Flemington	NJ	Suburban	9.36	375	54 Hart	Jul-16	\$420,000			
							43 Aberdeen	Nov-16	\$417,000	\$423,190	-1%	Adjusted f
48	Flemington	Flemington	NJ	Suburban	9.36	425	6 Portsmith	Jun-15	\$410,000			
							43 Aberdeen	Nov-16	\$417,000	\$423,190	-3%	Adjusted f
49	Flemington	Flemington	NJ	Suburban	9.36	345	12 Stratford	Nov-17	\$414,900			
							28 Bristol	Dec-18	\$398,000	\$420,002	-1%	Adjusted f
50	Frenchtown	Frenchtown	NJ	Rural	7.9	250	5 Muddy Run	Jun-17	\$385,000			
							132 Kingswood	Oct-16	\$380,000	\$355,823	8%	Adjusted f
51	McGraw	East Windsor	NJ	Suburban	14	175	153 Wyndmoor	Apr-17	\$215,000			
							20 Spyglass	Dec-17	\$240,000	\$235,305	-9%	Adjusted f
52	McGraw	East Windsor	NJ	Suburban	14	175	149 Wyndmoor	May-17	\$206,000			
							81 Wyndmoor	Jan-18	\$204,000	\$198,018	4%	Adjusted f
53	McGraw	East Windsor	NJ	Suburban	14	400	26 Wilmor	Mar-19	\$286,000			
							25 Pinehurst	May-19	\$315,000	\$267,052	7%	Adjusted f
54	Tinton Falls	Tinton Falls	NJ	Suburban	16	185	111 Kyle	Aug-18	\$402,000			
							80 Kyle	Sep-17	\$410,000	\$397,821	1%	Adjusted f
55	Tinton Falls	Tinton Falls	NJ	Suburban	16	155	47 Kyle	Aug-18	\$260,000			
							4 Michael	Nov-18	\$260,000	\$259,788	0%	Adjusted f
56	Tinton Falls	Tinton Falls	NJ	Suburban	16	150	7 Kyle	Jun-17	\$262,195			
							36 Kyle	Jan-19	\$260,000	\$257,824	2%	Adjusted f
57	Tinton Falls	Tinton Falls	NJ	Suburban	16	155	1 Samantha	Sep-17	\$258,205			
							36 Kyle	Jan-19	\$260,000	\$259,533	-1%	Adjusted f
58	Tinton Falls	Tinton Falls	NJ	Suburban	16	155	1 Samantha	Sep-17	\$258,205			
							36 Kyle	Jan-19	\$260,000	\$259,533	-1%	Adjusted f
59	Candace	Princeton	NC	Suburban	5	488	499 Herring	Sep-17	\$215,000			
							1795 Bay Valley	Dec-17	\$194,000	\$214,902	0%	Adjusted f
60	Crittenden	Crittenden	KY	Suburban	2.7	373	250 Claiborne	Jan-19	\$120,000			
							315 N Fork	May-19	\$107,000	\$120,889	-1%	Adjusted f

Pair	Solar Farm	City	State	Area	MW	Approx		Sale Date	Sale Price	Adj. Sale Price	% Diff
						Distance	Tax ID/Address				
61	Crittenden	Crittenden	KY	Suburban	2.7	488	300 Claiborne	Sep-18	\$213,000		
							1795 Bay Valley	Dec-17	\$231,200	\$228,180	-7%
62	Crittenden	Crittenden	KY	Suburban	2.7	720	350 Claiborne	Jul-18	\$245,000		
							2160 Sherman	Jun-19	\$265,000	\$248,225	-1%
63	Crittenden	Crittenden	KY	Suburban	2.7	930	370 Claiborne	Aug-19	\$273,000		
							125 Lexington	Apr-18	\$240,000	\$254,751	7%
64	Walker	Barhamsville	VA	Rural	20	250	5241 Barham	Oct-18	\$264,000		
							9252 Ordinary	Jun-19	\$277,000	\$246,581	7%
65	AM Best	Goldsboro	NC	Suburban	5	385	103 Granville Pl	Jul-18	\$265,000		
							2219 Granville	Jan-18	\$260,000	\$265,682	0%
66	AM Best	Goldsboro	NC	Suburban	5	315	104 Erin	Jun-17	\$280,000		
							2219 Granville	Jan-18	\$265,000	\$274,390	2%
67	AM Best	Goldsboro	NC	Suburban	5	400	2312 Granville	May-18	\$284,900		
							2219 Granville	Jan-18	\$265,000	\$273,948	4%
68	AM Best	Goldsboro	NC	Suburban	5	400	2310 Granville	May-19	\$280,000		
							634 Friendly	Jul-19	\$267,000	\$265,291	5%
69	Summit	Moyock	NC	Suburban	80	570	318 Green View	Sep-19	\$357,000		
							336 Green View	Jan-19	\$365,000	\$340,286	5%
70	Summit	Moyock	NC	Suburban	80	440	164 Ranchland	Apr-19	\$169,000		
							105 Longhorn	Oct-17	\$184,500	\$186,616	-10%
71	Summit	Moyock	NC	Suburban	80	635	358 Oxford	Sep-19	\$478,000		
							176 Providence	Sep-19	\$425,000	\$456,623	4%
72	Summit	Moyock	NC	Suburban	80	970	343 Oxford	Mar-17	\$490,000		
							218 Oxford	Apr-17	\$525,000	\$484,064	1%
73	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm	Feb-19	\$155,000		
							109 Bledsoe	Jan-19	\$150,000	\$147,558	5%
74	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line	Feb-19	\$385,000		
							2109 John McMillan	Apr-18	\$320,000	\$379,156	2%
75	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line	Jun-19	\$266,000		
							7031 Glynn Mill	May-18	\$255,000	\$264,422	1%
76	Demille	Lapeer	MI	Suburban	28	310	1120 Don Wayne	Aug-19	\$194,000		
							1231 Turrill	Apr-19	\$182,000	\$200,895	-4%
77	Demille	Lapeer	MI	Suburban	28	310	1126 Don Wayne	May-18	\$160,000		
							3565 Garden	May-19	\$165,000	\$163,016	-2%
78	Demille	Lapeer	MI	Suburban	28	380	1138 Don Wayne	Aug-19	\$191,000		
							1128 Gwen	Aug-18	\$187,500	\$189,733	1%
79	Demille	Lapeer	MI	Suburban	28	280	1174 Alice	Jan-19	\$165,000		
							1127 Don Wayne	Sep-19	\$176,900	\$163,443	1%
80	Turrill	Lapeer	MI	Suburban	20	290	1060 Cliff	Sep-18	\$200,500		
							1128 Gwen	Aug-18	\$187,500	\$200,350	0%
81	Turrill	Lapeer	MI	Suburban	20	255	1040 Cliff	Jun-17	\$145,600		
							1127 Don Wayne	Sep-19	\$176,900	\$146,271	0%

	MW	Avg. Distance		% Dif
Average	18.08	485	Average	1%
Median	5.50	380	Median	1%
High	80.00	2,020	High	9%
Low	0.22	125	Low	-10%

Land Sale Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Tax ID/Address	Sale Date	Sale Price	Acres	\$/AC	Adj. \$/AC	% Diff
1	White Cross	Chapel Hill	NC	Rural	5	9748336770	Jul-13	\$265,000	47.20	\$5,614		
						9747184527	Nov-10	\$361,000	59.09	\$6,109	\$5,278	6%
2	Wagstaff	Roxboro	NC	Rural	5	91817117960	Aug-13	\$164,000	18.82	\$8,714		
						91800759812	Dec-13	\$130,000	14.88	\$8,737	\$8,737	0%
3	Tracy	Bailey	NC	Rural	5	316003	Jul-16	\$70,000	13.22	\$5,295		
						6056	Oct-16	\$164,000	41.00	\$4,000	\$4,400	17%
4	Marion	Aurora	OR	Rural	0.3	18916 Butteville	Aug-14	\$259,000	15.75	\$16,444		
						Waconda	Sep-15	\$215,000	11.86	\$18,128	\$16,950	-3%
5	Portage	Portage	IN	Sub	2	64-06-19-200-003	Feb-14	\$149,600	18.70	\$8,000		
						64-15-08-200-010	Jan-17	\$115,000	15.02	\$7,656	\$7,198	10%
6	Courthouse	Bessemer	NC	Rural	5	5021 Buckland	Mar-18	\$58,500	9.66	\$6,056		
						Kiser	Nov-17	\$69,000	17.65	\$3,909	\$5,190	14%
7	Mariposa	Stanley	NC	Sub	5	174339	Jun-18	\$160,000	21.15	\$7,565		
						227852	May-18	\$97,000	10.57	\$9,177	\$7,565	0%
8	Mariposa	Stanley	NC	Sub	5	227039	Dec-17	\$66,500	6.86	\$9,694		
						177322	May-17	\$66,500	5.23	\$12,715	\$9,694	0%
9	Simon	Social Circle	GA	Rural	30	4514 Hawkins	Mar-16	\$180,000	36.86	\$4,883		
						Pannell	Nov-16	\$322,851	66.94	\$4,823	\$4,974	-2%
10	Candace	Princeton	NC	Sub	5	499 Herring	May-17	\$30,000	2.03	\$14,778		
						488 Herring	Dec-16	\$35,000	2.17	\$16,129	\$16,615	-12%
				Average	6.73					Average	3%	
				Median	5.00					Median	0%	
				High	30.00					High	17%	
				Low	0.30					Low	-12%	

Larger Solar Farm Data

I have summarized the solar farm data for projects over 20 MW as shown below. These are the same solar farms noted above but focused on larger projects.

Matched Pair Summary							Adj. Uses By Acreage				1 mile Radius (2010-2018 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag/Res	Ag	Com/Ind	Population	Med. Income	Avg. Housing Unit
10	Summit	Moyock	NC	2,034	80.00	4	4%	94%	0%	2%	382	\$79,114	\$281,731
13	Manatee	Parrish	FL	1,180	75.00	20	2%	1%	97%	0%	48	\$75,000	\$291,667
14	McBride	Midland	NC	627	75.00	140	12%	78%	10%	0%	398	\$63,678	\$256,306
18	Grand Ridge	Streator	IL	160	20.00	1	8%	5%	87%	0%	96	\$70,158	\$187,037
24	Clarke Cnty	White Post	VA	234	20.00	70	14%	46%	39%	1%	578	\$81,022	\$374,453
25	Turner	Henrico	VA	250	20.00	49	63%	0%	37%	0%	911	\$76,283	\$292,807
26	Simon	Social Circle	GA	237	30.00	71	1%	36%	63%	0%	203	\$76,155	\$269,922
33	Walker	Barhamsville	VA	485	20.00	N/A	12%	20%	68%	0%	203	\$80,773	\$320,076
34	Innov 46	Hope Mills	NC	532	78.50	0	17%	0%	83%	0%	2,247	\$58,688	\$183,435
35	Innov 42	Fayetteville	NC	414	71.00	0	41%	0%	59%	0%	568	\$60,037	\$276,347
36	Demille	Lapeer	MI	160	28.40	10	10%	0%	68%	22%	2,010	\$47,208	\$187,214
37	Turrill	Lapeer	MI	230	19.60	10	75%	0%	59%	25%	2,390	\$46,839	\$110,361
Average				545	45	34	22%	23%	56%	4%	836	\$67,913	\$252,613
Median				332	29	10	12%	3%	61%	0%	483	\$72,579	\$273,135
High				2,034	80	140	75%	94%	97%	25%	2,390	\$81,022	\$374,453
Low				160	20	0	1%	0%	0%	0%	48	\$46,839	\$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.

On the next page, I have reshown all of the 21 matched pairs specific to these 12 solar farms over 20 MW. This set shows impacts ranging from -10% to +7% with an average and median of +1%, which is very similar to the larger set. This suggests that the size of a project has no bearing on adjacent impacts as well.

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Sale Price	% Diff
21	Summit	Moyock	NC	Suburban	80	1,060	129 Pinto 102 Timber	Apr-16	\$170,000		
22	Summit	Moyock	NC	Suburban	80	2,020	105 Pinto 127 Ranchland	Apr-16 Dec-16	\$175,500 \$206,000	\$169,451	0%
25	Manatee	Parrish	FL	Rural	75	1180	13670 Highland 13851 Highland	Jun-15 Aug-18	\$219,900 \$255,000	\$194,278	6%
26	McBride Place	Midland	NC	Rural	75	275	4380 Joyner 3870 Elkwood	Sep-18 Nov-17	\$240,000 \$325,000	\$255,825	0%
31	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st 712 Columbus	Aug-16 Jun-16	\$250,000 \$186,000	\$317,523 \$184,000	2% 1%
44	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr 541 Old Kitchen	Jan-17 Sep-18	\$295,000 \$370,000	\$279,313	5%
45	Turner	Henrico	VA	Rural	20	1540	8573 Strath 9300 Varina	Feb-19 Dec-18	\$204,900 \$186,000	\$207,238	-1%
64	Walker	Barhamsville	VA	Rural	20	250	5241 Barham 9252 Ordinary	Oct-18 Jun-19	\$264,000 \$277,000	\$246,581	7%
69	Summit	Moyock	NC	Suburban	80	570	318 Green View 336 Green View	Sep-19 Jan-19	\$357,000 \$365,000	\$340,286	5%
70	Summit	Moyock	NC	Suburban	80	440	164 Ranchland 105 Longhorn	Apr-19 Oct-17	\$169,000 \$184,500	\$186,616	-10%
71	Summit	Moyock	NC	Suburban	80	635	358 Oxford 176 Providence	Sep-19 Sep-19	\$478,000 \$425,000	\$456,623	4%
72	Summit	Moyock	NC	Suburban	80	970	343 Oxford 218 Oxford	Mar-17 Apr-17	\$490,000 \$525,000	\$484,064	1%
73	Innov 46	Hope Mills	NC	Suburban	78.5	435	6849 Roslin Farm 109 Bledsoe	Feb-19 Jan-19	\$155,000 \$150,000	\$147,558	5%
74	Innov 42	Fayetteville	NC	Suburban	71	340	2923 County Line 2109 John McMillan	Feb-19 Apr-18	\$385,000 \$320,000	\$379,156	2%
75	Innov 42	Fayetteville	NC	Suburban	71	330	2935 County Line 7031 Glynn Mill	Jun-19 May-18	\$266,000 \$255,000	\$264,422	1%
76	Demille	Lapeer	MI	Suburban	28	310	1120 Don Wayne 1231 Turrill	Aug-19 Apr-19	\$194,000 \$182,000	\$200,895	-4%
77	Demille	Lapeer	MI	Suburban	28	310	1126 Don Wayne 3565 Garden	May-18 May-19	\$160,000 \$165,000	\$163,016	-2%
78	Demille	Lapeer	MI	Suburban	28	380	1138 Don Wayne 1128 Gwen	Aug-19 Aug-18	\$191,000 \$187,500	\$189,733	1%
79	Demille	Lapeer	MI	Suburban	28	280	1174 Alice 1127 Don Wayne	Jan-19 Sep-19	\$165,000 \$176,900	\$163,443	1%
80	Turrill	Lapeer	MI	Suburban	20	290	1060 Cliff 1128 Gwen	Sep-18 Aug-18	\$200,500 \$187,500	\$200,350	0%
81	Turrill	Lapeer	MI	Suburban	20	255	1040 Cliff 1127 Don Wayne	Jun-17 Sep-19	\$145,600 \$176,900	\$146,271	0%

	MW	Avg. Distance	Average	%
Average	51.55	647		1%
Median	71.00	435		1%
High	80.00	2,020		7%
Low	20.00	250		-10%

It's useful to note that Matched Pair 69 on Green View Drive is within a golf course community that adjoins the solar farm, but that test pair has no golf view.

I also note that Matched Pairs 72 and 75 were new homes that were built after the solar farm was constructed so the adjoining solar farm was not a limiting factor on construction in those cases.

I have also researched information on a number of larger solar farm projects across the country where many are newer and there have not been any adjoining sales for analysis at this time, but do show a similar range of adjoining uses as those projects listed above.

On the following page I show 63 projects ranging in size from 50 MW up to 1,000 MW with an average size of 118.48 MW and a median of 80 MW. The average closest distance for an adjoining home is 241 feet, while the median distance is 175 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.

Parcel #	State	County	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
										Res	Agri	Agri/Res	Com
78	NC	Currituck	Moyock	Summit/Ranchland	80	2034		674	360	4%	94%	0%	2%
133	MS	Forrest	Hattiesburg	Hattiesburg	50	1129	479.6	650	315	35%	65%	0%	0%
179	SC	Jasper	Ridgeland	Jasper	140	1600	1000	461	108	2%	85%	13%	0%
211	NC	Halifax	Enfield	Chestnut	75	1428.1		1,429	210	4%	96%	0%	0%
222	VA	Mecklenburg	Chase City	Grasshopper	80	946.25				6%	87%	5%	1%
226	VA	Louisa	Louisa	Belcher	88	1238.1			150	19%	53%	28%	0%
305	FL	Pasco	Dade City	Mountain View	55	347.12		510	175	32%	39%	21%	8%
319	FL	Hamilton	Jasper	Hamilton	74.9	1268.9	537	3,596	240	5%	67%	28%	0%
336	FL	Manatee	Parrish	Manatee	74.5	1180.4		1,079	625	2%	50%	1%	47%
337	FL	DeSoto	Arcadia	Citrus	74.5	640				0%	0%	100%	0%
338	FL	Charlotte	Port Charlotte	Babcock	74.5	422.61				0%	0%	100%	0%
353	VA	Accomack	Oak Hall	Amazon East(ern shore)	80	1000		645	135	8%	75%	17%	0%
364	VA	Culpepper	Stevensburg	Greenwood	100	2266.6	1800	788	200	8%	62%	29%	0%
368	NC	Duplin	Warsaw	Warsaw	87.5	585.97	499	526	130	11%	66%	21%	3%
390	NC	Richmond	Ellerbe	Innovative Solar 34	50	385.24	226	N/A	N/A	1%	99%	0%	0%
399	NC	Cabarrus	Midland	McBride	74.9	974.59	627	1,425	140	12%	78%	9%	0%
400	FL	Polk	Mulberry	Alafia	51	420.35		490	105	7%	90%	3%	0%
406	VA	Halifax	Clover	Foxhound	91	1311.8		885	185	5%	61%	17%	18%
410	FL	Gilchrist	Trenton	Trenton	74.5	480		2,193	775	0%	26%	55%	19%
411	NC	Edgecombe	Battleboro	Fern	100	1235.4	960.71	1,494	220	5%	76%	19%	0%
412	MD	Caroline	Goldsboro	Cherrywood	202	1722.9	1073.7	429	200	10%	76%	13%	0%
434	NC	Edgecombe	Conetoe	Conetoe	80	1389.9	910.6	1,152	120	5%	78%	17%	0%
440	FL	Volusia	Debary	Debary	74.5	844.63		654	190	3%	27%	0%	70%
441	FL	Alachua & Pt	Hawthorne	Horizon	74.5	684				3%	81%	16%	0%
484	VA	Southampton	Newsoms	Southampton	100	3243.9		-	-	3%	78%	17%	3%
486	VA	Augusta	Stuarts Draft	Augusta	125	3197.4	1147	588	165	16%	61%	16%	7%
491	NC	Stanly	Misenheimer	Misenheimer 2018	80	740.2	687.2	504	130	11%	40%	22%	27%
494	VA	King and Que	Shackelfords	Walnut	110	1700	1173	641	165	14%	72%	13%	1%
496	VA	Halifax	Clover	Piney Creek	80	776.18	422	523	195	15%	62%	24%	0%
511	NC	Halifax	Scotland Neck	American Beech	160	3255.2	1807.8	1,262	205	2%	58%	38%	3%
514	NC	Rockingham	Reidsville	Williamsburg	80	802.6	507	734	200	25%	12%	63%	0%
517	VA	Rocky	Luray	Cape	100	566.53	461	519	110	42%	12%	46%	0%
518	VA	Greensville	Emporia	Fountain Creek	80	798.3	595	862	300	6%	23%	71%	0%
525	NC	Washington	Plymouth	Macadamia	484	5578.7	4813.5	1,513	275	1%	90%	9%	0%
526	NC	Cleveland	Mooreboro	Broad River	50	759.8	365	419	70	29%	55%	16%	0%
555	FL	Polk	Mulberry	Durrance	74.5	463.57	324.65	438	140	3%	97%	0%	0%
560	NC	Yadkin	Yadkinville	Sugar	60	477	357	382	65	19%	39%	20%	22%
561	NC	Halifax	Enfield	Halifax 80mw 2019	80	1007.6	1007.6	672	190	8%	73%	19%	0%
577	VA	Isle of Wight	Windsor	Windsor	85	564.1	564.1	572	160	9%	67%	24%	0%
579	VA	Spotsylvania	Paytes	Spotsylvania	500	6412	3500			9%	52%	11%	27%
582	NC	Rowan	Salisbury	China Grove	65	428.66	324.26	438	85	58%	4%	38%	0%
583	NC	Stokes	Walnut Cove	Lick Creek	50	1424	185.11	410	65	20%	64%	11%	5%
584	NC	Halifax	Enfield	Sweetleaf	94	1956.3	1250	968	160	5%	63%	32%	0%
586	VA	King William	Aylett	Sweet Sue	77	1262	576	1,617	680	7%	68%	25%	0%
593	NC	Bertie	Windsor	Sumac	120	3360.6	1257.9	876	160	4%	90%	6%	0%
599	TN	Payette	Somerville	Yum Yum	147	4000	1500	1,862	330	3%	32%	64%	1%
602	GA	Burke	Waynesboro	White Oak	76.5	516.7	516.7	2,995	1,790	1%	34%	65%	0%
603	GA	Taylor	Butler	Butler GA	103	2395.1	2395.1	1,534	255	2%	73%	23%	2%
604	GA	Taylor	Butler	White Pine	101.2	505.94	505.94	1,044	100	1%	51%	48%	1%
605	GA	Candler	Metter	Live Oak	51	417.84	417.84	910	235	4%	72%	23%	0%
606	GA	Jeff Davis	Hazelhurst	Hazelhurst II	52.5	947.15	490.42	2,114	105	9%	64%	27%	0%
607	GA	Decatur	Bainbridge	Decatur Parkway	80	781.5	781.5	1,123	450	2%	27%	22%	49%
608	GA	Sumter	Leslie-DeSoto	Americus	1000	9661.2	4437	5,210	510	1%	63%	36%	0%
616	FL	Colombia	Fort White	Fort White	74.5	570.5	457.2	828	220	12%	71%	17%	0%
621	VA	Surry	Spring Grove	Loblolly	150	2181.9	1000	1,860	110	7%	62%	31%	0%
622	VA	Albemarle	Scottsville	Woodridge	138	2260.9	1000	1,094	170	9%	63%	28%	0%
625	NC	Nash	Middlesex	Phobos	80	754.52	734	356	57	14%	75%	10%	0%
628	MI	Lenawee	Deerfield	Carroll Road	200	1694.8	1694.8	343	190	12%	86%	0%	2%
633	VA	Greensville	Emporia	Brunswick	150.2	2076.4	1387.3	1,091	240	4%	85%	11%	0%
634	NC	Surry	Elkin	Partin	50	429.4	257.64	945	155	30%	25%	15%	30%
638	GA	Twiggs	Dry Branch	Twiggs	200	2132.7	2132.7	-	-	10%	55%	35%	0%
639	NC	Cumberland	Hope Mills	Innovative Solar 46	78.5	531.87	531.87	423	125	17%	83%	0%	0%
640	NC	Cumberland	Hope Mills	Innovative Solar 42	71	413.99	413.99	375	135	41%	59%	0%	0%
Total Number of Solar Farms					63								
Average					118.48	1533.1	1043.6	1058	241	11%	60%	24%	6%
Median					80.00	1000.0	657.1	808	175	7%	64%	19%	0%
High					1000.00	9661.2	4813.5	5210	1790	58%	99%	100%	70%
Low					50.00	347.1	185.1	343	57	0%	0%	0%	0%

III. Distance Between Homes and Solar Panels

I have measured distances at matched pairs as close as 125 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 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 landscaping involved in these there is no sign of negative impact. I do note that the landscaping tends to be larger at time of planting when the panels are closer to homes.

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. This is atypical and most solar farms that have been approved have generally been over 100 feet from the closest point on the adjoining residential structure.

The closest home at the subject property is 375 feet away from the closest panel and the average distance is 1,731 feet. These distances are significantly further than matched pairs support which strongly supports the assertion that the setbacks and distances are sufficient.

IV. Topography

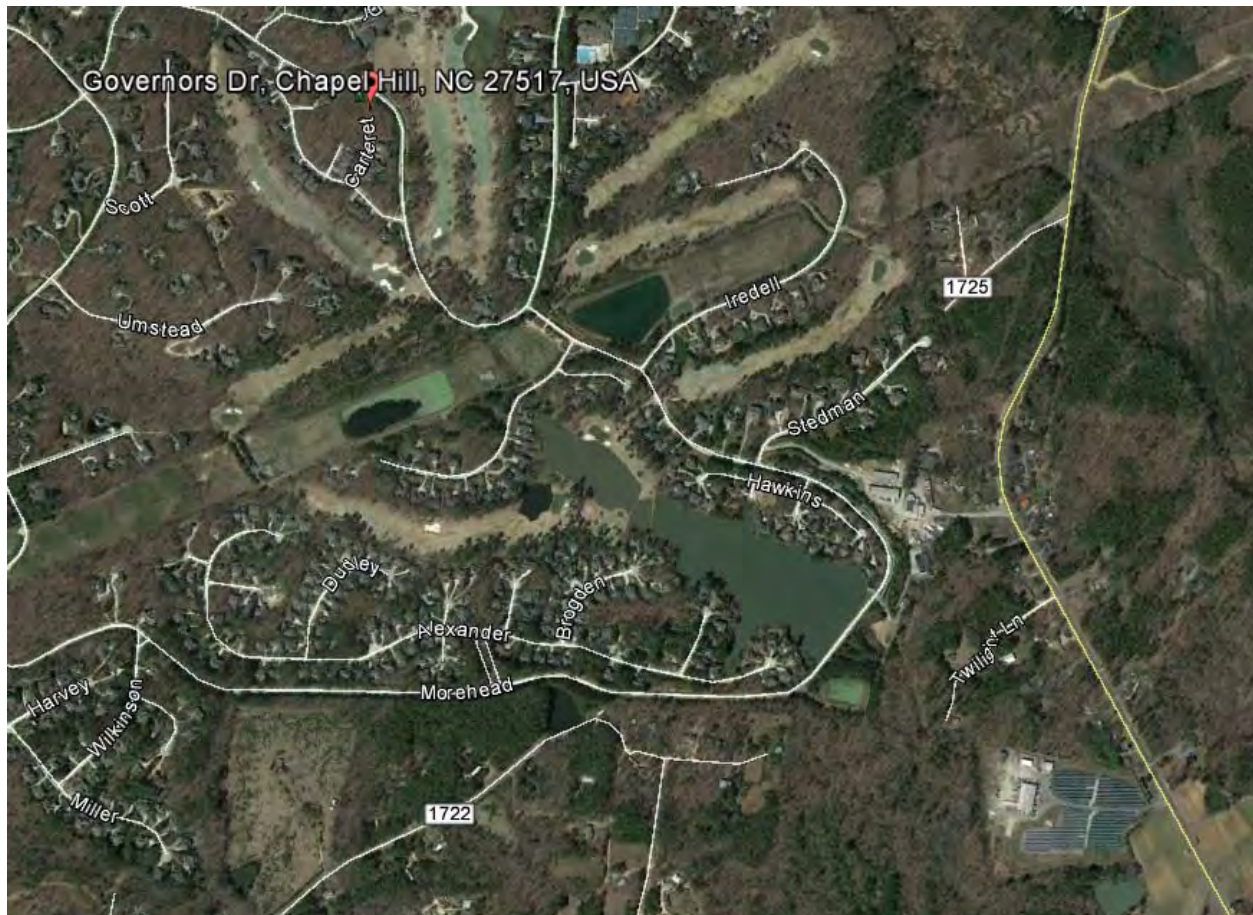
Landscaping screens work very well at hiding solar farms on flat land, though they certainly do not make solar farms invisible. However, in areas where there is rolling topography screening will not likely cover all possible views of a solar farm. Landscaping screens in areas with rolling or steep topography typically covers the upclose views with generalized distant views of the panels. I have included a number of matched pairs with similar strong topography with no additional distance or setbacks being required for those projects. Where the topography is rolling and distant views are possible, those are also areas where a lot of area is visible and the small portion of the overall view that could be visible has shown no impact.

I have measured topographic shifts across solar farms included in the matched pairs between 80 and 150 feet height differential across the project. The larger set of comparables have shown differences even greater than that. In those cases the fact that there is a distant view of the panels has shown no impact on property values or development patterns.

The subject property shows a 90 foot topographic difference, which is well supported by the matched pairs and supports the assertion of no impact on property values.

V. Harmony of Use/Compatibility

I have researched over 600 solar farms and sites on which solar farms are proposed in North Carolina and Virginia as well as other states to determine what uses and types of areas are compatible and harmonious with a solar farm. The data I have collected and provide in this report strongly supports the compatibility of solar farms with adjoining agricultural and residential uses. While I have focused on adjoining uses, I note that there are many examples of solar farms being located within a quarter mile of residential developments, including such notable developments as Governor's Club in Chapel Hill, which has a solar farm within a quarter mile as you can see on the following aerial map. Governor's Club is a gated golf community with homes selling for \$300,000 to over \$2 million.



The subdivisions included in the matched pair analysis also show an acceptance of residential uses adjoining solar farms as a harmonious use.

Beyond these anecdotal 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. Dist to Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	1%	7%	849	346	92%	8%
Median	11%	57%	8%	0%	0%	661	215	100%	0%
High	100%	100%	100%	80%	96%	4,835	4,670	100%	96%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Total Solar Farms Considered: 493

I have also included a breakdown of each solar farm by number of adjoining parcels rather than 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. Dist to Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	848	346	94%	6%
Median	65%	20%	5%	0%	0%	661	215	100%	0%
High	100%	100%	100%	60%	78%	4,835	4,670	100%	78%
Low	0%	0%	0%	0%	0%	90	25	22%	0%

Res = Residential, Ag = Agriculture, Sub = Substation, Com = Commercial, Ind = Industrial.

Total Solar Farms Considered: 493

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. These comparable solar farms clearly support a compatibility with adjoining residential uses along with agricultural uses.

VI. Specific Factors on Harmony with the Area

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 the following 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

The 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 or 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 found adjoining elementary, middle and high schools as well as churches. In fact the solar farm identified for the Matched Pair Set 9 in this

report is not only located next to a church, but is located on land owned by that 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.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will be in harmony with the area in which it is to be developed. The breakdown of adjoining uses is similar to the other solar farms tracked.

VII. Conclusion

The matched pair analysis shows no 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 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.

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. Industrial uses rarely absorb negative impacts from adjoining uses.

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 property 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 no traffic.

If you have any further questions please call me any time.

Sincerely,




NC State Certified General Appraiser # A4359
 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
 OR State Certified General Appraiser # C001204
 GA State Certified General Appraiser #321885
 KY State Certified General Appraiser #5522

Limiting Conditions and Assumptions

Acceptance of and/or use of this report constitutes acceptance of the following limiting conditions and assumptions; these can only be modified by written documents executed by both parties.

- ❖ The basic limitation of this and any appraisal is that the appraisal is an opinion of value, and is, therefore, not a guarantee that the property would sell at exactly the appraised value. The market price may differ from the market value, depending upon the motivation and knowledge of the buyer and/or seller, and may, therefore, be higher or lower than the market value. The market value, as defined herein, is an opinion of the probable price that is obtainable in a market free of abnormal influences.
- ❖ I do not assume any responsibility for the legal description provided or for matters pertaining to legal or title considerations. I assume that the title to the property is good and marketable unless otherwise stated.
- ❖ I am appraising the property as though free and clear of any and all liens or encumbrances unless otherwise stated.
- ❖ I assume that the property is under responsible ownership and competent property management.
- ❖ I believe the information furnished by others is reliable, but I give no warranty for its accuracy.
- ❖ I have made no survey or engineering study of the property and assume no responsibility for such matters. All engineering studies prepared by others are assumed to be correct. The plot plans, surveys, sketches and any other illustrative material in this report are included only to help the reader visualize the property. The illustrative material should not be considered to be scaled accurately for size.
- ❖ I assume that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. I take no responsibility for such conditions or for obtaining the engineering studies that may be required to discover them.
- ❖ I assume that the property is in full compliance with all applicable federal, state, and local laws, including environmental regulations, unless the lack of compliance is stated, described, and considered in this appraisal report.
- ❖ I assume that the property conforms to all applicable zoning and use regulations and restrictions unless nonconformity has been identified, described and considered in this appraisal report.
- ❖ I assume that all required licenses, certificates of occupancy, consents, and other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.
- ❖ I assume that the use of the land and improvements is confined within the boundaries or property lines of the property described and that there is no encroachment or trespass unless noted in this report.
- ❖ I am not qualified to detect the presence of floodplain or wetlands. Any information presented in this report related to these characteristics is for this analysis only. The presence of floodplain or wetlands may affect the value of the property. If the presence of floodplain or wetlands is suspected the property owner would be advised to seek professional engineering assistance.
- ❖ For this appraisal, I assume that no hazardous substances or conditions are present in or on the property. Such substances or conditions could include but are not limited to asbestos, urea-formaldehyde foam insulation, polychlorinated biphenyls (PCBs), petroleum leakage or underground storage tanks, electromagnetic fields, or agricultural chemicals. I have no knowledge of any such materials or conditions unless otherwise stated. I make no claim of technical knowledge with regard to testing for or identifying such hazardous materials or conditions. The presence of such materials, substances or conditions could affect the value of the property. However, the values estimated in this

report are predicated on the assumption that there are no such materials or conditions in, on or in close enough proximity to the property to cause a loss in value. The client is urged to retain an expert in this field, if desired.

- ❖ Unless otherwise stated in this report the subject property is appraised without a specific compliance survey having been conducted to determine if the property is or is not in conformance with the requirements of the Americans with Disabilities Act (effective 1/26/92). The presence of architectural and/or communications barriers that are structural in nature that would restrict access by disabled individuals may adversely affect the property's value, marketability, or utility.
- ❖ Any allocation of the total value estimated in this report between the land and the improvements applies only under the stated program of utilization. The separate values allocated to the land and buildings must not be used in conjunction with any other appraisal and are invalid if so used.
- ❖ Possession of this report, or a copy thereof, does not carry with it the right of publication.
- ❖ I have no obligation, by reason of this appraisal, to give further consultation or testimony or to be in attendance in court with reference to the property in question unless further arrangements have been made regarding compensation to Kirkland Appraisals, LLC.
- ❖ Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraiser, or the firm with which the appraiser is connected) shall be disseminated to the public through advertising, public relations, news, sales, or other media without the prior written consent and approval of Kirkland Appraisals, LLC, and then only with proper qualifications.
- ❖ Any value estimates provided in this report apply to the entire property, and any proration or division of the total into fractional interests will invalidate the value estimate, unless such proration or division of interests has been set forth in the report.
- ❖ Any income and expenses estimated in this report are for the purposes of this analysis only and should not be considered predictions of future operating results.
- ❖ This report is not intended to include an estimate of any personal property contained in or on the property, unless otherwise state.
- ❖ This report is subject to the Code of Professional Ethics of the Appraisal Institute and complies with the requirements of the State of North Carolina for State Certified General Appraisers. This report is subject to the certification, definitions, and assumptions and limiting conditions set forth herein.
- ❖ The analyses, opinions and conclusions were developed based on, and this report has been prepared in conformance with, our interpretation of the guidelines and recommendations set forth in the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA).
- ❖ This is a Real Property Appraisal Consulting Assignment.

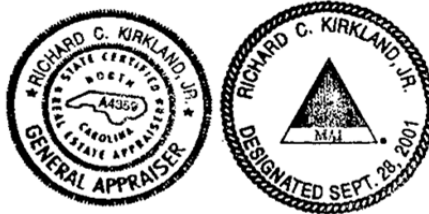
Certification

I certify that, to the best of my knowledge and belief:

1. The statements of fact contained in this report are true and correct;
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions;
3. I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved;
4. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment;
5. My engagement in this assignment was not contingent upon developing or reporting predetermined results;
6. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of the appraisal;
7. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute;
8. The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives;
10. I have not made a personal inspection of the property that is the subject of this report and;
11. No one provided significant real property appraisal assistance to the person signing this certification.
12. As of the date of this report I have completed the requirements of the continuing education program of the Appraisal Institute;
13. I have not completed any appraisal related assignment on this property within the last three years. I provided an earlier draft of this report on October 31, 2019 and February 28, 2020 and March 3, 2020. This version includes additional matched pairs.

Disclosure of the contents of this appraisal report is governed by the bylaws and regulations of the Appraisal Institute and the National Association of Realtors.

Neither all nor any part of the contents of this appraisal report shall be disseminated to the public through advertising media, public relations media, news media, or any other public means of communications without the prior written consent and approval of the undersigned.

Richard C. Kirkland, Jr., MAI
 NC State Certified General Appraiser # A4359
 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
 OR State Certified General Appraiser # C001204
 GA State Certified General Appraiser #321885
 KY State Certified General Appraiser #5522



Kirkland Appraisals, LLC

Richard C. Kirkland, Jr., MAI
9408 Northfield Court
Raleigh, North Carolina 27603
Mobile (919) 414-8142
rkirkland2@gmail.com
www.kirklandappraisals.com

PROFESSIONAL EXPERIENCE

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
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	
OR State Certified General Appraiser # C001204	
KY State Certified General Appraiser # 5522	

EDUCATION

Bachelor of Arts in English , University of North Carolina, Chapel Hill	1993
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CONTINUING EDUCATION

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

DESCRIPTION
Barry Burroughs Et. Al.

