EXHIBIT F

COMMONWEALTH OF KENTUCKY

BEFORE THE KENTUCKY STATE BOARD ON

ELECTRICAL GENERATION AND TRANSMISSION SITING

In the Matter of:

ELECTRONIC APPLICATION OF STONEFIELD SOLAR, LLC FOR A CERTIFICATE OF CONSTRUCTION FOR AN APPROXIMATELY 120 MEGAWATT MERCHANT ELECTRIC SOLAR GENERATING FACILITY AND NONREGULATED TRANSMISSION LINE IN HARDIN COUNTY, KENTUCKY PURSUANT TO KRS 278.700 ET SEQ. AND 807 KAR 5:110.	)	Case No. 2022-00011

Site Assessment Report

Stonefield Solar, LLC ("the Applicant" or "Stonefield Solar"), files this Site Assessment Report (SAR) as specified in KRS 278.708 contemporaneously with its application requesting from the Kentucky State Board on Electric Generation and Transmission Siting ("the Board") a certificate of construction for an approximately 120 megawatt (MW) merchant electric solar generating facility pursuant to KRS 278.704.

As part of the Application, the Applicant submits herewith SAR Exhibit F. The facts on which the SAR are based are contained in the concurrently filed SAR Exhibits and other information and the statements further made by Stonefield Solar as follows:

I. Description of Proposed Project Site

1. Pursuant to KRS 278.708(3)(a), the proposed Stonefield Solar Project ("the Project") is situated on 1,030-acre site located in unincorporated Hardin County, Kentucky, and a

portion of the nonregulated transmission line is in Elizabethtown, Kentucky (SAR Exhibit A and A-1).

2. Pursuant to KRS 278.708(3)(a)(1), a detailed description of the surrounding land uses is identified in the Property Value Impact Study conducted by Kirkland Appraisals, LLC, and attached as SAR Exhibit B. A summary of the surrounding land use is contained in the chart below:

Adjoining Use Breakdown	**Acreage**	**Parcels**
Residential	1.39%	48.57%
Agricultural	35.38%	22.86%
Agri/Res	51.79%	22.86%
Quarry	11.45%	5.71%
Total	**100%**	**100%**

3. Pursuant to KRS 278.708(3)(a)(2), SAR Exhibit C contains the legal description of the proposed site.

4. Pursuant to KRS 278.708(3)(a)(3), the proposed facility layout and gen-tie route are included in SAR Exhibit A and A-1 as well as Exhibit A of the overall Siting Board Application. The layout shows the proposed access to the site. A fence meeting National Electric Safety Code (NESC) requirement, typically a seven-foot fence, will secure the facility.

5. Pursuant to KRS 278.708(3)(a)(4), the proposed locations of all project infrastructure (buildings, transmission lines, and other structures) are included in the Preliminary Site Layout and gen-tie route in SAR Exhibit A and SAR Exhibit A-1.

6. Pursuant to KRS 278.708(3)(a)(5), proposed access points are shown in SAR Exhibit A.

7. Pursuant to KRS 278.708(3)(a)(6), there is one 345-kV transmission line that intersects the Project and one 69-kV transmission line that intersects the project and connects to the Central Hardin Substation located on Pritchard Parkway in Elizabethtown, Kentucky.

8. Pursuant to KRS 278.708(3)(a)(7), Hardin County has promulgated the Hardin County Development Guidance System Zoning Ordinance, 2009 (hereinafter "the Ordinance"), which establishes the following set back requirements that will be applicable to the project: on property zoned as I-2, Hardin County requires a minimum front yard setback of 50 feet; minimum side yard setback of 20 feet, or 40 feet if adjoining commercial zones and 100 feet if adjoining residential and agricultural zones; minimum rear yard setback of 35 feet; or 40 feet if adjoining commercial zones, and 100 feet if adjoining residential and agricultural zones. The Ordinance is enclosed as SAR Exhibit F.

9. Pursuant to KRS 278.708(3)(a)(8), a noise assessment was completed for the Project by Stantec Consulting Services in August 2022 (SAR Exhibit D). The noise assessment indicates that during site operation, intermittent noise related to the panel tracking system and the noise of the inverters is expected. The increase in noise is negligible due to the both the vertical and horizontal distances between the panels/inverters and the nearest noise sensitive receptors. The nearest sensitive receptor is more than 450 feet from any solar panels and approximately 639 feet from an inverter. During average operation the inverters will be similar in noise level (~42 dB_A) to quiet library sounds at the nearest receptors and will only run when the facility is producing electricity (e.g., when the sun is shining). According to manufacturer specifications the loudest the transformer is expected to be is just over 60 dB_A, at one meter from the source, or the level of a normal conversation. Since the nearest receptor is approximately 950 feet from the substation, noise emitted from the receptor would be less than typical background noise. Site visits and

maintenance activities including single vehicular traffic and mowing will be negligible as they are similar to the background agricultural noise characteristics. All site visits, outside of emergency maintenance, will occur during daylight hours.

10. At the nearest receptors, no prolonged noise levels above background levels are expected either during construction or operations of the Project.

II. Compatibility with Scenic Surroundings

11. Pursuant to KRS 278.708(3)(b), a Property Value Impact Study was completed for the Project by Kirkland Appraisals, LLC in July 2022 (SAR Exhibit B). Please refer to Sections VIII-XIV from SAR Exhibit B which address appropriate setbacks, topography, harmony of use, and compatibility in detail. Section XIII. Specific Factors Related To Impacts on Value describes the six categories evaluated in this study.

III. Property Value Impacts

12. Pursuant to KRS 278.708(3)(c), see SAR Exhibit B 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, Section XIV on page 133, reads as follows:

> "The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The proposed setbacks are further than those measured showing no impact for similar price ranges of homes and for areas with similar demographics to the subject area. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all support a finding of no impact on property value.
>
> Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by appellate courts. Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments.

> I have found no difference in the mix of adjoining uses or proximity to adjoining homes based on the size of a solar farm and I have found no significant difference in the matched pair data adjoining larger solar farms versus smaller solar farms. The data in the Southeast is consistent with the larger set of data that I have nationally, as is the more specific data located in and around Kentucky.
>
> Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no negative impact on the value of adjoining or abutting property. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is no traffic."

IV. Anticipated Noise Levels at Property Boundary

13. Pursuant to KRS 278.708(3)(d), noise will occur temporarily and intermittently during the construction phase of the project due to increases in vehicular traffic, construction equipment and assembly of the solar facility components. This construction noise is expected to be of short duration at any given location within the project. The majority of the noise producing activities will occur hundreds to thousands of feet from the nearest noise sensitive receptors. The noisiest portion of the construction includes the use of pile drivers to install the solar panel supports. These will only be used intermittently and the worst-case maximum noise [Lmax (dBA)] expected to occur at the nearest receptor (Residence 2) is 81.6 dBA which is similar to a lawnmower or heavy traffic. The equivalent continuous sound level [Leq (dBA)] from construction including the pile driver is 74.7 dBA which is similar to a washing machine or dishwasher. The model was also evaluated without the inputs of the pile driver since that is more typical of ongoing construction sound levels. The sound levels for typical construction onsite ranges from an air conditioner to normal conversation. Construction activities at the Project site would move around the site and are not anticipated to be performed near a sensitive receptor for more than a few weeks. The below table shows anticipated peak noise levels at the nearest receptor and residence.