Being a certain tract of land lying on the North side of State Highway #90. Located in the Summer Shade Community of Metcalfe County, Ky. Being the property of Barry Burroughs Et. Al. (Deed Book 139, Page 857 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning at a 1/2" rebar cap #3014 found on the R/w of Highway 90 67 ft. northeast of the centerline, a corner to Betty Miller (Deed Book 139 Page 853); thence with Miller; thence N 01 deg. 06 min. 03 sec. W 771.35 ft. to a 1/2" rebar cap #3014 found; thence N 45 deg. 34 min. 26 sec. W 333.58 ft. to a 1/2" rebar cap #3014 found a corner to Miller and Jeff Pitcock (Deed Book 123 Page 647); thence with Pitcock, N 07 deg. 49 min. 51 sec. E 1478.75 ft. to a 1/2" rebar cap #3014 found a corner to Pitcock and Susan Durant (Deed Book 140 Page 5); thence with Durant, S 64 deg. 02 min. 18 sec. E 814.50 ft. to a 1/2" rebar cap #3014 found a corner to Durant and Beets Family Trust (Deed Book 122 Page 734); thence with Beets Family Trust, S 03 deg. 37 min. 52 sec. W 335.00 ft. to a point in a drain a corner to Beets Family Trust and Kenny Burroughs (Deed Book 122 Page 177); thence with Burroughs, S 04 deg. 08 min. 01 sec. W (Passing a 1/2" rebar cap #3014 found at 16.83 ft. and at 1976.32 ft.) 1996.75 ft. to a point in the centerline of Glover Creek a corner to Burroughs and Steve Hurt (Deed Book 164 Page 810); thence with Hurt, S 09 deg. 41 min. 15 sec. W 17.41 ft. to a point on the south bank of creek a corner to Hurt and Pauline Frye (Deed Book 102 Page 436); thence with Frye, N 75 deg. 21 min. 53 sec. W 186.34 ft. to a point on the south bank of creek; thence N 75 deg. 25 min. 58 sec. W 45.26 ft. to a point in Glover Creek a corner to Frye on the R/w of Highway 90 79 ft. northeast of the centerline; thence with the Right of way of State Highway #90 (R/w varies), N 54 deg. 04 min. 25 sec. W 101.36 ft.; thence N 60 deg. 15 min. 46 sec. W 200.25 ft.; thence N 68 deg. 42 min. 24 sec. W 35.01 ft. to the beginning containing **39.60 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property is subject to any existing r/w's or easements.

DESCRIPTION
Kenny Burroughs

Being a certain tract of land lying North of State Highway #90. Located in the Summer Shade Community of Metcalfe County, Ky. Being the property of Kenny Burroughs (Deed Book 122, Page 177 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning at a point in the center of Glover Creek a corner to Steve Hurt (Deed Book 164 Page 810) and Barry Burroughs Et. Al. (Deed Book 139 Page 857); thence with Burroughs Et. Al., N 04 deg. 08 min. 01 sec. E (Passing a 1/2" rebar cap #3014 found at 20.42 ft. and 1959.49 ft.) 1996.75 ft. to a point in drain a corner to Burroughs Et. Al. and Beets Family Trust (Deed Book 122 Page 734); thence with Beets Family Trust, S 83 deg. 46 min. 01 sec. E (Passing a 1/2" rebar cap #3014 found at 44.26 ft.) 663.90 ft. to a 1/2" rebar cap #3014 found a corner to Beets Family Trust and Barry Burroughs (Deed Book 119 Page 345); thence with Burroughs, S 83 deg. 42 min. 23 sec. E 708.50 ft. to a 1/2" rebar cap #3013 found a corner to Burroughs and Mike and Elaine Wade Irrevocable Trust (Deed Book 148 Page 621, Parcel 2); thence with Wade Irrevocable Trust, S 01 deg. 53 min. 56 sec. W 1214.94 ft. to a point centerline of Glover Creek (Referenced: N 01 deg. 53 min. 56 sec. E 18.40 ft. from a 1/2" rebar found) a corner to Wade Irrevocable Trust, and Wendell Anderson (Deed Book 138 Page 663); thence with Anderson and thereafter Steve Hurt (Deed Book 164 Page 810) along the meanders of Glover Creek, S 49 deg. 08 min. 41 sec. W 59.82 ft.; thence S 58 deg. 38 min. 59 sec. W 143.18 ft.; thence S 45 deg. 54 min. 25 sec. W 120.96 ft.; thence S 85 deg. 35 min. 43 sec. W 78.76 ft.; thence S 65 deg. 26 min. 52 sec. W 161.73 ft.; thence N 82 deg. 41 min. 06 sec. W 51.35 ft.; thence N 73 deg. 52 min. 07 sec. W 225.10 ft.; thence N 89 deg. 04 min. 56 sec. W 181.14 ft.; thence N 71 deg. 21 min. 49 sec. W 174.10 ft.; thence S 69 deg. 28 min. 53 sec. W 52.96 ft.; thence S 06 deg. 14 min. 19 sec. W 424.52 ft.; thence S 23 deg. 39 min. 03 sec. W 41.54 ft.; thence S 64 deg. 14 min. 24 sec. W 119.82 ft.; thence N 89 deg. 28 min. 55 sec. W 47.53 ft.; thence N 66 deg. 32 min. 57 sec. W 82.75 ft.; thence N 66 deg. 48 min. 11 sec. W 33.57 ft. to the beginning containing **50.43 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property is subject to any existing r/w's or easements.

DESCRIPTION
Barry Burroughs

Being a certain tract of land lying East of Pitcock Road. Located in the Summer Shade Community of Metcalfe County, Ky. Being the property of Barry Burroughs (Deed Book 119, Page 345 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning at a 1/2" rebar cap #3014 found a corner to Ryan Whitlow (Deed Book 159 Page 55, Plat Cabinet A Slide 1644) and Chris Harbison (Deed Book 159 Page 36, Plat Cabinet A Slide 1644); thence with Harbison, S 05 deg. 51 min. 30 sec. W 1647.95 ft. to a 1/2" rebar cap #3014 found a corner to Harbison and Mike and Elaine Wade Irrevocable Trust (Deed Book 148 Page 621); thence with Wade Irrevocable Trust, S 08 deg. 49 min. 54 sec. E 852.00 ft. to a 1/2" rebar cap #3014 found; thence S 55 deg. 23 min. 34 sec. W 1238.45 ft. to a 1/2" rebar cap #3014 found; thence S 01 deg. 57 min. 33 sec. W 563.60 ft. to a 1/2" rebar cap #3013 found a corner to Wade Irrevocable Trust and Kenny Burroughs (Deed Book 122 Page 177); thence with Burroughs, N 83 deg. 42 min. 23 sec. W 708.50 ft. to a 1/2" rebar cap #3014 found a corner to Burroughs and Beets Family Trust (Deed Book 122 Page 734); thence with Beets Family Trust, N 09 deg. 55 min. 14 sec. E 1581.85 ft. to a 1/2" rebar cap #3014 found; thence N 07 deg. 37 min. 56 sec. E 170.25 ft. to a 1/2" rebar cap #3014 found; thence N 10 deg. 02 min. 42 sec. W 317.05 ft. to a 22" White Oak found; thence N 15 deg. 40 min. 13 sec. W 13.60 ft. to a 1/2" rebar found in Gravel Road a corner to Beets Family Trust and James Shaw (Deed Book 128 Page 534); thence with Shaw, N 21 deg. 34 min. 04 sec. W 1020.02 ft. to a set 1/2" rebar a corner to Shaw and Delbert Vibbert (Deed Book 55 Page 89); thence with Vibbert, N 50 deg. 26 min. 33 sec. E 1245.34 ft. to a 1/2" rebar cap #3014 found a corner to Vibbert and Ryan Whitlow (Deed Book 159 Page 55, Plat Cabinet A slide 1644); thence with Whitlow, S 82 deg. 38 min. 53 sec. E 966.81 ft. to the beginning containing **113.22 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property has access to Pitcock Road by a 20 ft. easement crossing the property of James Shaw and Beets Family Trust. This property is subject to any existing r/w's or easements.

DESCRIPTION
Chris Harbison

Being a certain tract of land lying on the South side of the Pedigo Lane. Located in the Summer Shade Community of Metcalfe County, Ky. Being the property of Chris Harbison (Deed Book 159, Page 36, Plat Cabinet A Slide 1644 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning at 1/2" rebar cap #3014 found 15 ft. South of the centerline of Pedigo Lane a corner to Ryan Whitlow (Deed Book 152 Page 721, Plat Cabinet A slide 1644); thence with Whitlow, S 27 deg. 35 min. 51 sec. W 87.80 ft. to a set 1/2" rebar; thence S 83 deg. 34 min. 54 sec. E 102.30 ft. to a 1/2" rebar cap #3014 found; thence S 69 deg. 13 min. 08 sec. E 52.55 ft. to a 1/2" rebar cap #3014 found; thence S 42 deg. 43 min. 54 sec. E 35.75 ft. to a 1/2" rebar cap #3014 found; thence S 85 deg. 53 min. 09 sec. E 224.20 ft. to a 1/2" rebar cap #3014 found a corner to Whitlow and Matt Whitlow (Deed Book 159 Page 58, Plat Cabinet A Slide 1644); thence with Whitlow, S 84 deg. 01 min. 00 sec. E 110.10 ft. to a 1/2" rebar cap #3014 found a corner to Whitlow and Mike and Elaine Wade Irrevocable Trust (Deed Book 150 Page 8); thence with Mike and Elaine Wade Irrevocable Trust, S 05 deg. 53 min. 00 sec. W 1566.80 ft. to a 1/2" rebar cap #3014 found; thence N 86 deg. 46 min. 22 sec. W 421.50 ft. to a 1/2" rebar cap #3013 found a corner to Mike and Elaine Wade Irrevocable Trust (Deed Book 148 Page 621); thence N 82 deg. 45 min. 44 sec. W 1272.65 ft. to a 1/2" rebar cap #3014 found a corner to Mike and Elaine Wade Irrevocable Trust and Barry Burroughs (Deed Book 119 Page 345); thence with Burroughs, N 05 deg. 51 min. 30 sec. E 1647.95 ft. to a 1/2" rebar cap #3014 found a corner to Burroughs and Ryan Whitlow (Deed Book 152 Page 721, Plat Cabinet A slide 1644); thence with Whitlow, S 85 deg. 28 min. 05 sec. E 137.75 ft. to a 1/2" rebar cap #3014 found a corner to Whitlow, 15 ft. south of the centerline of Pedigo Lane; thence with the Right of Way of Pedigo Lane (30 ft. R/w) S 83 deg. 47 min. 49 sec. E 129.55 ft.; thence S 85 deg. 49 min. 22 sec. E 193.75 ft.; thence S 86 deg. 04 min. 26 sec. E 253.50 ft.; thence S 84 deg. 36 min. 28 sec. E 498.20 ft. to the beginning containing **64.06 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property is subject to any existing r/w's or easements.

DESCRIPTION

Mike and Elaine Wade Irrevocable Trust

Being a certain tract of land lying on the East side of the State Highway #640 and the North side of the Nunnally Road. Located in the Summer Shade Community of Metcalfe County, Ky. Being a portion of the property of Mike and Elaine Wade Irrevocable Trust (being a portion of Tract 1 and 2 of Parcel 1 of Deed Book 150, Page 8 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning set 1/2" rebar a corner to Donald Sandidge (Deed Book 63 Page 484) 15 ft. North of the centerline of the Nunnally Road; thence with the Right of way of Nunnally Road (30 ft. R/w) S 53 deg. 53 min. 27 sec. W 76.23 ft.; thence S 56 deg. 26 min. 06 sec. W 97.21 ft.; thence S 57 deg. 50 min. 28 sec. W 98.41 ft.; thence S 56 deg. 16 min. 02 sec. W 51.28 ft.; thence S 49 deg. 36 min. 52 sec. W 67.96 ft.; thence S 38 deg. 50 min. 33 sec. W 65.49 ft.; thence S 26 deg. 50 min. 08 sec. W 65.54 ft.; thence S 17 deg. 27 min. 39 sec. W 64.02 ft.; thence S 11 deg. 34 min. 18 sec. W 63.71 ft.; thence S 08 deg. 51 min. 57 sec. W 84.16 ft.; thence S 06 deg. 59 min. 49 sec. W 88.55 ft.; thence S 06 deg. 01 min. 17 sec. W 92.55 ft.; thence S 04 deg. 04 min. 52 sec. W 63.94 ft.; thence S 04 deg. 48 min. 35 sec. W 61.71 ft.; thence S 07 deg. 12 min. 34 sec. W 52.13 ft.; thence S 11 deg. 20 min. 20 sec. W 50.13 ft.; thence S 16 deg. 51 min. 29 sec. W 50.78 ft.; thence S 24 deg. 07 min. 00 sec. W 49.83 ft.; thence S 34 deg. 41 min. 41 sec. W 46.81 ft.; thence S 58 deg. 01 min. 18 sec. W 32.66 ft.; thence S 73 deg. 07 min. 15 sec. W 24.31 ft.; thence S 86 deg. 23 min. 54 sec. W 17.98 ft.; thence S 89 deg. 34 min. 02 sec. W 43.13 ft.; thence N 87 deg. 16 min. 22 sec. W 49.59 ft.; thence S 89 deg. 23 min. 51 sec. W 72.48 ft. to a set 1/2" rebar 15 ft. North of the centerline of the Nunnally Road and 30 ft. East of the centerline of State Highway #640; thence with the Right of way of State Highway #640 (60 ft. R/w – Deed Book 37 Page 63) N 04 deg. 10 min. 52 sec. E 98.78 ft.; thence N 02 deg. 49 min. 06 sec. E 105.27 ft.; thence N 04 deg. 12 min. 49 sec. E 100.99 ft.; thence N 03 deg. 42 min. 20 sec. E 102.61 ft.; thence N 03 deg. 43 min. 34 sec. E 101.87 ft.; thence N 03 deg. 52 min. 30 sec. E 103.75 ft.; thence N 03 deg. 45 min. 40 sec. E 100.67 ft.; thence N 03 deg. 33 min. 42 sec. E 100.22 ft.; thence N 03 deg. 40 min. 35 sec. E 86.15 ft.; thence N 02 deg. 39 min. 42 sec. E 129.86 ft.; thence N 02 deg. 30 min. 41 sec. E 63.31 ft.; thence N 01 deg. 24 min. 26 sec. E 64.41 ft.; thence N 00 deg. 04 min. 41 sec. E 65.61 ft.; thence N 03 deg. 35 min. 46 sec. W 66.68 ft.; thence N 07 deg. 05 min. 25 sec. W 65.12 ft.; thence N 10 deg. 06 min. 28 sec. W 64.33 ft.; thence N 11 deg. 51 min. 24 sec. W 155.40 ft.; thence N 12 deg. 21 min. 26 sec. W 1005.52 ft. to a set 1/2" rebar 30 ft. East of the centerline of State Highway #640 a corner to Edward Harbison (Deed Book 120 Page 391); thence with Harbison, S 84 deg. 30 min. 36 sec. E 194.95 ft. to a set 1/2" rebar; thence S 80 deg. 04 min. 44 sec. E 281.62 ft. to a set 1/2" rebar; thence S 84 deg. 15 min. 45 sec. E 299.55 ft. to a set 1/2" rebar; thence S 16 deg. 25 min. 06 sec. E 346.60 ft. to a set 1/2" rebar in old road bed a corner to Harbison and Donald Sandidge (Deed Book 63 Page 484); thence with Sandidge along the center of an old road bed, S 14

deg. 41 min. 08 sec. E 535.60 ft. to a point in old road bed (Referenced: N 75 deg. 18 min. 52 sec. E 8.69 ft. from a set 1/2" rebar); thence S 14 deg. 17 min. 47 sec. E 346.50 ft. to a point in center of old road bed (Referenced: N 85 deg. 26 min. 49 sec. E 4.55 ft. from a set 1/2" rebar); thence S 04 deg. 26 min. 46 sec. W 47.08 ft. to a point in center of old road bed (Referenced: S 67 deg. 40 min. 02 sec. E 4.72 ft. from a set 1/2" rebar); thence leaving the old road bed, S 41 deg. 51 min. 26 sec. W 157.45 ft. to the beginning containing **34.04 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property is subject to any existing r/w's or easements.

DESCRIPTION

Mike and Elaine Wade Irrevocable Trust

Being a certain tract of land lying on the East side of the State Highway #640. Located in the Summer Shade Community of Metcalfe County, Ky. Being a portion of the property of Mike and Elaine Wade Irrevocable Trust (a portion of Tract 1 of parcel 2 of Deed Book 150, Page 8 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning at a point 30 ft. east of the centerline of State Highway 640 a corner to Mike and Elaine Wade Irrevocable Trust (Deed Book 150, Page 8, Parcel 1 Tract 2); thence with Wade Irrevocable Trust, and thereafter Donald Sandidge (Deed Book 85 Page 422) S 79 deg. 48 min. 22 sec. E (Passing a set 1/2" rebar at 22.58 ft.) 1374.00 ft. to a set 1/2" rebar at a corner post; thence N 33 deg. 19 min. 13 sec. E 741.35 ft. to a set 1/2" rebar at a corner post; thence S 48 deg. 50 min. 14 sec. E 463.60 ft. to a set 1/2" rebar at a corner post a corner to Sandidge and Bransetter Trust (Deed Book 150 Page 408); thence with Branstette Trust, S 49 deg. 23 min. 55 sec. E 331.65 ft. to a set 1/2" rebar at a corner post; thence S 36 deg. 37 min. 22 sec. W 1462.60 ft. to a set 1/2" rebar a corner to Bransetter Trust and Bonita Poore (Deed Book 148 Page 59); thence with Poore, N 58 deg. 37 min. 53 sec. W 140.03 ft. to a set 1/2" rebar; thence N 50 deg. 42 min. 58 sec. W 201.47 ft. to a set 1/2" rebar; thence N 38 deg. 01 min. 58 sec. W 227.11 ft. to a set 1/2" rebar; thence N 63 deg. 04 min. 56 sec. W 108.16 ft. to a set 1/2" rebar; thence N 81 deg. 27 min. 56 sec. W 408.20 ft. to a set 1/2" rebar; thence S 10 deg. 57 min. 03 sec. W 228.14 ft. to a set 1/2" rebar; thence N 76 deg. 32 min. 19 sec. W 44.09 ft. to a point in the branch (Referenced: N 76 deg. 32 min. 19 sec. W 5.00 ft. from a set 1/2" rebar); thence with the meanders of branch, N 08 deg. 53 min. 14 sec. E 124.66 ft.; thence N 34 deg. 13 min. 14 sec. W 91.63 ft.; thence N 43 deg. 15 min. 26 sec. W 72.91 ft.; thence N 46 deg. 44 min. 49 sec. W 100.63 ft. to a set 1/2" rebar east bank of Branch; thence leaving the branch, N 82 deg. 46 min. 18 sec. W 147.97 ft. to a 20" Hickory found; thence N 69 deg. 07 min. 44 sec. W 275.84 ft. to a set 1/2" rebar a corner to Poore, 30 ft. East of the centerline of State Highway #640; thence with the Right of way of State Highway #640 (60 ft. R/w – Deed Book 37 Page 63) N 06 deg. 36 min. 26 sec. E 221.77 ft.; thence N 06 deg. 50 min. 25 sec. E 165.48 ft.; thence N 07 deg. 24 min. 34 sec. E 222.76 ft. to the beginning containing **44.70 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property is subject to any existing r/w's or easements.

DESCRIPTION

Mike and Elaine Wade Irrevocable Trust

Being a certain tract of land lying on the West side of Big Jack road and the West side of State Highway #640. Located in the Summer Shade Community of Metcalfe County, Ky. Being a portion of the property of Mike and Elaine Wade Irrevocable Trust (a portion of Tract 1 Parcel 1 of Deed Book 150 Page 8, a portion of Parcel 2 of Deed Book 148 Page 621, and Tract's 3, 4, 5, and 6 of Deed Book 113 Page 182 recorded in the office of the Metcalfe County Clerk) and being more particularly described as follows:

Unless stated otherwise, any monument referred to herein as a "set rebar" is 1/2 inches in diameter, eighteen inches in length with yellow plastic cap stamped J. Leftwich PLS #3013. Bearing used to begin survey taken from GPS observation dated 03-10-2020.

Beginning at set 1/2" rebar 15 ft. west of the centerline of Big Jack Road a corner to Richard Pedigo (Deed Book 82 Page 451); thence with Pedigo and thereafter Scott Palmore (Deed Book 162 Page 773) N 82 deg. 51 min. 34 sec. W 866.50 ft. to a 1/2" rebar cap #3014 found a corner to Palmore and Steve Coop (Deed Book 159 Page 471) and Wendell Anderson (Deed Book 138 Page 663); thence with Anderson, N 00 deg. 38 min. 09 sec. E 410.35 ft. to a 1/2" rebar cap #3014 found; thence N 00 deg. 52 min. 59 sec. W 433.40 ft. to a 1/2" rebar found on the south bank of Glover creek; thence N 01 deg. 53 min. 56 sec. E 18.41 ft. to a point in the centerline of Glover creek a corner to Anderson and Kenny Burroughs (Deed Book 122 Page 177); thence with Burroughs, N 01 deg. 53 min. 56 sec. E 1214.95 ft. to a 1/2" rebar cap #3013 found a corner to Burroughs and Barry Burroughs (Deed Book 119 Page 345); thence with Burroughs, N 01 deg. 57 min. 33 sec. E 563.60 ft. to a 1/2" rebar cap #3014 found; thence N 55 deg. 23 min. 34 sec. E 635.70 ft. to a set 1/2" rebar in the line of Burroughs a new corner to Mike and Elaine Wade Irrevocable Trust (Deed Book 148, Page 621 Parcel 2); thence severing Mike and Elaine Wade Irrevocable Trust with 7 new lines, S 21 deg. 25 min. 03 sec. E 170.65 ft. to a set 1/2" rebar; thence S 77 deg. 50 min. 03 sec. E 230.30 ft. to a set 1/2" rebar; thence S 25 deg. 01 min. 20 sec. E 197.10 ft. to a set 1/2" rebar; thence N 87 deg. 37 min. 47 sec. E 388.00 ft. to a set 1/2" rebar; thence N 14 deg. 51 min. 12 sec. W 467.90 ft. to a set 1/2" rebar; thence N 29 deg. 50 min. 58 sec. E 71.80 ft. to a set 1/2" rebar; thence N 42 deg. 01 min. 28 sec. W 266.15 ft. to a 1/2" rebar cap #3014 found a corner to Mike and Elaine Wade Irrevocable Trust, and Barry Burroughs (Deed Book 119 Page 345); thence with Burroughs, N 08 deg. 49 min. 57 sec. W 852.00 ft. to a 1/2" rebar cap #3014 found a corner to Burroughs and Chris Harbison (Deed Book 159 Page 36, Plat Cabinet A, Slide 1644); thence with Harbison, S 82 deg. 45 min. 44 sec. E 1272.65 ft. to a 1/2" rebar cap #3013 found; thence S 86 deg. 46 min. 22 sec. E 421.50 ft. to a 1/2" rebar cap #3014 found; thence N 05 deg. 53 min. 00 sec. E 1566.80 ft. to a 1/2" rebar cap #3014 found a corner to Harbison and Matt Whitlow (Deed Book 159 Page 58, Plat Cabinet A slide 1644); thence with Whitlow, N 05 deg. 32 min. 56 sec. E 111.15 ft. to a 1/2" rebar cap #3014 found a corner to Whitlow, 15 ft. south of the centerline of Pedigo Lane; thence with the right of way of Pedigo Lane (30 ft. r/w) S 83 deg. 07 min. 04 sec. E 490.70 ft. to a set 1/2" rebar 15 ft. south of the centerline of Pedigo lane and 30 ft. West of the centerline of State Highway #640; thence with the right of way of State Highway #640 (60

ft. R/w – Deed Book 37 Page 63) S 12 deg. 16 min. 34 sec. E 1022.33 ft.; thence S 11 deg. 51 min. 24 sec. E 154.26 ft.; thence S 10 deg. 06 min. 28 sec. E 61.84 ft.; thence S 07 deg. 05 min. 25 sec. E 61.71 ft.; thence S 03 deg. 35 min. 46 sec. E 62.92 ft.; thence S 00 deg. 04 min. 41 sec. W 62.99 ft.; thence S 01 deg. 24 min. 26 sec. W 63.14 ft.; thence S 02 deg. 30 min. 41 sec. W 62.66 ft.; thence S 02 deg. 39 min. 42 sec. W 129.25 ft.; thence S 03 deg. 40 min. 35 sec. W 85.68 ft.; thence S 03 deg. 33 min. 42 sec. W 100.17 ft.; thence S 03 deg. 45 min. 40 sec. W 100.50 ft.; thence S 03 deg. 52 min. 30 sec. W 103.76 ft.; thence S 03 deg. 43 min. 34 sec. W 101.95 ft.; thence S 03 deg. 18 min. 40 sec. W 68.03 ft. to a set 1/2" rebar 30 ft. west of the centerline of State Highway #640 a new corner to Mike and Elaine Wade Irrevocable Trust (Deed Book 150, Page 8, Parcel 1 Tract 1); thence severing Wade Irrevocable Trust with 8 new lines, S 84 deg. 14 min. 37 sec. W 720.05 ft. to a set 1/2" rebar; thence S 21 deg. 00 min. 07 sec. E 755.90 ft. to a set 1/2" rebar 15 ft. North of the centerline of a gravel road; thence running 15 ft. North of a gravel road, N 69 deg. 19 min. 31 sec. E 67.62 ft.; thence N 73 deg. 31 min. 30 sec. E 33.43 ft.; thence N 79 deg. 07 min. 40 sec. E 162.51 ft.; thence S 80 deg. 25 min. 33 sec. E 51.65 ft.; thence S 54 deg. 51 min. 33 sec. E 30.90 ft.; thence S 50 deg. 05 min. 35 sec. E 65.41 ft. to a set 1/2" rebar a new corner to Wade Irrevocable Trust, 30 ft. west of the centerline of State Highway #640; thence with the right of way of State Highway #640, (60 ft. R/w Deed Book 37 Page 63) S 08 deg. 03 min. 46 sec. W 137.88 ft.; thence S 07 deg. 24 min. 34 sec. W 201.12 ft.; thence S 06 deg. 50 min. 25 sec. W 165.91 ft.; thence S 06 deg. 34 min. 22 sec. W 163.29 ft. to a point 30 ft. west of the centerline of State Highway #640 in the centerline of Glover Creek a corner to Mike and Elaine Wade Irrevocable Trust (Deed Book 148 Page 621 Parcel 3); thence with Wade Irrevocable Trust along the Meanders of Glover Creek, S 79 deg. 57 min. 36 sec. W 46.85 ft.; thence S 56 deg. 02 min. 43 sec. W 107.43 ft.; thence S 70 deg. 31 min. 53 sec. W 64.14 ft.; thence N 47 deg. 28 min. 13 sec. W 87.06 ft.; thence N 59 deg. 05 min. 26 sec. W 70.90 ft.; thence N 69 deg. 55 min. 29 sec. W 47.94 ft.; thence N 89 deg. 56 min. 00 sec. W 101.24 ft.; thence S 64 deg. 48 min. 33 sec. W 64.57 ft.; thence S 76 deg. 01 min. 33 sec. W 147.35 ft.; thence S 72 deg. 11 min. 35 sec. W 80.75 ft.; thence S 83 deg. 24 min. 44 sec. W 131.57 ft.; thence S 81 deg. 33 min. 57 sec. W 70.90 ft.; thence S 77 deg. 13 min. 50 sec. W 48.16 ft.; thence S 66 deg. 13 min. 12 sec. W 45.63 ft.; thence N 85 deg. 24 min. 36 sec. W [passing the corner of Parcel 3 at 21.01 ft. thereafter severing Parcel 2 along the meanders of Glover Creek] 41.07 ft. ; thence N 79 deg. 07 min. 15 sec. W 50.78 ft.; thence N 86 deg. 22 min. 53 sec. W 72.87 ft.; thence S 86 deg. 18 min. 26 sec. W 38.04 ft.; thence S 83 deg. 24 min. 50 sec. W 57.12 ft.; thence S 84 deg. 51 min. 05 sec. W 35.60 ft.; thence S 87 deg. 40 min. 38 sec. W 40.69 ft.; thence S 74 deg. 16 min. 02 sec. W 36.40 ft.; thence S 66 deg. 27 min. 05 sec. W 45.33 ft.; thence S 60 deg. 40 min. 36 sec. W 60.79 ft.; thence S 73 deg. 34 min. 48 sec. W 174.14 ft.; thence S 80 deg. 01 min. 58 sec. W 47.89 ft.; thence N 85 deg. 11 min. 55 sec. W 38.38 ft.; thence N 77 deg. 07 min. 36 sec. W 78.79 ft.; thence N 71 deg. 56 min. 24 sec. W 68.53 ft. to a point in the centerline of Glover Creek a new corner to Wade Irrevocable Trust (Parcel 2) 15 ft. east of the centerline of Big Jack Road; thence with the right of way of Big Jack Road (30 ft. r/w) N 00 deg. 11 min. 56 sec. E 36.38 ft.; thence N 04 deg. 27 min. 58 sec. E 15.30 ft.; thence N 19 deg. 19 min. 23 sec. E 16.22 ft.; thence N 38 deg. 40 min. 03 sec. E 36.95 ft. to a set 1/2" rebar 15 ft. east of the centerline at the end of Big Jack Road; thence with the end of the right of way of Big Jack Road, N 59 deg. 25 min. 42 sec. W 30.00 ft. to a set 1/2" rebar 15 ft. west of the centerline of

Big Jack Road; thence with the Right of way of Big Jack Road (30 ft. R/w) S 37 deg. 51 min. 57 sec. W 24.20 ft.; thence S 35 deg. 23 min. 39 sec. W 18.50 ft.; thence S 19 deg. 19 min. 23 sec. W 20.14 ft.; thence S 04 deg. 27 min. 58 sec. W 20.33 ft.; thence S 00 deg. 11 min. 56 sec. W 53.91 ft.; thence S 07 deg. 15 min. 34 sec. W 49.14 ft.; thence S 10 deg. 15 min. 20 sec. W 47.96 ft.; thence S 11 deg. 58 min. 03 sec. W 106.66 ft.; thence S 08 deg. 12 min. 18 sec. W 52.50 ft.; thence S 05 deg. 47 min. 10 sec. W 52.92 ft.; thence S 05 deg. 11 min. 48 sec. W 82.70 ft.; thence S 04 deg. 41 min. 57 sec. W 122.11 ft.; thence S 04 deg. 29 min. 01 sec. W 53.97 ft.; thence S 05 deg. 18 min. 16 sec. W 49.36 ft.; thence S 06 deg. 49 min. 36 sec. W 49.36 ft.; thence S 13 deg. 57 min. 25 sec. W 47.60 ft.; thence S 21 deg. 51 min. 58 sec. W 48.57 ft.; thence S 29 deg. 18 min. 32 sec. W 49.39 ft.; thence S 39 deg. 08 min. 02 sec. W 46.99 ft.; thence S 51 deg. 51 min. 24 sec. W 35.95 ft.; thence S 66 deg. 29 min. 24 sec. W 34.04 ft.; thence S 75 deg. 45 min. 29 sec. W 38.68 ft.; thence S 79 deg. 05 min. 16 sec. W 52.26 ft.; thence S 76 deg. 24 min. 45 sec. W 50.45 ft.; thence S 68 deg. 46 min. 08 sec. W 54.62 ft.; thence S 57 deg. 27 min. 15 sec. W 42.43 ft.; thence S 44 deg. 22 min. 30 sec. W 44.61 ft.; thence S 26 deg. 23 min. 41 sec. W 42.12 ft.; thence S 15 deg. 27 min. 57 sec. W 41.48 ft.; thence S 02 deg. 03 min. 20 sec. W 53.64 ft.; thence S 03 deg. 36 min. 55 sec. E 97.09 ft.; thence S 01 deg. 44 min. 00 sec. E 50.52 ft.; thence S 01 deg. 13 min. 18 sec. W 60.87 ft.; thence S 03 deg. 14 min. 53 sec. W 81.60 ft.; thence S 05 deg. 34 min. 55 sec. W 77.92 ft.; thence S 07 deg. 34 min. 15 sec. W 61.70 ft.; thence S 09 deg. 22 min. 38 sec. W 57.86 ft.; thence S 10 deg. 35 min. 50 sec. W 95.49 ft.; thence S 12 deg. 01 min. 10 sec. W 101.65 ft.; thence S 06 deg. 36 min. 25 sec. W 72.97 ft. to the beginning containing **209.99 acres more or less** as surveyed by Joe R. Leftwich, PLS #3013 with Leftwich Land Surveying Inc. on 03-10-2020. This property is subject to any existing r/w's or easements.

MIKE & ELAINE WADE IRREVOCABLE TRUST
209.99 ACRES±

LINE	BEARING	DISTANCE
1	S 12°18'34" E	102.33'
2	S 11°51'24" E	154.26'
3	S 10°06'28" E	61.84'
4	S 07°05'25" E	61.71'
5	S 03°55'46" E	62.92'
6	S 00°04'41" W	62.99'
7	S 01°24'26" W	63.14'
8	S 02°30'41" W	62.66'
9	S 02°39'42" W	129.25'
10	S 03°40'35" W	85.68'
11	S 03°33'42" W	100.17'
12	S 03°45'40" W	100.50'
13	S 03°52'30" W	103.76'
14	S 03°43'34" W	101.95'
15	S 03°18'40" W	68.03'
16	N 09°19'31" E	67.62'
17	N 7°33'30" E	33.43'
18	N 7°07'40" E	162.51'
19	S 8°02'53" E	51.65'
20	S 54°51'33" E	30.90'
21	S 50°05'35" E	65.41'
22	S 08°03'46" W	137.88'
23	S 07°24'34" W	201.12'
24	S 06°50'25" W	165.91'
25	S 06°34'22" W	163.29'
26	S 7°30'36" W	46.85'
27	S 56°02'43" W	107.43'
28	S 70°31'53" W	84.14'
29	N 47°28'13" W	87.06'
30	N 59°05'26" W	70.90'
31	N 69°55'29" W	47.94'
32	N 89°56'00" W	101.24'
33	S 84°48'33" W	64.97'
34	S 76°01'33" W	147.35'
35	S 72°11'35" W	80.75'
36	S 83°24'44" W	131.57'
37	S 81°33'57" W	70.90'
38	S 77°13'50" W	48.16'
39	S 66°13'12" W	45.63'
40	N 85°24'36" W	41.07'
41	N 79°07'15" W	50.78'
42	N 66°22'53" W	72.87'
43	S 86°18'24" W	38.04'
44	S 83°24'50" W	57.12'
45	S 84°51'05" W	35.60'
46	S 87°40'38" W	40.69'
47	S 74°16'02" W	36.40'
48	S 68°27'05" W	45.33'
49	S 60°40'36" W	60.79'
50	S 73°34'48" W	174.14'
51	S 80°01'58" W	47.89'
52	N 85°11'55" W	38.38'
53	N 77°07'36" W	78.79'
54	N 71°56'24" W	68.53'
55	N 00°11'56" E	36.38'
56	N 04°27'58" E	15.30'
57	N 19°19'23" E	16.22'
58	N 38°40'03" E	36.95'
59	N 59°25'42" W	30.00'
60	S 37°51'57" W	24.20'
61	S 35°23'39" W	18.50'
62	S 19°19'23" W	20.14'
63	S 04°27'58" W	20.33'
64	S 00°11'56" W	53.91'
65	S 07°15'34" W	49.14'
66	S 10°15'20" W	47.96'
67	S 11°58'03" W	106.66'
68	S 08°12'18" W	52.50'
69	S 05°47'10" W	52.92'
70	S 05°11'48" W	68.70'
71	S 04°41'57" W	122.11'
72	S 04°29'01" W	53.97'
73	S 05°18'16" W	49.36'
74	S 06°49'36" W	49.36'
75	S 13°57'25" W	47.60'
76	S 21°51'58" W	48.57'
77	S 29°18'32" W	49.39'
78	S 39°08'02" W	46.99'
79	S 51°51'24" W	35.95'
80	S 66°29'24" W	34.04'
81	S 75°45'29" W	38.68'
82	S 79°05'16" W	52.26'
83	S 76°24'45" W	50.45'
84	S 68°46'08" W	54.62'
85	S 57°27'15" W	42.43'
86	S 44°22'30" W	44.81'
87	S 26°23'41" W	42.12'
88	S 15°27'57" W	41.48'
89	S 02°03'20" W	53.64'
90	S 03°36'55" E	97.09'
91	S 01°44'05" E	50.52'
92	S 01°13'18" W	60.87'
93	S 03°14'53" W	81.60'
94	S 05°34'55" W	77.92'
95	S 07°34'15" W	61.70'
96	S 09°22'38" W	57.86'
97	S 10°35'50" W	95.49'
98	S 12°01'10" W	101.65'
99	S 06°36'25" W	72.97'

GPS OBSERVATION DATE 03-10-2020

JEFF PITCOCK
DEED BOOK 123 PAGE 647

BARRY BURROUGHS
DEED BOOK 139 PAGE 857

BETTY MILLER
DEED BOOK 139 PAGE 853

PAULINE FRYE
DEED BOOK 102 PAGE 436

STEVE COOP
DEED BOOK 159 PAGE 471

SCOTT PALMORÉ
DEED BOOK 162 PAGE 773

RICHARD PEDIGO
DEED BOOK 82 PAGE 451

STEVE HURT
DEED BOOK 164 PAGE 810

WENDELL ANDERSON
DEED BOOK 138 PAGE 663

KENNY BURROUGHS
DEED BOOK 122 PAGE 177

BARRY BURROUGHS ET AL
DEED BOOK 139 PAGE 857

SUSAN DURANT
DEED BOOK 140 PAGE 5

BEETS FAMILY TRUST
DEED BOOK 122 PAGE 734

1/2" REBAR CAP# 3014 FOUND

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1/2" REBAR

Noise and Traffic Assessment

Glover Creek Solar Facility

March 12, 2020

Prepared for:

Kentucky Siting and Licensing Board

Kentucky Public Service Commission

Prepared by:

Pond

3500 Parkway Lane, Suite 500

Peachtree Corners, GA 30092

On behalf of:

Glover Creek Solar, LLC

400 W. Main Street, Suite 503

Durham, NC 27701

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Attachments:

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 Appendix A: Site Plans

1. Introduction

1.1. Project Description

The proposed Glover Creek Solar Facility will be a 55-megawatt alternating current (MWac) photovoltaic electricity generation facility. The project site is located on an approximately 584-acre tract of land in Metcalfe County, approximately one mile northwest of Summer Shade, Kentucky (Figure 1). The project site is located in the northwest quadrant of the Kentucky State Route 90 (SR 90) and SR 640 intersection. The solar project will cover up to 400 acres of land and will consist of inverters, a battery-based energy storage system and a utility interconnection substation (Appendix 1). The power generated by the proposed solar facility will be connected to the existing power grid using the transmission line currently traversing the tract. The generating facility will sell power on the wholesale market as a merchant power plant or independent power producer. The solar facility will be enclosed by a six-foot chain-link fence topped with three strands of barbed wire, which will be generally located between 30 and 80 feet inside of any property boundary. In areas where potential visual or auditory impacts may be of concern, a vegetative buffer will be planted, which will consist of two staggered rows of evergreen shrubs that are at least three feet in height at the time of planting and will grow to at least six feet in height three years after planting. At the end of the project's life, the equipment and electrical infrastructure will be removed from the site, and land may return to farming or other development.

1.2. Existing Land Use and Site Conditions

According to the National Land Cover Database for Metcalfe County, the existing land use on the proposed project site is predominantly a mix of open pasture for cattle, hay production, and cultivated crops (i.e., corn and tobacco) (Figure 2). A 45-acre stand of mature hardwood forest is located on the southeastern portion of the project site. Aerial imagery shows isolated patches of forested and wooded corridors along streams, fence rows, and property boundaries scattered throughout the site (Figure 3). Additionally, there are seven farm ponds, numerous farm buildings (e.g., barns and sheds), and one single-family home within the proposed project site. Metcalfe County Property Valuation Administration assesses and values the surrounding land use as largely identical to that of the project site, with most properties being classified as farmland with residential parcels scattered throughout. A few commercial properties such as a gas station, bank, eateries, and funeral home are present south of the project site along SR 90 near Summer Shade.

2. Noise Study

2.1. Existing Noise Conditions

2.1.1. Nearest Receptor Sites

The nearest noise receptors (i.e., homes, businesses, schools, etc.) are limited to low-density, scattered, single-family homes interspersed around the project site

(Figure 4). No noise-sensitive facilities (i.e., schools and libraries) are in the vicinity of the project site. The nearest dwelling is located approximately 55 feet from the proposed Glover Creek Solar Facility property boundary. Although this residence is located close to the project site, a 15-foot wide vegetated buffer (double-row of staggered evergreen shrubs) and the 6-foot boundary fence will be installed approximately 30 feet from the property boundary. According to the proposed plan, the nearest solar panel is approximately 400 feet away and the nearest inverter is approximately 2,000 feet from the subject dwelling.

2.1.2. Existing Noise from Surrounding Areas

A comparison of typical decibel levels observed from different sources were described as seen in the table below.

Source	Typical Noise Level (dB)
Rock concerts	140
Car/motorcycle	120
Woodworking machinery	100
Lawn mower	90
Traffic noise	80
Whisper	20

The major roadways, SR 90 and SR 640, that traverse along the southern and eastern boundary of the project site are both two-lane, rural highways that receive local traffic noise typical of rural farming areas (i.e., cars, trucks, and tractor trucks with trailering equipment). Existing traffic contributes to noise within the assessment area.

The areas surrounding the project site are dominated by active farmland, which contributes to noise typical of active hay production, crop planting and harvesting, and transportation of agricultural products and equipment.

These noises typically range from 80 to 120 dB and peak during normal business hours.

2.1.3. Existing On-Site Noise

Existing noise conditions on the proposed project site consist of typical sounds produced from farming and agriculture activities. These noises include trucks, all-terrain vehicles (ATVs), tractors, and other farming equipment used during hay harvesting, baling operations, crop planting and harvesting, as well as crop and livestock transportation. Other noises experienced on the project site include typical sounds of cattle farms (e.g., cattle bellows) and other rural areas (i.e., insects, birds, and frogs).

2.2. Construction Noise

2.2.1. Equipment and Machinery

Because the proposed site is primarily open farmland, the need for extensive tree removal and earthmoving is anticipated to be minimal. The construction of the solar facility will use equipment typical for site development (i.e., graders, bulldozers, excavators, dozers, and dump trucks). The U.S. Department of Transportation Federal Highway Administration (FHWA) publishes noise levels for typical construction equipment as shown in the table below.

Equipment	Typical Noise Level (dBA) 50 feet from Sources
Air Compressor	81
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Chainsaw	85
Compactor	82
Crane Derrick	88
Crane Mobile	83
Dozer	85
Generator	81
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	85
Pickup Truck	55
Pile Driver (Impact)	101
Pile Driver (Sonic)	96
Pneumatic Tool	85
Pump	76
Rail Saw	90
Rock Drill	98
Roller	74
Saw	76
Scarifier	83
Scraper	89
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85

Tractor	84
Truck	88
Welder/Torch	73

Source: FHWA Construction Noise Handbook, 2009. Table based on EPA Report and measured data. Exact noise levels may vary depending on manufacturer and model.

2.2.2. Roadway Noise During Construction

A temporary increase in traffic is anticipated during the construction phase. The increase in traffic is described in greater detail in Section 3. This increase in traffic noise (i.e., engine and tire noise) will begin at the start of construction through the mobilization of equipment and machinery to the project site and daily commutes of laborers. During the panel installation, increased traffic noise would be limited to additional passenger vehicles and pickup trucks transporting workers and solar equipment to and from the project site.

2.2.3. Assembly of Solar Array and Construction of Facilities

Assembly of the panel tracking system, the installation of solar panels, inverters, battery storage units, and other electrical equipment associated with the solar facility and substation will likely employ typical manual hand tools and power tools. These assembly operations will occur several hundred feet to thousands of feet inside the property boundary, will occur during normal business hours on weekdays, and any noise generated by power equipment would be short in duration.

2.3. Proposed Operational Noise Conditions

2.3.1. Solar Array and Tracking System

The solar array associated with this project includes single-axis tracking panels distributed evenly across the site. Tracking systems involve the panels being driven by small, 24-volt brushless DC motors to track the arc of the sun to maximize each panel's potential for solar absorption. Panels would turn no more than five (5) degrees every 15 minutes and would operate no more than one (1) minute out of every 15-minute period. These tracking motors are a potential source of mechanical noise and are included in this assessment. The sound typically produced by panel tracking motors (NexTracker or equivalent) is approximately 78 dB.

2.3.2. Inverters, Transformers, and Battery Storage

The solar facility will employ approximately 13 inverters scattered evenly across the project site. The inverters used for the Glover Creek Solar Facility will be SMA Sunny Central UP inverters (or similar), which includes a separate voltage supply and cooling system. According to the manufacturer's specifications, the noise emission produced by this inverter is rated at 67.0 dBA at a distance of 10 meters.

This noise produced by the inverter is described as a hum and has roughly the same output of a household air-conditioning unit.

Transformers used for the proposed project are Eaton Cooper Power Series transformers that are self-cooling and produce noise emissions of 56-68 dB, depending on model unit and rating. This is roughly the noise produced from the household air conditioning unit.

Energy Storage Systems (ESS) will be co-located with the project inverters throughout the project site. Noise would be emitted from the air conditioning units used to condition the ESS enclosures. The level of noise is dependent upon manufacturer unit to be selected for the project; however, worst-case profile will be identical to a commercial, direct-expansion heat pump unit, 7 “tons” cooling capacity for each 2,000 kWh of storage capacity.

2.3.3. Site Operation and Maintenance

2.3.3.1. *Vehicular traffic*

The operation of the Turkey Creek Solar Facility is expected to have a maximum of one (1) technician driving in and out 365 days a year and two or three technicians up to 70 days a year. Work is conducted at night up to 30 days a year. While dispatches are not anticipated on weekends, they remain a possibility in the event of a component outage that would require timely repair in order to limit production impact from the site. Employees will be in mid- or full-sized trucks and will contribute less to traffic noise than a typical single-family home. With the exception of the scenarios mentioned above, vehicular traffic on the project site will be limited to typical weekday work hours.

2.3.3.2. *Maintenance activities*

Typical maintenance activities on the solar facilities will be minor repair and maintenance on the solar panels, tracking systems, electrical wiring, or maintenance/inspections of the inverters. Grounds maintenance will be performed through an integrated land management approach, to include biological and mechanical control of vegetation, with herbicide applications as appropriate to control regulated noxious weeds per local, state, and federal regulations.

2.4. Noise Summary and Conclusions

Noise during the construction phase is expected to temporarily increase during daylight hours, and will be in the form of heavy equipment, passenger cars and trucks, and tool use during assembly of the solar facilities. Noise will be present on the project site during construction; however, due to the size of the project site and the distance to the nearest receptors, construction will not contribute to a significant noise increase compared to noise currently occurring on site (i.e., the operation of farming equipment, hay production, crop harvesting). In addition, periodic noise associated with solar panel tracking system and the relatively constant noise of inverters, transformers, and battery storage units will

occur during operation. This increase in noise is also negligible due to the distance of noise generating solar equipment from the nearest noise receptor and the implementation of two rows of evergreen shrubbery. The noise produced by the inverters is 67.0 dBA, which is slightly above that of a typical person-to-person conversation (i.e., 60.0), and will not be a contributor of noise to the nearest receptor (i.e., single-family home) located 2,000+ feet away with a planted buffer between the source and receptor. Site visits and maintenance activities, such as mowing, will take place during daylight hours and will not significantly contribute to noise. The noise associated with these activities is very similar to those currently generated onsite by farming activities and offsite by commercial and farm uses.

3. Traffic Study

3.1. Existing Road Network and Traffic Conditions

Two major roadways are present in the project vicinity: SR 90 and SR 640 (Figure 3). Both of these roadways are two-lane rural highways that provide access to the City of Summer Shade, Kentucky which is located immediately southeast of the project site. Big Jack Road, a single-lane unpaved road, runs through the project site and connects SR 90 and SR 640.

The Average Daily Traffic (ADT) is defined as the average number of vehicles traveling two-way passed a specific point or monitoring station in a 24-hour period. There are two ADT monitoring stations in the project vicinity; one along SR 640 and one along Hill Top View Road. The ADT information in the project vicinity are summarized in the table below.

Station ID	Roadway	Location and Distance (feet) and Direction from the Nearest Property Boundary	ADT (average number of vehicles / 24-period)	Year Assessed
085502	SR 640	Milepoint 1.62 10 feet East	395	2016
085746	Hill Top View Rd	Milepoint 0.14 2,370 feet South	106	2012

3.2. Construction Traffic

As proposed, Big Jack Road, an existing single-lane, unpaved road, will provide centralized access to the project site from both SR 90 and SR 640.

The construction of the proposed solar facility is expected to take up to eight to twelve months for completion. During construction, a temporary increase in traffic volume associated with travel of construction laborers, delivery of construction equipment and material, delivery of solar panel components and equipment is anticipated. Laborer commutes with passenger vehicles and trucks will occur daily with two traffic peaks (i.e., morning peak and afternoon peak), whereas deliveries of equipment will occur on trailers,

flatbeds, or other large vehicles periodically throughout the construction process at various times of day.

3.2.1. Traffic Safety Precautions

Lane closures are not anticipated along SR 640 or 90 for the construction of the solar facility. However, the presence of signage, signaling, flagmen, and temporary lane closures may be employed to reduce risk of collision on the roadway. For instance, the presence of a flagmen to temporarily stop traffic to allow for a delivery truck and trailer to safely turn into the site may be necessary at times of equipment deliveries. Appropriate signage of trucks entering the highway or slow-moving vehicles will be used to warn oncoming traffic of potential risk.

The use of Big Jack Road may be limited to construction and local traffic only during the construction process. The temporary closure of this single-lane unpaved road will not impede or restrict the ability for vehicles to access SR 640, SR 90, neighborhoods, developments or places of business.

3.2.2. Impact on Road Infrastructure

Significant degradation to the existing roadways is not anticipated for the proposed project. The increase in localized traffic and the continued entry and exit of heavy trucks or equipment has potential to result in additional wear of the existing roadway or shoulders of SR 90 and 640. Damage resulting from project construction will be rectified.

Access drives and internal roads will be constructed or improved as needed to accommodate appropriate vehicles and equipment to construct the proposed solar facility. Internal roads will be compacted gravel, which may result in an increase in airborne dust particles. During construction, water may be applied to internal road system to reduce dust generation.

3.3. Operational and Maintenance Traffic

The operation of the Glover Creek Solar Facility will mostly be un-manned with approximately two employees making site visits a few times a week to inspect the site, ensure proper equipment operation, and note any maintenance needs. Maintenance will occur periodically with more frequent landscape maintenance occurring during the vegetative growing season. Employees will be in mid- or full-sized trucks and will contribute less to vehicle traffic than a typical single-family home. Vehicular traffic on the project site will be limited to typical weekday work hours and will not significantly contribute to additional traffic in the project vicinity.

3.4. Traffic Summary and Conclusions

Traffic in the project vicinity is predicted to increase temporarily during the construction phase of the project. This includes daily morning and evening peaks for construction laborers entering and exiting the project site and periodic delivery of construction materials and equipment. Appropriate signage and traffic directing will occur as

necessary to increase driver safety and reduce risk of collisions for approaching traffic. There are no anticipated damages to the existing roadway infrastructure. For facility operation and maintenance, there is no significant increase in traffic (i.e., the expected traffic to be contributed to the area will be less than a typical single-family home).

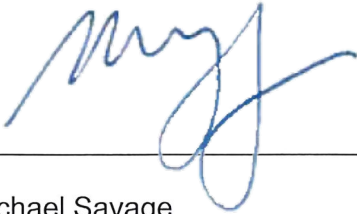
4. Fugitive Dust Impacts

Land disturbing activities associated with the proposed project may temporarily contribute to airborne materials. To reduce wind erosion of recently disturbed areas, appropriate revegetation measures, application of water, or covering of spoil piles may occur. In addition, any open-bodied truck transporting dirt will be covered when the vehicle is in motion. The size of the project site, distance to nearby structures and roadways, combined with vegetated buffers along the property boundaries and fencerows will aid in managing off-site dust impacts. Internal roads will be compacted gravel, which may result in an increase in airborne dust particles during dry conditions with heavy internal road traffic. During construction activities water may be applied to internal road system to reduce dust generation. Water used for dust control is authorized under the Kentucky Pollutant Discharge Elimination System (KPDES) as a non-stormwater discharge activity, which will be required for the proposed project.

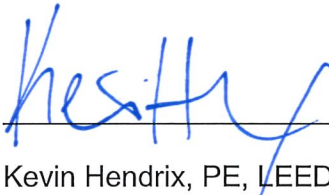
5. Impacts to Rail

There are no railroads, spurs, or other rail facilities in the project area. The proposed solar facility project will have no effect on rail.

Signature of Professionals



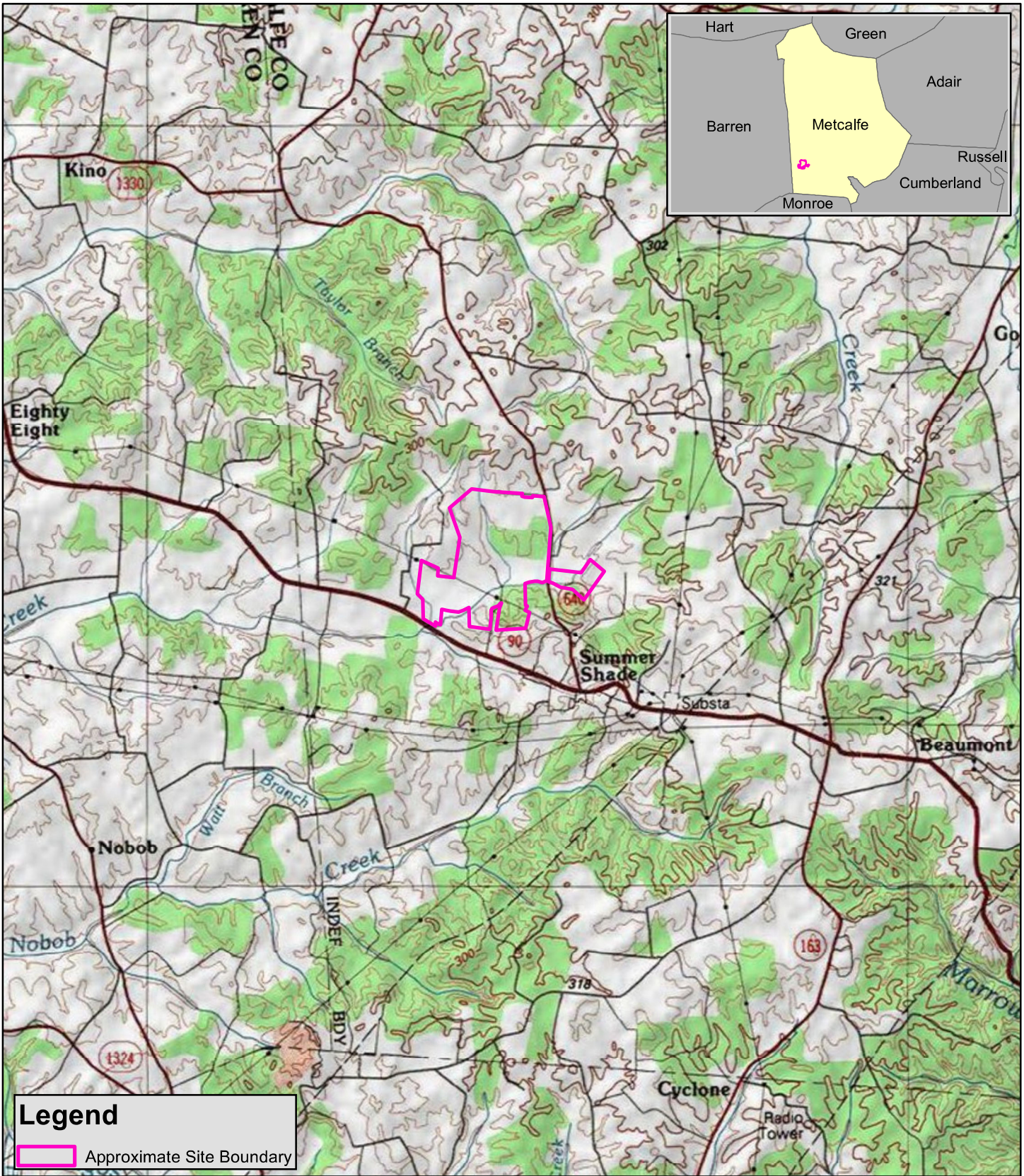
Michael Savage
Environmental Services
Project Manager



Kevin Hendrix, PE, LEED AP
Civil Engineering
Discipline Director



Figures 1-4

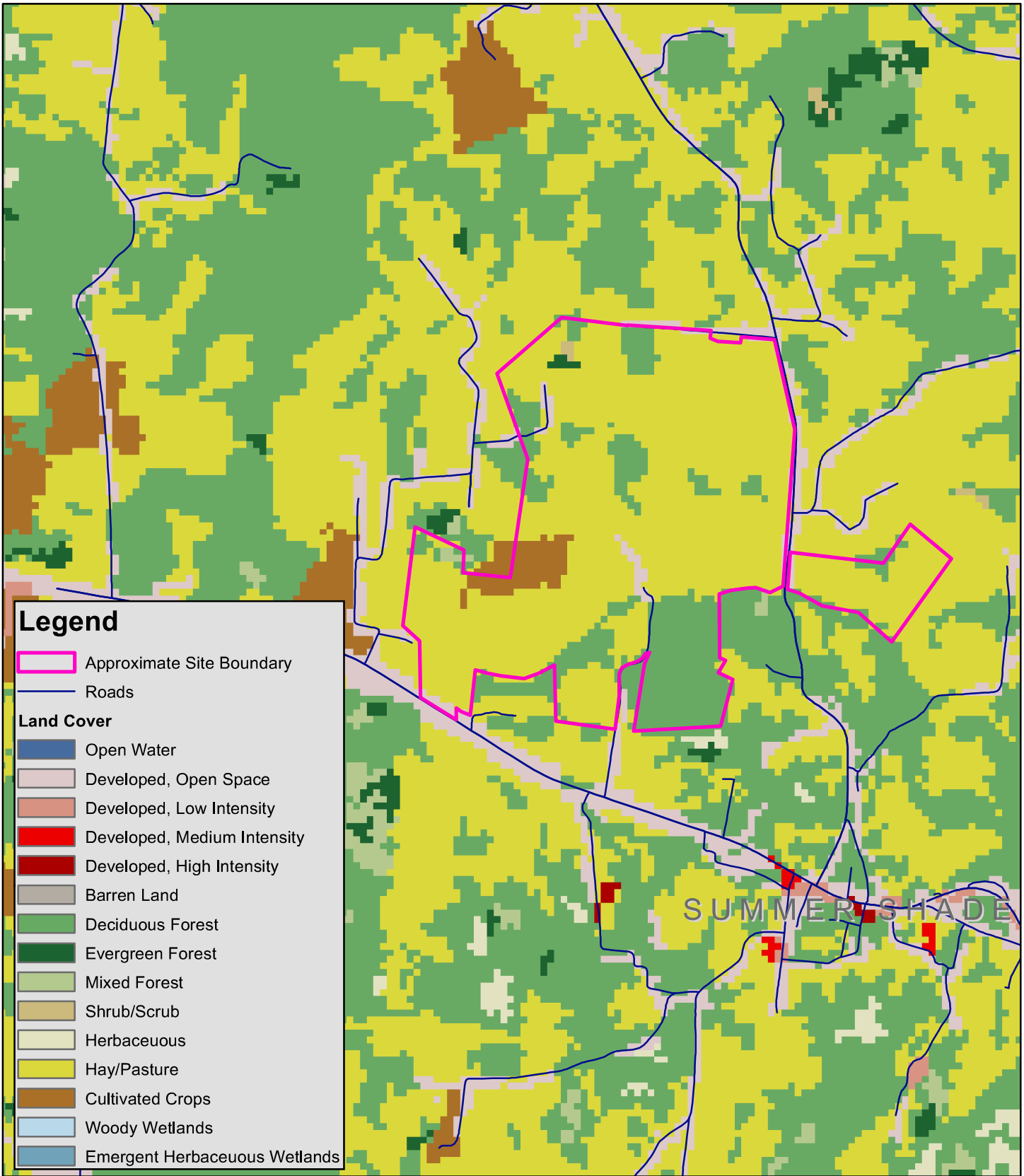


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Figure 1
Project Location Map





Service Layer Credits: National Land Cover Dataset, Kentucky



Figure 2
Land Use Map





Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,

Figure 3
Aerial Map





Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS,

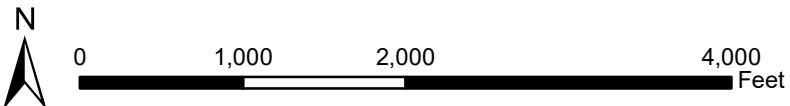
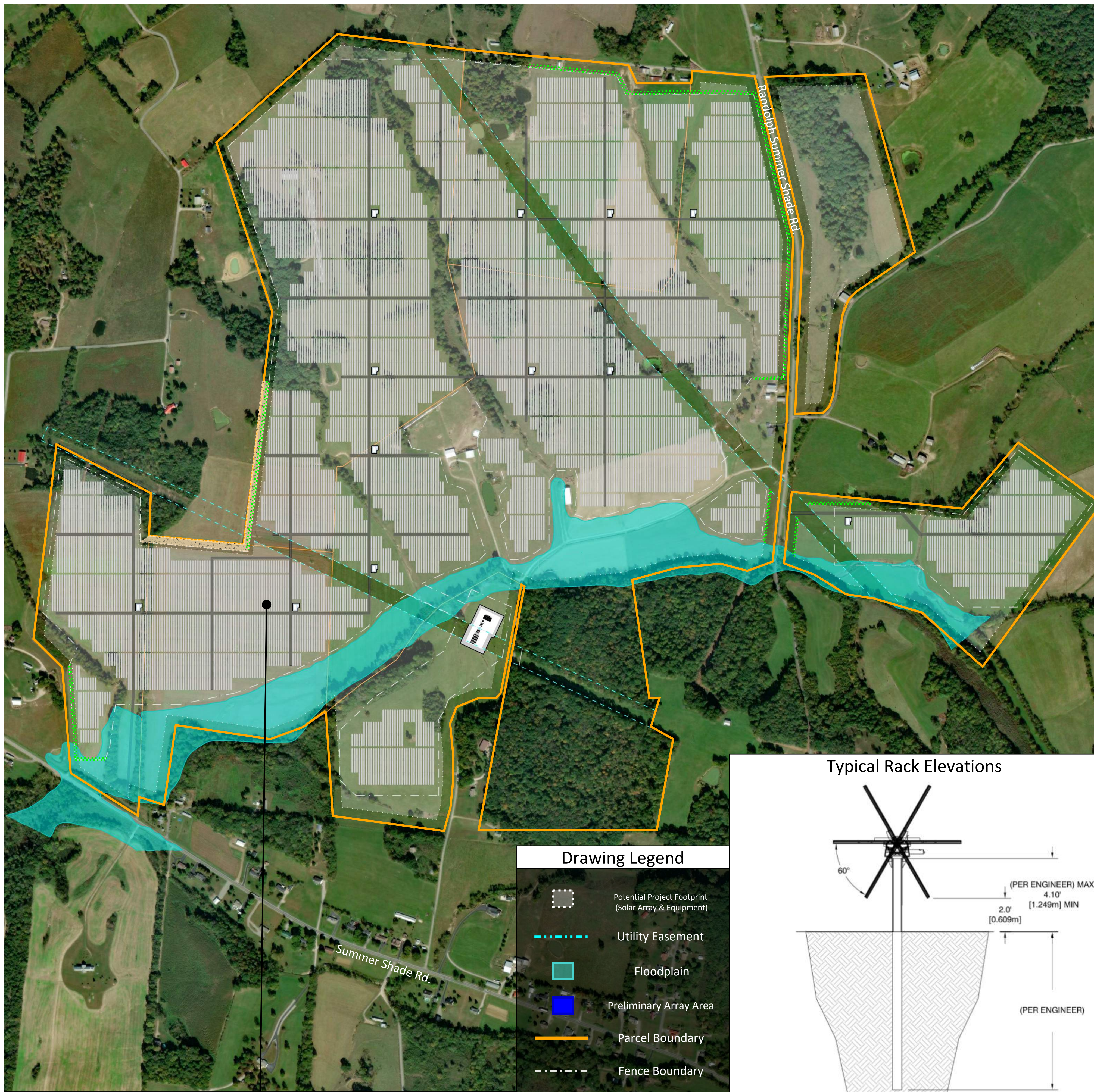


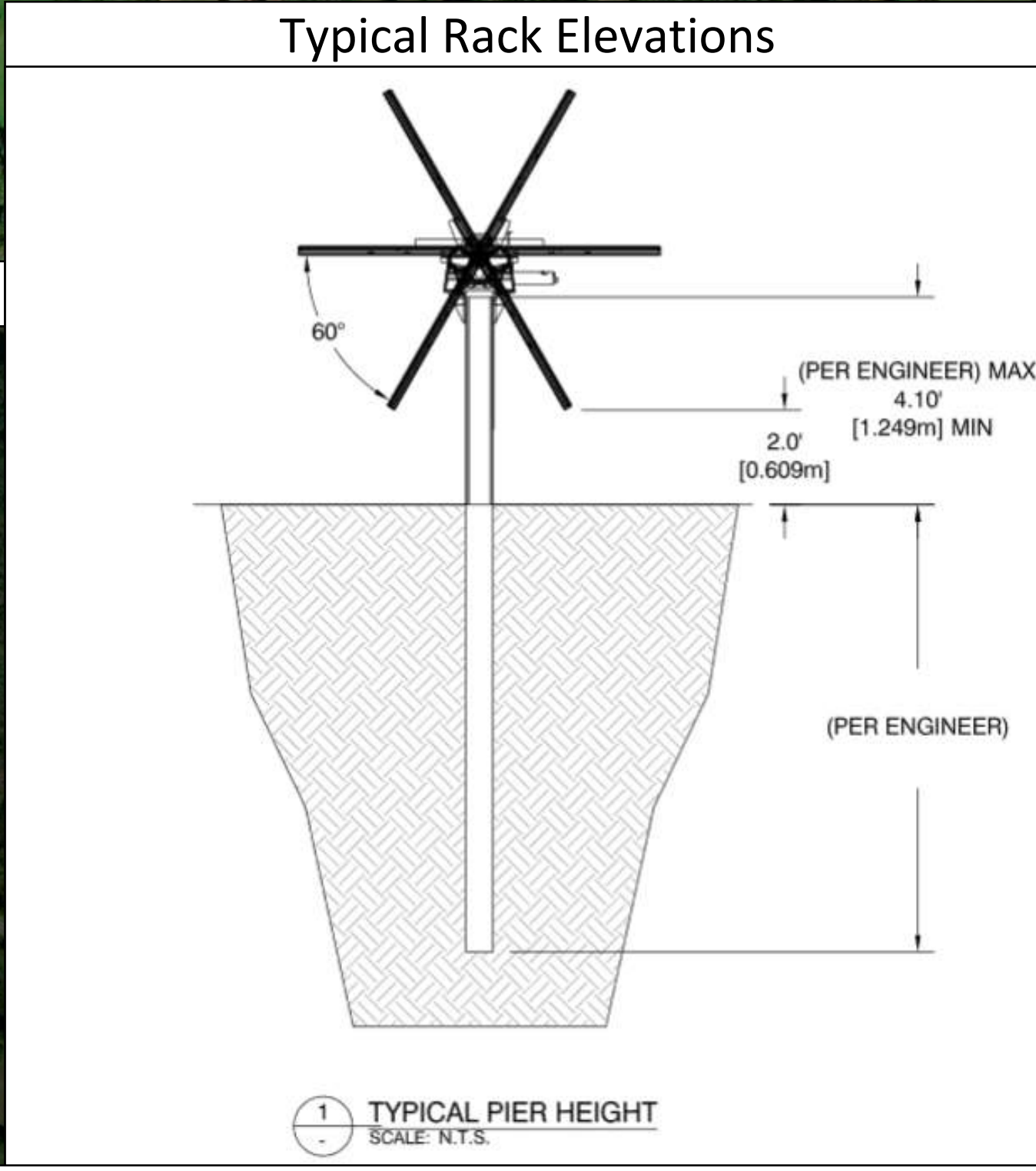
Figure 4
Noise Receptor Map

Appendix A – Site Plans

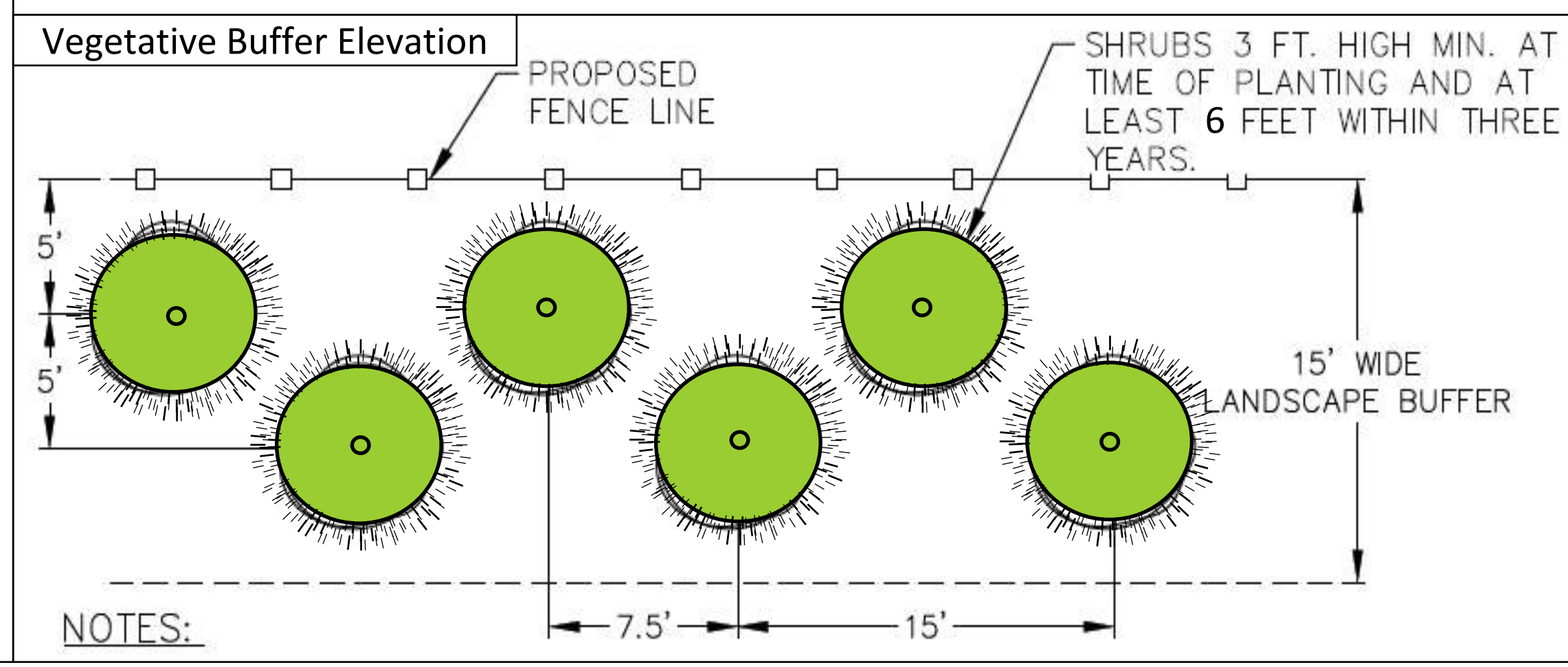


Solar panel, equipment and road locations are indicative and may be adjusted within the shaded areas shown within the Project Footprint

Drawing Legend	
	Potential Project Footprint (Solar Array & Equipment)
	Floodplain
	Preliminary Array Area
	Parcel Boundary
	Fence Boundary
	Access Roads
	Vegetative Buffer



- Standard Notes
- (1) The Purpose of this plan is for a Power Generation Permit for review and approval by the Kentucky State Siting Board to construct a solar energy system. All information shown is for planning purposes only.
 - (2) The property lines, existing improvements, and topographic data shown hereon are not based on a field survey and have been completed from ArcGIS & Google Earth Imagry. No field evidence of property markers were located with this Exhibit.
 - (3) Wetlands and Streams are shown representative of a delineation received by Carolina Solar Energy.
 - (4) Project area will be cleared and grubbed as necessary, retaining pre-development drainage patterns as much as possible. Minor grading will occur around inverter areas to divert surface drainage. Areas subject to rutting during construction will be temporarily stabilized with gravel that will remain after construction. Soil conditions and equipment loads will determine final design.
 - (5) Proposed construction and temporary laydown yard/construction staging area to be used during site construction. A portion of this area will be covered with gravel to allow delivery of construction materials. Prior to construction, this area will be compacted by a smooth drum or sheepsfoot roller to reduce/prevent rutting. Following construction gravel laydown yard will be removed.
 - (6) Access aisles shown on this plan indicate construction and maintenance access points for ingress/egress. Prior to construction, these aisles are compacted by a smooth drum or sheepsfoot roller to reduce/prevent rutting. Gravel may be placed in high traffic or poorly draining areas during construction activities to improve access. Soil access aisle will be scarified, aerated, and re-seeded after construction. Access aisles to inverters may require gravel to support delivery equipment loads. Soil conditions and final equipment selection will determine if gravel access aisles will be required to inverter locations
 - (7) All Right-Of-Ways are public unless noted otherwise.
 - (8) Utility lines and services shown hereon are approximate per aerial photography or as reported by various responsible parties. Location of underground utilities are not shown. Call appropriate authorities before digging.
 - (9) No lighting is proposed for the array area. The Interconnection Substation will have some lighting.
 - (10) 6' tall chain link fence with three strands of barbed wire or similar to meet National Electric Code requirements. The proposed access gate will be will be locked with a standard keyed or combination lock. Emergency personnel will be provided a key or combination for access.



Carolina Solar Energy
 400 W Main St
 Durham, NC 27701
 Suite 503

Glover Creek Farm
 55 MWAC

ISSUE
 12.02.19
 12.05.19

PROJECT
 Glover Creek

DRAWN BY
 CJ

DESCRIPTION
 Array Layout

a

01

**PHASE I ENVIRONMENTAL SITE
ASSESSMENT REPORT**



**Glover Creek Solar, LLC Project
Summer Shade Road
Summer Shade, Metcalfe County, Kentucky**

February 2020

Prepared by:



Linebach & Funkhouser, Inc.
environmental compliance & consulting



February 21, 2020

Mr. Marty Marchaterre
Senior Environmental Planner
Copperhead Environmental Consulting, Inc.
151 Walton Avenue
Lexington, Kentucky 40508

***Re: Phase I Environmental Site Assessment Report
Glover Creek Solar, LLC Project
Summer Shade Road
Summer Shade, Metcalfe County, Kentucky
Linebach Funkhouser Project Number 415-19***

Dear Mr. Marchaterre:

Linebach Funkhouser, Inc. (LFI) has completed the enclosed *Phase I Environmental Site Assessment Report* for the above-referenced project. The assessment activities included a site reconnaissance, interviews with persons knowledgeable about the site, a review of available literature, maps, historical information, and a review of the local, state and federal regulatory agency files regarding the site. The attached report documents the conditions encountered during the assessment and presents our summary and recommendations relative to the site.

We appreciate the opportunity to provide our services to you. Please contact us if you have any questions or comments regarding this submittal, or if we can be of additional service to you.