Calculated Noise Levels at Nearest Receptor Due to Construction	Distance (ft)	Calculated L_{max} (dB_A)	Calculated L_{eq} (dB_A)
Noise Level at Nearest Receptor – Residence (R2) (including pile driver)	458	81.6	74.7
Noise Level at Nearest Receptor – Residence (R2) (minus pile driver)	458	61.3	58.8

14. The nearest receptor will be more than 600 feet from any panel tracking motor, and approximately 639 feet from an inverter. Sound levels from the tracking system can be expected to be the levels of the hum of a refrigerator at the nearest receptor (~42 dBA), while the sounds will be much quieter at most receptors. During average operation the inverters will be similar in noise level (~41 dBA) to a quiet library at the nearest receptor. According to manufacturer specifications the loudest the transformer is expected to be is just over 60 dBA (measured at a distance of one meter) or the level of a normal conversation. Since the nearest residential receptor is more than 950 feet from the substation, transformers are not expected to add additional noise above background noise. The table below shows the anticipated noise levels at the nearest receptor generated by source. See Table 5 in SAR Exhibit D for more information.

Receptor	Panel Tracking Motor		Inverter		Transformer	
	Distance (ft)	Calculated L_{max} (dB_A)	Distance (ft)	Calculated L_{max} (dB_A)	Distance (ft)	Calculated L_{max} (dB_A)
R2	615	42.2	639	40.9	7,552	<10
R23	1,755	33.1	1,437	33.8	959	10.7

15. Site visits and maintenance activities including single vehicular traffic and mowing will be negligible as they are similar to the background agricultural noise characteristics. All site

visits, outside of emergency maintenance, will occur during daylight hours. At the nearest receptors, no elevated and prolonged noise levels above background levels are expected either during construction or operation of the Project. See SAR Exhibit D for the full report studying the anticipated peak and average noise levels associated with the facility's construction and operation at the Project boundary.

V. Effect on Road, Railways and Fugitive Dust

16. Pursuant to KRS 278.708(3)(e), a traffic impact study was completed for the Project by Stantec Consulting Services in July 2022 (SAR Exhibit E). It evaluates the Project's impact on road and rail traffic, and degradation of roads. See below for a brief summary of the report.

> "As demonstrated in the traffic analysis, the construction period trip generation of workers and trucks will not generate a significant number of trips on local roadways. US 62 will continue to operate at a LOS C or better during the scenario of when traffic is doubled during construction peak traffic. Although no significant, adverse traffic impacts are expected during project construction or operation, using mitigation measures such as ridesharing between construction workers, using appropriate traffic controls, or allowing flexible working hours outside of peak hours could be implemented to minimize any potential for delays during the AM and PM peak hours."

17. Construction and associated land disturbance associated with the proposed Project may temporarily contribute airborne materials. The Project will utilize Best Management Practices (BMPs) such as: appropriate revegetation measures, application of water, or covering of spoil piles, to minimize dust. Additionally, open-bodied trucks transporting dirt will be covered while moving. During construction activities, water may be applied to the 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.

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

VI. Mitigation Measures

19. The Facility will be compatible with the existing land uses in the area. Construction methods will be implemented to minimize potential impacts on noise, dust, and traffic. The Project design also incorporates avoidance and mitigation measures for sensitive resources such as wetlands, listed plant and animal species, and sensitive cultural resources. Vegetative screening will be implemented to mitigate any visual impacts of the Facility. Once the Facility enters the operational phase, there will be no hazardous materials, pollutant emissions, or discernible sound outside of the Facility.

20. Pursuant to KRS 278.708(4), the Applicant has implemented or intends to implement the following mitigation measures for the Project:

- Viewscape: Adjoining property values in this area are not affected by the general rolling terrain with some distant solar panel views. The Project is not expected to negatively impact public road glint and glare such that any mitigation measures are necessary. The Project will provide landscape buffers per the county zoning ordinance, along the public roadways where the arrays could be visible. Based on the Glare Study (SAR Exhibit G), the glare, (green and yellow), and the durations predicted to be experienced at the nearby airports and helipad, flight paths, surrounding roads, residences and buildings is considered acceptable by existing standards and industry practice.
- The Project has been designed to minimize the amount of tree clearing required.
- The Project has been designed to avoid impacts to Waters of the United States (WOTUS) delineated onsite. If impact to such features becomes necessary, then the impact will be minimized, and the appropriate Clean Water Act (CWA) Section

404/401 permit will be obtained from the U.S. Army Corps of Engineers (USACE) and the Kentucky Energy & Environment Cabinet Department for Environmental Protection – Division of Water ("Kentucky DOW").

- Areas disturbed during Project construction will be revegetated with a mix of native grass seed mixes to improve soil health and reduce stormwater runoff.

21. The regulation and permitting of utility scale solar impacts to stormwater and WOTUS will be addressed separately with the appropriate agency.

22. *Regulatory Agency*: Kentucky DOW: The Project will obtain a Kentucky Department of Environmental Protection Stormwater Construction General Permit from the Kentucky DOW in compliance with the CWA.

23. *Regulatory Agency*: USACE – Louisville District: The Project has been designed to avoid impacts to WOTUS. However, if impact becomes necessary then Stonefield Solar will coordinate with the USACE – Louisville District and the appropriate CWA Section 404 permit will be obtained. If necessary, a CWA Section 401 Water Quality Certification will be obtained from the Kentucky DOW.

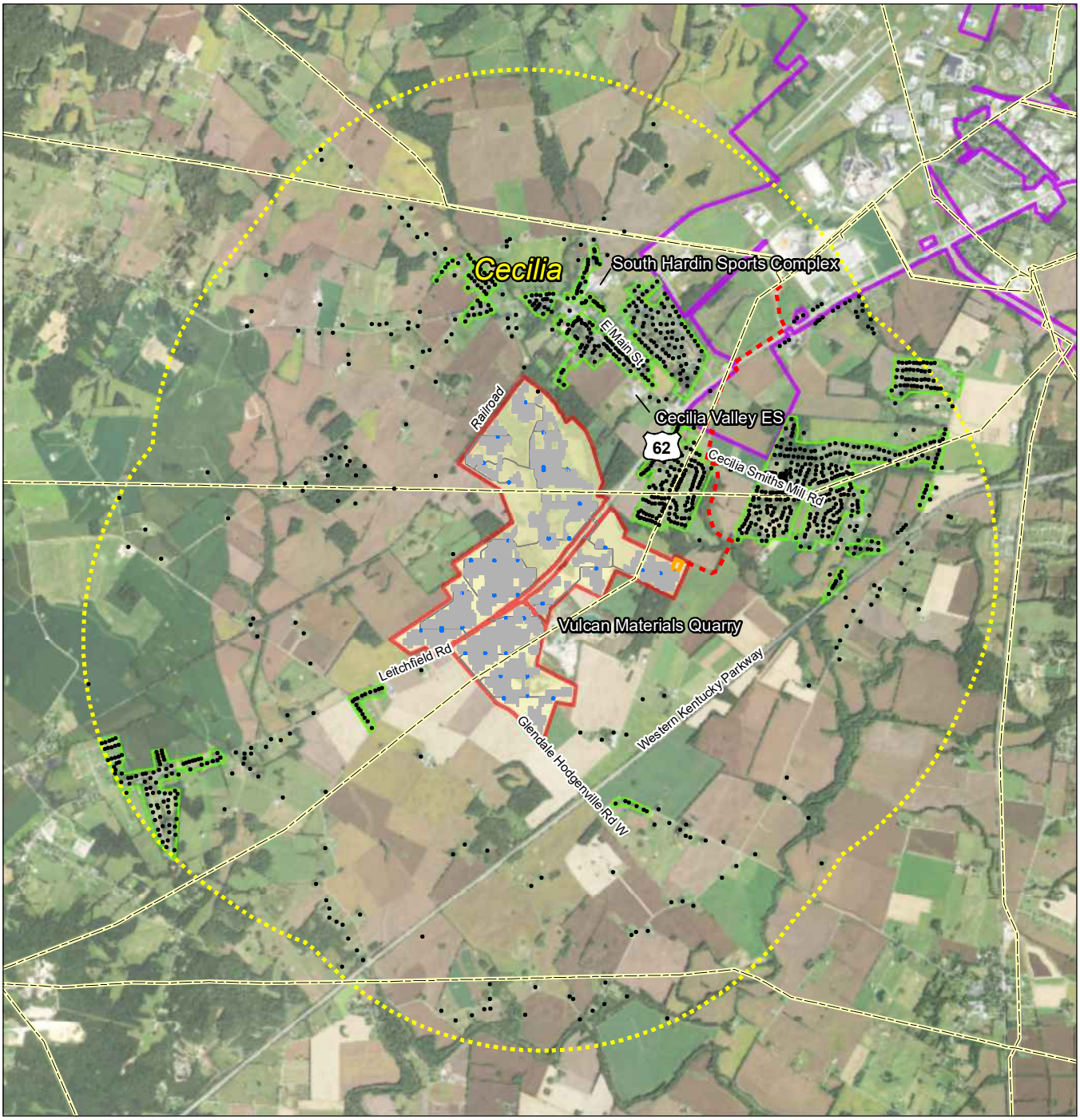
Dated this 19th day of August 2022.

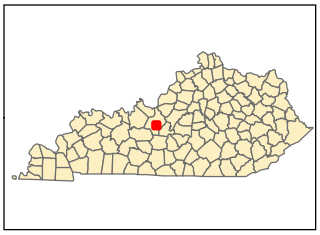
Respectfully submitted,

FROST BROWN TODD LLC

Gregory T. Dutton
FROST BROWN TODD LLC
400 W. Market Street, 32nd Floor
Louisville, KY 40202
(502) 589-5400
(502) 581-1087 (fax)
gdutton@fbtlaw.com
Counsel for Stonefield Solar, LLC

SAR EXHIBIT A





Notes
1. Coordinate System: NAD 1983 2011 StatePlane Kentucky South FIPS 1602 Ft US
2. Data Sources: ESRI, Stantec
3. Background: KY NAIP 2018

Legend

- Residential Structures
- Electrical Power Transmission Lines
- 2 Mile Buffer
- Proposed Access Roads
- Proposed PV Layout
- Proposed Inverter Locations
- Proposed Substation Location
- Proposed Gen-Tie
- Project Footprint Area
- Residential Neighborhood per KRS 278.700
- Elizabethtown Municipal Limits

0 1 2 Miles

(At original document size of 8.5x11)
1:63,360

N

Stantec

Prepared by ALC on 2022-08-02
TR by JA on 2022-08-02

Project Location
Cecilia, KY

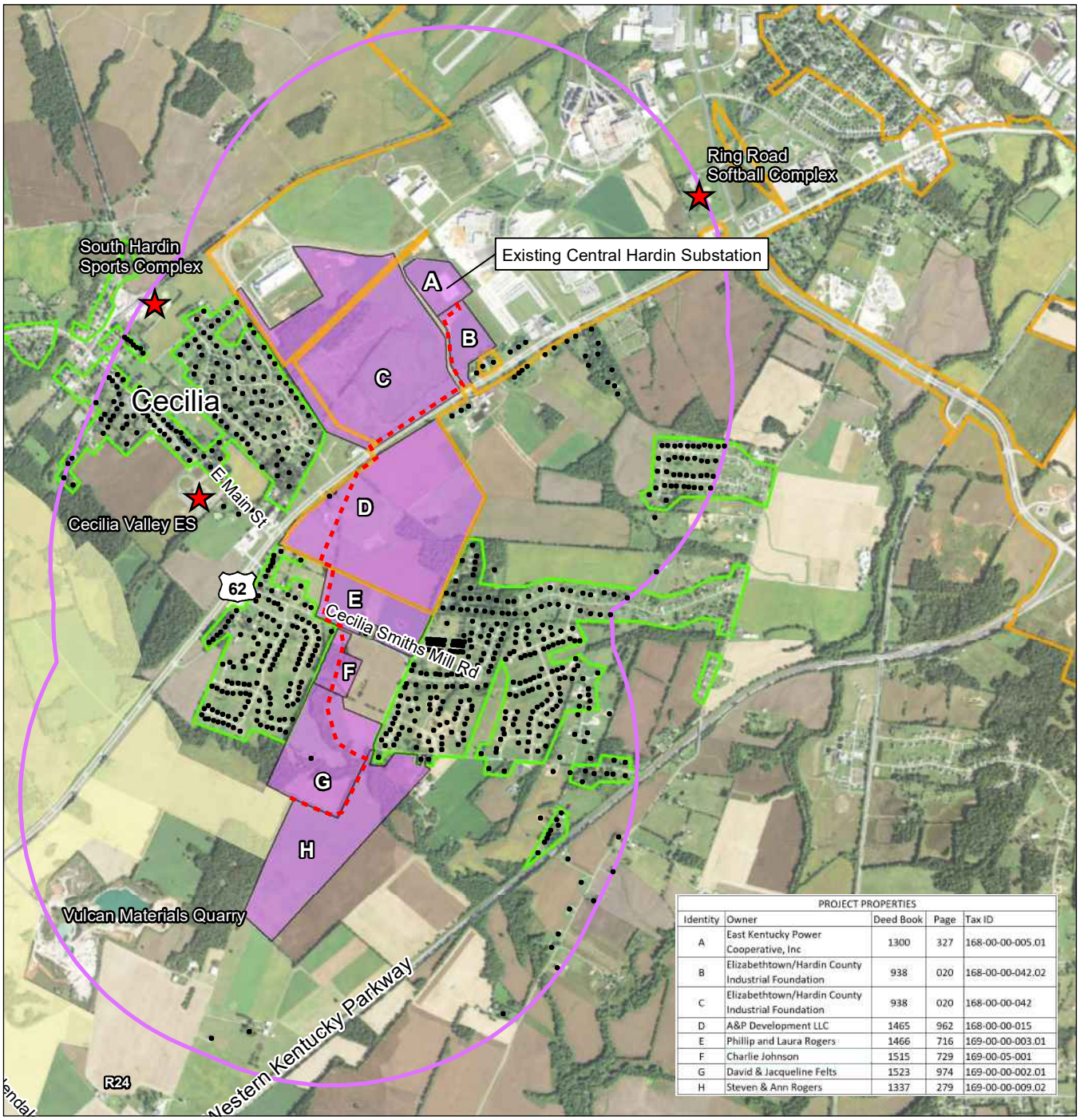
Client/Project 172658271 REVB

Stonefield Solar Facility
Project Site

Figure No.
Exhibit A (SAR)