Sincerely,

Jason P. Boston
Project Scientist

R. William Johnston, PG
Principal Geologist

Enclosure

EXECUTIVE SUMMARY

Linebach Funkhouser, Inc. (LFI) has completed a Phase I Environmental Site Assessment (ESA) of several farm properties located in Summer Shade, Metcalfe County, Kentucky. This ESA was prepared in accordance with the scope and limitations of ASTM's *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527-13), recognized by the U.S. Environmental Protection Agency (USEPA) as compliant with *Standards and Practices for All Appropriate Inquiries* (AAI) promulgated at 40 CFR Part 312. Results of the assessment, including a site reconnaissance, a review of historical information, a review of federal, state and local records, as well as interviews with persons knowledgeable about the site, are summarized as follows:

Report Section/ Page No.	Environmental Related Item	Description	REC
SITE/AREA DESCRIPTION			
2.6/Pg. 6	Current Use of Property	Agricultural; residential	NO
2.7/Pg. 6	Current Use of Adjoining Properties		NO
SITE HISTORY AND HISTORICAL RECORDS REVIEW			
3.1/ Pg. 7	Past Uses of Property	Agricultural; residential	NO
3.2/ Pg. 7	Past Uses of Adjoining Properties		NO
ENVIRONMENTAL RECORDS REVIEW			
4.1/Pg. 10	Subject Property	No listings.	NO
	Adjoining Properties		NO
4.2/Pg. 10	Listings within Established Search Radii		NO
4.3/Pg. 10	Vapor Encroachment Screen	Does not exist	NO
SITE RECONNAISSANCE			
5.2/Pg. 11	Haz. Substances/Waste and Petroleum Products	Small quantity equipment maintenance petroleum-based product containers.	NO
5.3/Pg. 12	Storage Tanks (UST/AST)	One 350-gallon diesel AST with no obvious staining observed in the vicinity of the tank. One 350-gallon empty AST	NO
5.5/Pg. 12	Polychlorinated Biphenyls (PCBs)	None observed.	NO
5.9/Pg. 13	Stained soil/pavement	None observed.	NO
5.11/Pg. 13	Waste Generation, Storage, and Disposal	Two areas of general trash dump sites.	NO

Report Section/ Page No.	Environmental Related Item	Description	REC
5.13/Pg. 14	Wells	Five (5) water supply wells	NO
INTERVIEWS			
6.1/Pg. 14	Site Representative	Messrs. Mike Wade and Chris Harbison	NO
6.3/Pg. 14	Local Government Officials	None contacted based on current and historical site uses.	NO
NON-SCOPE CONSIDERATIONS			
7.1/Pg. 15	Asbestos Containing Materials (ACMs)	Potentially present in the residential structures based on prior to 1950s construction date; no survey completed	N/A
7.2/Pg. 15	Lead Based Paint (LBP)		
USER PROVIDED INFORMATION			
8.1/Pg. 16	Env. Liens / AULs	None provided for review.	NO
9.0/Pg. 16	DATA GAPS		NO
10.0/Pg. 16	FINDINGS AND OPINIONS		NO
Recognized Environmental Conditions (RECs)		None Identified	
Historical Recognized Environmental Conditions (HRECs)		None Identified	
Controlled Recognized Environmental Conditions (CRECs)		None Identified	
De Minimis Conditions		None Identified	

Conclusions and Recommendations

LFI has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of several farm properties located in Summer Shade, Metcalfe County, Kentucky, the subject site. Any exceptions to, or deletions from, this practice were described in this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the site.

LFI identified five (5) water supply wells on the site. If these wells are no longer going to be used in the future, LFI recommends properly abandoning the wells in accordance with Kentucky Division of Water protocols.

An ACM survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, ACMs are potentially present. LFI recommends performing an asbestos survey prior to demolishing the site structures.

This Executive Summary provides a summation of the results of the Phase I ESA and is not intended to be all-inclusive. The complete report lists the procedures used during our assessment and provides our conclusions and recommendations regarding the site.

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1.0 INTRODUCTION

Linebach Funkhouser, Inc. (LFI) was retained by Copperhead Environmental Consulting, Inc. (the Client), to conduct a Phase I Environmental Site Assessment (ESA) of several farm properties located in Summer Shade, Metcalfe County, Kentucky (the “subject site”) for the Glover Creek Solar, LLC project. This assessment was completed as part of due diligence activities in relation to a real estate transaction.

1.1 Purpose

The purpose of this ESA was to document current and historical information on the subject 340-acre site and surrounding areas in order to identify *recognized environmental conditions* (RECs), defined in ASTM E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

The term is not intended to include *de minimis* conditions, defined in ASTM E1527-13 as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* conditions are not *recognized environmental conditions* nor *controlled recognized environmental conditions*.

The term *historical recognized environmental condition* (HREC), is defined by ASTM E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the site and has been addressed to the satisfaction of the applicable regulatory authority (as evidenced by the issuance of a no further action letter or other equivalent closure documentation) or meeting unrestricted use criteria established by a regulatory authority, without subjecting the site to any required controls (e.g., property use restriction, activity and use limitations, institutional controls, or engineering controls).

The term *controlled recognized environmental condition* (CREC), is defined by ASTM E1527-13 as an REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by

regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls).

1.2 Scope of Work

This ESA was conducted utilizing standard practices consistent with ASTM E1527-13. Any significant scope-of-work additions, deletions or deviations to ASTM E1527-13 are noted below or in the corresponding sections of this report. The scope-of-work for this ESA included an evaluation of the following:

- General physical setting characteristics of the subject site and immediate vicinity through a review of one or more referenced sources, including topographic and geologic maps, soils and hydrologic reports.
- Historical usage of the subject site, adjoining properties, and surrounding area through a review of reasonably ascertainable sources such as land title records, fire insurance maps, city directories, aerial photographs, property tax files, prior environmental assessment reports, and interviews.
- Current land use and existing conditions of the subject site including observations and interviews regarding the use, treatment, storage, disposal or generation of hazardous substances, petroleum products and hazardous, regulated, or medical wastes; equipment that is known or likely to contain PCBs; storage tanks and drums; wells, drains and sumps; and pits, ponds or lagoons.
- Current land use of adjoining and surrounding area properties and the likelihood of known or suspected releases of hazardous substances or petroleum products to impact the subject property.
- Environmental regulatory database information and local environmental records within specified minimum search distances.

Unless otherwise identified in the report, the scope-of-work for this ESA did not include a consideration of the following potential environmental conditions that are outside the scope of ASTM Practice E1527-13 including but not limited to: asbestos-containing building materials, biological agents, cultural and historic resources, ecological resources, endangered species, health and safety, indoor air quality (unrelated to releases of hazardous substances or petroleum products into the environment), industrial hygiene, lead-based paint, lead in drinking water, mold, radon, regulatory compliance, and wetlands.

1.3 Terms and Conditions

This Phase I ESA was performed on behalf of, and solely for the exclusive use of the Client. No other company, entity, or person shall have any rights with regard to LFI's contract with the Client including but not limited to indemnification by LFI, or any rights of reliance on the findings, conclusions, and recommendations of this or any subsequent reports regarding the subject property.

In accordance with ASTM E1527-13 provisions, this report is presumed to be valid for up to one year prior to the date of acquisition or transaction of the site. This presumption assumes that the following components of the report are updated within 180 days prior to the intended date of acquisition or transaction of the site: interviews, environmental lien search, government records reviews, visual inspection of the property and surrounding properties, and declaration by the environmental professional.

1.4 Assumptions, Limitations and Exceptions

This ESA was prepared in accordance with the scope and limitations of ASTM's *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM E1527-13), recognized by the U.S. Environmental Protection Agency (USEPA) as compliant with *Standards and Practices for All Appropriate Inquiries* (AAI) promulgated at 40 CFR Part 312.

This Phase I Environmental Site Assessment has been prepared to assess the site with respect to hazardous substances defined in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C. §9601), and petroleum products. As such, this assessment is intended to permit the Client to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide Summer Shadeive purchaser limitations on CERCLA liability: that is, the practices that constitute "all appropriate inquiry into the previous ownership and uses of the subject property consistent with good commercial or customary practice" as defined in 42 USC §9601 (35)(B).

LFI conducted this ESA using reasonable efforts to identify recognized environmental conditions on the subject site. Findings within this report are based on the information obtained during the site reconnaissance, the electronic regulatory file review, a review of historical records,

interviews, and from reasonably ascertainable and publicly available information obtained from public agencies and other referenced sources. The presence of recognized environmental conditions on a site may not always be apparent; consequently, the completion of a Phase I ESA cannot provide a guarantee that recognized environmental conditions do not exist in connection with a site.

This report is not definitive and should not be assumed to be a complete or specific determination of all conditions above or below grade. Current subsurface conditions may differ from the conditions indicated by surface observations or historical sources and can be most reliably evaluated through intrusive techniques that were beyond the scope of this ESA. Information in this report is not intended for use as a construction document and should not be used for demolition, renovation, or other construction purposes. LFI makes no representation or warranty that the past or current operations at the site are, or have been, in compliance with applicable federal, state and local laws, regulations and codes.

Environmental Data Resources, Inc. (EDR), an independent environmental data research company, provided the records from the government agency databases referenced in this report. Information regarding surrounding area properties was requested for the specified minimum search distances and was assumed to be correct and complete unless obviously contradicted by LFI's observations or other credible referenced sources reviewed during the ESA. LFI is not a professional title insurance or land surveying firm and makes no guarantee, explicit or implied, that any land title records acquired or reviewed, or any physical descriptions or depictions of the site in this report, represent a comprehensive definition or precise delineation of property ownership or boundaries.

2.0 SITE DESCRIPTION

The location, description, and current uses of the subject site, as well as surrounding properties are presented in the following sections.

2.1 Location and Description

The subject property is located just to the northwest of downtown Summer Shade, Kentucky. The property consists of approximately 340 acres of predominately agricultural land that is owned by three separate entities.

A site location map is provided in **Figure 1** and an aerial photograph depicting the site and surrounding property use is provided in **Figure 2**. Site photographs are included in **Appendix A**.

2.2 Structures / Improvements

The subject site is predominately undeveloped farmland. Wooded areas border Glover Creek as well as parcel boundaries. Unoccupied residential structures are located on the northwestern portion of the site. An occupied residential structure is located along KY-640 on the eastern property boundary. Barn / storage structures are located throughout the site.

2.3 Municipal Services and Utilities

Properties in the vicinity are serviced by the following municipal services and utilities:

Utility	Provider
Potable Water Supply	City of Edmonton
Sewage Disposal	
Natural Gas	
Electricity	Tri County Electric Membership Coop.

2.4 Roads

The property is located to the west of KY-640 and to the north of KY-90. Private drives are located throughout the site. No publicly owned roads are located on the site.

2.5 Topography and Drainage

A review of the *Summer Shade, Kentucky* United States Geological Survey (USGS), 7.5-Minute Topographic Quadrangle (2013) indicates a surface elevation for the subject site of approximately 863 feet above the National Geodetic Vertical Datum (NGVD) of 1929 (approximately mean sea level). A copy of the topographic map is provided in **Figure 1** and **Appendix B**. According to the United States Department of Agriculture (USDA) Soil

Conservation Service (SCS), the dominant soil composition in the vicinity of the subject site is classified as Mountview, a well-drained silt loam.

Major hydrogeologic features such as a river or lake generally influence regional groundwater flow direction. Surface and/or bedrock topography may also influence regional groundwater flow direction. Based on information gathered during the site visit, the topography of the land, and information contained in the Environmental Data Resources, Inc. (EDR) report, the direction of surface and groundwater flow is interpreted to be southeast with the local topographic gradient. The nearest downgradient surface water is Glover Creek bordering the subject property to the south-southwest.

2.6 Current Use of Property

The subject site is predominately undeveloped farmland. An occupied residential home is located along the eastern property boundary.

2.7 Current Use of Adjoining Properties

Nearby property usage could potentially impact the surface and subsurface conditions of a site. Developing a history of past to present uses or occupancies can provide an indication of the likelihood of environmental concern. In general, the subject site is located in a low-density area predominantly composed of agricultural and residential properties. An aerial photograph illustrating the surrounding property-use relative to the subject site is included as **Figure 2**.

A general description of surrounding land use is as follows:

Current Use of Adjoining Properties

Direction	Description
North	The subject site is adjoined to the north by agricultural and residential properties.
South	The subject site is adjoined to the south by wooded, agricultural and residential properties.
East	The subject site is adjoined to the east by wooded and agricultural properties.
West	The subject site is adjoined to the west by residential and agricultural properties.

No evidence of potential adverse environmental conditions was observed during the survey of adjacent properties from the subject site.

3.0 SITE HISTORY AND HISTORICAL RECORDS REVIEW

Historical information about the subject site, based on an evaluation of available records reviewed during the Phase I, is included in the following sections.

3.1 Past Uses of Property

LFI attempted to determine the historical use of the subject site dating back to 1940 or the first developed use. The following table summarizes the historical use of the subject site:

Historical Use Summary

Subject Property		
Period	Glover Creek Project Area	Source(s)
1923 - Current	The subject property has been historically and primarily used for agricultural and rural residential purposes.	Interview Topographic Maps Aerial Photographs

3.2 Past Uses of Adjoining Properties

Properties in the vicinity have been predominately utilized for agricultural purposes. Residential properties have been developed along KY-90 and KY-640 historically.

3.3 Topographic Maps

Historical topographic maps provide information related to physical land configuration such as elevation, ground slope, surface water and other features. While most buildings in densely developed urban centers are not depicted, topographic maps typically show structures equal to or larger than the size of a single-family residence in rural areas. A search for historical topographic maps of the subject property and surrounding area was conducted by EDR and provided to LFI in a *Historical Topographic Map Report* dated January 15, 2020. Topographic maps were provided for various years between 1953 and 2013. A copy of the EDR *Historical Topographic Map Report* is included in **Appendix B** and summarized as follows:

Historical Topographic Maps

Year	Issues Noted	Observations
1953 - 1974	No	Subject Site: Residential and barn structures are depicted throughout the property. Surrounding Properties: Sparse rural residential properties are observed. Summer Shade is observed to the southeast.

Historical Topographic Maps

Year	Issues Noted	Observations
2013 ⁽¹⁾	No	<p>Subject Site: No structures or identifying features are shown.</p> <p>Surrounding Properties: Major roads and highways are shown, no individual structures.</p>

(1) Beginning with the 2010 map updates, the USGS elected to omit building footprints, urban designations, and other points of interest from topographic map updates.

3.4 Aerial Photographs

Aerial photographs are generally of very small scale and only provide a general idea of activity in the area. Aerial photographs are instantaneous records and their usefulness is limited because they do not necessarily reflect the condition of a site before or after the photographs were taken. A search for aerial photographs of the subject property and surrounding area was conducted by EDR and provided to LFI in an *Aerial Photo Decade Package* dated January 16, 2020. Aerial photographs were provided for various years from 1951 to 2016. A copy of the EDR *Aerial Photo Report* is included in **Appendix B** and a summary is presented in the following table:

Aerial Photographs

Year	Issues Noted	Observations
1951 - 1997	No	<p>Subject Site: Subject property is undeveloped and appears to be predominately agricultural in nature. Residential and barn structures are observed.</p> <p>Surrounding Properties: The surrounding properties are generally agricultural, wooded and residential in nature.</p>
2012 - 2016	No	<p>Subject Site: Property is undeveloped as it appears today.</p> <p>Surrounding Properties: Adjoining properties are developed similar to their present-day configuration.</p>

3.5 Sanborn Fire Insurance Maps

A search for Sanborn fire insurance maps for the subject property and surrounding area was conducted by EDR and provided to LFI in a *Certified Sanborn Map Report*, dated January 15, 2020. Fire insurance maps were unavailable for the subject site and surrounding areas. A copy of the report is provided in **Appendix B**.

3.6 City Directories

A search of historical city directories for the subject site and surrounding properties was conducted by EDR and provided to LFI in a *City Directory Abstract* dated January 21, 2020. City

directories for the subject property and surrounding area were reviewed for various years between 1995 and 2014. Listings for the surrounding area were found to be primarily residential listings with no evidence of obvious adverse environmental conditions. A copy of the report is provided in **Appendix B**.

4.0 ENVIRONMENTAL RECORDS REVIEW

An electronic database search of files maintained by the U. S. EPA and the Kentucky Department for Environmental Protection (KDEP) was conducted by EDR on January 15, 2020 to evaluate the regulatory history of the subject site and surrounding properties. The search of standard federal, state, and tribal regulatory agency databases was conducted to (1) identify listings for the subject site and adjoining properties and (2) evaluate sites within applicable ASTM E1527-13 and AAI defined search radii that could cause actual or potential environmental impacts to the subject property. A summary of the results of the regulatory agency database search is provided in the following table:

Regulatory Database Search Summary

Regulatory Database	Minimum Search Distance	Property Listed?	# Sites Listed
Federal National Priority List (NPL)	1 Mile	No	0
Federal De-Listed NPL	½ Mile	No	0
Federal CERCLIS	½ Mile	No	0
Federal CERCLIS NFRAP	½ Mile	No	0
Federal RCRA CORRACTS	1 Mile	No	0
Federal RCRA non-CORRACTS TSD	½ Mile	No	0
Federal RCRA Generators	¼ Mile	No	0
Federal Institutional/Engineering Control Registry	½ Mile	No	0
Federal ERNS	¼ Mile	No	0
State/Tribal Haz. Waste Sites (NPL/CERCLIS)	1 Mile	No	0
State/Tribal Landfill or Solid Waste Disposal Sites	½ Mile	No	0
State/Tribal Leaking Storage Tank Lists	½ Mile	No	0
State/Tribal Registered Storage Tank Lists	¼ Mile	No	0
State/Tribal Institutional/Engineering Control Registry	½ Mile	No	0
State/Tribal Voluntary Cleanup Sites	½ Mile	No	0
Federal/State Brownfield Sites	½ Mile	No	0

The fact that sites do or do not appear on a list does not necessarily indicate that an environmental concern exists. In addition, sites may not be mapped in a list search due to inaccuracy of owner/operator records, government records, or errors occurring during conversion of the data by informational sources. A copy of the EDR report that includes a detailed description of each database and the results of the database inquiries is provided in **Appendix C**.

4.1 Listings for Subject Site or Adjoining Properties

The EDR database search did not identify the subject site or any adjoining properties on ASTM or AAI required databases.

4.2 Listings within Established Search Radii

The EDR database search did not identify any listing within the established search radii (1 mile) on ASTM or AAI required databases.

The EDR environmental records search also provides a list of “orphan” sites, which are properties identified on ASTM/AAI required databases but that could not be mapped due to poor or inaccurate address information. EDR’s records search listed 0 orphan sites.

4.3 Vapor Encroachment Screen

LFI conducted a Vapor Encroachment Screen (VES) utilizing the Tier 1 methodology provided in ASTM’s *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* (E2600-15). The Tier 1 methodology in E2600-15 was utilized in order to identify a *Vapor Encroachment Condition* (VEC), which is “the presence or likely presence of chemicals of concern (COC) (i.e. – petroleum hydrocarbons and/or chlorinated solvents) vapors in the vadose zone of the subject property caused by the release of vapors from contaminated soil and/or groundwater either on or near the subject property”. Information provided by EDR was reviewed to identify facilities within the Area of Concern (AOC) to evaluate whether contamination at nearby properties could represent a vapor encroachment condition (VEC) on the Site. The AOC for chlorinated solvents is defined in ASTM E2600-15 as the area within 1/3 mile of the property boundaries. For facilities at which the only COCs are petroleum hydrocarbons, the AOC includes the area within 0.1 mile of the property boundaries.

A review of historical use information and regulatory database documentation collected in the course of this Phase I ESA did not identify obvious evidence of COC that may migrate as vapors onto the subject site as a result of contaminated soil and/or groundwater known to be present on or near the subject site. Therefore, our opinion based on the Tier 1 VES is that a VEC does not exist on the site.

5.0 SITE RECONNAISSANCE

A site reconnaissance was conducted on January 23, 2020 by Mr. Jason Boston, Project Scientist with LFI. Mr. Boston was unaccompanied during the site reconnaissance.

5.1 Site Reconnaissance Methodologies

The purpose of the reconnaissance was to gather information regarding the environmental conditions at the subject property and surrounding areas. The site reconnaissance consisted of visual observations of the subject site and any existing improvements, adjoining properties as viewed from the subject site, and observations of nearby properties made from public thoroughfares.

At the time of the site reconnaissance, weather conditions were rainy and approximately 40° Fahrenheit. No limiting conditions were present. Photographs taken during the site reconnaissance, depicting site conditions at the time of the visit, are provided in **Appendix A**.

5.2 Hazardous Substances/Waste and Petroleum Products

Small quantity containers of petroleum-based maintenance products for farm equipment machinery was observed in the Wade barn structures located in the interior of the site, near the Wade's residential structure and barn structure located on the northwest corner of the site. One 350-gallon diesel fuel AST is located near the Wade residential structure. No other obvious indications of generation, use, storage, treatment, or disposal of hazardous substances/wastes or petroleum products were observed during site reconnaissance.

5.3 Underground Storage Tanks (USTs) & Aboveground Storage Tanks (ASTs)

The site reconnaissance included a search for physical features such as fill ports, slumped pavement/ground surface, patched pavement, and evidence of underground piping or pump stations commonly associated with the current or historical presence of storage tanks. The absence of common physical features cannot completely rule out the current or historical existence of storage tanks. Site characteristics such as overgrown vegetation, new pavement, or past renovation/construction/demolition activities may prevent the identification of storage tanks.

5.3.1 Underground Storage Tanks (USTs)

No evidence of current or former USTs was observed during site reconnaissance.

5.3.2 Aboveground Storage Tanks (ASTs)

One 350-gallon diesel AST and one 350-gallon empty AST was observed on the north side of the Wade residential structure. No obvious signs of leaks or staining were observed. No other evidence of current or former ASTs was observed during site reconnaissance.

5.4 Odors

No strong, pungent or noxious odors were noticed during the site reconnaissance.

5.5 Drums and Containers

Small quantity containers of petroleum-based maintenance products for farm equipment machinery was observed in the Wade barn structures located in the interior of the site, near the Wade's residential structure and barn structure located on the northwest corner of the site. No other obvious indications of drums or containers were observed during the site reconnaissance.

5.6 Polychlorinated Biphenyls (PCBs)

Polychlorinated biphenyls (PCBs) are organic compounds that have been used extensively in electrical capacitors and transformers, lighting ballasts, hydraulic fluids, heat exchange fluids, lubricants, inks, sealants, adhesives and surface coatings since development in 1929. PCB production was banned in the U.S. in 1979 due to health and environmental hazards. Under the Toxic Substances Control Act (TSCA), as outlined in Title 40 of the Code of Federal Regulations (CFR) Part C, 761,

the owners of PCB containing equipment are responsible for environmental impairment and liabilities caused by leakage of PCBs to the environment.

No equipment with the potential to contain PCBs was observed during the site reconnaissance.

5.7 Drains and Sumps

No evidence of drains or sumps was observed during the site reconnaissance.

5.8 Pits, Ponds, and Lagoons

Multiple ponds are located throughout the subject property. No obvious evidence of pits, ponds or lagoons used for waste treatment or disposal was observed or reported during the site reconnaissance.

5.9 Stained Soil / Pavement

No obvious stained soil/pavement was observed during the site reconnaissance.

5.10 Stressed Vegetation

No obvious areas of stressed vegetation were observed on the site.

5.11 Waste Generation, Storage, and Disposal

Two areas of general trash dump sites were observed at the site. One located north of the cemetery down the bank of Glover Creek and another in the tree line just to the northeast of the Wade's property interior barn structures. No other obvious evidence of improper waste generation or storage was observed during the site reconnaissance. Small piles of scrap wood and debris were noted.

5.12 Waste Water

No obvious evidence of process waste water discharge into a drain, ditch, or stream was observed on the subject site during the site reconnaissance.

5.13 Wells

Five (5) water supply wells were observed or reported to be located on the subject property during the site reconnaissance located near the northwestern portion of the site, the interior Wade barn structures as well as near the Wade residential structure. The EDR report identified these wells on the subject site. If these wells are no longer going to be used in the future, LFI recommends properly abandoning the wells in accordance with Kentucky Division of Water protocols.

5.14 Septic Systems

A septic system was reported to be located near the Wade residential structure on the subject site.

6.0 INTERVIEWS

The following interviews were conducted during the assessment in an effort to obtain information indicating potential RECs in connection with the subject site.

6.1 Property Representative

An interview by phone was conducted with Mr. Mike Wade and Mr. Chris Harbison. Messrs. Wade and Harbison reported they were unaware of environmental concerns associated with the subject site.

6.2 Occupants

The subject site is predominately farm land.

6.3 Local Government Officials

No local government officials were contacted as part of this environmental site assessment based on current and historical uses of the subject site.

7.0 NON-SCOPE CONSIDERATIONS

The following sections address environmental issues or conditions on the subject site that are outside the scope of ASTM E1527-13. Substances or materials may be present on the subject

site that may lead to contamination of the subject site but are not defined by CERCLA as hazardous substances.

7.1 Asbestos Containing Materials (ACMs)

Asbestos is a general term for a group of fibrous minerals (primarily chrysotile, amosite and crocidolite) that have long been used as fireproof insulation and as a strengthener in pipe insulation, roofing tiles, floor tiles, wall coverings and other materials. Undisturbed asbestos-containing material (ACM) is not dangerous; however, when ACM is broken or torn, as during remodeling or demolition, the fibers can be spread into the air, especially if the material is friable. A friable material, by definition, is one that can be crushed, crumbled, pulverized, or reduced by hand pressure when dry. Due to health hazards, ACM use has been phased out since approximately 1978. The U.S. EPA classifies ACM as any material which contains more than 1% asbestos by Polarized Light Microscopy (PLM) analysis.

An ACM survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, ACMs are potentially present. LFI recommends performing an asbestos survey prior to demolishing the site structures.

7.2 Lead-Based Paint (LBP)

Use of lead in household paint was banned by the U.S. EPA effective January 1, 1978. The U.S. EPA and the U.S. Department of Housing and Urban Development (HUD) define lead-based paint (LBP) as any paint that contains 1.0 mg/cm² or higher of lead by x-ray fluorescence (XRF) analysis or 0.5% (5,000 ppm) lead by weight.

An LBP survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, LBPs are potentially present.

8.0 USER PROVIDED INFORMATION

In accordance with the ASTM E1527-13 and AAI standards, the user of this ESA, Copperhead Environmental Consulting, Inc. (the Client), may obtain information through other due diligence

activities associated with the pending property transaction that could help identify the possibility of potential environmental conditions in connection with the subject property.

8.1 Environmental Liens or Activity and Use Limitations

The Client has reported no information regarding environmental liens or use limitations.

8.2 Common/Specialized Knowledge or Experience

The Client has reported no information regarding common/specialized knowledge or experience relative to the subject site.

8.3 Reasons for Significantly Lower Purchase Price

The Client reported the site will be leased.

9.0 DATA GAPS

No data gaps as defined by ASTM E1527-13, (i.e. considered to have significantly affected the ability to identify recognized environmental conditions in connection with the subject site) were identified during completion of this assessment.

10.0 FINDINGS AND OPINIONS

The following summarizes known or suspected RECs, HRECs, CRECs, *de minimis* conditions, and non-scope environmental conditions in connection with the subject site based on information collected during the assessment. For each condition, LFI provides an opinion of the impact on the site based on an evaluation of the results of record reviews, site reconnaissance work and interviews performed as part of this assessment. LFI also provides a rationale for concluding that an environmental condition is or is not a REC.

Recognized Environmental Conditions (REC)

This assessment has revealed no evidence of RECs in connection with the subject site.

Historical Recognized Environmental Conditions (HREC)

This assessment has revealed no evidence of HRECs in connection with the subject site.

Controlled Recognized Environmental Conditions (CREC)

This assessment has revealed no evidence of CRECs in connection with the subject site.

De Minimis Conditions

No *de minimis* conditions were observed in connection with the subject site.

Non-Scope Environmental Conditions

Based on the construction date (early-1950s) of the residential structure, ACMs and LBP are potentially present.

11.0 CONCLUSIONS AND RECOMMENDATIONS

LFI has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-13 of the farm site located in Summer Shade, Metcalfe County, Kentucky. Any exceptions to, or deletions from, this practice were described in this report. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the site.

LFI identified five (5) water supply wells on the site. If these wells are no longer going to be used in the future, LFI recommends properly abandoning the wells in accordance with Kentucky Division of Water protocols.

An ACM survey was not included in the scope of work for this assessment. Based on the construction date (prior to the 1950s) of the residential structures, ACMs are potentially present. LFI recommends performing an asbestos survey prior to demolishing the site structures.

12.0 CERTIFICATION OF ENVIRONMENTAL PROFESSIONAL

LFI has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part

312. We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of this part.



February 21, 2020

Environmental Professional

Date

13.0 REFERENCES

Environmental Data Resources, Inc. *The EDR Radius Map Report with GeoCheck Glover Creek Project Area, Summer Shade, KY 42166. Inquiry Number: 5936515.2s.* January 15, 2020.

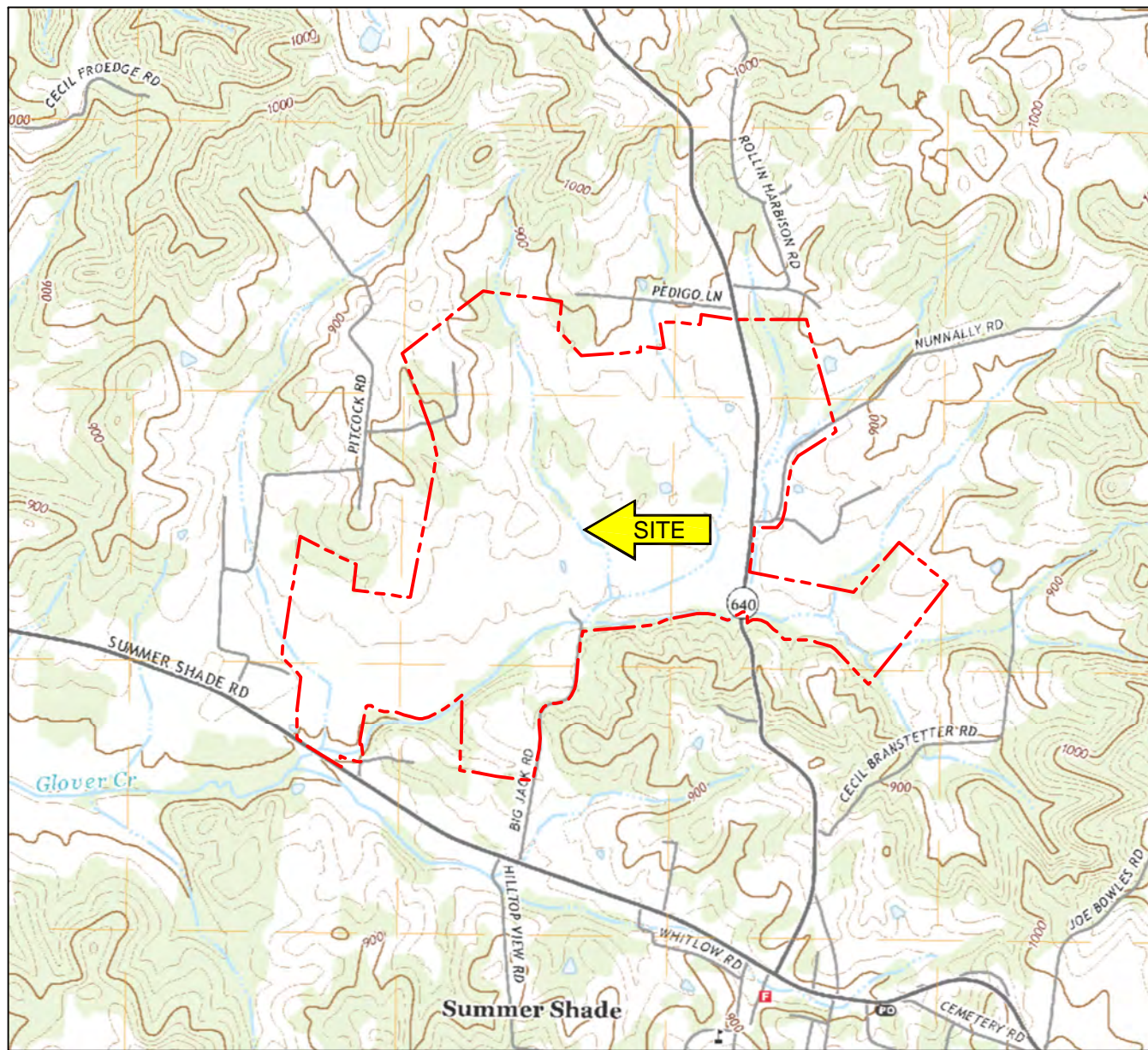
Environmental Data Resources, Inc. *EDR Historical Topographic Map Report Glover Creek Project Area, Summer Shade, KY 42166. Inquiry Number: 5936515.4.* January 15, 2020.

Environmental Data Resources, Inc. *EDR Aerial Photo Decade Package Glover Creek Project Area, Summer Shade, KY 42166. Inquiry Number: 5936515.9.* January 16, 2020.

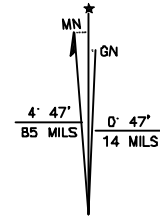
Environmental Data Resources, Inc. *Certified Sanborn Map Report Glover Creek Project Area, Summer Shade, KY 42166. Inquiry Number: 5936515.3.* January 15, 2020.

Environmental Data Resources, Inc. *EDR City Directory Image Report Glover Creek Project Area, Summer Shade, KY 42166. Inquiry Number: 5936515.5.* January 21, 2020.

Figures



LEGEND

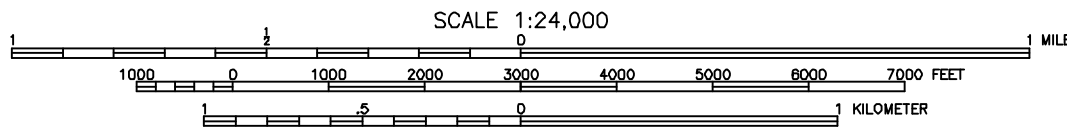


UTM GRID AND 2019 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

SUMMER SHADE, KY.
2019
 7.5 MINUTE SERIES
 (TOPOGRAPHIC)



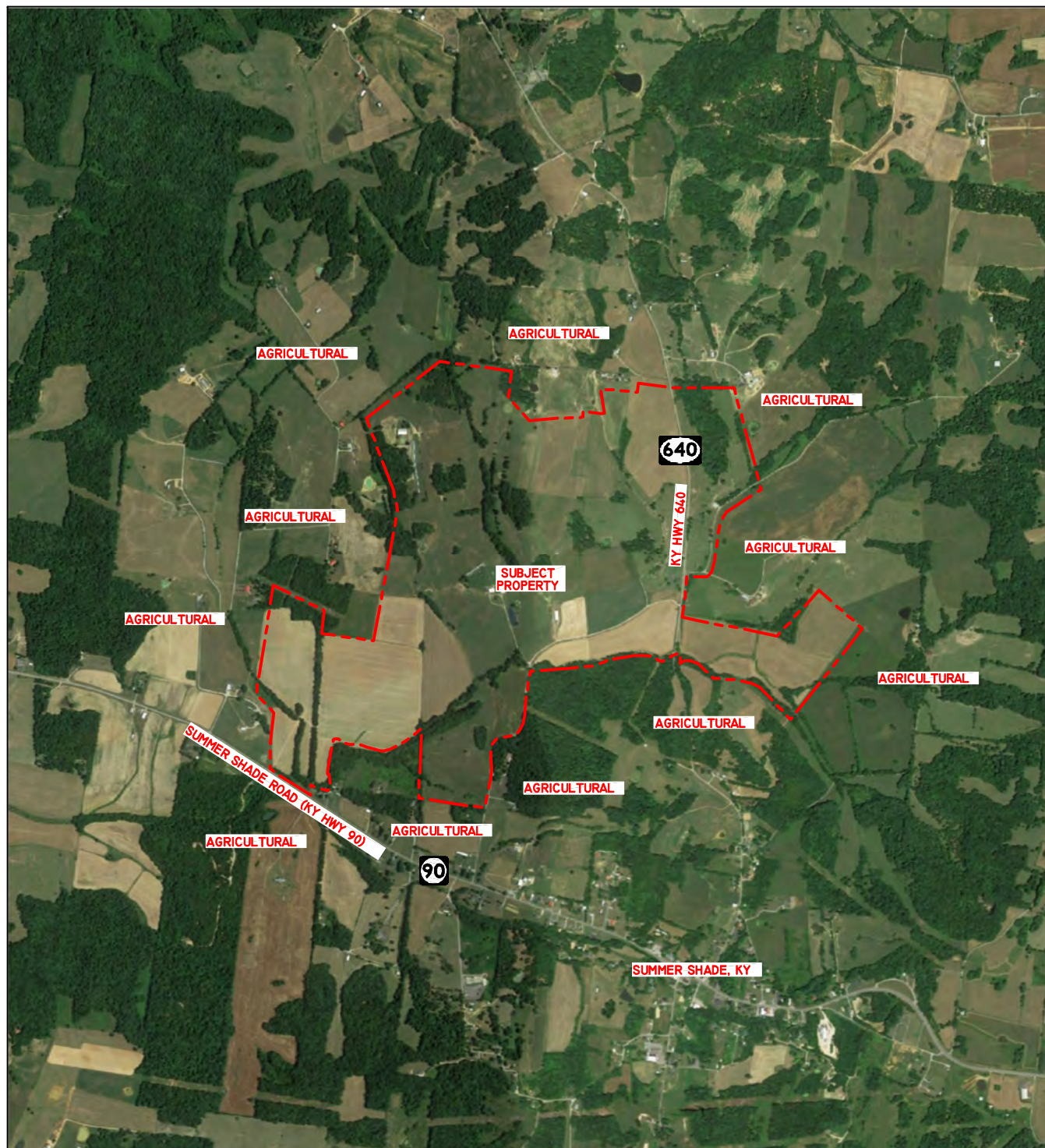
SITE LOCATION MAP	SCALE:	1:24,000	FIGURE I
	DATE:	01/27/20	
340-ACRE FARM SUMMER SHADE ROAD SUMMER SHADE, METCALF COUNTY, KENTUCKY	PRO#:	415-19	
	DRAWN BY:	MKA	
	CHECKED BY:		



SCALE 1:24,000
 CONTOUR INTERVAL 10 FEET
 SUPPLEMENTARY CONTOUR INTERVAL 5 FEET
 NATIONAL GEODETIC VERTICAL DATUM OF 1929



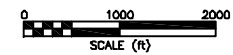
Linebach Funkhouser, Inc.
 environmental compliance & consulting



LEGEND



--- PROPERTY BOUNDARY



SOURCE: Google Earth, Imagery Date: June 7, 2018.