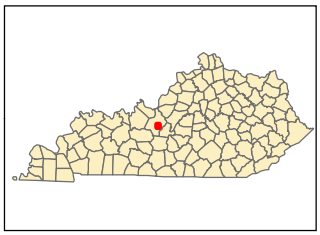
Title
Stonefield Solar Project

C:\Users\acoleman\OneDrive - Stantec Office 365\PROJECTS\KY_Solar_Noise\mapping\stonefiled_2mi_map.mxd Revised: 2022-08-10 By: acoleman



PROJECT PROPERTIES

Identity	Owner	Deed Book	Page	Tax ID
A	East Kentucky Power Cooperative, Inc	1300	327	168-00-00-005.01
B	Elizabethtown/Hardin County Industrial Foundation	938	020	168-00-00-042.02
C	Elizabethtown/Hardin County Industrial Foundation	938	020	168-00-00-042
D	A&P Development LLC	1465	962	168-00-00-015
E	Phillip and Laura Rogers	1466	716	169-00-00-003.01
F	Charlie Johnson	1515	729	169-00-05-001
G	David & Jacqueline Felts	1523	974	169-00-00-002.01
H	Steven & Ann Rogers	1337	279	169-00-00-009.02



Legend

- Residential Structures within 1 mile
- Schools and Recreation Areas
- Proposed Gen-Tie
- 1 Mile Transission Line Radius Boundary
- Elizabethtown Municipal Limits
- Parcels Crossed by Transmission Line
- Project Footprint Area
- Residential Neighborhood per KRS 278.700

0 1,500 3,000 Feet

(At original document size of 8.5x11)
1:36,000

N

Stantec

Project Location
Cecilia, KY

Prepared by ALC on 2022-08-02
TR by JA on 2022-08-02

Client/Project
172658271 REVA

Stonefield Solar Facility
Gen-Tie Parcel Map

Figure No.
Exhibit A-1 (SAR)

Title
Stonefield Solar Project

Notes
1. Coordinate System: NAD 1983 2011 StatePlane Kentucky South FIPS 1602 Ft US
2. Data Sources: ESRI, Stantec
3. Background: KY NAIP 2018

SAR EXHIBIT B

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

July 21, 2022

Joshua Adams
Stantec Consulting Services, Inc.
10509 Timberwood Circle
Louisville, KY 40223

RE: Stonefield Solar Project, Hardin County, KY

Mr. Adams,

At your request, I have considered the impact of a 120 MW solar farm proposed to be constructed on a portion of a 902.16-acre assemblage of land off Leitchfield Road, located near Elizabethtown, Hardin County, Kentucky. Specifically, I have been asked to give my professional opinion on whether the proposed solar farm will have any impact on adjoining property value and whether "the location and character of the use, if developed according to the plan as submitted and approved, will be in harmony with the area in which it is to be located."

To form an opinion on these issues, I have researched and visited existing and proposed solar farms in Kentucky as well as other states, researched articles through the Appraisal Institute and other studies, and discussed the likely impact with other real estate professionals. I have not been asked to assign any value to any specific property.

This letter is a limited report of a real property appraisal consulting assignment and subject to the limiting conditions attached to this letter. My client is Stantec Consulting Services, Inc. represented to me by Joshua Adams. My findings support the Kentucky Siting Board Application. The effective date of this consultation is July 21, 2022.

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

Conclusion

The adjoining properties are well set back from the proposed solar panels and supplemental vegetation is proposed to enhance the areas where the existing trees do not currently provide a proper screen. The closest home will be 300 feet from the nearest panel and the average distance will be 1,780 feet.

The matched pair analysis shows no impact on home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land where the solar farm is properly screened and buffered. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all indicate that a solar farm is a compatible use for rural/residential transition areas and that it would function in a harmonious manner with this area.

Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

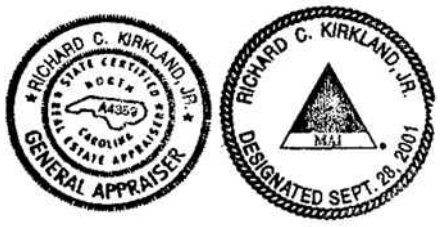
Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial negative effect to abutting or adjoining properties, and many of those

findings of no impact have been upheld by appellate courts. Similar solar farms have been approved with adjoining agricultural uses, schools, churches, and residential developments.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no impact on the value of adjoining or abutting properties and that the proposed use is in harmony with the area in which it is located. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is minimal traffic.

If you have any questions please contact me.

Sincerely,



Richard C. Kirkland, Jr., MAI
NC Certified General Appraiser A4359
Kentucky Certified General Appraiser #5522

Table of Contents

I. Proposed Project and Adjoining Uses

Proposed Use Description

This 120 MW solar farm is proposed to be constructed on a portion of a 902.16-acre assemblage of land located off Leitchfield Road, near Elizabethtown, Hardin County, Kentucky. Adjoining land is a mix of residential and agricultural uses, which is very typical of solar farm sites. There is also a quarry located to the southeast as the solar farm effectively wraps around that quarry and effectively forms part of the buffer around that quarry.

Adjoining Properties

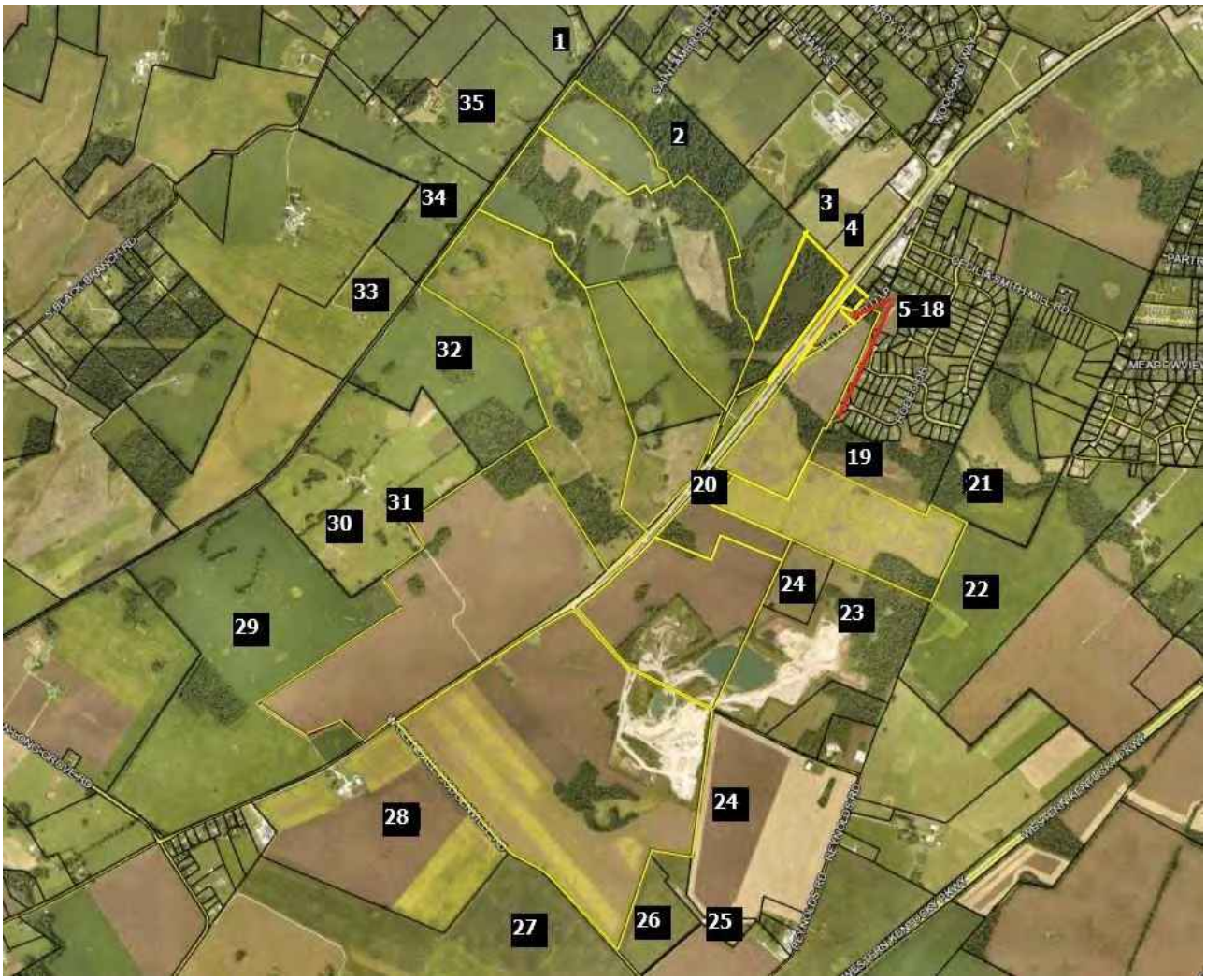
I have considered adjoining uses and included a map to identify each parcel's location. Based on the current site plan the closest adjoining home will be 300 feet from the closest solar panel and the average distance to adjoining homes will be 1,780 feet to the nearest solar panel. These setbacks are larger than what is typically found and will go beyond what is needed to protect adjoining property values when coupled with sufficient landscaped buffers.

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

Adjoining Use Breakdown

	Acreage	**Parcels**
Residential	1.39%	48.57%
Agricultural	35.38%	22.86%
Agri/Res	51.79%	22.86%
Quarry	11.45%	5.71%
Total	**100.00%**	**100.00%**

Tax Parcel Map



Aerial Map with Arrays Portrayed

Surrounding Uses

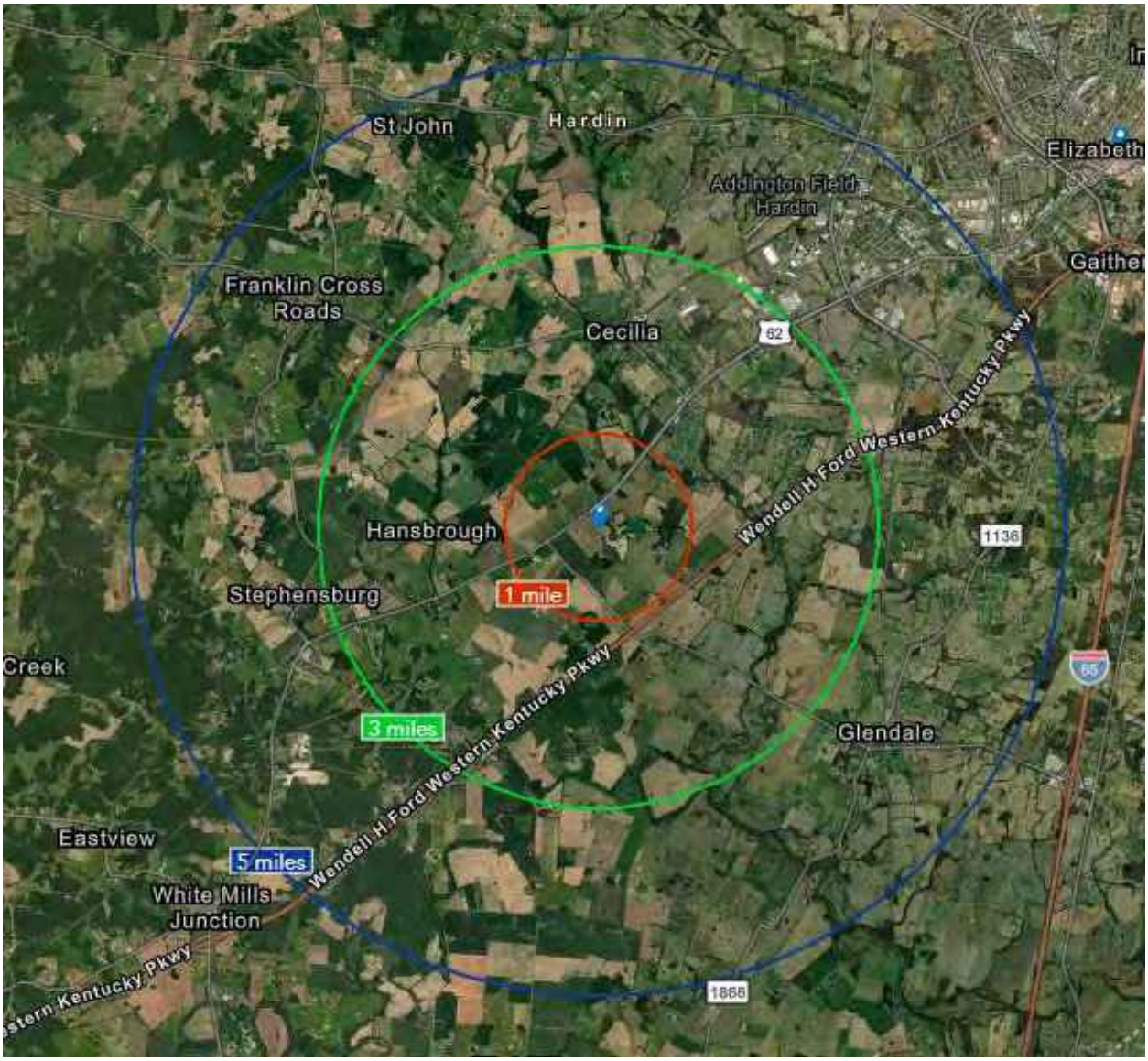
#	MAP ID	Owner	GIS Data Acres	Present Use	Adjoin Acres	Adjoin Parcels	Distance Home/Pa	Assessed Value	L.F Adjacency
1	147-00-00-028.01	Yates	37.86	Agri/Res	1.84%	2.86%	680	$250,000	150
2	147-00-00-044.01	Lush	82.00	Agri/Res	3.98%	2.86%	1,005	$513,000	5340
3	168-20-00-037	Wildcat	33.70	Agri/Res	1.63%	2.86%	3,585	$163,800	370
4	168-20-00-036.02	Wildcat	14.14	Agricultural	0.69%	2.86%	N/A	$5,700	455
5	168-20-00-035.02	Taul	1.17	Residential	0.06%	2.86%	N/A	$19,800	175
6	168-00-00-011	Goodman	0.52	Residential	0.03%	2.86%	2,110	$115,100	1
7	168-00-00-007	Kutcher	0.50	Residential	0.02%	2.86%	1,935	$135,500	136
8	168-00-00-008	Bryant	0.35	Residential	0.02%	2.86%	2,090	$101,300	88
9	168-00-00-009	Preston	0.35	Residential	0.02%	2.86%	2,190	$109,500	65
10	168-00-00-010	Jewell	0.35	Residential	0.02%	2.86%	2,220	$85,100	40
11	169-00-00-001.01	Hall	5.00	Residential	0.24%	2.86%	2,560	$229,100	394
12	169-00-02-075	Back	0.83	Residential	0.04%	2.86%	2,315	$136,000	1
13	169-00-02-076	Spears	1.45	Residential	0.07%	2.86%	2,205	$155,000	536
14	169-00-02-077	Cline	0.71	Residential	0.03%	2.86%	1,805	$146,000	277
15	169-00-02-110	Gardner	0.75	Residential	0.04%	2.86%	1,670	$130,000	1
16	169-00-02-111	Hensley	0.69	Residential	0.03%	2.86%	1,515	$137,900	300
17	169-00-02-112	Boone	0.75	Residential	0.04%	2.86%	1,415	$144,900	332
18	169-00-02-113	Willits	0.87	Residential	0.04%	2.86%	1,445	$134,400	111
19	169-00-02-121	Conrad	36.13	Agricultural	1.75%	2.86%	N/A	$186,000	2639
20	148-00-00-006	Waugh	3.00	Residential	0.15%	2.86%	300	$152,900	1732
21	169-00-00-002.01	Felts	65.00	Agri/Res	3.15%	2.86%	1,415	$347,100	593
22	169-00-00-009.02	Rogers	110.00	Agri/Res	5.34%	2.86%	3,150	$417,800	1236
23	148-00-00-012.01	Rogers	90.00	Quarry	4.37%	2.86%	N/A	$370,000	3180
24	148-00-00-012	Rogers	146.00	Quarry	7.08%	2.86%	N/A	$1,018,800	1745
25	149-00-00-003	Waltz	10.37	Residential	0.50%	2.86%	1,275	$159,800	658
26	149-00-00-004	Rogers	67.00	Agricultural	3.25%	2.86%	N/A	$399,800	1445
27	149-00-00-001	Simcoe	550.00	Agri/Res	26.68%	2.86%	3,500	$1,836,600	2100
28	148-00-00-013	Taylor	141.00	Agri/Res	6.84%	2.86%	800	$1,104,600	2978
29	126-00-00-021	Doris	242.00	Agricultural	11.74%	2.86%	N/A	$1,200,000	4713
30	148-00-00-008	Davis	128.00	Agricultural	6.21%	2.86%	N/A	$589,000	2544
31	148-00-00-009	Childers	0.90	Residential	0.04%	2.86%	830	$84,600	0
32	148-00-00-002	Grey	88.00	Agricultural	4.27%	2.86%	N/A	$312,000	4046
33	148-00-00-001	Grey	48.00	Agri/Res	2.33%	2.86%	715	$364,200	1
34	147-00-00-028	Sexton	88.00	Agricultural	4.27%	2.86%	N/A	$379,700	1815
35	147-00-00-028.04	Sexton	66.00	Agricultural	3.20%	2.86%	N/A	$271,400	1078
		Total	**2061.386**		**100.00%**	**100.00%**	1,780		