AERIAL PHOTOGRAPH SHOWING SITE AND VICINITY	SCALE: 1"=2000'	FIGURE 2
	DATE: 01/27/20	
340-ACRE FARM SUMMER SHADE ROAD SUMMER SHADE, METCALF COUNTY, KENTUCKY	PRO#: 415-19	
	DRAWN BY: MKA	
	CHECKED BY:	



Linebach Funkhouser, Inc.
environmental compliance & consulting

Appendix A
Site Photographs



Linebach Funkhouser, Inc.
environmental compliance & consulting

Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

1

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

Northwest

Comments:

View of the Wade interior property barn location.



Photo Number:

2

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

Interior

Comments:

Small quantity petroleum-based equipment maintenance products were observed.





Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

3

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

West

Comments:

View of water well location.



Photo Number:

4

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

North

Comments:

View of grave location.





Linebach Funkhouser, Inc.
environmental compliance & consulting

Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

5

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

North

Comments:

View of dumpsite location near grave location.



Photo Number:

6

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

South

Comments:

General view of the subject property.





Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

7

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

West

Comments:

View of the barn structure near the northwest portion of the site.



Photo Number:

8

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

Northwest

Comments:

View of the residential structure located on the northwest portion of the site.





Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

9

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

North

Comments:

View of the water well located on the northwest portion of the site.



Photo Number:

10

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

North

Comments:

View of the water well located on the northwest portion of the site





Linebach Funkhouser, Inc.
environmental compliance & consulting

Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

11

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

South

Comments:

View of the Wade interior property barn location.



Photo Number:

12

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

South

Comments:

View AST location.





Linebach Funkhouser, Inc.
environmental compliance & consulting

Photographic Record

Client: Copperhead Environmental

Site Name: Glover Creek Solar Energy Project

Project Number: 415-19

Site Location: Summer Shade, Metcalfe Co., KY

Photo Number:

13

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

North

Comments:

View of dumpsite to the northeast of the Wade interior property barn location.



Photo Number:

14

Photographer:

Jason P. Boston

Date:

January 23, 2020

Direction:

Interior

Comments:

View of the barn structure located near the eastern property boundary.



Appendix B

Historical Research Documentation

Glover Creek Project Area

KY-90 & KY-640

Summer Shade, KY 42166

Inquiry Number: 5936515.4

January 15, 2020

EDR Historical Topo Map Report

with QuadMatch™



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

01/15/20

Site Name:

Glover Creek Project Area
KY-90 & KY-640
Summer Shade, KY 42166
EDR Inquiry # 5936515.4

Client Name:

Linebach Funkhouser Inc.
114 Fairfax Ave
Louisville, KY 40207
Contact: Jason Boston



EDR Topographic Map Library has been searched by EDR and maps covering the target property location as provided by Linebach Funkhouser Inc. were identified for the years listed below. EDR's Historical Topo Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDR's Historical Topo Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the late 1800s.

Search Results:**Coordinates:**

P.O.#	NA	Latitude:	36.900005 36° 54' 0" North
Project:	415-19	Longitude:	-85.715668 -85° 42' 56" West
		UTM Zone:	Zone 16 North
		UTM X Meters:	614426.98
		UTM Y Meters:	4084549.80
		Elevation:	863.80' above sea level

Maps Provided:

2013
1974
1953

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Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

2013 Source Sheets



Summer Shade
2013
7.5-minute, 24000

1974 Source Sheets

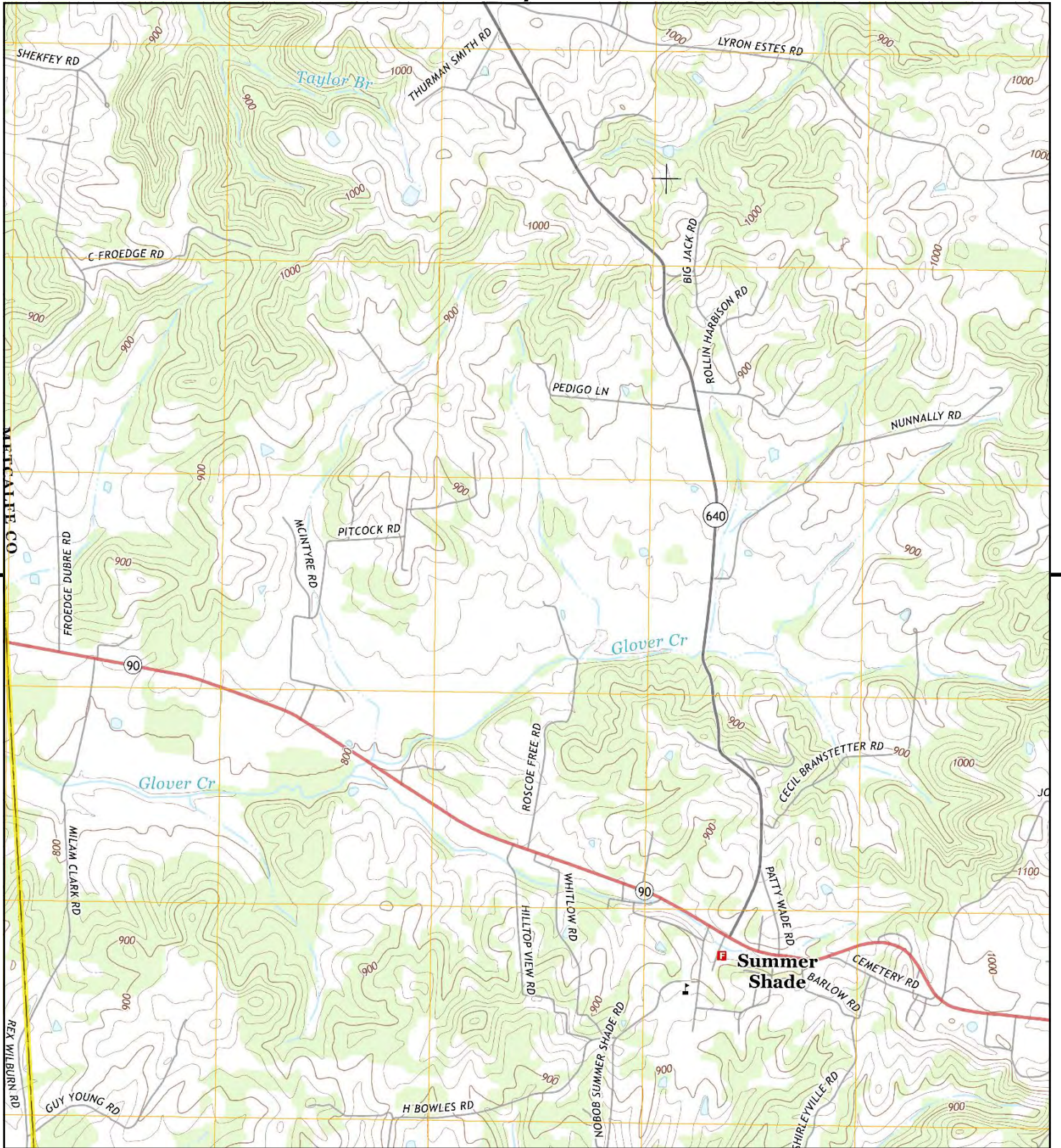


Summer Shade
1974
7.5-minute, 24000
Aerial Photo Revised 1973

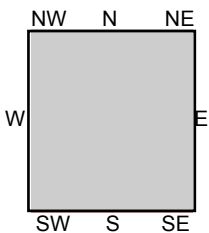
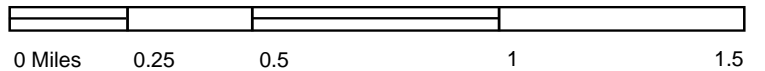
1953 Source Sheets



Summer Shade
1953
7.5-minute, 24000
Aerial Photo Revised 1951



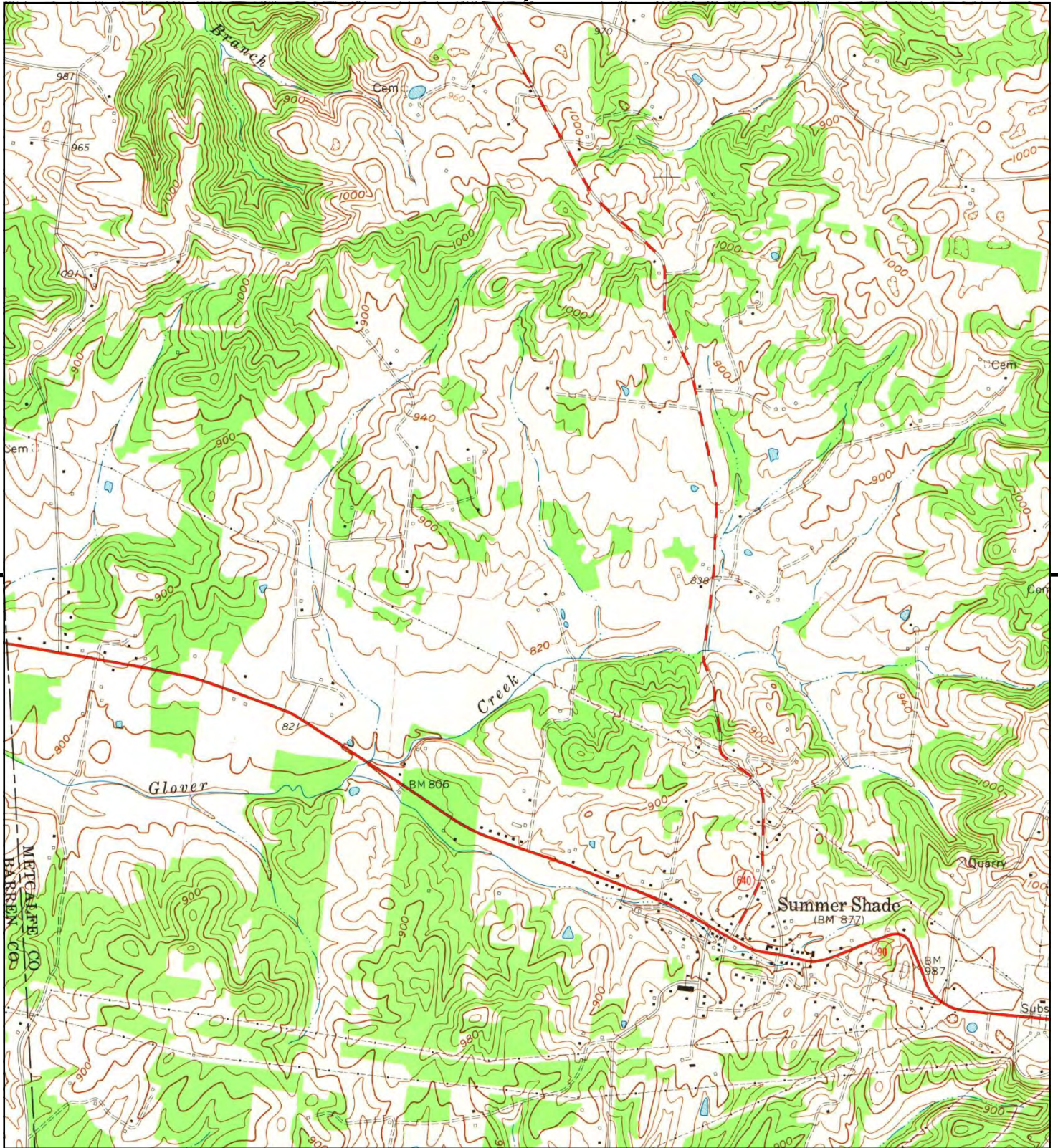
This report includes information from the following map sheet(s).



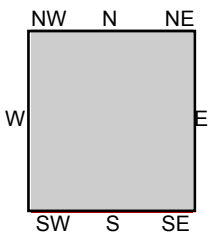
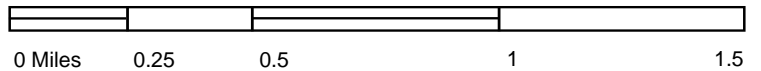
TP, Summer Shade, 2013, 7.5-minute

SITE NAME: Glover Creek Project Area
ADDRESS: KY-90 & KY-640
 Summer Shade, KY 42166
CLIENT: Linebach Funkhouser Inc.





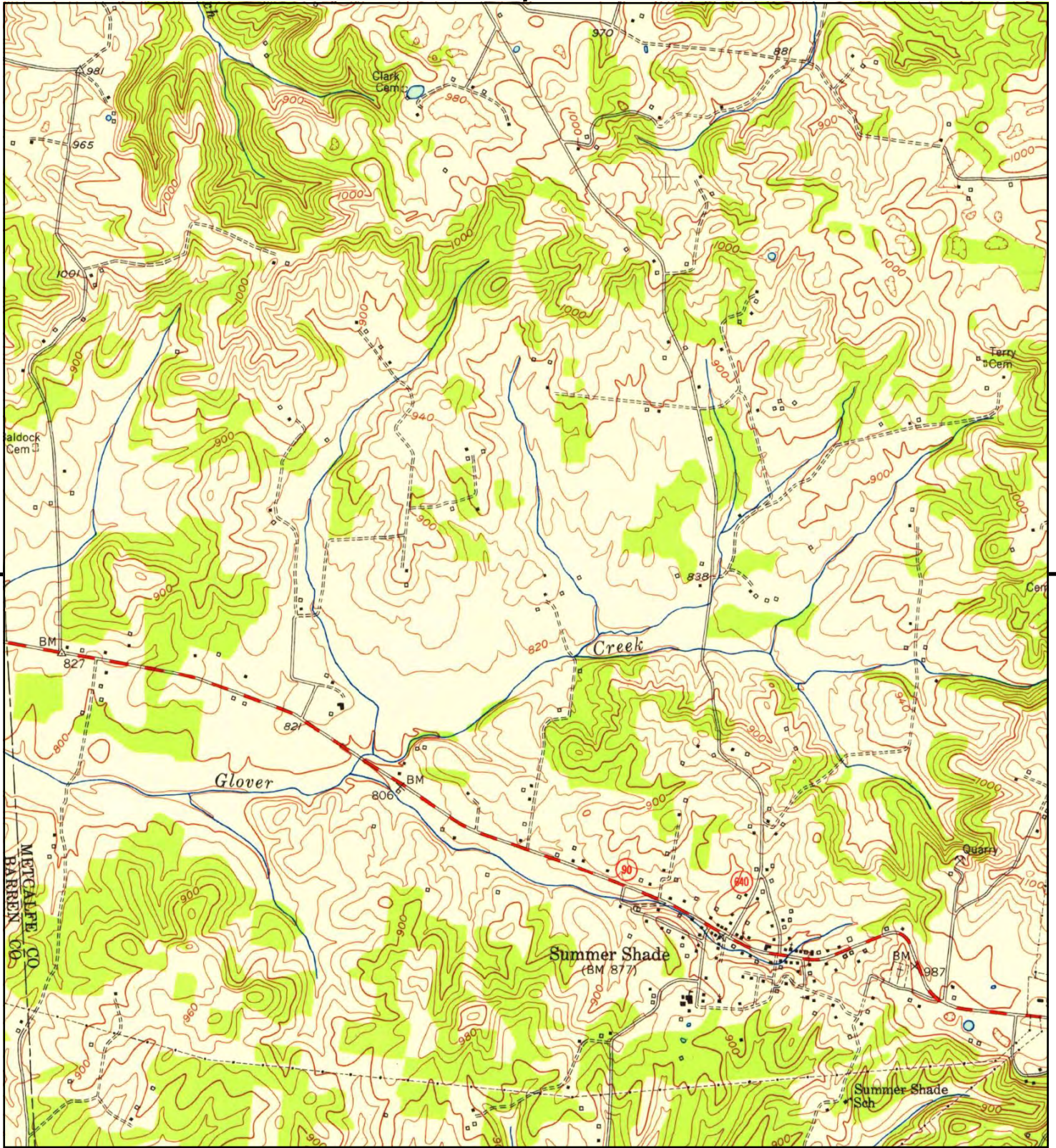
This report includes information from the following map sheet(s).



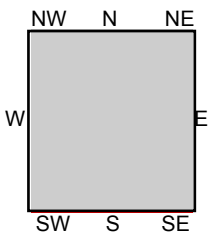
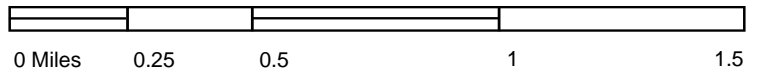
TP, Summer Shade, 1974, 7.5-minute

SITE NAME: Glover Creek Project Area
ADDRESS: KY-90 & KY-640
 Summer Shade, KY 42166
CLIENT: Linebach Funkhouser Inc.





This report includes information from the following map sheet(s).



TP, Summer Shade, 1953, 7.5-minute

SITE NAME: Glover Creek Project Area
ADDRESS: KY-90 & KY-640
 Summer Shade, KY 42166
CLIENT: Linebach Funkhouser Inc.





Glover Creek Project Area

KY-90 & KY-640

Summer Shade, KY 42166

Inquiry Number: 5936515.8

January 16, 2020

The EDR Aerial Photo Decade Package



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EDR Aerial Photo Decade Package

01/16/20

Site Name:

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Summer Shade, KY 42166
EDR Inquiry # 5936515.8

Client Name:

Linebach Funkhouser Inc.
114 Fairfax Ave
Louisville, KY 40207
Contact: Jason Boston



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Search Results:

<u>Year</u>	<u>Scale</u>	<u>Details</u>	<u>Source</u>
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2008	1"=500'	Flight Year: 2008	USDA/NAIP
1997	1"=500'	Acquisition Date: March 08, 1997	USGS/DOQQ
1993	1"=750'	Flight Date: March 29, 1993	USGS
1985	1"=1000'	Flight Date: April 09, 1985	USGS
1982	1"=1000'	Flight Date: April 23, 1982	USGS
1977	1"=500'	Flight Date: March 08, 1977	USGS
1973	1"=500'	Flight Date: March 12, 1973	USGS
1951	1"=500'	Flight Date: May 15, 1951	USGS

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INQUIRY #: 5936515.8

YEAR: 2016

— = 500'





INQUIRY # 5936515.8

YEAR: 2012

— = 500'





INQUIRY #: 5936515.8

YEAR: 2008

— = 500'





INQUIRY #: 5936515.8

YEAR: 1997

— = 500'





INQUIRY #: 5936515.8

YEAR: 1993

————— = 750'





INQUIRY #: 5936515.8
YEAR: 1985



— = 1000'



INQUIRY #: 5936515.8
YEAR: 1982
= 1000'
↑ N
EDR



INQUIRY # 5936515.8

YEAR: 1977

— = 500'





INQUIRY # 5936515.8

YEAR: 1973

— = 500'





INQUIRY #: 5936515.8

YEAR: 1951

— = 500'



Glover Creek Project Area

KY-90 & KY-640

Summer Shade, KY 42166

Inquiry Number: 5936515.3

January 15, 2020

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01/15/20

Site Name:

Glover Creek Project Area
KY-90 & KY-640
Summer Shade, KY 42166
EDR Inquiry # 5936515.3

Client Name:

Linebach Funkhouser Inc.
114 Fairfax Ave
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Contact: Jason Boston



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Certified Sanborn Results:

Certification # 1B4A-4C70-8985
PO # NA
Project 415-19



Sanborn® Library search results

Certification #: 1B4A-4C70-8985

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- University Publications of America
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Glover Creek Project Area

KY-90 & KY-640

Summer Shade, KY 42166

Inquiry Number: 5936515.5

January 21, 2020

The EDR-City Directory Image Report

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Executive Summary

Findings

City Directory Images

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EXECUTIVE SUMMARY

DESCRIPTION

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RECORD SOURCES

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<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2014	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2005	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
2000	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1995	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive
1992	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	EDR Digital Archive

FINDINGS

TARGET PROPERTY STREET

KY-90 & KY-640
Summer Shade, KY 42166

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

SUMMER SHADE RD

2014	pg A4	EDR Digital Archive
2010	pg A8	EDR Digital Archive
2005	pg A12	EDR Digital Archive
2000	pg A16	EDR Digital Archive
1995	pg A19	EDR Digital Archive
1992	pg A22	EDR Digital Archive

FINDINGS

CROSS STREETS

<u>Year</u>	<u>CD Image</u>	<u>Source</u>
-------------	-----------------	---------------

RANDOLPH SUMMER SHAD

1995	pg. A18	EDR Digital Archive
1992	pg. A21	EDR Digital Archive

RANDOLPH SUMMER SHADE RD

2014	pg. A2	EDR Digital Archive
2010	pg. A7	EDR Digital Archive
2005	pg. A11	EDR Digital Archive
2000	pg. A15	EDR Digital Archive

City Directory Images

RANDOLPH SUMMER SHADE RD 2014

98	PARNELL, BOBBY D
100	OCCUPANT UNKNOWN,
660	DEWEESE, ROGER E
1191	BARRETT, BOBBY M
1264	RUSSELL, CECIL A
1314	GLASS, STEVE H
1568	YOUNG, NEDA K
1757	GLASS, BRADLEY T
1940	HARBISON, STANLEY R
1957	OCCUPANT UNKNOWN,
2076	OCCUPANT UNKNOWN,
2116	BALL, KENNETH D
2178	SPENCER, PAMELA J
2458	LUNZ, DEAN F
2800	REECE, WALTER L
3035	REECE, JEFF H
3055	OCCUPANT UNKNOWN,
3193	DEWEESE, MARILYN W
3211	BELL, WILLIAM B
3276	BALL, CHARLES W
3411	KARL, BILLY J
3711	HOLMES, DONALD J
4099	HARBISON, KAY
4330	PERKINS, STANLEY D
4599	PERKINS, AUDREY A
4861	OCCUPANT UNKNOWN,
4891	OCCUPANT UNKNOWN,
4933	OCCUPANT UNKNOWN,
4990	PEDIGO, ROLAND L
5150	ASSENTATO, RICHARD R
5152	WILSON, YOLANDA
5219	CAFFEE, STEPHEN E
5911	OCCUPANT UNKNOWN,
6084	DUGARD, CHRISTINA A
6198	OCCUPANT UNKNOWN,
6307	MCINTYRE, KENNY R
6316	MCINTYRE, GARY R
6513	MCINTYRE, JIMMY R
6574	YOUNG, DAVID L
6600	MELTON, WAYNE
6634	JENNINGS, WINFORD F
6757	ISENBERG, COURTNEY
6759	PADILLA, LAWERENCE
6900	OCCUPANT UNKNOWN,
6954	PEDIGO, PATTI
7971	TRAYLOR, BRIDGET G
8010	MCINTYRE, MAMIE
8110	SHIRLEY, MICHAEL J
8218	SEXTON, MARK T
8227	PERKINS, LANNA M

RANDOLPH SUMMER SHADE RD 2014 (Cont'd)

8255	ACREE, ROBBY A
8258	NEWSON, PEGGY
8264	WOODRUFF, DON K
8268	OCCUPANT UNKNOWN,
8282	WEBER, GRACE
8292	OCCUPANT UNKNOWN,
8300	OCCUPANT UNKNOWN,
8313	PEDIGO, MATTIE M
8420	BOLES, LINDA G
8446	ALT, JANICE V
8493	NUNN, BETTY C
8523	SMITH, SHEILA
8551	VIBBERT, BOBBY N

SUMMER SHADE RD 2014

48	GARRETT, MICHAEL G
116	B & K LOGGING TOMBLIN, J
204	HOLKA, WILLIAM L
234	OCCUPANT UNKNOWN, SPEARS TAX SERVICE
330	WILSON, GARY R
333	MILAM, HARMON R
353	GRENEAD, STEPHEN D
388	BULL, ERIC A
474	DUGARD, JESSE L
511	BOWMAN, JANE A
708	BOWMAN, CLYDE
1285	SPEARS, KEITH V
1287	REAGAN, TIMMY
1305	GILLIAM, DIANNA G
1393	BARRETT, JACK L
1410	WHITE, DAVID L
1413	SCHULZ, MARK R
1480	VANCE, EXIE M
1515	RIGSBY, JAMES D
1524	SHAW TIM
1535	PEDIGO, CLAYTON M
1544	SHAW, JAMES P
1555	MCCOY HAROLD MCCOY, HAROLD H
1574	HEAD, WILLIAM C
1598	FOX, TONY L
1620	CARTMILL, CHARLES E SHARON CARTMILL
1644	GILLAM, MARY E
1706	PALMORE, SCOTT L
1750	BROWN, GABE L GK BROWN CONSTRUCTION INC
1753	BARTLEY, JR
1795	OCCUPANT UNKNOWN,
1809	TUDOR, TIMOTHY D
1832	GORE, ROBERT
1870	PROPE, DONALD W
1875	THOMPSON, JAMES T
1900	WALKER, ALBERT A
1921	MCMURTREY, ROBIN A
1940	HUBERT, RICHARD E
1947	REYNOLDS BENNY R REYNOLDS, BENNY R
1969	MCMURTREY, CHARLES H
1970	GARRETT, MIKE E
1990	BROWN, PHILLIP
1991	BELCHER, LINDA G
2025	OCCUPANT UNKNOWN,

SUMMER SHADE RD 2014 (Cont'd)

2120	SCHOEPFLIN, JOELEANA
2122	SCHOEPFLIN, LYLE A
2166	OCCUPANT UNKNOWN,
2232	MC MURTREY & SON FUNERAL HOME
2241	EDS EXPRESS INC
2252	OCCUPANT UNKNOWN,
2319	OCCUPANT UNKNOWN,
2331	JENNINGS, GARY L
2339	VIBBERT, KENNETH
2340	ROWLETT, DALE A
2427	OCCUPANT UNKNOWN,
2429	DYER, DONITA H
	ENGLAND, PATRICIA
	OCCUPANT UNKNOWN,
	TOMBLIN, KENNETH
	TOMBLIN, RUBY M
2458	PARRISH, SHIRLEY
2461	HAMMER, RANDELL A
2476	LILE, WANDA L
2481	HARLAN, CONNIE S
2507	THURMAN, TOMMY G
2517	COUNTRY TYME DINER
2541	ROWLETT, JEFF
2554	HOUSE, MICHAEL W
2580	HOUSE MATTHEW C
	HOUSE, MATTHEW C
2627	LAY, TIFFANY M
2653	UNITED STATES POSTAL SERVICE
2679	OCCUPANT UNKNOWN,
2700	STOUT, AMANDA
2705	THURMAN TOMMY
2767	LONDON, WILLIAM A
2796	FERGUSON, LORA L
2806	JACKSON, KENNETH R
3351	DOLGENCORP LLC
	INTERFACE SECURITY SYSTEMS
3397	MILLER, JAMES D
3430	T V A SUBSTATION
3598	TUDOR, MARTHA B
3682	TUDOR KANSEL
	TUDOR, KANSEL R
3846	OCCUPANT UNKNOWN,
3949	FRANKLIN, KATHY
4005	MORRIS, JAMES L
4290	ISENBERG, CHARLES W
4299	OCCUPANT UNKNOWN,
4369	FERGUSON, JAMES A
4385	VIBBERT, TODD
4410	ELLIS JIM L
	ELLIS, DENA S

SUMMER SHADE RD 2014 (Cont'd)

4770	TRAVELERS FOOD
4949	BG TIMBER LTD LIABILITY CO JAMES RITTER LUMBER CO INC
5126	KINGSFORD PRODUCTS COMPANY THE
7740	SHOOPMAN, CHARLES D
7840	SHOOPMAN, ALENE
7870	SHOOPMAN, RONDAL K
8340	OCCUPANT UNKNOWN,
8385	ADAMS, JEFF L JEFFS GARAGE
8590	LESTER, KEVIN H
8901	SAUNDERS, MARK A
8910	HATHAWAY, DANIEL H
9020	CARTER, LISA G
9030	FURKIN, MARY M
9080	OCCUPANT UNKNOWN,
9120	DYER, CAROLYN
9315	PREDMORE, JUSTIN J
9358	HOWARD, DONALD E WILLOW SHADE SOUTHERN BAPTIST
9423	OCCUPANT UNKNOWN,
9475	HURT, JOHNIE
9517	HUFF DAVID HUFF, ADAM A
9727	OCCUPANT UNKNOWN,
9750	OCCUPANT UNKNOWN,
9937	SHAW, REBA
10162	SHAW, LARRY T
10700	RIGSBY OTIS S RIGSBY, OTIS S
10778	SPANGLER, CHESTER G
11018	WHITE, CLIFTON F
11048	JONES, DONALD T
11056	LIKENS, TIMOTHY G
11100	COOKSEY, JEREMIAH J
11210	COOKSEY, GREG P
11572	FLOWERS, SHERYL L
11606	HUCKELBY, PHILLIP C

SUMMER SHADE RD 2010

48	GARRETT, MICHAEL G
204	COMER, KATHRYN L
234	SPEARS TAX SERVICE SPEARS, JERRY P
333	MILAM, HARMON R
353	GRENEAD, SALLY I
388	RITTER, DOTTIE N
474	SHARP, CLINT
511	BOWMAN PLACE BOWMAN, JANE K
708	BOWMAN, CLYDE
1285	SPEAR KEITH SPEARS, KEITH V
1305	WILBORN, VIRGINIA B
1393	BARRETT, JACK L
1410	KATHYS HOUSE OF DOLLS SUMMER SHADE MISSIONARY BAPTST WHITE, DAVID L
1413	SCHULZ, MARK R
1480	VANCE, EXIE M
1515	RIGSBY, JAMES D
1524	SHAW TIM SHAW, TIMOTHY D
1535	PEDIGO, MITCHELL
1544	ABSTON, NINA M
1555	MCCOY HAROLD MCCOY, HAROLD H
1574	HEAD, WILLIAM C
1598	HUNLEY, MAURINE
1620	CARTMILL, CHARLES D
1644	GILLAM, WALT J
1706	PALMORE, SCOTT L
1750	BROWN, GABE L GK BROWN CONSTRUCTION INC
1795	ISENBERG, COURTNEY
1809	TUDOR, TIMOTHY D
1870	PROPES, DONALD R
1875	JT TRANSPORT INC
1921	MCMURTREY, CAROL J
1940	HUBERT, RICHARD E
1947	REYNOLDS BENNY R REYNOLDS, BENNY R
1969	MCMURTREY, CHARLES H
1970	GARRETT, MIKE E
2025	SHAW, DONNIE E
2120	SCHOEPFLIN, JOELEANA
2122	SCHOEPFLIN, LYLE A
2166	SCHROCK, ISAAC D SCHROCKS PRO FINISH & FURN
2232	MC MURTREY & SON FUNERAL HOME

SUMMER SHADE RD 2010 (Cont'd)

2241	EDS EXPRESS INC
2252	PERKINS, RANDY D
2319	TURNER, ELIZABETH
2331	JENNINGS, DENNIS W
2340	ROWLETT, DALE A
2429	BOWLES, TROY E
	DECKER MATT
	JACKSON, ROSETTA M
	MUSTARD, TERRI J
	SMITH, NINA C
2458	PARRISH, ROGER E
2476	LILE, WANDA
2481	HARLAN, CONNIE S
2503	SUMMER SHADE FLOWER SHOP
2507	THURMAN, TOMMY G
2513	COUNTRY CUTS BARBER SHOP
2541	ROWLETT, JEFF
2580	HOUSE MATTHEW C
	HOUSE, MATTHEW C
2627	WESTMORELAND DANNY
	WESTMORELAND, TJ D
2653	UNITED STATES POSTAL SERVICE
2679	CROWE, WILLIAM
2705	THURMAN TOMMY
2730	MAYFIELD, MICHAEL D
2796	FERGUSON, LORA L
2806	JACKSON KENNETH
3351	DOLLAR GENERAL MARKET STORE
3397	MILLER, JAMES D
3430	T V A SUBSTATION
3598	TUDOR, MARTHA B
3682	TUDOR KANSEL
	TUDOR, KANSEL R
3949	FRANKLIN, KATHY
4005	MORRIS, JAMES L
4290	ISENBERG, CHARLES W
4369	FERGUSON, TONY
4385	VIBBERT, TODD
4410	ELLIS JIM L
4770	TRAVELERS FOOD
4806	GIT-R-DONE WESTERN TACK & ACC
4949	JAMES RITTER LUMBER CO INC
5126	CLOROX SERVICES CO
	KINGSFORD PRODUCTS COMPANY THE
7840	SHOOPMAN, ALENE
7870	SHOOPMAN RONDAL K
	SHOOPMAN, RONDAL K
8340	WOODWARD, MICHAEL
8385	ADAMS, JEFF L
	JEFFS GARAGE

SUMMER SHADE RD 2010 (Cont'd)

8396	BARTLEY, MARSHALL
8590	LESTER, KEVIN H
8901	SAUNDERS, MARK A
8910	HATHAWAY, DANIEL H
9020	CARTER LISA G CARTER, WELDON
9080	BLYTHE, KENNETH W
9120	DUBRE DEBBIE WESTMORELAND, DAVEY J
9315	FULLER, MICHAEL E
9358	BESSIE HOWARD HOWARD, DONALD
9403	MARCELLO, ELAINE J
9423	PYLES, TOMMY R
9517	HUFF DAVID HUFF, SHAWN A
9727	LESTER, DALE
9836	MURLEY, MARTHA
9937	SHAW, TRAVIS C
10162	SHAW, JUDY S
10700	RIGSBY OTIS S RIGSBY, OTIS S
10778	SPANGLER, CHESTER G
11018	WHITE, CLIFTON F
11048	JONES, DONALD T
11056	LIKENS, TIMOTHY G
11100	COOKSEY, JEREMY
11210	COOKSEY, GREG P
11572	FLOWERS, SHERYL L
11606	HUCKELBY, PHILLIP C

RANDOLPH SUMMER SHADE RD 2005

98	PARNELL, BOBBY D
138	DENNISON, BILLY
660	DEWEESE, ROGER E
811	BARTLEY, TERRY W
1191	BARRETT, BOBBY M
1263	RUSSELL, CECIL A
1314	GLASS, STEVE H
1940	HARBISON, STANLEY R
2116	BALL, KENNETH M
2178	SMITH, JAMES G
2240	BROWN, CHARLES E
2458	EDWARDS, GLADWELL L
3035	GLASS, BILLY F
3211	BELL, WILLIAM B
3276	BALL, CHARLES W
3711	HOLMES, DONALD J
4330	PERKINS, STANLEY
4599	PERKINS, JEFF R
4861	DEWEESE, WENDELL D
4891	COFFEY, TIM
4933	DEWEESE, CHAD R
4990	PEDIGO, RICKEY L
5150	ASSENTATO, RICHARD R
5219	CAFFEE, STEPHEN E
6307	MCINTYRE, KENNY
6316	MCINTYRE, GARY
6513	MCINTYRE, RONNIE
6574	YOUNG, DAVID L
6600	SHIVE, JERRY
6757	ISENBERG, JAMES M
6954	PEDIGO, PATTI
7505	WADE, JAMES W
8010	MCINTYRE, JESSIE
8218	SEXTON, MARK T
8227	PERKINS, LANNA M
8258	BACH, PAUL J
8268	JACKSON, ROSETTA
8292	FODDRILL, DONALD
8313	REED, MARIE H
8446	BRYANT, SCOTT B
8493	NUNN, JERRY T
8551	VIBBERT, BOBBY N

SUMMER SHADE RD 2005

48 GARRETT, PAUL S
 234 SPEARS TAX SERVICE
 SPEARS, JERRY
 330 RYAN, JOSEPH D
 353 GRENEAD, SALLY I
 388 RITTER, DAVID B
 474 SHARP, CLINT
 538 BREWSTER, DALE P
 708 BOWMAN, CLYDE
 999 TOLIN COMPUTER SERVICE
 1006 LYNN, JAMES R
 1250 PERKINS, DOUG G
 1285 SPEARS, KEITH
 1287 STOCKTON, BETH
 1300 JAMES, LISA M
 1305 WILBORN, VIRGINIA D
 1393 BARRETT, JACK
 1410 WHITE, DAVID L
 1413 SCHULZ, MARK R
 1480 VANCE, EXIE M
 1515 ANDERSON, STELLA
 1524 SHAW, TIMOTHY D
 1535 PEDIGO, MITCHELL
 1544 ABSTON, NINA M
 1555 MCCOY HAROLD
 MCCOY, HAROLD H
 1598 FOX, LEE
 1620 CARTMILL, CHARLES D
 1644 GILLAM, WALT J
 1706 PALMORE, SCOTT L
 1753 BROWN, GABE
 1795 ISENBERG, CHRIS
 1809 HAMMER, TRACY
 1870 PROPE, DONALD R
 1875 PROPE, ANDREW
 1921 MCMURTREY, KENNETH W
 1969 MCMURTREY, CHARLES
 1970 GARRETT, MIKE E
 1991 BROWN, ELSIE
 2025 SHAW, DONNIE M
 2122 LONG, TAMMY S
 2132 OSBORN, PAT
 2166 SMITH, WILLIAM H
 2232 MC MURTREY & SON FUNERAL HOME
 2241 EDS EXPRESS INC
 2252 FODDRILL, TERESA
 2319 RAY, LAURE
 2331 JENNINGS, DENNIS W
 2340 ROWLETT, DALE A
 SUMMER SHADE SERVICE

SUMMER SHADE RD 2005 (Cont'd)

2427 WILSON, TINA K
 2429 BOWLES, TROY E
 DECKER MATT
 2458 PARRISH, ROGER
 PARRISHS OLDIES BUT GODIES TAN
 2461 HAMMER, RANDELL A
 2476 LILE, WANDA
 2503 SUMMER SHADE FLOWER SHOP
 2507 THURMAN, TOMMY G
 2511 UNITED STATES POSTAL SERVICE
 2513 COUNTRY CUTS BARBER SHOP
 2541 ROWLETT, JEFF
 2580 HOUSE MATTHEW C
 HOUSE, MATTHEW
 2595 MFS FEED MILL
 SOUTHERN STATES COOPERATIVE
 2627 WESTMORELAND, RENA
 2653 MURPHY, STARLA G
 2705 THURMAN TOMMY
 2730 HARPER, JASON
 2796 JACKSON, KENNETH R
 2806 JACKSON KENNETH
 3311 SCOTT, DENISE
 3397 MILLER, JAMES D
 3598 TUDOR, MARTHA B
 3682 TUDOR KANSEL
 3846 TUDOR, KANSEL E
 4005 MORRIS, JAMES L
 4099 HARBISON, DONALD
 4290 ISENBERG, CHARLES W
 4369 FORD, LEE A
 4385 VIBBERT, TODD
 4410 BILBREY, IVY J
 ELLIS JIM L
 4770 BIG JOHNS FOODETTE
 4796 RITTER JAMES LUMBER COMPANY
 4806 GIT-R-DONE WESTERN TACK & ACC
 5089 LESTER, TENNYSON
 5126 KERSEY KELLY
 KINGSFORD PRODUCTS CO THE
 MINERAL FABRICATION & MACHINE
 7870 SHOOPMAN RONDAL K
 SHOOPMAN, RONDAL K
 8340 WOODWARD, MICHAEL
 8385 ADAMS, JEFF
 8396 BARTLEY, MARSHALL
 8590 HUFF, GIRTLE
 8901 OTT, MEL
 8913 LOST ARTS AND CRAFTS
 9120 CHAPMAN, KEASON S

SUMMER SHADE RD 2005 (Cont'd)

9315	HARTMAN, JEAN C
9358	HAMMER, STEVEN T
9403	MARCELLO, ELAINE J
9517	HUFF DAVID
9727	LESTER, DALE
9836	MURLEY, MARTHA
9937	SHAW, CLIFTON
10006	LYNN, CAROLYN J
10162	SHAW, JUDY A
10700	RIGSBY OTIS S
	RIGSBY, OTIS S
11018	WHITE, CLIFTON F
11100	KRAUSE, RUDOLPH E
11210	COOKSEY, GREG P
11512	FLOWERS, OTTO O

RANDOLPH SUMMER SHADE RD 2000

98	PARNELL, BOBBY D
138	DENNISON, BILLY
660	DEWEESE, ROGER
943	CLEMMONS, DAVID
1191	BARRETT, BOBBY M
1314	GLASS, STEVE
1940	HARBISON, STANLEY R
2116	CRAIN, C
	NINEKIRK, CHRISTI
3035	GLASS, BILLY
3276	BALL, CHARLES W
3412	BARTLEY, DANNY
3693	KAYSER, ROSE
3711	HOLMES, DONALD J
4330	PERKINS, STANLEY
4599	PERKINS, DENZIL
4861	DEWEESE, WENDELL
4891	COFFEY, LINDA H
4933	COFFEY, TIM
5681	SMITH, LOUISE
5911	SMITH, EDWARD J
6316	MCINTYRE, GARY
6513	MCINTYRE, RONNIE
6574	SMITH, DAVID L
6757	ISENBERG, JAMES
6900	HARBISON, ROLLIN
6918	GLASS, M
8010	MCINTYRE, JESSIE
8110	BARTLEY, TERRY
8218	SEXTON, MARK
8227	PERKINS, LANNA
8268	HAAG, JERRY E
8282	FODDRILL, DONALD L
	FODDRILL, RHONDA
8292	HARPER, M D
8313	PEDIGO, EUGENE
8420	PATRICK, JULIE
8493	NUNN, JERRY
8523	NUNN, EDES

SUMMER SHADE RD 2000

48	GARRETT, PAUL
333	MILAM, HARMON
353	GRENEAD, SALLY
388	RITTER, DAVID B
474	SHARP, CLINT
1250	PERKINS, DOUG
1287	WHITLOW, ROBERT N
1305	WILBORN, V
1393	BARRETT, JACK
1410	WHITE, DAVID L
1413	BRANHAM, DARYL
1450	ADAMS, J C
1480	VANCE, V E
1515	ANDERSON, STELLA
1526	ROYAL OAK ENTERPRISES INC
1535	PEDIGO, M
1544	ABSTON, G P
1555	MCCOY, HAROLD
1574	MCINTYRE, FRANK
1598	HUNLEY, MAURINE
1620	CARTMILL, CHARLES
1706	PALMORE, SCOTT
1753	BROWN, GABE
1795	ISENBERG, CHRIS
1832	TAYLOR, NICOL
1870	PROPE, DONALD
1875	PROPE, ANDREW
1900	WALKER, ALBERT A
1921	MCMURTREY, KENNETH
1940	VIBBERT, EVA
1947	WHITE, DONNA R
1991	BROWN, HERMAN
2025	SHAW, BONNIE M
2116	PARKS, MELINDA
2232	MC MURTREY & SON FUNERAL HOME
2241	EDS EXPRESS INC
2252	WRIGHT, KAREN
2340	ROWLETT, GAIL W
	SUMMER SHADE SERVICE
2458	PARRISHS OLDIES BUT GODIES TAN
	SUMMER SHADE TANNING BEDS
2476	LILE, WANDA
2481	HARLAN, RAMA
2507	THURMAN, TOMMY
2541	BLAKENSHIP, ANITA
2554	HOUSE, MICHAEL W
2595	SOUTHERN STATES COOPERATIVE
2627	WESTMORELAND, RENA
2705	THURMAN TOMMY
3311	RAY, SCOTT

SUMMER SHADE RD 2000 (Cont'd)

3311	SCOTT, RAY
3397	FERRELL, ERNIE L
3598	TUDOR, MARTHA L
3682	TUDOR KANSEL
3846	TUDOR, ROGER
3949	THOMPSON, BETTY G
4003	SHIVE, M B
4004	WELSH, ANN
4290	ISENBERG, CHARLES
4369	FORD, LEE A
4385	VIBBERT, TODD
4410	BILBREY, I J
4770	BIG JOHNS FOODETTE
4796	RITTER JAMES LUMBER COMPANY
5124	HICKORY SPECIALTIES INC
5126	KINGSFORD PRODUCTS CO THE
5899	ABNEY, RITA R
6513	MCINTYRE, KENNY R
6575	HERRING, EUGENE
8385	ADAMS, JEFF
8396	BARTLEY, M
8913	LOST ARTS AND CRAFTS
9020	PARRISH, LISA G
9080	BLYTHE, KENNETH
9315	HARTMAN, JEAN
9403	MARCELLO, E J
9485	HUFF, OSHEA D
9517	HUFF, DAVID R
9727	LESTER, DALE
9836	MURLEY, MARTHA
10700	RIGSBY, CAROLYN
11018	WHITE, JACKIE
11046	NEAL, WILLIAM
11056	K&H WOODWORK
	RIGSBY, KERMIT R
11210	COOKSEY, GREG
11512	FLOWERS, OTTO

RANDOLPH SUMMER SHAD 1995

4861	D & G TRUCKING INCORPORATED
8240	BRANSTETTER J C

SUMMER SHADE RD 1995

48 GARRETT, PAUL
 THOMPSON, TODD
 116 PERKINS, MICHAEL
 204 VIBBERT, IRENE
 330 WALLIS, WES
 333 MILAM, HARMON
 353 BARTLEY, VERA
 388 RITTER, DAVID B
 511 BOWMAN, JANE K
 999 DONS PLACE OF BAR B QUE
 1250 PAIGE, P
 1287 WHITLOW, ROBERT N
 1305 WILBORN, V
 1393 BARRETT, JACK
 1410 WHITE, DAVID L
 1413 BRANHAM, BRENDA
 1450 ADAMS, BILLIE C
 1515 ANDERSON, STELLA
 1544 ABSTON, G P
 1555 MCCOY, HAROLD
 1574 MCINTYRE, FRANK
 1832 PROPES, ANDREW
 1870 PROPES, DONALD
 1921 MCMURTREY, KENNETH
 1947 BILLINGSLEY, EVA
 1991 BROWN, HERMAN
 2104 JENNINGS, BERNICE
 2132 OSBORN, LARRY
 2166 CONFER, LILLIAN
 2241 EDS EXPRESS INC
 2340 SUMMER SHADE SERVICE
 2511 UNITED STATES POSTAL SERVICE
 2690 FERGUSON, ELBERT R
 3397 BOBBIES BEAUTY SHOP
 TYREE, LINDA C
 3598 TUDOR, JOE
 3682 TUDOR, KANSEL R
 3846 TUDOR, ROGER
 3949 THOMPSON, BETTY G
 4003 SHIVE, M B
 4004 WELSH, ANN
 4290 ISENBERG, CHARLES
 4299 COLMAN, ZACK JR
 4385 VIBBERT, TODD
 4770 BIG JOHNS FOODETTE
 4796 RITTER JAMES LUMBER COMPANY
 4806 HOUK, BOBBY J
 5124 HICKORY SPECIALTIES INC
 5378 ENGLAND, JEFFREY L
 WILSON, A G

SUMMER SHADE RD 1995 (Cont'd)

9403 MARCELLO, E J
9727 LESTER, DALE
9836 MURLEY, MARTHA
10006 PERDUE, SHERRY
10162 SHAW, J A
10700 SARTIN, LOUISE
11018 WHITE, JACKIE
11056 RIGSBY, KERMIT R

RANDOLPH SUMMER SHAD 1992

4861 D&G TRUCKING INC

SUMMER SHADE RD 1992

333	MILAM, HARMON
353	BARTLEY, VERA
388	RITTER, DAVID B
511	BOWMAN, JANE K
708	BOWMAN, CLYDE
1250	PAIGE, P
1305	WILBORN, V
1393	BARRETT, JACK
1410	WHITE, DAVID L
1450	ADAMS, BILLIE C
1515	ANDERSON, WILL
1544	ABSTON, G P
1555	MCCOY, HAROLD
1706	PALMORE, SCOTT
1832	PROPE, ANDREW
1870	PROPE, DONALD
1921	MCMURTREY, KENNETH
1940	ANDERSON, LISA
1947	ADAMS, WILLIE S
1991	BROWN, HERMAN
2025	SHAW, DONNIE E
2104	JENNINGS, BERNICE
2122	PATTON, RUSSEL
2132	GOODE, LARRY
2252	SIMMONS, CHARLIE
2319	PERKINS, ODELL
2331	JENNINGS, EARNEST R
2340	SUMMER SHADE SERVICE
2554	MCMURTREY, F D
2620	HOMETOWN APPAREL INC MCMURTREY F D GARAGE
2627	WORD, M
2690	FERGUSON, ELBERT R
2796	FERGUSON, LELAND
3311	BACON, S
3598	TUDOR, JOE
3682	TUDOR, KANSEL R
3846	TUDOR, ROGER
3949	THOMPSON, JOE W
4003	SHIVE, JAMES
4290	ISENBERG, CHARLES
4374	KIDD, RUPERT
4385	GARRETT, ERNEST F
4806	HOUK, BOBBY J
5124	GREENRIVER CHARCOAL INC
5295	LOLLAR, M
5378	ENGLAND, JEFFREY L

Appendix C

Regulatory Database Documentation

Glover Creek Project Area

KY-90 & KY-640

Summer Shade, KY 42166

Inquiry Number: 5936515.2s

January 15, 2020

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

KY-90 & KY-640
SUMMER SHADE, KY 42166

COORDINATES

Latitude (North): 36.9000050 - 36° 54' 0.01"
Longitude (West): 85.7156680 - 85° 42' 56.40"
Universal Transverse Mercator: Zone 16
UTM X (Meters): 614429.8
UTM Y (Meters): 4084347.0
Elevation: 863 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 5938747 SUMMER SHADE, KY
Version Date: 2013

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from: 20140728
Source: USDA

MAPPED SITES SUMMARY

Target Property Address:
KY-90 & KY-640
SUMMER SHADE, KY 42166

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
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NO MAPPED SITES FOUND

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

EXECUTIVE SUMMARY

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS..... State Leads List

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Facilities List

State and tribal leaking storage tank lists

PSTEAF..... Facility Ranking List
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land
SB193..... SB193 Branch Site Inventory List

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
UST..... Underground Storage Tank Database
AST..... Above Ground Storage Tanks
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Site Listing
INST CONTROL..... State Superfund Database

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Sites
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Kentucky Brownfield Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Facilities
HIST LF..... Historical Landfills
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
ODI..... Open Dump Inventory

EXECUTIVE SUMMARY

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
CDL..... Clandestine Drug Lab Location Listing
US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... State spills

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
DOD..... Department of Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act
TRIS..... Toxic Chemical Release Inventory System
SSTS..... Section 7 Tracking Systems
ROD..... Records Of Decision
RMP..... Risk Management Plans
RAATS..... RCRA Administrative Action Tracking System
PRP..... Potentially Responsible Parties
PADS..... PCB Activity Database System
ICIS..... Integrated Compliance Information System
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS..... Material Licensing Tracking System
COAL ASH DOE..... Steam-Electric Plant Operation Data
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER..... PCB Transformer Registration Database
RADINFO..... Radiation Information Database
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS..... Incident and Accident Data
CONSENT..... Superfund (CERCLA) Consent Decrees
INDIAN RESERV..... Indian Reservations
FUSRAP..... Formerly Utilized Sites Remedial Action Program
UMTRA..... Uranium Mill Tailings Sites
LEAD SMELTERS..... Lead Smelter Sites
US AIRS..... Aerometric Information Retrieval System Facility Subsystem
US MINES..... Mines Master Index File
ABANDONED MINES..... Abandoned Mines
FINDS..... Facility Index System/Facility Registry System
UXO..... Unexploded Ordnance Sites

EXECUTIVE SUMMARY

ECHO.....	Enforcement & Compliance History Information
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
AIRS.....	Permitted Airs Facility Listing
ASBESTOS.....	Asbestos Notification Listing
COAL ASH.....	Coal Ash Disposal Sites
DRYCLEANERS.....	Drycleaner Listing
Financial Assurance.....	Financial Assurance Information Listing
LEAD.....	Environmental Lead Program Report Tracking Database
NPDES.....	Permitted Facility Listing
UIC.....	UIC Information
MINES MRDS.....	Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP.....	EDR Proprietary Manufactured Gas Plants
EDR Hist Auto.....	EDR Exclusive Historical Auto Stations
EDR Hist Cleaner.....	EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS.....	Recovered Government Archive State Hazardous Waste Facilities List
RGA LF.....	Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

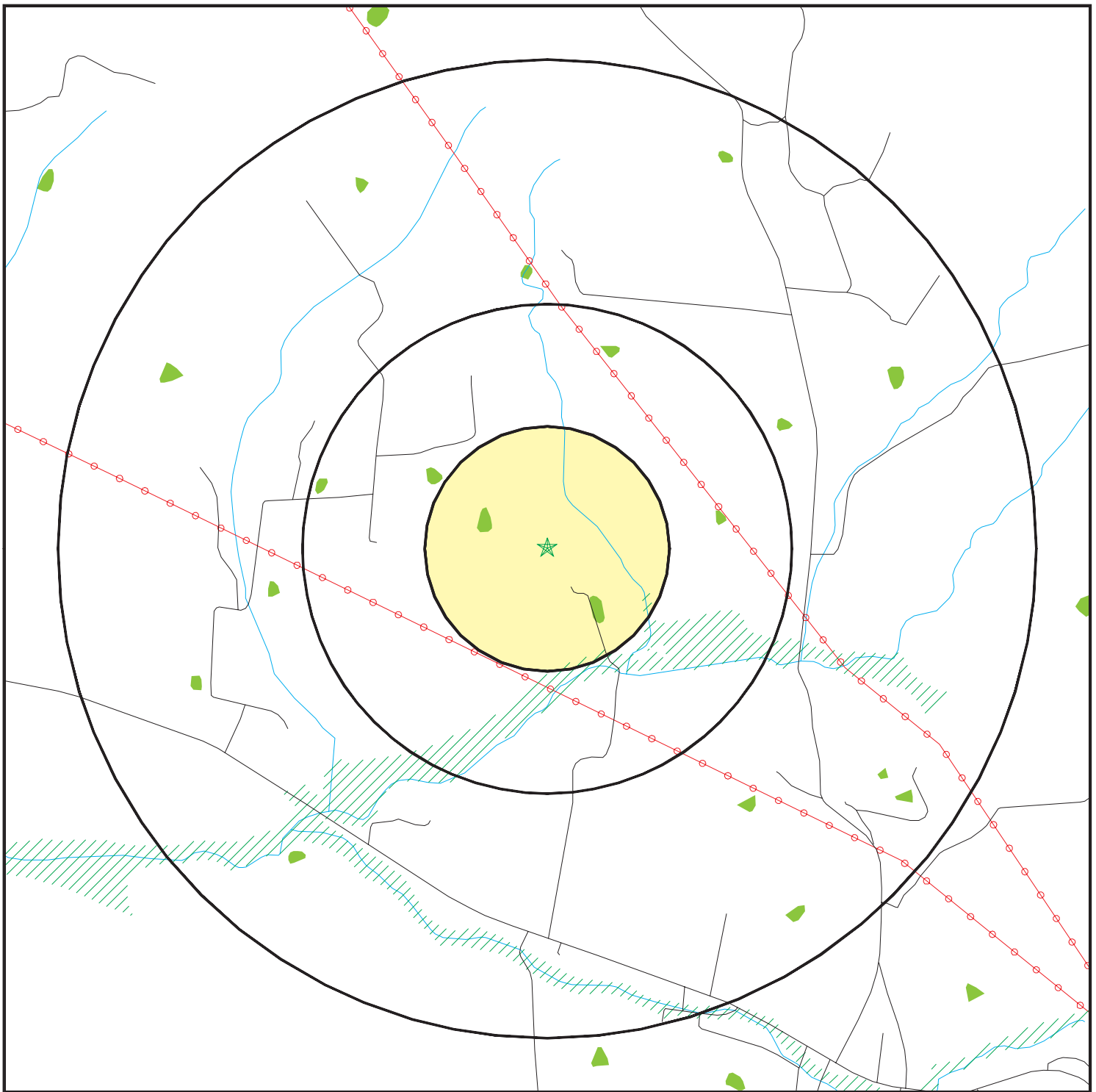
Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5936515.2S



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ⚡ Manufactured Gas Plants
- 🏠 National Priority List Sites
- 🏠 Dept. Defense Sites

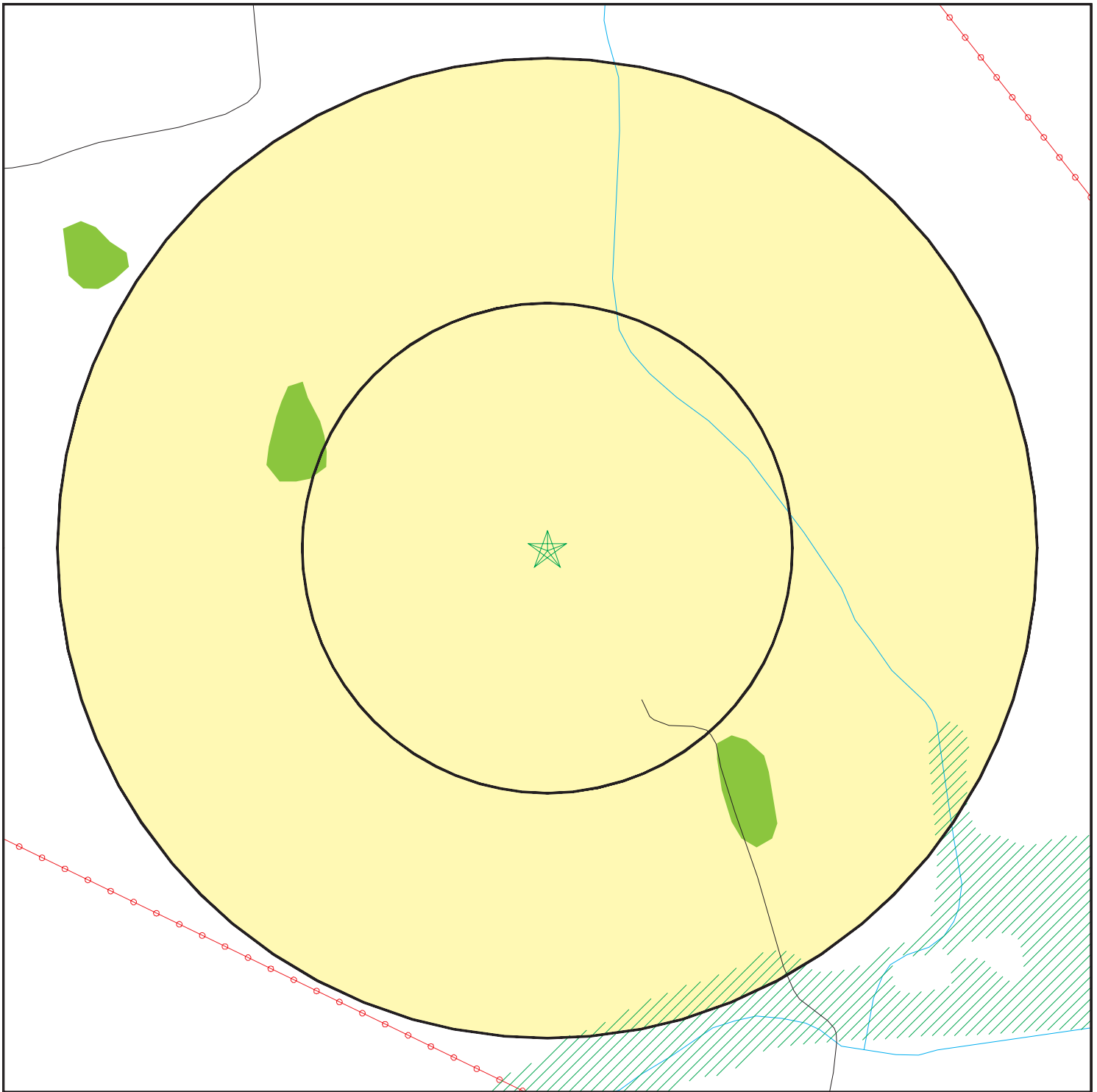
- 🏠 Indian Reservations BIA
- ⚡ Power transmission lines
- 🌊 Special Flood Hazard Area (1%)
- 🌊 0.2% Annual Chance Flood Hazard
- 🌿 National Wetland Inventory
- 🌿 State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Glover Creek Project Area
 ADDRESS: KY-90 & KY-640
 Summer Shade KY 42166
 LAT/LONG: 36.900005 / 85.715668

CLIENT: Linebach Funkhouser Inc.
 CONTACT: Jason Boston
 INQUIRY #: 5936515.2s
 DATE: January 15, 2020 3:23 pm

DETAIL MAP - 5936515.2S



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ⚡ Manufactured Gas Plants
- ⚠ Sensitive Receptors
- ☒ National Priority List Sites
- ☒ Dept. Defense Sites

- ☒ Indian Reservations BIA
- ⚡ Power transmission lines
- ▨ Special Flood Hazard Area (1%)
- ▨ 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Glover Creek Project Area
 ADDRESS: KY-90 & KY-640
 Summer Shade KY 42166
 LAT/LONG: 36.900005 / 85.715668

CLIENT: Linebach Funkhouser Inc.
 CONTACT: Jason Boston
 INQUIRY #: 5936515.2s
 DATE: January 15, 2020 3:24 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
PSTEAF	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
SB193	0.500		0	0	0	NR	NR	0
<i>State and tribal registered storage tank lists</i>								
FEMA UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
HIST LF	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	TP		NR	NR	NR	NR	NR	0
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MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		0	0	0	0	0	0	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NO SITES FOUND

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: N/A
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: EPA
Telephone: N/A
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/05/2019
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/21/2019
Number of Days to Update: 14

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 800-424-9346
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/16/2019	Source: EPA
Date Data Arrived at EDR: 12/16/2019	Telephone: 800-424-9346
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/16/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/16/2019	Telephone: (404) 562-8651
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 4	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019	Source: Department of the Navy
Date Data Arrived at EDR: 08/20/2019	Telephone: 843-820-7326
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/07/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/20/2019	Telephone: 703-603-0695
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 6	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/19/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: State Leads List

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 09/23/2019
Date Data Arrived at EDR: 09/24/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 28

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 11/21/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/06/2019
Date Made Active in Reports: 11/08/2019
Number of Days to Update: 63

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

PSTEAF: Facility Ranking List

The Underground Storage Tank Branch (USTB) has ranked all PSTEAF reimbursable facilities requiring corrective action, in accordance with 401 KAR 42:290. Directive letters will be issued on the basis of facility ranking and available PSTEAF funding in sequential order as ranked. For example, Rank 2 facilities will be issued directives before Rank 3 facilities.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 10/08/2019
Date Made Active in Reports: 11/15/2019
Number of Days to Update: 38

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 01/08/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/12/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/03/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/08/2019	Source: EPA, Region 5
Date Data Arrived at EDR: 07/30/2019	Telephone: 312-886-7439
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/11/2019	Source: EPA Region 1
Date Data Arrived at EDR: 07/29/2019	Telephone: 617-918-1313
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6271
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 20	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/29/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/01/2019	Source: EPA Region 6
Date Data Arrived at EDR: 07/29/2019	Telephone: 214-665-6597
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 10/25/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3372
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 07/02/2019	Source: EPA Region 7
Date Data Arrived at EDR: 10/16/2019	Telephone: 913-551-7003
Date Made Active in Reports: 10/24/2019	Last EDR Contact: 12/16/2020
Number of Days to Update: 8	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SB193: SB193 Branch Site Inventory List

The inventory indicates facilities that have performed permanent closure activities at a regulated underground storage tank facility and have known soil and/or groundwater contamination.

Date of Government Version: 09/05/2006	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/13/2006	Telephone: 502-564-5981
Date Made Active in Reports: 10/18/2006	Last EDR Contact: 04/08/2016
Number of Days to Update: 35	Next Scheduled EDR Contact: 07/25/2016
	Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019	Source: FEMA
Date Data Arrived at EDR: 08/28/2019	Telephone: 202-646-5797
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 01/07/2020
Number of Days to Update: 75	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Varies

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 08/02/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 08/27/2019	Telephone: 502-564-5981
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Quarterly

AST: Above Ground Storage Tanks

A listing of aboveground storage tank site locations.

Date of Government Version: 08/27/2019	Source: Office of State Fire Marshal
Date Data Arrived at EDR: 08/28/2019	Telephone: 502-564-4010
Date Made Active in Reports: 11/07/2019	Last EDR Contact: 11/20/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/01/2019	Source: EPA Region 6
Date Data Arrived at EDR: 07/29/2019	Telephone: 214-665-7591
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 8
Date Data Arrived at EDR: 10/22/2019	Telephone: 303-312-6137
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 20	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/08/2019	Source: EPA Region 5
Date Data Arrived at EDR: 07/29/2019	Telephone: 312-886-6136
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/12/2019	Source: EPA Region 4
Date Data Arrived at EDR: 07/29/2019	Telephone: 404-562-9424
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/03/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/11/2019	Source: EPA, Region 1
Date Data Arrived at EDR: 07/30/2019	Telephone: 617-918-1313
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/16/2019	Source: EPA Region 10
Date Data Arrived at EDR: 07/30/2019	Telephone: 206-553-2857
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2019	Source: EPA Region 7
Date Data Arrived at EDR: 07/29/2019	Telephone: 913-551-7003
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2019	Source: EPA Region 9
Date Data Arrived at EDR: 07/29/2019	Telephone: 415-972-3368
Date Made Active in Reports: 10/17/2019	Last EDR Contact: 12/04/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing

A listing of sites that use engineering controls.

Date of Government Version: 09/24/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/25/2019	Telephone: 502-564-6716
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

INST CONTROL: State Superfund Database

A list of closed sites in the State Superfund Database. Institutional controls would be in place at any site that uses Contained or Managed as a Closure Option.

Date of Government Version: 09/23/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/24/2019	Telephone: 502-564-6716
Date Made Active in Reports: 11/08/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 45	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Sites

Sites that have been accepted into the Voluntary Cleanup Program or have submitted an application.

Date of Government Version: 09/23/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 09/25/2019	Telephone: 502-564-6716
Date Made Active in Reports: 10/22/2019	Last EDR Contact: 11/21/2019
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/09/2020
	Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 12/17/2019
Number of Days to Update: 142	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008	Source: EPA, Region 7
Date Data Arrived at EDR: 04/22/2008	Telephone: 913-551-7365
Date Made Active in Reports: 05/19/2008	Last EDR Contact: 04/20/2009
Number of Days to Update: 27	Next Scheduled EDR Contact: 07/20/2009
	Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Kentucky Brownfield Inventory

The Kentucky Brownfield Program has created an inventory of brownfield sites in order to market the properties to those interested in brownfield redevelopment. The Kentucky Brownfield Program is working to promote the redevelopment of these sites by helping to remove barriers that prevent reuse, providing useful information to communities, developers and the public and encouraging a climate that fosters redevelopment of contaminated sites.

Date of Government Version: 08/13/2019	Source: Division of Compliance Assistance
Date Data Arrived at EDR: 08/14/2019	Telephone: 502-564-0323
Date Made Active in Reports: 10/28/2019	Last EDR Contact: 01/12/2020
Number of Days to Update: 75	Next Scheduled EDR Contact: 04/26/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 06/04/2019	Telephone: 202-566-2777
Date Made Active in Reports: 08/26/2019	Last EDR Contact: 12/16/2019
Number of Days to Update: 83	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facilities

A listing of recycling facilities located in the state of Kentucky.

Date of Government Version: 09/13/2019	Source: Department of Environmental Protection
Date Data Arrived at EDR: 10/23/2019	Telephone: 502-564-6716
Date Made Active in Reports: 01/03/2020	Last EDR Contact: 10/18/2019
Number of Days to Update: 72	Next Scheduled EDR Contact: 01/27/2020
	Data Release Frequency: Varies

HIST LF: Historical Landfills

This solid waste facility listing contains detail information that is not included in the landfill listing. A listing with detail information is no longer available by the Department of Environmental Protection.

Date of Government Version: 05/01/2003	Source: Department of Environmental Protection
Date Data Arrived at EDR: 03/30/2006	Telephone: 502-564-6716
Date Made Active in Reports: 05/01/2006	Last EDR Contact: 02/23/2009
Number of Days to Update: 32	Next Scheduled EDR Contact: 05/25/2009
	Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/03/2007	Telephone: 703-308-8245
Date Made Active in Reports: 01/24/2008	Last EDR Contact: 10/28/2019
Number of Days to Update: 52	Next Scheduled EDR Contact: 02/10/2020
	Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/09/2004	Telephone: 800-424-9346
Date Made Active in Reports: 09/17/2004	Last EDR Contact: 06/09/2004
Number of Days to Update: 39	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/01/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Lab Location Listing

Clandestine drug lab site locations.

Date of Government Version: 09/23/2019
Date Data Arrived at EDR: 09/25/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 27

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 11/21/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/25/2019
Date Data Arrived at EDR: 11/07/2019
Date Made Active in Reports: 11/20/2019
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/03/2020
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/06/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Quarterly

SPILLS: State spills

A listing of spill and/or release related incidents.

Date of Government Version: 08/13/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 10/28/2019
Number of Days to Update: 75

Source: DEP, Emergency Response
Telephone: 502-564-2380
Last EDR Contact: 01/13/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Varies

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/16/2019
Date Data Arrived at EDR: 12/16/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: (404) 562-8651
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/19/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/10/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018	Source: U.S. Geological Survey
Date Data Arrived at EDR: 04/11/2018	Telephone: 888-275-8747
Date Made Active in Reports: 11/06/2019	Last EDR Contact: 01/09/2020
Number of Days to Update: 574	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/03/2017	Telephone: 615-532-8599
Date Made Active in Reports: 04/07/2017	Last EDR Contact: 12/02/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 02/24/2020
	Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/23/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 09/24/2019	Telephone: 202-566-1917
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 12/19/2019
Number of Days to Update: 87	Next Scheduled EDR Contact: 04/06/2020
	Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/21/2014	Telephone: 617-520-3000
Date Made Active in Reports: 06/17/2014	Last EDR Contact: 10/31/2019
Number of Days to Update: 88	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/08/2018	Telephone: 703-308-4044
Date Made Active in Reports: 07/20/2018	Last EDR Contact: 11/08/2019
Number of Days to Update: 73	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016	Source: EPA
Date Data Arrived at EDR: 06/21/2017	Telephone: 202-260-5521
Date Made Active in Reports: 01/05/2018	Last EDR Contact: 12/20/2019
Number of Days to Update: 198	Next Scheduled EDR Contact: 03/30/2020
	Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2017	Source: EPA
Date Data Arrived at EDR: 11/16/2018	Telephone: 202-566-0250
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 11/22/2019
Number of Days to Update: 370	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 09/30/2018	Source: EPA
Date Data Arrived at EDR: 04/24/2019	Telephone: 202-564-4203
Date Made Active in Reports: 08/08/2019	Last EDR Contact: 10/23/2019
Number of Days to Update: 106	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 703-416-0223
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 03/16/2020
	Data Release Frequency: Annually

RMP: Risk Management Plans

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/02/2019	Telephone: 202-564-8600
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 10/21/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 02/03/2020
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2019	Source: EPA
Date Data Arrived at EDR: 11/07/2019	Telephone: 202-564-6023
Date Made Active in Reports: 11/21/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 14	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 10/09/2019	Source: EPA
Date Data Arrived at EDR: 10/11/2019	Telephone: 202-566-0500
Date Made Active in Reports: 12/20/2019	Last EDR Contact: 01/10/2020
Number of Days to Update: 70	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 01/06/2020
Number of Days to Update: 79	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/20/2019
Date Data Arrived at EDR: 06/20/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 49

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 12/04/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/25/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/06/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/20/2019
Next Scheduled EDR Contact: 04/13/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 85

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2019
Date Data Arrived at EDR: 10/09/2019
Date Made Active in Reports: 12/20/2019
Number of Days to Update: 72

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/06/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/16/2019
Next Scheduled EDR Contact: 04/06/2020
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014	Source: USGS
Date Data Arrived at EDR: 07/14/2015	Telephone: 202-208-3710
Date Made Active in Reports: 01/10/2017	Last EDR Contact: 01/07/2020
Number of Days to Update: 546	Next Scheduled EDR Contact: 04/20/2020
	Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017	Source: Department of Energy
Date Data Arrived at EDR: 09/11/2018	Telephone: 202-586-3559
Date Made Active in Reports: 09/14/2018	Last EDR Contact: 11/04/2019
Number of Days to Update: 3	Next Scheduled EDR Contact: 02/17/2020
	Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/01/2019	Source: Department of Energy
Date Data Arrived at EDR: 08/21/2019	Telephone: 505-845-0011
Date Made Active in Reports: 11/11/2019	Last EDR Contact: 11/15/2019
Number of Days to Update: 82	Next Scheduled EDR Contact: 03/02/2020
	Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 10/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/07/2019	Telephone: 703-603-8787
Date Made Active in Reports: 11/20/2019	Last EDR Contact: 01/03/2020
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/13/2020
	Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 09/17/2019
Date Data Arrived at EDR: 09/18/2019
Date Made Active in Reports: 12/03/2019
Number of Days to Update: 76

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 12/02/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Quarterly

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/27/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 76

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 11/25/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/10/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 37

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/04/2019
Next Scheduled EDR Contact: 03/23/2020
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 12/03/2019
Number of Days to Update: 90

Source: EPA
Telephone: (404) 562-9900
Last EDR Contact: 12/04/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 10/06/2019
Date Data Arrived at EDR: 10/08/2019
Date Made Active in Reports: 01/02/2020
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 01/07/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/13/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/20/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 83

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/19/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Quarterly

AIRS: Permitted Airs Facility Listing

A listing of permitted Airs facilities.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 08/26/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 71

Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Semi-Annually

ASBESTOS: Asbestos Notification Listing Asbestos sites

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 11/15/2019
Number of Days to Update: 44

Source: Department of Environmental Protection
Telephone: 502-782-6780
Last EDR Contact: 12/02/2019
Next Scheduled EDR Contact: 03/16/2020
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites A listing of coal ash pond site locations.

Date of Government Version: 02/27/2019
Date Data Arrived at EDR: 02/28/2019
Date Made Active in Reports: 05/03/2019
Number of Days to Update: 64

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: No Update Planned

DRYCLEANERS: Drycleaner Listing A listing of drycleaner facility locations.

Date of Government Version: 08/26/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 71

Source: Department of Environmental Protection
Telephone: 502-573-3382
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Semi-Annually

Financial Assurance 1: Financial Assurance Information Listing A listing of financial assurance information.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/06/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/14/2014
Date Data Arrived at EDR: 06/06/2014
Date Made Active in Reports: 06/24/2014
Number of Days to Update: 18

Source: Department of Environmental Protection
Telephone: 502-564-5981
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

Financial Assurance 3: Financial Assurance Information Listing A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/06/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 502-564-6716
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LEAD: Environmental Lead Program Report Tracking Database

Lead Report Tracking Database

Date of Government Version: 01/27/2017
Date Data Arrived at EDR: 02/02/2017
Date Made Active in Reports: 08/21/2017
Number of Days to Update: 200

Source: Department of Public Health
Telephone: 502-564-4537
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

NPDES: Permitted Facility Listing

A listing of permitted wastewater facilities.

Date of Government Version: 09/04/2019
Date Data Arrived at EDR: 09/06/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 46

Source: Department of Environmental Protection
Telephone: 502-564-3410
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Semi-Annually

UIC: UIC Information

A listing of wells identified as underground injection wells, in the Kentucky Oil & Gas Wells data base.