N/A indicates that there is no adjoining home to which to measure. Linear feet of adjacency listed in red means that the property is across a right of way from the subject property. Linear feet of adjacency of 1 foot is assigned where properties meet at a corner.

I note that Parcel 20 is currently under option by the developer for possible purchase and inclusion in the solar farm. The map showing the solar panel layout includes panels on that parcel, but if it is not purchased or otherwise included into the project, then the panels will maintain a 300 ft buffer from that existing dwelling.

II. Demographics

I have pulled the following demographics for a 1-mile, 3-mile and 5-mile radius around the proposed solar farm project.



Housing Profile

42724 2
42724, Cecilia, Kentucky
Ring: 1 mile radius

Prepared by Esri
Latitude: 37.63564
Longitude: -85.96111

Population		Households	
2010 Total Population	63	2022 Median Household Income	$75,000
2020 Total Population	67	2027 Median Household Income	$84,511
2022 Total Population	67	2022-2027 Annual Rate	2.42%
2027 Total Population	67		
2022-2027 Annual Rate	0.00%		

	Census 2010		2022		2027	
Housing Units by Occupancy Status and Tenure	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	13	100.0%	13	100.0%	13	100.0%
Occupied	7	53.8%	7	53.8%	7	53.8%
Owner	6	46.2%	6	46.2%	6	46.2%
Renter	1	7.7%	1	7.7%	1	7.7%
Vacant	7	53.8%	6	46.2%	6	46.2%

	2022		2027	
Owner Occupied Housing Units by Value	Number	Percent	Number	Percent
Total	6	100.0%	5	100.0%
<$50,000	0	0.0%	0	0.0%
$50,000-$99,999	0	0.0%	0	0.0%
$100,000-$149,999	2	33.3%	1	20.0%
$150,000-$199,999	1	16.7%	1	20.0%
$200,000-$249,999	0	0.0%	0	0.0%
$250,000-$299,999	1	16.7%	1	20.0%
$300,000-$399,999	1	16.7%	1	20.0%
$400,000-$499,999	1	16.7%	1	20.0%
$500,000-$749,999	0	0.0%	0	0.0%
$750,000-$999,999	0	0.0%	0	0.0%
$1,000,000-$1,499,999	0	0.0%	0	0.0%
$1,500,000-$1,999,999	0	0.0%	0	0.0%
$2,000,000+	0	0.0%	0	0.0%
Median Value	$225,000		$275,000	
Average Value	$250,000		$275,000	

Census 2010 Housing Units	Number	Percent
Total	13	100.0%
In Urbanized Areas	1	7.7%
In Urban Clusters	0	0.0%
Rural Housing Units	12	92.3%

Data Note: Persons of Hispanic Origin may be of any race.
Source: Esri forecasts for 2022 and 2027. U.S. Census Bureau 2010 decennial Census data converted by Esri into 2020 geography.

July 02, 2022

Housing Profile

42724 2
42724, Cecilia, Kentucky
Ring: 3 mile radius

Prepared by Esri
Latitude: 37.63564
Longitude: -85.96111

Population		Households	
2010 Total Population	2,640	2022 Median Household Income	$69,891
2020 Total Population	3,025	2027 Median Household Income	$86,356
2022 Total Population	3,098	2022-2027 Annual Rate	4.32%
2027 Total Population	3,209		
2022-2027 Annual Rate	0.71%		

	Census 2010		2022		2027	
Housing Units by Occupancy Status and Tenure	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	1,053	100.0%	1,218	100.0%	1,261	100.0%
Occupied	981	93.2%	1,154	94.7%	1,199	95.1%
Owner	840	79.8%	976	80.1%	1,019	80.8%
Renter	141	13.4%	178	14.6%	180	14.3%
Vacant	72	6.8%	64	5.3%	63	5.0%

	2022		2027	
Owner Occupied Housing Units by Value	Number	Percent	Number	Percent
Total	976	100.0%	1,019	100.0%
<$50,000	106	10.9%	47	4.6%
$50,000-$99,999	48	4.9%	16	1.6%
$100,000-$149,999	136	13.9%	62	6.1%
$150,000-$199,999	165	16.9%	129	12.7%
$200,000-$249,999	163	16.7%	188	18.4%
$250,000-$299,999	94	9.6%	130	12.8%
$300,000-$399,999	145	14.9%	242	23.7%
$400,000-$499,999	99	10.1%	178	17.5%
$500,000-$749,999	14	1.4%	20	2.0%
$750,000-$999,999	5	0.5%	6	0.6%
$1,000,000-$1,499,999	0	0.0%	0	0.0%
$1,500,000-$1,999,999	0	0.0%	0	0.0%
$2,000,000+	1	0.1%	1	0.1%
Median Value	$210,123		$275,962	
Average Value	$230,866		$290,039	

Census 2010 Housing Units	Number	Percent
Total	1,053	100.0%
In Urbanized Areas	359	34.1%
In Urban Clusters	0	0.0%
Rural Housing Units	694	65.9%

Data Note: Persons of Hispanic Origin may be of any race.
Source: Esri forecasts for 2022 and 2027. U.S. Census Bureau 2010 decennial Census data converted by Esri into 2020 geography.