Date of Government Version: 07/26/2019
Date Data Arrived at EDR: 10/16/2019
Date Made Active in Reports: 12/16/2019
Number of Days to Update: 61

Source: Kentucky Geological Survey
Telephone: 859-323-0544
Last EDR Contact: 01/14/2020
Next Scheduled EDR Contact: 04/27/2020
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/22/2019
Next Scheduled EDR Contact: 03/09/2020
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/14/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 83

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/11/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/06/2020
Next Scheduled EDR Contact: 04/20/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/14/2020
Next Scheduled EDR Contact: 04/07/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 12/10/2019
Number of Days to Update: 69

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/18/2019
Next Scheduled EDR Contact: 03/23/2020
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: Endeavor Business Media

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data

Source: Endeavor Business Media

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Certified Child Care Homes

Source: Cabinet for Families & Children

Telephone: 502-564-7130

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Environmental & Public Protection Cabinet

Telephone: 502-564-6736

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

GLOVER CREEK PROJECT AREA
KY-90 & KY-640
SUMMER SHADE, KY 42166

TARGET PROPERTY COORDINATES

Latitude (North):	36.900005 - 36° 54' 0.02"
Longitude (West):	85.715668 - 85° 42' 56.40"
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	614429.8
UTM Y (Meters):	4084347.0
Elevation:	863 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5938747 SUMMER SHADE, KY
Version Date:	2013

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

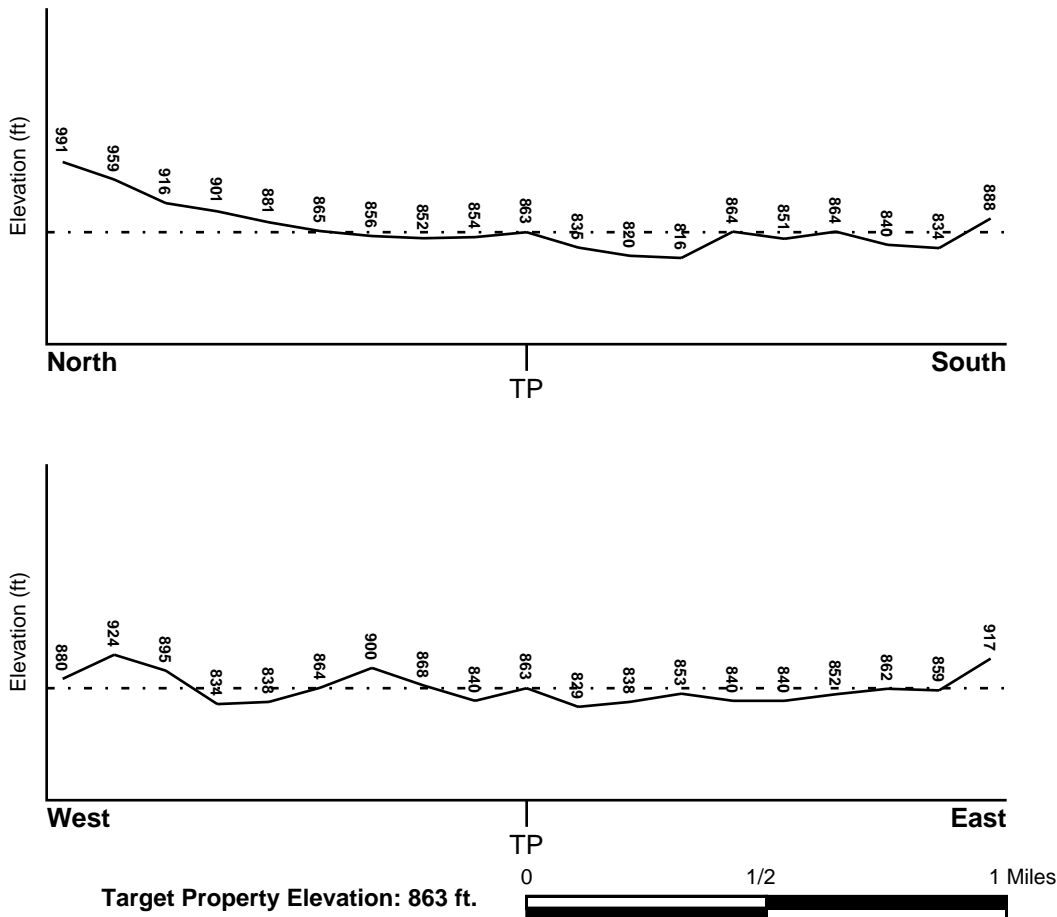
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
21169C0175C	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
Not Reported	

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
SUMMER SHADE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Paleozoic
System: Mississippian
Series: Meramecian Series
Code: M2 (*decoded above as Era, System & Series*)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: MOUNTVIEW

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: MODERATE

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	8 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), silt.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 4.50
2	8 inches	33 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 4.50
3	33 inches	66 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 2.00 Min: 0.60	Max: 5.50 Min: 4.50

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: cherty - silt loam

Surficial Soil Types: cherty - silt loam

Shallow Soil Types: silt loam
silty clay loam

Deeper Soil Types: cherty - clay loam
silty clay loam
silty clay

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	KY6000000041548	1/4 - 1/2 Mile East
2	KY600000006034	1/2 - 1 Mile NW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
1	KYOG12000058001	1/4 - 1/2 Mile SW
2	KYOG12000013569	1/4 - 1/2 Mile WNW
3	KYOG12000035364	1/4 - 1/2 Mile North
4	KYOG12000054967	1/4 - 1/2 Mile ENE
A5	KYOG12000058013	1/4 - 1/2 Mile WSW
A6	KYOG12000042988	1/4 - 1/2 Mile SW
B7	KYOG12000035363	1/4 - 1/2 Mile North
8	KYOG12000055624	1/4 - 1/2 Mile ENE
B9	KYOG12000031996	1/4 - 1/2 Mile North
10	KYOG12000022711	1/4 - 1/2 Mile SW
C11	KYOG12000026897	1/4 - 1/2 Mile SSW
D12	KYOG12000036194	1/4 - 1/2 Mile North
D13	KYOG12000031995	1/4 - 1/2 Mile North
C14	KYOG12000042985	1/2 - 1 Mile SSW
15	KYOG12000075256	1/2 - 1 Mile SSW
16	KYOG12000036201	1/2 - 1 Mile East
E17	KYOG12000068777	1/2 - 1 Mile North
E18	KYOG12000103081	1/2 - 1 Mile North

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

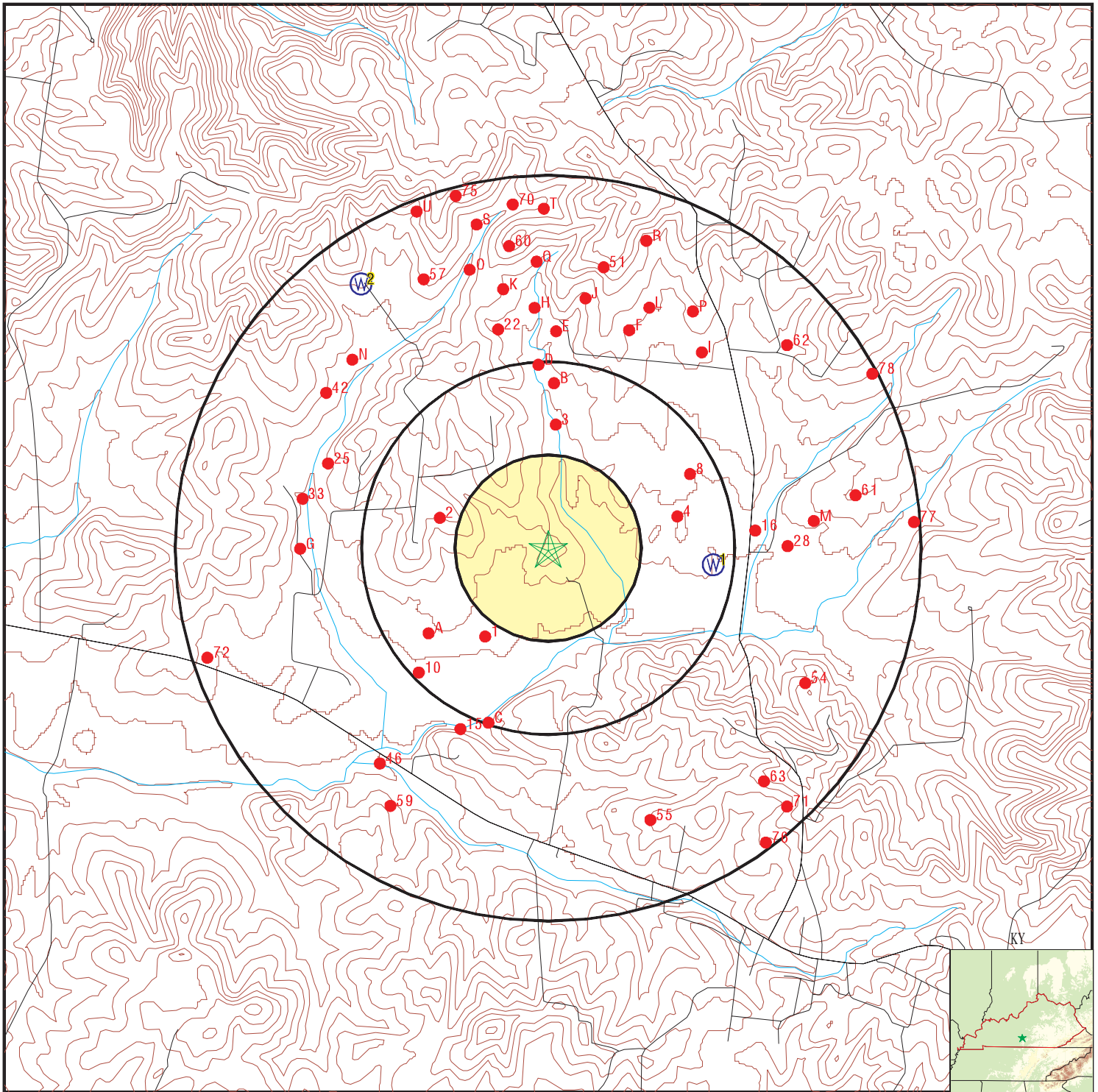
MAP ID	WELL ID	LOCATION FROM TP
E19	KYOG12000031998	1/2 - 1 Mile North
E20	KYOG12000036200	1/2 - 1 Mile North
F21	KYOG12000045518	1/2 - 1 Mile NNE
22	KYOG12000077608	1/2 - 1 Mile NNW
E23	KYOG12000031997	1/2 - 1 Mile North
F24	KYOG12000057904	1/2 - 1 Mile NNE
25	KYOG12000075177	1/2 - 1 Mile WNW
G26	KYOG12000075254	1/2 - 1 Mile West
H27	KYOG12000031999	1/2 - 1 Mile North
28	KYOG12000036198	1/2 - 1 Mile East
I29	KYOG12000044615	1/2 - 1 Mile NE
H30	KYOG12000091490	1/2 - 1 Mile North
F31	KYOG12000055676	1/2 - 1 Mile NNE
J32	KYOG12000057771	1/2 - 1 Mile North
33	KYOG12000032479	1/2 - 1 Mile WNW
K34	KYOG12000077607	1/2 - 1 Mile North
I36	KYOG12000068278	1/2 - 1 Mile NE
I35	KYOG12000057903	1/2 - 1 Mile NE
J37	KYOG12000034410	1/2 - 1 Mile North
L38	KYOG12000057902	1/2 - 1 Mile NNE
G39	KYOG12000075255	1/2 - 1 Mile West
M40	KYOG12000013568	1/2 - 1 Mile East
L41	KYOG12000056912	1/2 - 1 Mile NNE
42	KYOG12000042987	1/2 - 1 Mile NW
N43	KYOG12000075178	1/2 - 1 Mile NW
M44	KYOG12000036199	1/2 - 1 Mile East
N45	KYOG12000042986	1/2 - 1 Mile NW
46	KYOG12000075258	1/2 - 1 Mile SW
O47	KYOG12000077609	1/2 - 1 Mile NNW
K48	KYOG12000035365	1/2 - 1 Mile North
P49	KYOG12000057906	1/2 - 1 Mile NE
P50	KYOG12000057905	1/2 - 1 Mile NNE
51	KYOG12000029267	1/2 - 1 Mile North
Q53	KYOG12000036196	1/2 - 1 Mile North
Q52	KYOG12000029266	1/2 - 1 Mile North
54	KYOG12000026894	1/2 - 1 Mile ESE
55	KYOG12000033588	1/2 - 1 Mile SSE
O56	KYOG12000032359	1/2 - 1 Mile NNW
57	KYOG12000075179	1/2 - 1 Mile NNW
O58	KYOG12000045792	1/2 - 1 Mile NNW
59	KYOG12000057497	1/2 - 1 Mile SSW
60	KYOG12000035541	1/2 - 1 Mile North
61	KYOG12000057596	1/2 - 1 Mile East
62	KYOG12000059857	1/2 - 1 Mile NE
63	KYOG12000052217	1/2 - 1 Mile SE
R64	KYOG12000036197	1/2 - 1 Mile NNE
R65	KYOG12000029268	1/2 - 1 Mile NNE
S66	KYOG12000062658	1/2 - 1 Mile NNW
S67	KYOG12000035542	1/2 - 1 Mile North
T68	KYOG12000036195	1/2 - 1 Mile North
T69	KYOG12000029265	1/2 - 1 Mile North
70	KYOG12000035543	1/2 - 1 Mile North
71	KYOG12000029035	1/2 - 1 Mile SE
72	KYOG12000075253	1/2 - 1 Mile WSW
U73	KYOG12000063059	1/2 - 1 Mile NNW
U74	KYOG12000032358	1/2 - 1 Mile NNW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
75	KYOG12000045996	1/2 - 1 Mile NNW
76	KYOG12000076780	1/2 - 1 Mile SE
77	KYOG12000062657	1/2 - 1 Mile East
78	KYOG12000061832	1/2 - 1 Mile ENE

PHYSICAL SETTING SOURCE MAP - 5936515.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Oil, gas or related wells



SITE NAME: Glover Creek Project Area
 ADDRESS: KY-90 & KY-640
 Summer Shade KY 42166
 LAT/LONG: 36.900005 / 85.715668

CLIENT: Linebach Funkhouser Inc.
 CONTACT: Jason Boston
 INQUIRY #: 5936515.2s
 DATE: January 15, 2020 3:24 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

1

East
1/4 - 1/2 Mile
Lower

KY WELLS KY6000000041548

Fid:	41547	Akgwa:	30002422
Altid:	Not Reported	Latdecimal:	36.899357
Longdecima:	-85.707672	County:	Metcalfe
Quadname:	Summer Shade	Physiograp:	Eastern Pennyroyal
Type:	W	Surfaceele:	0
Usage:	Domestic - Single Household	Enddate:	Not Reported
Site id:	KY6000000041548		

2

NW
1/2 - 1 Mile
Higher

KY WELLS KY6000000006034

Fid:	6033	Akgwa:	7021
Altid:	Not Reported	Latdecimal:	36.91027778
Longdecima:	-85.72472222	County:	Metcalfe
Quadname:	Summer Shade	Physiograp:	Mississippian Plateau
Type:	W	Surfaceele:	440
Usage:	Not Reported	Enddate:	01-MAR-57
Site id:	KY6000000006034		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1

SW

1/4 - 1/2 Mile

OIL_GAS

KYOG12000058001

API #:	16169013560000	KGS #:	60860
Well Elevation:	830	Original Farm/Lease Name:	PAGE, J M
Original Operator:	REDBIRD PETROLEUM CORP	Original Well #:	2
Total Well Depth (ft):	875	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	09-AUG-85
Plug Date:	04-SEP-85	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69965
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060860/R00060860.pdf		

2

WNW

1/4 - 1/2 Mile

OIL_GAS

KYOG12000013569

API #:	16169034010000	KGS #:	13866
Well Elevation:	890	Original Farm/Lease Name:	FREE, VERNA
Original Operator:	PENNZOIL CO	Original Well #:	1
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	16398		
URL:	http://kgs.uky.edu/OG_images/0/0/0/1/3/R00013866/R00013866.pdf		

3

North

1/4 - 1/2 Mile

OIL_GAS

KYOG12000035364

API #:	16169012400000	KGS #:	37618
Well Elevation:	855	Original Farm/Lease Name:	BARTLEY, DARRELL
Original Operator:	HARDISON, JERRY L	Original Well #:	5
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	62694		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/7/R00037618/R00037618.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

4

ENE

1/4 - 1/2 Mile

OIL_GAS

KYOG12000054967

API #:	16169028420000	KGS #:	57714
Well Elevation:	860	Original Farm/Lease Name:	WADE, JAMES
Original Operator:	ROGPEX, INC	Original Well #:	1
Total Well Depth (ft):	800	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	26-APR-85
Plug Date:	08-OCT-85	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	68741
URL:	http://kgs.uky.edu/OG_images/0/0/0/5/7/R00057714/R00057714.pdf		

A5

WSW

1/4 - 1/2 Mile

OIL_GAS

KYOG12000058013

API #:	16169013570000	KGS #:	60872
Well Elevation:	830	Original Farm/Lease Name:	PAGE, J M
Original Operator:	REDBIRD PETROLEUM CORP	Original Well #:	1
Total Well Depth (ft):	875	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	08-AUG-85
Plug Date:	18-AUG-85	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69966
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060872/R00060872.pdf		

A6

SW

1/4 - 1/2 Mile

OIL_GAS

KYOG12000042988

API #:	16169012980000	KGS #:	45427
Well Elevation:	833	Original Farm/Lease Name:	PAGE, PATRICIA
Original Operator:	SOUTHERN ENERGY PARTNERS, INC	Total Well Depth (ft):	0
Original Well #:	2	Deepest Formation:	000
Formation:	000	Original API Classification:	Unclassified
Init Open or Potential Flow:	Not Reported		
Bore Type:	Conventional Vertical		
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	57619		
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/5/R00045427/R00045427.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

B7
North
1/4 - 1/2 Mile

OIL_GAS KYOG12000035363

API #:	16169001480000	KGS #:	37617
Well Elevation:	860	Original Farm/Lease Name:	BARTLEY, DARRELL
Original Operator:	HARDISON, JERRY L	Original Well #:	4
Total Well Depth (ft):	768	Formation:	365LXTN
Deepest Formation:	365LXTN	Init Open or Potential Flow:	3 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	05-AUG-84
Plug Date:	06-OCT-98	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	62693
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/7/R00037617/R00037617.pdf		

8
ENE
1/4 - 1/2 Mile

OIL_GAS KYOG12000055624

API #:	16169014270000	KGS #:	58375
Well Elevation:	862	Original Farm/Lease Name:	WADE, JAMES
Original Operator:	ROGPEX, INC	Original Well #:	2
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	69068		
URL:	http://kgs.uky.edu/OG_images/0/0/0/5/8/R00058375/R00058375.pdf		

B9
North
1/4 - 1/2 Mile

OIL_GAS KYOG12000031996

API #:	16169001340000	KGS #:	34140
Well Elevation:	876	Original Farm/Lease Name:	BARTLEY, DARRELL
Original Operator:	HARDISON, JERRY L	Original Well #:	2
Total Well Depth (ft):	775	Formation:	365LXTN
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	23-JUN-84
Plug Date:	27-SEP-84	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	61933
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034140/R00034140.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

10
SW
1/4 - 1/2 Mile

OIL_GAS **KYOG12000022711**

API #:	16169023820000	KGS #:	23740
Well Elevation:	816	Original Farm/Lease Name:	PAGE, PATRICIA
Original Operator:	JOHN F BELL OIL CO, INC	Original Well #:	2
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	55111		
URL:	http://kgs.uky.edu/OG_images/0/0/0/2/3/R00023740/R00023740.pdf		

C11
SSW
1/4 - 1/2 Mile

OIL_GAS **KYOG12000026897**

API #:	16169023810000	KGS #:	28186
Well Elevation:	812	Original Farm/Lease Name:	PAGE, PATRICIA
Original Operator:	JOHN F BELL OIL CO, INC	Original Well #:	1
Total Well Depth (ft):	858	Formation:	365PCAV
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	22-APR-83
Plug Date:	27-SEP-83	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	55110
URL:	http://kgs.uky.edu/OG_images/0/0/0/2/8/R00028186/R00028186.pdf		

D12
North
1/4 - 1/2 Mile

OIL_GAS **KYOG12000036194**

API #:	16169012480000	KGS #:	38457
Well Elevation:	870	Original Farm/Lease Name:	BARTLEY, DARRELL
Original Operator:	HARDISON, JERRY L	Original Well #:	3
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	63000		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038457/R00038457.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

D13
North
1/4 - 1/2 Mile

OIL_GAS KYOG12000031995

API #:	16169001330000	KGS #:	34139
Well Elevation:	866	Original Farm/Lease Name:	BARTLEY, DARRELL
Original Operator:	HARDISON, JERRY L	Original Well #:	1
Total Well Depth (ft):	775	Formation:	361ODVCU
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	28-JUN-85
Plug Date:	02-JUL-85	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	61932
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034139/R00034139.pdf		

C14
SSW
1/2 - 1 Mile

OIL_GAS KYOG12000042985

API #:	16169013010000	KGS #:	45424
Well Elevation:	817	Original Farm/Lease Name:	PAGE, PATRICIA
Original Operator:	SOUTHERN ENERGY PARTNERS, INC	Total Well Depth (ft):	0
Original Well #:	1	Deepest Formation:	000
Formation:	000	Original API Classification:	Unclassified
Init Open or Potential Flow:	Not Reported	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Completion Date:	Not Reported
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	57673		
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/5/R00045424/R00045424.pdf		

15
SSW
1/2 - 1 Mile

OIL_GAS KYOG12000075256

API #:	16169023800000	KGS #:	79028
Well Elevation:	859	Original Farm/Lease Name:	PAGE, J M
Original Operator:	MILLER, ROBERT J	Original Well #:	1
Total Well Depth (ft):	323	Formation:	361LPRS
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	12-MAY-80
Plug Date:	17-MAY-80	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	37952
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/9/R00079028/R00079028.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

16
East
1/2 - 1 Mile

OIL_GAS KYOG12000036201

API #:	16169012460000	KGS #:	38464
Well Elevation:	840	Original Farm/Lease Name:	WADE, JAMES
Original Operator:	HARDISON, JERRY L	Original Well #:	1
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	62998		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038464/R00038464.pdf		

E17
North
1/2 - 1 Mile

OIL_GAS KYOG12000068777

API #:	16169004720000	KGS #:	72020
Well Elevation:	883	Original Farm/Lease Name:	PEDIGO, MAUDE HEIRS
Original Operator:	REDMON OIL CO	Original Well #:	2B
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	Not Reported
Plug Date:	17-MAY-88	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	73604
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/2/R00072020/R00072020.pdf		

E18
North
1/2 - 1 Mile

OIL_GAS KYOG12000103081

API #:	16169015510000	KGS #:	116180
Well Elevation:	882	Original Farm/Lease Name:	PEDIGO, EUGENE
Original Operator:	BALDWIN, LAURA DBA KENTUCKY OIL		
Original Well #:	2	Total Well Depth (ft):	0
Formation:	000	Deepest Formation:	000
Init Open or Potential Flow:	Not Reported	Original API Classification:	Unclassified
Bore Type:	Conventional Vertical		
How Completed:	Localiton (new permit issued or insufficient data)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	89894		
URL:	http://kgs.uky.edu/OG_images/0/0/1/1/6/R00116180/R00116180.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

E19
North
1/2 - 1 Mile

OIL_GAS KYOG12000031998

API #:	16169001370000	KGS #:	34142
Well Elevation:	880	Original Farm/Lease Name:	PEDIGO, MAUDE HEIRS
Original Operator:	HARDISON, JERRY L	Original Well #:	2
Total Well Depth (ft):	780	Formation:	365LXTN
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	08-SEP-84
Plug Date:	03-OCT-86	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	61936
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034142/R00034142.pdf		

E20
North
1/2 - 1 Mile

OIL_GAS KYOG12000036200

API #:	16169012470000	KGS #:	38463
Well Elevation:	880	Original Farm/Lease Name:	PEDIGO, MAUDE HEIRS
Original Operator:	HARDISON, JERRY L	Original Well #:	4
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	62999		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038463/R00038463.pdf		

F21
NNE
1/2 - 1 Mile

OIL_GAS KYOG12000045518

API #:	16169001870000	KGS #:	48032
Well Elevation:	930	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY OIL EXPLORATION	Original Well #:	3
Total Well Depth (ft):	830	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	250 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	29-DEC-84
Plug Date:	23-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	66097
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/8/R00048032/R00048032.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

22
NNW
1/2 - 1 Mile

OIL_GAS KYOG12000077608

API #:	16169014130000	KGS #:	81651
Well Elevation:	900	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	BEAR CREEK OIL CO, INC	Original Well #:	9
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	75307		
URL:	http://kgs.uky.edu/OG_images/0/0/0/8/1/R00081651/R00081651.pdf		

E23
North
1/2 - 1 Mile

OIL_GAS KYOG12000031997

API #:	16169001350000	KGS #:	34141
Well Elevation:	894	Original Farm/Lease Name:	PEDIGO, MAUDE HEIRS
Original Operator:	HARDISON, JERRY L	Original Well #:	1
Total Well Depth (ft):	805	Formation:	365LXTN
Deepest Formation:	365LXTN	Init Open or Potential Flow:	75 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	21-MAY-84
Plug Date:	03-OCT-86	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	61934
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034141/R00034141.pdf		

F24
NNE
1/2 - 1 Mile

OIL_GAS KYOG12000057904

API #:	16169003810000	KGS #:	60763
Well Elevation:	900	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	11
Total Well Depth (ft):	804	Formation:	365SBRK
Deepest Formation:	365LXTN	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	05-JUN-86
Plug Date:	14-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	69925
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060763/R00060763.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

25
WNW
1/2 - 1 Mile

OIL_GAS **KYOG12000075177**

API #:	16169022320000	KGS #:	78934
Well Elevation:	846	Original Farm/Lease Name:	MCINTYRE, FRANK
Original Operator:	ROACH, FREIDA	Original Well #:	2
Total Well Depth (ft):	135	Formation:	337FTPN
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	22-OCT-62
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	7289
Log on File:	Not Reported	Permit #:	7689
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/8/R00078934/R00078934.pdf		

G26
West
1/2 - 1 Mile

OIL_GAS **KYOG12000075254**

API #:	16169022310000	KGS #:	79026
Well Elevation:	831	Original Farm/Lease Name:	MCINTYRE, FRANK
Original Operator:	ROACH, FREIDA	Original Well #:	1
Total Well Depth (ft):	352	Formation:	361LPRS
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	15-OCT-62
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	7288
Log on File:	Not Reported	Permit #:	7492
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/9/R00079026/R00079026.pdf		

H27
North
1/2 - 1 Mile

OIL_GAS **KYOG12000031999**

API #:	16169001360000	KGS #:	34143
Well Elevation:	882	Original Farm/Lease Name:	PEDIGO, MAUDE HEIRS
Original Operator:	HARDISON, JERRY L	Original Well #:	3
Total Well Depth (ft):	766	Formation:	365LXTN
Deepest Formation:	365LXTN	Init Open or Potential Flow:	3 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	15-MAY-84
Plug Date:	05-MAY-88	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	61935
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034143/R00034143.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

28
East
1/2 - 1 Mile

OIL_GAS KYOG12000036198

API #:	16169001490000	KGS #:	38461
Well Elevation:	850	Original Farm/Lease Name:	NUNLEY, GENE
Original Operator:	HARDISON, JERRY L	Original Well #:	1
Total Well Depth (ft):	770	Formation:	365LXTN
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	23-JUL-84
Plug Date:	05-AUG-86	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	62996
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038461/R00038461.pdf		

129
NE
1/2 - 1 Mile

OIL_GAS KYOG12000044615

API #:	16169001760000	KGS #:	47097
Well Elevation:	904	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY OIL EXPLORATION	Original Well #:	5
Total Well Depth (ft):	800	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	120 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	13-NOV-84
Plug Date:	23-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	65568
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/7/R00047097/R00047097.pdf		

H30
North
1/2 - 1 Mile

OIL_GAS KYOG12000091490

API #:	16169010110000	KGS #:	103412
Well Elevation:	888	Original Farm/Lease Name:	PEDIGO, EUGENE
Original Operator:	JOHNSON, HAROLD T	Original Well #:	1
Total Well Depth (ft):	770	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	1 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	08-JUN-92
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	81742
URL:	http://kgs.uky.edu/OG_images/0/0/1/0/3/R00103412/R00103412.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

F31
NNE
1/2 - 1 Mile

OIL_GAS **KYOG12000055676**

API #:	16169003540000	KGS #:	58426
Well Elevation:	940	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	2
Total Well Depth (ft):	825	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	06-JUL-85
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69016
URL:	http://kgs.uky.edu/OG_images/0/0/0/5/8/R00058426/R00058426.pdf		

J32
North
1/2 - 1 Mile

OIL_GAS **KYOG12000057771**

API #:	16169003790000	KGS #:	60624
Well Elevation:	930	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	10
Total Well Depth (ft):	825	Formation:	365LXTN
Deepest Formation:	365LXTN	Init Open or Potential Flow:	10 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	26-AUG-85
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69854
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060624/R00060624.pdf		

33
WNW
1/2 - 1 Mile

OIL_GAS **KYOG12000032479**

API #:	16169026480000	KGS #:	34625
Well Elevation:	840	Original Farm/Lease Name:	SHAW, DONNIE
Original Operator:	JOHN F BELL OIL CO, INC	Original Well #:	3
Total Well Depth (ft):	825	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	11-OCT-83
Plug Date:	03-NOV-83	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	57974
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034625/R00034625.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

K34
North
1/2 - 1 Mile

OIL_GAS **KYOG12000077607**

API #:	16169001210000	KGS #:	81650
Well Elevation:	908	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	BEAR CREEK OIL CO, INC	Original Well #:	8
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Locaiton (new permit issued or insufficient data)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	75306		
URL:	http://kgs.uky.edu/OG_images/0/0/0/8/1/R00081650/R00081650.pdf		

I36
NE
1/2 - 1 Mile

OIL_GAS **KYOG12000068278**

API #:	16169014550000	KGS #:	71519
Well Elevation:	905	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	6
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	73469		
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/1/R00071519/R00071519.pdf		

I35
NE
1/2 - 1 Mile

OIL_GAS **KYOG12000057903**

API #:	16169020720000	KGS #:	60762
Well Elevation:	905	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	6
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	69924		
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060762/R00060762.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

J37
North
1/2 - 1 Mile

OIL_GAS KYOG12000034410

API #:	16169001460000	KGS #:	36631
Well Elevation:	920	Original Farm/Lease Name:	ISENBERG, JAMES-GENESIS
Original Operator:	AMERICAN PETROLEUM CO, INC		
Original Well #:	1	Total Well Depth (ft):	1810
Formation:	368KNOX	Deepest Formation:	365SBRK
Init Open or Potential Flow:	740 MCFGPD	Original API Classification:	Extension (outpost) Well
Bore Type:	Conventional Vertical	How Completed:	Gas producer
Completion Date:	07-JUN-84	Plug Date:	10-NOV-93
Documentation on Plug:	PA	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	GRD
Permit #:	62574		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/6/R00036631/R00036631.pdf		

L38
NNE
1/2 - 1 Mile

OIL_GAS KYOG12000057902

API #:	16169003800000	KGS #:	60761
Well Elevation:	915	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	9
Total Well Depth (ft):	800	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	31-AUG-85
Plug Date:	15-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69923
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060761/R00060761.pdf		

G39
West
1/2 - 1 Mile

OIL_GAS KYOG12000075255

API #:	16169022330000	KGS #:	79027
Well Elevation:	841	Original Farm/Lease Name:	MCINTYRE, FRANK
Original Operator:	ROACH, FREIDA	Original Well #:	3
Total Well Depth (ft):	143	Formation:	337FTPN
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	16-JAN-63
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	8272
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/9/R00079027/R00079027.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

M40
East
1/2 - 1 Mile

OIL_GAS KYOG12000013568

API #:	16169023680000	KGS #:	13865
Well Elevation:	864	Original Farm/Lease Name:	NUNNALLY, CLYDE
Original Operator:	SHENANDOAH OIL CO, INC	Original Well #:	1
Total Well Depth (ft):	1900	Formation:	368KNOX
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	29-JUL-76
Plug Date:	19-AUG-76	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	14048
Log on File:	GRD	Permit #:	31025
URL:	http://kgs.uky.edu/OG_images/0/0/0/1/3/R00013865/R00013865.pdf		

L41
NNE
1/2 - 1 Mile

OIL_GAS KYOG12000056912

API #:	16169003740000	KGS #:	59748
Well Elevation:	935	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY OIL EXPLORATION	Original Well #:	4
Total Well Depth (ft):	825	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	05-AUG-85
Plug Date:	23-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69553
URL:	http://kgs.uky.edu/OG_images/0/0/0/5/9/R00059748/R00059748.pdf		

42
NW
1/2 - 1 Mile

OIL_GAS KYOG12000042987

API #:	16169012990000	KGS #:	45426
Well Elevation:	879	Original Farm/Lease Name:	PITCOCK, J D
Original Operator:	SOUTHERN ENERGY PARTNERS, INC	Total Well Depth (ft):	0
Original Well #:	3	Deepest Formation:	000
Formation:	000	Original API Classification:	Unclassified
Init Open or Potential Flow:	Not Reported		
Bore Type:	Conventional Vertical		
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	57620		
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/5/R00045426/R00045426.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

N43
NW
1/2 - 1 Mile

OIL_GAS **KYOG12000075178**

API #:	16169002450000	KGS #:	78935
Well Elevation:	872	Original Farm/Lease Name:	PITCOCK, J D
Original Operator:	SOUTHERN ENERGY PARTNERS, INC		
Original Well #:	1	Total Well Depth (ft):	0
Formation:	000	Deepest Formation:	000
Init Open or Potential Flow:	Not Reported	Original API Classification:	Unclassified
Bore Type:	Conventional Vertical		
How Completed:	Locaiton (new permit issued or insufficient data)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	57436		
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/8/R00078935/R00078935.pdf		

M44
East
1/2 - 1 Mile

OIL_GAS **KYOG12000036199**

API #:	16169012450000	KGS #:	38462
Well Elevation:	860	Original Farm/Lease Name:	NUNLEY, GENE
Original Operator:	HARDISON, JERRY L	Original Well #:	2
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	62997		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038462/R00038462.pdf		

N45
NW
1/2 - 1 Mile

OIL_GAS **KYOG12000042986**

API #:	16169013000000	KGS #:	45425
Well Elevation:	873	Original Farm/Lease Name:	PITCOCK, J D
Original Operator:	SOUTHERN ENERGY PARTNERS, INC		
Original Well #:	2	Total Well Depth (ft):	0
Formation:	000	Deepest Formation:	000
Init Open or Potential Flow:	Not Reported	Original API Classification:	Unclassified
Bore Type:	Conventional Vertical		
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	57621		
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/5/R00045425/R00045425.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

46
SW
1/2 - 1 Mile

OIL_GAS **KYOG12000075258**

API #:	Not Reported	KGS #:	79030
Well Elevation:	798	Original Farm/Lease Name:	SPEARS, JACK
Original Operator:	ASHLAND OIL & REFINING CO, INC		
Original Well #:	1	Total Well Depth (ft):	346
Formation:	361LPRS	Deepest Formation:	361LPRS
Init Open or Potential Flow:	0 MCFGPD	Original API Classification:	New Pool Wildcat
Bore Type:	Conventional Vertical	How Completed:	Domestic gas
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	GR
Permit #:	Not Reported		
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/9/R00079030/R00079030.pdf		

O47
NNW
1/2 - 1 Mile

OIL_GAS **KYOG12000077609**

API #:	16169001220000	KGS #:	81652
Well Elevation:	910	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	BEAR CREEK OIL CO, INC	Original Well #:	10
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Localiton (new permit issued or insufficient data)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	75308		
URL:	http://kgs.uky.edu/OG_images/0/0/0/8/1/R00081652/R00081652.pdf		

K48
North
1/2 - 1 Mile

OIL_GAS **KYOG12000035365**

API #:	16169001470000	KGS #:	37619
Well Elevation:	918	Original Farm/Lease Name:	VIBERT, DELBERT
Original Operator:	GORDO PETROLEUM CO, INC	Original Well #:	1
Total Well Depth (ft):	1032	Formation:	365STRV
Deepest Formation:	365SBRK	Init Open or Potential Flow:	13 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	25-JUN-84
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	FDC	Permit #:	62690
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/7/R00037619/R00037619.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

P49
NE
1/2 - 1 Mile

OIL_GAS KYOG12000057906

API #:	16169003830000	KGS #:	60765
Well Elevation:	930	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	7
Total Well Depth (ft):	825	Formation:	365SBRK
Deepest Formation:	365LXTN	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	14-MAR-86
Plug Date:	26-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	69927
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060765/R00060765.pdf		

P50
NNE
1/2 - 1 Mile

OIL_GAS KYOG12000057905

API #:	16169003820000	KGS #:	60764
Well Elevation:	920	Original Farm/Lease Name:	ISENBERG, JAMES
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	8
Total Well Depth (ft):	825	Formation:	365SBRK
Deepest Formation:	365LXTN	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	19-APR-86
Plug Date:	28-OCT-93	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69926
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060764/R00060764.pdf		

51
North
1/2 - 1 Mile

OIL_GAS KYOG12000029267

API #:	16169012310000	KGS #:	30581
Well Elevation:	985	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GLENN, HOMER & REX	Original Well #:	3
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	61423		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/0/R00030581/R00030581.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

Q53
North
1/2 - 1 Mile

OIL_GAS KYOG12000036196

API #:	16169002620000	KGS #:	38459
Well Elevation:	918	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GORDO PETROLEUM CO, INC	Original Well #:	2
Total Well Depth (ft):	1009	Formation:	365STRV
Deepest Formation:	365SBRK	Init Open or Potential Flow:	3 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	21-FEB-84
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	62994
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038459/R00038459.pdf		

Q52
North
1/2 - 1 Mile

OIL_GAS KYOG12000029266

API #:	16169012300000	KGS #:	30580
Well Elevation:	918	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GLENN, HOMER & REX	Original Well #:	2
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	61422		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/0/R00030580/R00030580.pdf		

54
ESE
1/2 - 1 Mile

OIL_GAS KYOG12000026894

API #:	16169011770000	KGS #:	28183
Well Elevation:	901	Original Farm/Lease Name:	MCINTYRE, JESSE
Original Operator:	HARPER DRILLING CO	Original Well #:	2
Total Well Depth (ft):	1650	Formation:	368KNOX
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	22-NOV-82
Plug Date:	04-JAN-83	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	52708
URL:	http://kgs.uky.edu/OG_images/0/0/0/2/8/R00028183/R00028183.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

55
SSE
1/2 - 1 Mile

OIL_GAS KYOG12000033588

API #:	16169012370000	KGS #:	35749
Well Elevation:	918	Original Farm/Lease Name:	PROPE, ANDREW
Original Operator:	JENNINGS DRILLING CO, INC	Original Well #:	1
Total Well Depth (ft):	702	Formation:	361ODVCU
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	15-OCT-84
Plug Date:	15-OCT-84	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	62360
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/5/R00035749/R00035749.pdf		

O56
NNW
1/2 - 1 Mile

OIL_GAS KYOG12000032359

API #:	16169012340000	KGS #:	34504
Well Elevation:	910	Original Farm/Lease Name:	VIBERT, DELBERT
Original Operator:	GLENN, HOMER & REX	Original Well #:	4
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	62109		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034504/R00034504.pdf		

57
NNW
1/2 - 1 Mile

OIL_GAS KYOG12000075179

API #:	16169028410000	KGS #:	78936
Well Elevation:	916	Original Farm/Lease Name:	VIBBERT, JOHN
Original Operator:	ROACH, FREIDA	Original Well #:	1
Total Well Depth (ft):	212	Formation:	341CHAT
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	01-NOV-62
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	7771
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/8/R00078936/R00078936.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

O58
NNW
1/2 - 1 Mile

OIL_GAS **KYOG12000045792**

API #:	16169001940000	KGS #:	48306
Well Elevation:	900	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	BUTLER, JAMES E SR	Original Well #:	2
Total Well Depth (ft):	845	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	0 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	06-JAN-85
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	66259
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/8/R00048306/R00048306.pdf		

59
SSW
1/2 - 1 Mile

OIL_GAS **KYOG12000057497**

API #:	16169003760000	KGS #:	60346
Well Elevation:	835	Original Farm/Lease Name:	PAGE, J M
Original Operator:	HIRST, TRACY D	Original Well #:	6S
Total Well Depth (ft):	1000	Formation:	365STRV
Deepest Formation:	365STRV	Init Open or Potential Flow:	288 MCFGPD
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	08-AUG-85
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	69706
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060346/R00060346.pdf		

60
North
1/2 - 1 Mile

OIL_GAS **KYOG12000035541**

API #:	16169010020000	KGS #:	37795
Well Elevation:	984	Original Farm/Lease Name:	SMITH, THURMAN
Original Operator:	B & G PETROLEUM, INC	Original Well #:	1
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Localiton (new permit issued or insufficient data)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	62757		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/7/R00037795/R00037795.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

61
East
1/2 - 1 Mile

OIL_GAS KYOG12000057596

API #:	16169003770000	KGS #:	60446
Well Elevation:	902	Original Farm/Lease Name:	NUNNALLY, CLYDE
Original Operator:	ROGPEX, INC	Original Well #:	1
Total Well Depth (ft):	802	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	65 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	10-SEP-85
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	69726
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/0/R00060446/R00060446.pdf		

62
NE
1/2 - 1 Mile

OIL_GAS KYOG12000059857

API #:	16169003920000	KGS #:	62759
Well Elevation:	890	Original Farm/Lease Name:	HARBISON, DONALD
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	1
Total Well Depth (ft):	1754	Formation:	368KNOX
Deepest Formation:	365SBRK	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	18-OCT-85
Plug Date:	Not Reported	Documentation on Plug:	PP
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	70478
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/2/R00062759/R00062759.pdf		

63
SE
1/2 - 1 Mile

OIL_GAS KYOG12000052217

API #:	16169013530000	KGS #:	54901
Well Elevation:	950	Original Farm/Lease Name:	WADE, JAMES
Original Operator:	TEAGUE, E & COR-KEN-TEX CO	Total Well Depth (ft):	1805
Original Well #:	1	Deepest Formation:	000
Formation:	368KNOX	Original API Classification:	New Pool Wildcat
Init Open or Potential Flow:	Not Reported	How Completed:	Dry and abandoned
Bore Type:	Conventional Vertical	Plug Date:	25-AUG-85
Completion Date:	14-MAY-85	Core Call #:	Not Reported
Documentation on Plug:	PA	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	68245		
URL:	http://kgs.uky.edu/OG_images/0/0/0/5/4/R00054901/R00054901.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

R64
NNE
1/2 - 1 Mile

OIL_GAS **KYOG12000036197**

API #:	16169002630000	KGS #:	38460
Well Elevation:	953	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GORDO PETROLEUM CO, INC	Original Well #:	4
Total Well Depth (ft):	960	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	28-FEB-84
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	62995
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038460/R00038460.pdf		

R65
NNE
1/2 - 1 Mile

OIL_GAS **KYOG12000029268**

API #:	16169012320000	KGS #:	30582
Well Elevation:	966	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GLENN, HOMER & REX	Original Well #:	4
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	61424		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/0/R00030582/R00030582.pdf		

S66
NNW
1/2 - 1 Mile

OIL_GAS **KYOG12000062658**

API #:	16169004070000	KGS #:	65728
Well Elevation:	930	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	GORDO PETROLEUM CO, INC	Original Well #:	7
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	Not Reported
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	71183
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/5/R00065728/R00065728.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

S67
North
1/2 - 1 Mile

OIL_GAS **KYOG12000035542**

API #:	16169010030000	KGS #:	37796
Well Elevation:	915	Original Farm/Lease Name:	SMITH, THURMAN
Original Operator:	B & G PETROLEUM, INC	Original Well #:	2
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Locaiton (new permit issued or insufficient data)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	62756		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/7/R00037796/R00037796.pdf		

T68
North
1/2 - 1 Mile

OIL_GAS **KYOG12000036195**

API #:	16169002610000	KGS #:	38458
Well Elevation:	949	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GORDO PETROLEUM CO, INC	Original Well #:	1
Total Well Depth (ft):	1030	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	18-FEB-84
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	62993
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/8/R00038458/R00038458.pdf		

T69
North
1/2 - 1 Mile

OIL_GAS **KYOG12000029265**

API #:	16169022340000	KGS #:	30579
Well Elevation:	945	Original Farm/Lease Name:	MCINTYRE, RONNIE
Original Operator:	GLENN, HOMER & REX	Original Well #:	1
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)		
Completion Date:	Not Reported	Plug Date:	Not Reported
Documentation on Plug:	Not Reported	Core Call #:	Not Reported
Cuttings Call #:	0	Log on File:	Not Reported
Permit #:	61421		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/0/R00030579/R00030579.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

70
North
1/2 - 1 Mile

OIL_GAS KYOG12000035543

API #:	16169012410000	KGS #:	37797
Well Elevation:	927	Original Farm/Lease Name:	SMITH, THURMAN
Original Operator:	B & G PETROLEUM, INC	Original Well #:	3
Total Well Depth (ft):	899	Formation:	365SBRK
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Extension (outpost) Well	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	30-JUL-84
Plug Date:	23-MAY-85	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	FDC	Permit #:	62758
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/7/R00037797/R00037797.pdf		

71
SE
1/2 - 1 Mile

OIL_GAS KYOG12000029035

API #:	16169012220000	KGS #:	30349
Well Elevation:	938	Original Farm/Lease Name:	WADE, JAMES
Original Operator:	STIDHAM, WILLIAM J	Original Well #:	1C
Total Well Depth (ft):	376	Formation:	361ODVCU
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	20-OCT-83
Plug Date:	21-OCT-83	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	57505
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/0/R00030349/R00030349.pdf		

72
WSW
1/2 - 1 Mile

OIL_GAS KYOG12000075253

API #:	16169030840000	KGS #:	79025
Well Elevation:	0	Original Farm/Lease Name:	BOWMAN, CLYDE K
Original Operator:	PENNZOIL CO	Original Well #:	1
Total Well Depth (ft):	463	Formation:	361GRRD
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	12-JUL-66
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	9098
Log on File:	GRN	Permit #:	17391
URL:	http://kgs.uky.edu/OG_images/0/0/0/7/9/R00079025/R00079025.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

U73
NNW
1/2 - 1 Mile

OIL_GAS KYOG12000063059

API #:	16169004130000	KGS #:	66142
Well Elevation:	990	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	GORDO PETROLEUM CO, INC	Original Well #:	5
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	Not Reported
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	71305
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/6/R00066142/R00066142.pdf		

U74
NNW
1/2 - 1 Mile

OIL_GAS KYOG12000032358

API #:	16169012350000	KGS #:	34503
Well Elevation:	937	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	GLENN, HOMER & REX	Original Well #:	2
Total Well Depth (ft):	0	Formation:	000
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	Unclassified	Bore Type:	Conventional Vertical
How Completed:	Terminated (permit expired or cancelled)	Plug Date:	Not Reported
Completion Date:	Not Reported	Core Call #:	Not Reported
Documentation on Plug:	Not Reported	Log on File:	Not Reported
Cuttings Call #:	0		
Permit #:	62110		
URL:	http://kgs.uky.edu/OG_images/0/0/0/3/4/R00034503/R00034503.pdf		

75
NNW
1/2 - 1 Mile

OIL_GAS KYOG12000045996

API #:	16169001980000	KGS #:	48509
Well Elevation:	990	Original Farm/Lease Name:	VIBBERT, DELBERT
Original Operator:	BUTLER, JAMES E SR	Original Well #:	4
Total Well Depth (ft):	894	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	10 BOPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Oil producer	Completion Date:	28-DEC-84
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	66364
URL:	http://kgs.uky.edu/OG_images/0/0/0/4/8/R00048509/R00048509.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

76
SE
1/2 - 1 Mile

OIL_GAS KYOG12000076780

API #:	16169014060000	KGS #:	80666
Well Elevation:	921	Original Farm/Lease Name:	WADE, EDNA
Original Operator:	BEARD & ELAM, INC	Original Well #:	1
Total Well Depth (ft):	120	Formation:	337FTPN
Deepest Formation:	000	Init Open or Potential Flow:	Not Reported
Original API Classification:	New Pool Wildcat	Bore Type:	Conventional Vertical
How Completed:	Dry and abandoned	Completion Date:	15-SEP-87
Plug Date:	13-MAR-89	Documentation on Plug:	PA
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	Not Reported	Permit #:	75048
URL:	http://kgs.uky.edu/OG_images/0/0/0/8/0/R00080666/R00080666.pdf		

77
East
1/2 - 1 Mile

OIL_GAS KYOG12000062657

API #:	16169004080000	KGS #:	65727
Well Elevation:	880	Original Farm/Lease Name:	NUNNALLY, JEAN
Original Operator:	JOHNSON, HAROLD T	Original Well #:	2
Total Well Depth (ft):	751	Formation:	365SBRK
Deepest Formation:	365SBRK	Init Open or Potential Flow:	30 MCFGPD
Original API Classification:	Development Well	Bore Type:	Conventional Vertical
How Completed:	Gas producer	Completion Date:	27-NOV-85
Plug Date:	Not Reported	Documentation on Plug:	Not Reported
Core Call #:	Not Reported	Cuttings Call #:	0
Log on File:	GRD	Permit #:	71187
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/5/R00065727/R00065727.pdf		

78
ENE
1/2 - 1 Mile

OIL_GAS KYOG12000061832

API #:	16169004040000	KGS #:	64886
Well Elevation:	920	Original Farm/Lease Name:	SANDAGE, DONALD
Original Operator:	GALAXY GAS PROCESSING CO	Original Well #:	1
Total Well Depth (ft):	1802	Formation:	368KNOX
Deepest Formation:	365SBRK	Init Open or Potential Flow:	0 MCFGPD
Original API Classification:	Deeper pool test resulting in development of existing producing formation	How Completed:	Gas producer
Bore Type:	Conventional Vertical	Plug Date:	Not Reported
Completion Date:	30-DEC-85	Core Call #:	Not Reported
Documentation on Plug:	PP	Log on File:	GRD
Cuttings Call #:	0		
Permit #:	70976		
URL:	http://kgs.uky.edu/OG_images/0/0/0/6/4/R00064886/R00064886.pdf		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: KY Radon

Radon Test Results

Zip	Test Date	Test Result
42166	8/30/2003	0.00
42166	10/8/2003	22.00
42166	12/11/2003	4.40
42166	2/12/2004	1.20
42166	6/9/2004	0.00
42166	6/12/2004	9.00
42166	2/18/2004	3.90
42166	3/24/2004	0.00
42166	3/28/2004	2.30
42166	4/6/2004	3.70
42166	5/12/2004	0.80
42166	2/1/2002	5.30
42166	2/23/2002	6.10
42166	2/1/2002	5.30
42166	2/23/2002	6.10
42166	4/30/2002	2.80
42166	1/12/2003	0.00
42166	1/15/2003	0.90
42166	2/4/2003	7.30
42166	4/9/2003	0.00
42166	4/21/2003	6.10
42166	6/30/2003	5.00

Federal EPA Radon Zone for METCALFE County: 1

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 42166

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	Not Reported	Not Reported	Not Reported	Not Reported
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.000 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Environmental & Public Protection Cabinet

Telephone: 502-564-6736

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Kentucky Water Well Records Database

Source: Kentucky Geological Survey

Telephone: 859-257-5500

Water Wells in Kentucky. Data from the Kentucky Ground Water Data Repository.

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Locations

Source: Kentucky Geological Survey

Telephone: 859-257-5500

Oil and gas well locations in the state of Kentucky

RADON

State Database: KY Radon

Source: Department of Public Health

Telephone: 502-564-4856

Radon Test Results

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

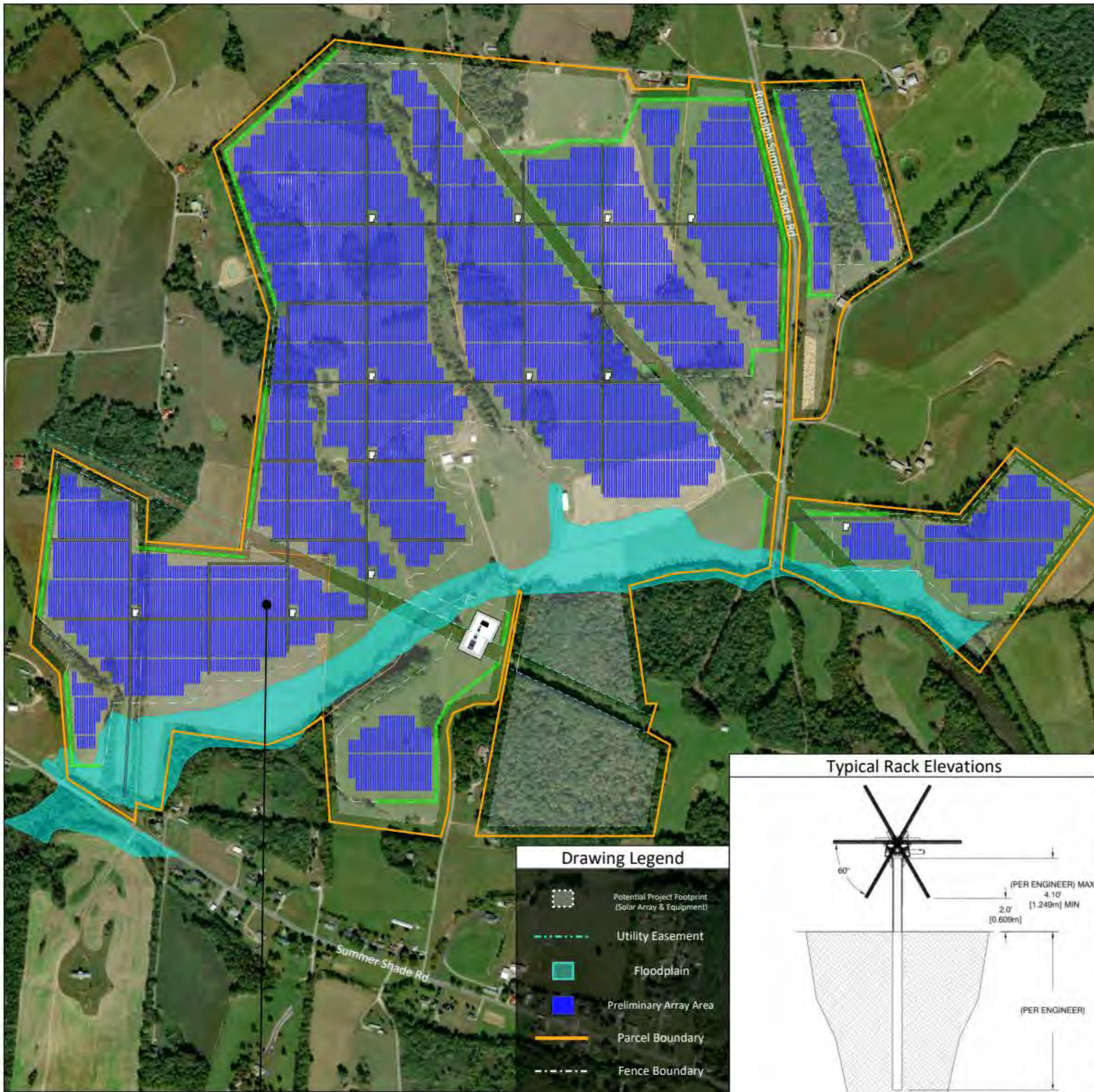
PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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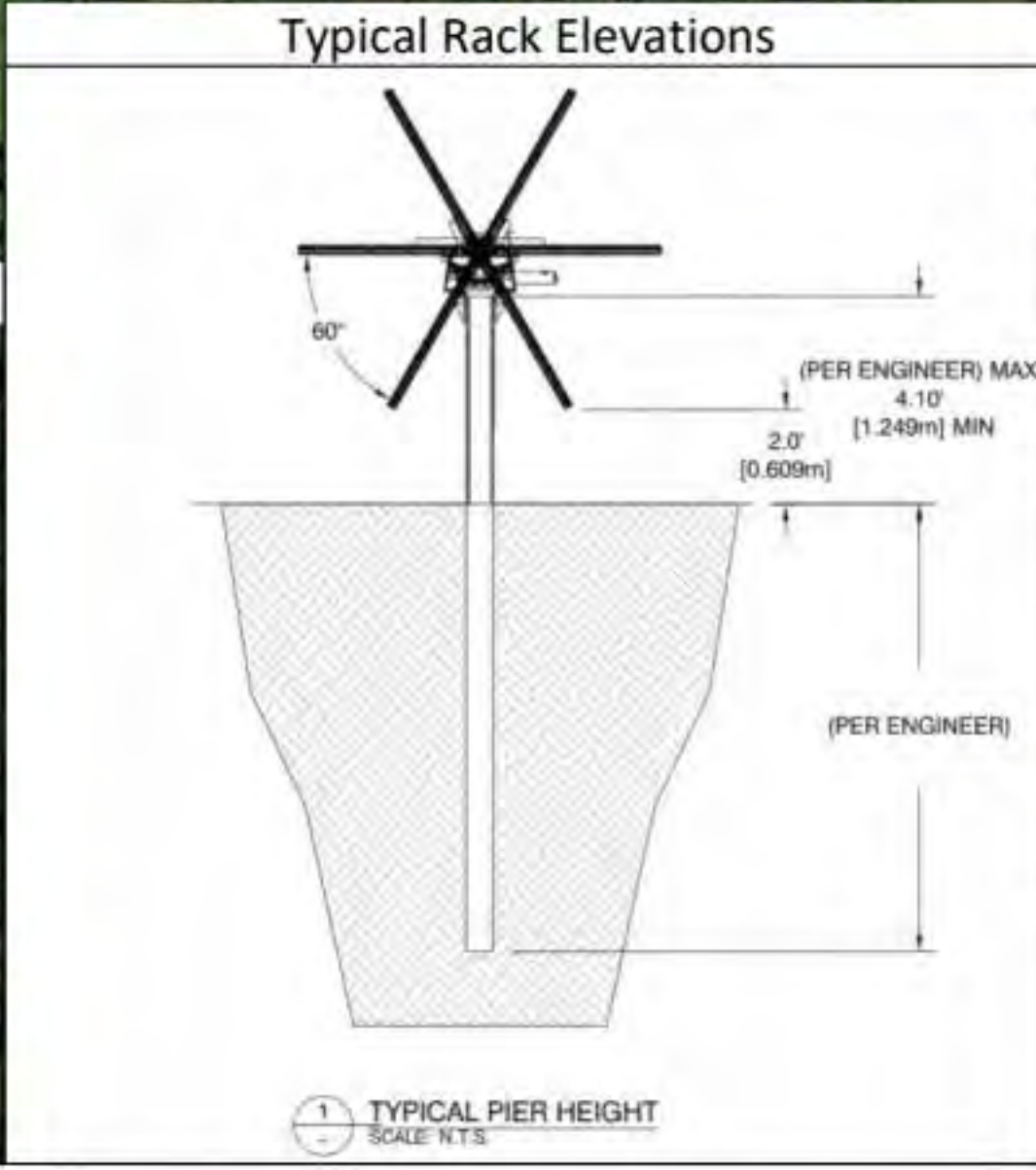
Appendix D

User Provided Information

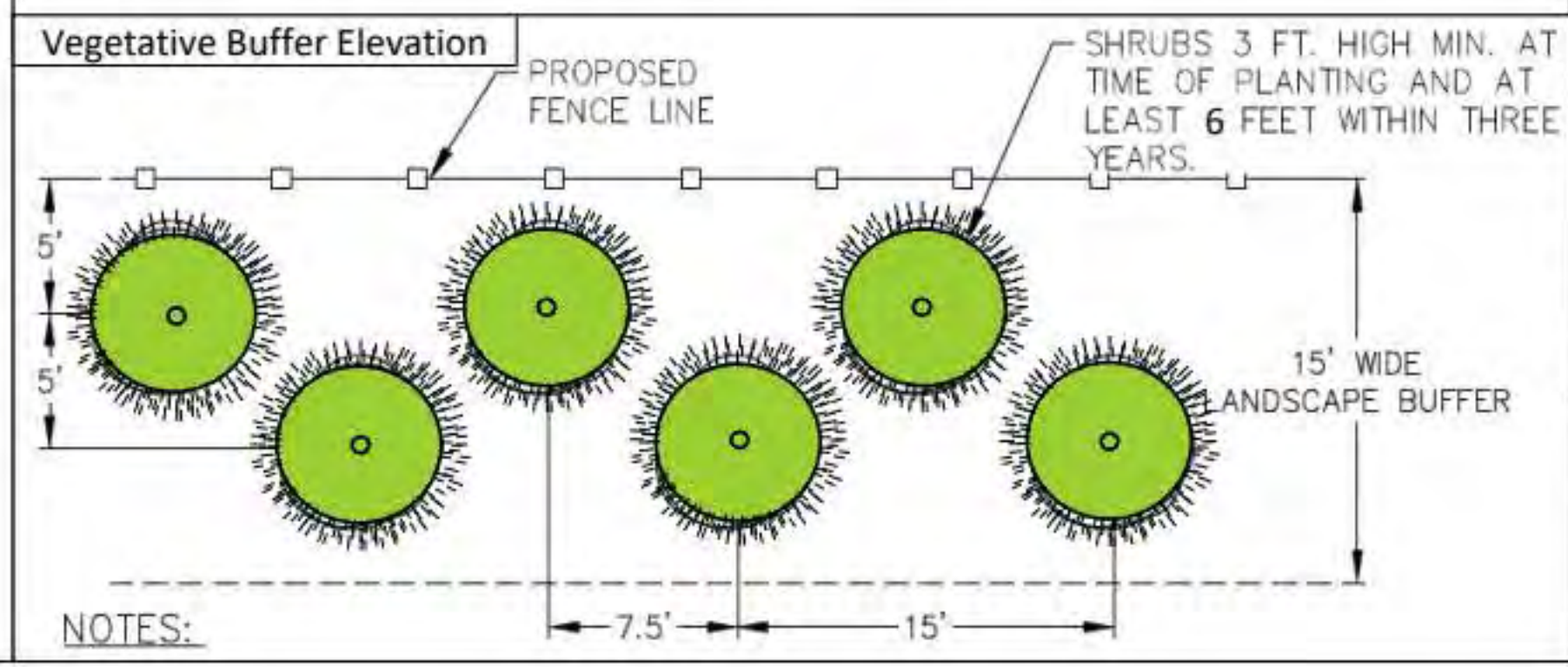


Solar panel, equipment and road locations are indicative and may be adjusted within the shaded areas shown within the Project Footprint

Drawing Legend	
	Potential Project Footprint (Solar Array & Equipment)
	Utility Easement
	Floodplain
	Preliminary Array Area
	Parcel Boundary
	Fence Boundary
	Access Roads
	Vegetative Buffer



- Standard Notes
- (1) The Purpose of this plan is for a Power Generation Permit for review and approval by the Kentucky State Siting Board to construct a solar energy system. All information shown is for planning purposes only.
 - (2) The property lines, existing improvements, and topographic data shown hereon are not based on a field survey and have been completed from ArcGIS & Google Earth Imagry. No field evidence of property markers were located with this Exhibit.
 - (3) Wetlands and Streams are shown representative of a delineation received by Carolina Solar Energy.
 - (4) Project area will be cleared and grubbed as necessary, retaining pre-development drainage patterns as much as possible. Minor grading will occur around inverter areas to divert surface drainage. Areas subject to rutting during construction will be temporarily stabilized with gravel that will remain after construction. Soil conditions and equipment loads will determine final design.
 - (5) Proposed construction and temporary laydown yard/construction staging area to be used during site construction. A portion of this area will be covered with gravel to allow delivery of construction materials. Prior to construction, this area will be compacted by a smooth drum or sheepsfoot roller to reduce/prevent rutting. Following construction gravel laydown yard will be removed.
 - (6) Access aisles shown on this plan indicate construction and maintenance access points for ingress/egress. Prior to construction, these aisles are compacted by a smooth drum or sheepsfoot roller to reduce/prevent rutting. Gravel may be placed in high traffic or poorly draining areas during construction activities to improve access. Soil access aisle will be scarified, aerated, and re-seeded after construction. Access aisles to inverters may require gravel to support delivery equipment loads. Soil conditions and final equipment selection will determine if gravel access aisles will be required to inverter locations
 - (7) All Right-Of-Ways are public unless noted otherwise.
 - (8) Utility lines and services shown hereon are approximate per aerial photography or as reported by various responsible parties. Location of underground utilities are not shown. Call appropriate authorities before digging.
 - (9) No lighting is proposed for the array area. The Interconnection Substation will have some lighting.
 - (10) 6' tall chain link fence with three strands of barbed wire or similar to meet National Electric Code requirements. The proposed access gate will be will be locked with a standard keyed or combination lock. Emergency personnel will be provided a key or combination for access.



Carolina Solar Energy
400 W Main St
Durham, NC 27701
Suite 503

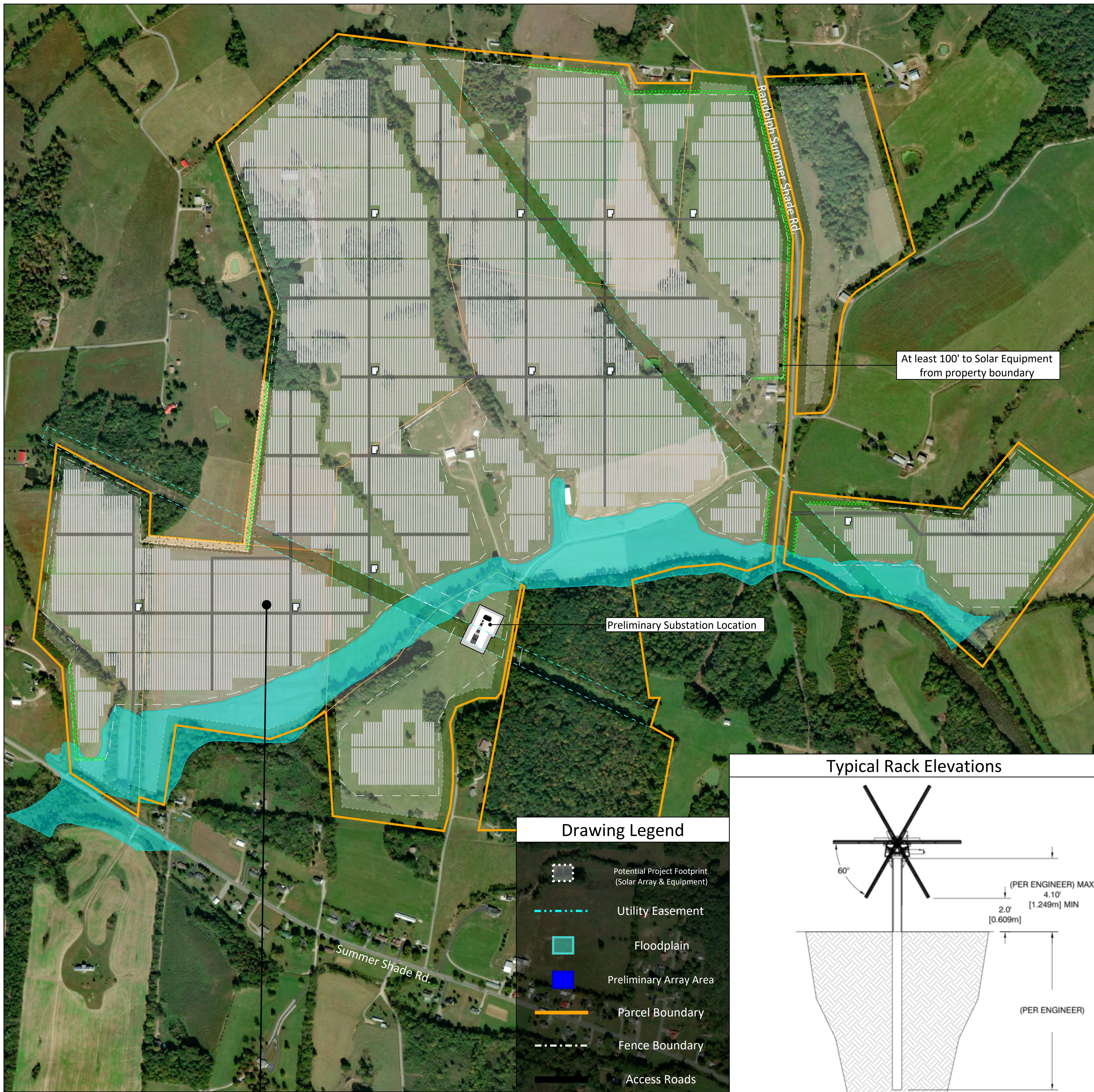
Glover Creek Farm
55 MWAC

ISSUE
12.02.19
12.05.19

PROJECT
Glover Creek

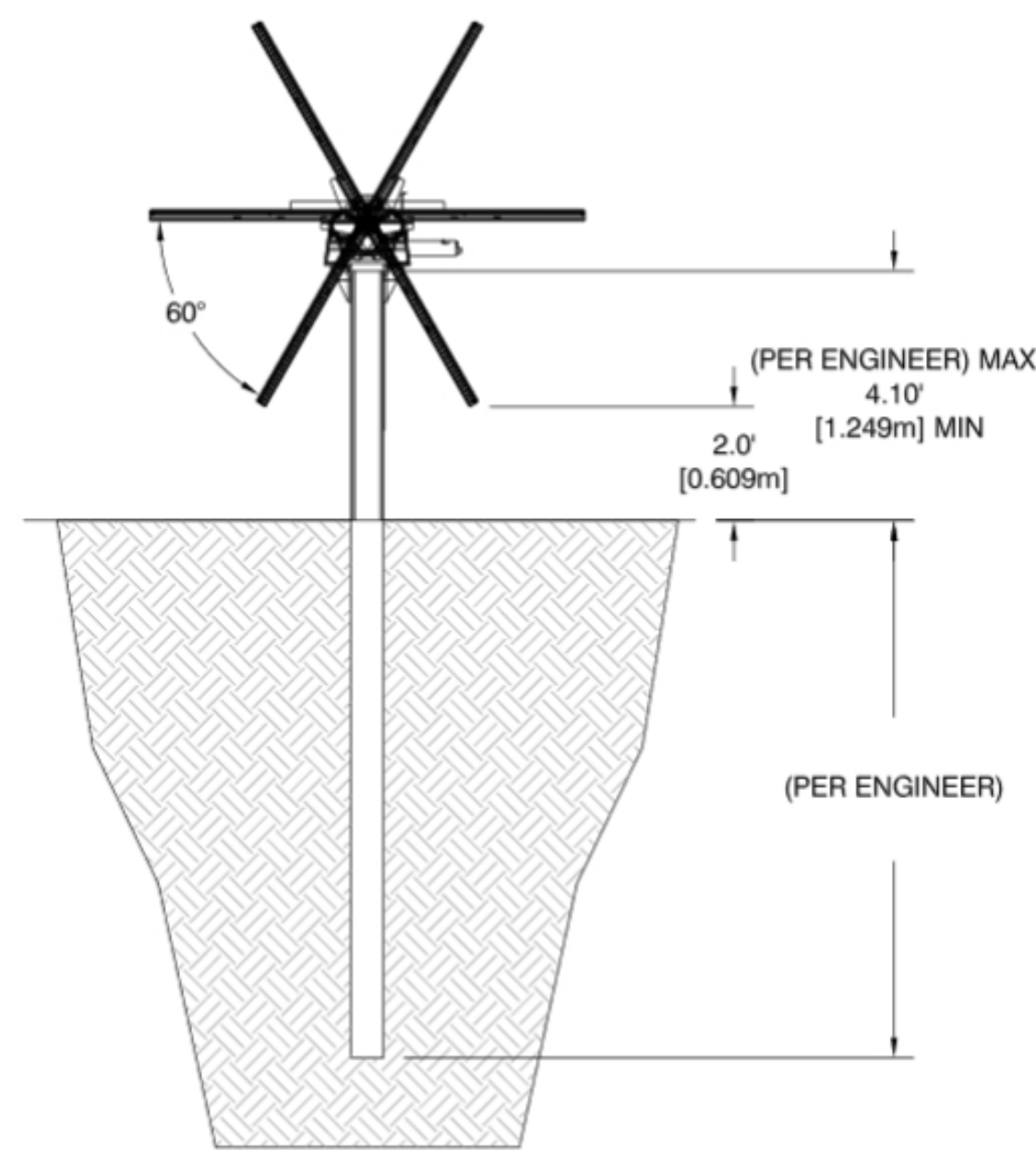
DRAWN BY
CJ

DESCRIPTION
Array Layout



Solar panel, equipment and road locations are indicative and may be adjusted within the shaded areas shown within the Project Footprint

Typical Rack Elevations

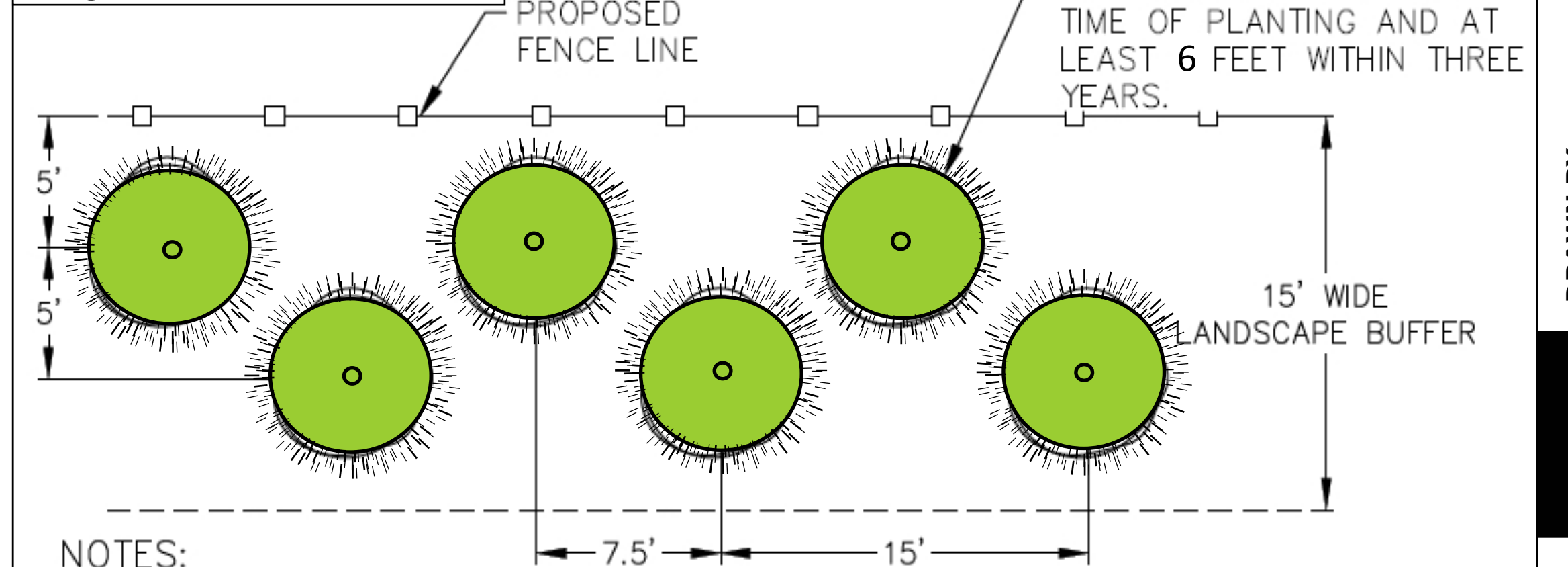


1 TYPICAL PIER HEIGHT
SCALE: N.T.S.

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Vegetative Buffer Elevation



NOTES:



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Glover Creek Farm
55 MWAC

ISSUE
12.02.19
12.05.19

PROJECT
Glover Creek

DRAWN BY
CJ

DESCRIPTION
Array Layout

a

01