July 02, 2022

Housing Profile

42724 2
42724, Cecilia, Kentucky
Ring: 5 mile radius

Prepared by Esri
Latitude: 37.63564
Longitude: -85.96111

Population		Households	
2010 Total Population	7,397	2022 Median Household Income	$68,351
2020 Total Population	8,319	2027 Median Household Income	$81,654
2022 Total Population	8,502	2022-2027 Annual Rate	3.62%
2027 Total Population	8,780		
2022-2027 Annual Rate	0.65%		

	Census 2010		2022		2027	
Housing Units by Occupancy Status and Tenure	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	2,933	100.0%	3,348	100.0%	3,457	100.0%
Occupied	2,714	92.5%	3,150	94.1%	3,261	94.3%
Owner	2,263	77.2%	2,578	77.0%	2,692	77.9%
Renter	451	15.4%	572	17.1%	569	16.5%
Vacant	215	7.3%	199	5.9%	196	5.7%

	2022		2027	
Owner Occupied Housing Units by Value	Number	Percent	Number	Percent
Total	2,579	100.0%	2,691	100.0%
<$50,000	220	8.5%	96	3.6%
$50,000-$99,999	162	6.3%	60	2.2%
$100,000-$149,999	335	13.0%	155	5.8%
$150,000-$199,999	432	16.8%	350	13.0%
$200,000-$249,999	400	15.5%	447	16.6%
$250,000-$299,999	205	7.9%	270	10.0%
$300,000-$399,999	464	18.0%	729	27.1%
$400,000-$499,999	266	10.3%	456	16.9%
$500,000-$749,999	49	1.9%	71	2.6%
$750,000-$999,999	38	1.5%	46	1.7%
$1,000,000-$1,499,999	1	0.0%	1	0.0%
$1,500,000-$1,999,999	2	0.1%	3	0.1%
$2,000,000+	5	0.2%	7	0.3%
Median Value	$217,562		$293,981	
Average Value	$249,506		$308,278	

Census 2010 Housing Units	Number	Percent
Total	2,933	100.0%
In Urbanized Areas	1,089	37.1%
In Urban Clusters	0	0.0%
Rural Housing Units	1,844	62.9%

Data Note: Persons of Hispanic Origin may be of any race.
Source: Esri forecasts for 2022 and 2027. U.S. Census Bureau 2010 decennial Census data converted by Esri into 2020 geography.

July 02, 2022

III. Methodology and Discussion of Issues

Standards and Methodology

I conducted this analysis using the standards and practices established by the Appraisal Institute and that conform to the Uniform Standards of Professional Appraisal Practice. The analyses and methodologies contained in this report are accepted by all major lending institutions, and they are used in Kentucky and across the country as the industry standard by certified appraisers conducting appraisals, market analyses, or impact studies and are considered adequate to form an opinion of the impact of a land use on neighboring properties. These standards and practices have also been accepted by the courts at the trial and appellate levels and by federal courts throughout the country as adequate to reach conclusions about the likely impact a use will have on adjoining or abutting properties.

The aforementioned standards compare property uses in the same market and generally within the same calendar year so that fluctuating markets do not alter study results. Although these standards do not require a linear study that examines adjoining property values before and after a new use (e.g. a solar farm) is developed, some of these studies do in fact employ this type of analysis. Comparative studies, as used in this report, are considered an industry standard.

The type of analysis employed is a Matched Pair Analysis or Paired Sales Analysis. This methodology is outlined in **The Appraisal of Real Estate**, Twelfth Edition by the Appraisal Institute pages 438-439. It is further detailed in **Real Estate Damages**, Third Edition, pages 33-36 by Randall Bell PhD, MAI. Paired sales analysis is used to support adjustments in appraisal work for factors ranging from the impact of having a garage, golf course view, or additional bedrooms. It is an appropriate methodology for addressing the question of impact of an adjoining solar farm. The paired sales analysis is based on the theory that when two properties are in all other respects equivalent, a single difference can be measured to indicate the difference in price between them. Dr. Bell describes it as comparing a test area to control areas. In the example provided by Dr. Bell he shows five paired sales in the test area compared to 1 to 3 sales in the control areas to determine a difference. I have used 3 sales in the control areas in my analysis for each sale developed into a matched pair.

Determining what is an External Obsolescence

An external obsolescence is a use of property that, because of its characteristics, might have a negative impact on the value of adjacent or nearby properties because of identifiable impacts. Determining whether a use would be considered an external obsolescence requires a study that isolates that use, eliminates any other causing factors, and then studies the sales of nearby versus distant comparable properties. The presence of one or a combination of key factors does not mean the use will be an external obsolescence, but a combination of these factors tend to be present when market data reflects that a use is an external obsolescence.

External obsolescence is evaluated by appraisers based on several factors. These factors include but are not limited to:

1) Traffic. Solar Farms are not traffic generators.

2) Odor. Solar farms do not produce odor.

3) Noise. Solar farms generate no noise concerns and are silent at night.

4) Environmental. Solar farms do not produce toxic or hazardous waste. Grass is maintained underneath the panels so there is minimal impervious surface area.

5) Appearance/Viewshed. This is the one area that potentially applies to solar farms. However, solar farms are generally required to provide significant setbacks and landscaping buffers to address that concern. Furthermore, any consideration of appearance of viewshed impacts has to be considered in comparison with currently allowed uses on that site. For example if a residential subdivision is already an allowed use, the question becomes in what way does the appearance impact adjoining property owners above and beyond the appearance of that allowed subdivision or other similar allowed uses.

6) Other factors. I have observed and studied many solar farms and have never observed any characteristic about such facilities that prevents or impedes neighbors from fully using their homes or farms or businesses for the use intended.

Relative Solar Farm Sizes

Solar farms have been increasing in size in recent years. Much of the data collected is from existing, older solar farms of smaller size, but there are numerous examples of sales adjoining 75 to 80 MW facilities that show a similar trend as the smaller solar farms. This is understandable given that the primary concern relative to a solar farm is the appearance or view of the solar farm, which is typically addressed through setbacks and landscaping buffers. The relevance of data from smaller solar farms to larger solar farms is due to the primary question being one of appearance. If the solar farm is properly screened, then little of the solar farm would be seen from adjoining property regardless of how many acres are involved.

Larger solar farms are often set up in sections where any adjoining owner would only be able to see a small section of the project even if there were no landscaping screen. Once a landscaping screen is in place, the primary view is effectively the same whether you are adjoining a 5 MW, 20 MW or 100 MW facility.

I have split out the data for the matched pairs adjoining larger solar farms only to illustrate the similarities later in this report. I note that I have matched pairs adjoining solar farms up to 500 MWs in size showing no impact on property value.

Steps Involved in the Analysis

The paired sales analysis employed in this report follows the following process:

1. Identify sales of property adjoining existing solar farms.
2. Compare those sales to similar property that does not adjoin an existing solar farm.
3. Confirmation of sales are noted in the analysis write ups.
4. Distances from the homes to panels are included as a measure of the setbacks.
5. Topographic differences across the solar farms themselves are likewise noted along with demographic data for comparing similar areas.

There are a number of Sale/Resale comparables included in the write ups, but most of the data shown is for sales of homes after a solar farm has been announced (where noted) or after a solar farm has been constructed.

IV. Research on Solar Farms

A. Appraisal Market Studies

I have also considered a number of impact studies completed by other appraisers as detailed below.

CohnReznick – Property Value Impact Study: Adjacent Property Values Solar Impact Study: A Study of Eight Existing Solar Facilities

Patricia McGarr, MAI, CRE, FRICS, CRA and Andrew R. Lines, MAI with CohnReznick completed an impact study for a proposed solar farm in Cheboygan County, Michigan completed on June 10, 2020. I am familiar with this study as well as a number of similar such studies completed by CohnReznick. I have not included all of these studies but I submit this one as representative of those studies.

This study addresses impacts on value from eight different solar farms in Michigan, Minnesota, Indiana, Illinois, Virginia and North Carolina. These solar farms are 19.6 MW, 100 MW, 11.9 MW, 23 MW, 71 MW, 61 MW, 40 MW, and 19 MW for a range from 11.9 MW to 100 MW with an average of 31 MW and a median of 31.5 MW. They analyzed a total of 24 adjoining property sales in the Test Area and 81 comparable sales in the Control Area over a five-year period.

The conclusion of this study is that there is no evidence of any negative impact on adjoining property values based on sales prices, conditions of sales, overall marketability, potential for new development or rate of appreciation.

Christian P. Kaila & Associates – Property Impact Analysis – Proposed Solar Power Plant Guthrie Road, Stuarts Draft, Augusta County, Virginia

Christian P. Kaila, MAI, SRA and George J. Finley, MAI developed an impact study as referenced above dated June 16, 2020. This was for a proposed 83 MW facility on 886 acres.

Mr. Kaila interviewed appraisers who had conducted studies and reviewed university studies and discussed the comparable impacts of other development that was allowed in the area for a comparative analysis of other impacts that could impact viewshed based on existing allowed uses for the site. He also discussed in detail the various other impacts that could cause a negative impact and how solar farms do not have such characteristics.

Mr. Kaila also interviewed County Planners and Real Estate Assessor's in eight different Virginia counties with none of the assessor's identifying any negative impacts observed for existing solar projects.

Mr. Kaila concludes on a finding of no impact on property values adjoining the indicated solar farm.

Fred Beck, MAI, CCIM – Impact Analysis in Lincoln County 2013

Mr. Fred Beck, MAI, CCIM completed an impact analysis in 2013 for a proposed solar farm that concluded on a negative impact on value. That report relied on a single cancelled contract for an adjoining parcel where the contracted buyers indicated that the solar farm was the reason for the cancellation. It also relied on the activities of an assessment impact that was applied in a nearby county.

Mr. Beck was interviewed as part of the Christian Kalia study noted above. From that I quote "Mr. Beck concluded on no effect on moderate priced homes, and only a 5% change in his limited research of higher priced homes. His one sale that fell through is hardly a reliable sample. It also was misleading on Mr. Beck's part to report the lower re-assessments since the primary cause of the

re-assesments were based on the County Official, who lived adjacent to the solar farm, appeal to the assessor for reductions with his own home." In that Clay County Case study the noted lack of lot sales after announcement of the solar farm also coincided with the recession in 2008/2009 and lack of lot sales effectively defined that area during that time. I contacted the Clay County Assessor who indicated that there is no set downward adjustment for properties adjoining solar farms in the county at this time.

I further note, that I was present at the hearing where Mr. Beck presented these findings and the predominance of his argument before the Lincoln County Board of Commissioner's was based on the one cancelled sale as well as a matched pair analysis of high-end homes adjoining a four-story call center. He hypothesized that a similar impact from that example could be compared to being adjacent solar farm without explaining the significant difference in view, setbacks, landscaping, traffic, light, and noise. Furthermore, Mr. Beck did have matched pairs adjoining a solar farm in his study that he put in the back of his report and then ignored as they showed no impact on property value.

Also noted in the Christian Kalia interview notes is a response from Mr. Beck indicating that in his opinion "the homes were higher priced homes and had full view of the solar farm." Based on a description of screening so that "the solar farm would not be in full view to adjoining property owners. Mr. Beck said in that case, he would not see any drop in property value."

NorthStar Appraisal Company – Impact Analysis for Nichomus Run Solar, Pilesgrove, NJ, September 16, 2020

Mr. William J. Sapio, MAI with NorthStar Appraisal Company considered a matched pair analysis for the potential impact on adjoining property values to this proposed 150 MW solar farm. Mr. Sapio considered sales activity in a subdivision known as Point of Woods in South Brunswick Township and identified two recent new homes that were constructed and sold adjoining a 13 MW solar farm and compared them to similar homes in that subdivision that did not adjoin the solar farm. These homes sold in the $1,290,450 to $1,336,613 price range and these homes were roughly 200 feet from the closest solar panel.

Based on this analysis, he concluded that the adjoining solar farm had no impact on adjoining property value.

Mary McClinton Clay, MAI – McCracken County Solar Project Value Impact Report, July 10, 2021

Ms. Mary Clay, MAI reviewed a report by Kirkland Appraisals in this case and also provided a differing opinion of impact. She cites a number of other appraisal studies and interestingly finds fault with heavily researched opinions, while praising the results of poorly researched studies that found the opposing view.

Her analysis includes details from solar farms that show no impact on value, but she dismisses those.

She cites the University of Texas study noted later in this report, but she cites only isolated portions of that study to conclude the opposite of what that study specifically concludes.

She cites the University of Rhode Island study noted alter in this report, but specifically excludes the conclusion of that study that in rural areas they found no impact on property value.

She cites lot sales near Spotsylvania Solar without confirming the purchase prices with brokers as indicative of market impact and has made no attempt to compare lot prices that are contemporaneous. In her 5 lot sales that she identifies, all of the lot prices decline with time from 2015 through 2019. This includes the 3 lot sales prior to the approval of the solar farm. The lot sales she cites showing a drop are all related to the original developer of that subdivision 20+ years

ago liquidating all of their lots in that time period and shows significant drops on all of the lots due to it being a liquidation value. More recent lot sales show lot prices over $100,000 with the most recent land sale adjoining the solar farm having sold in December of 2021 for $140,000. I spoke with Chris Kalia, MAI out of VA about these lot sales and he confirmed along with two other appraisers in that market that he connected me with that the lot sales Ms. Clay identified were all related to that liquidation and not related to the solar farm. All three appraisers agreed that they had seen no negative impacts from Spotsylvania Solar and that lot prices among builders and home owners were going up and home prices in the neighborhood were likewise going up. Additional analysis on Spotsylvania Solar is shown later in this report with a new section of homes and new price points significantly higher than historical sales in this subdivision.

She considers data at McBride Place Solar Farm and does a sale/resale analysis based on Zillow Home Value Index, which is not a reliable indication for appreciation in the market. She then adjusted her initial sales prior to the solar farm over 7 years to determine what she believes the home should have appreciated by and then compares that to an actual sale. She has run no tests or any analysis to show that the appreciation rates she is using are consistent with the market but more importantly she has not attempted to confirm any of these sales with market participants. I have spoken with brokers active in the sales that she cites and they have all indicated that the solar farm was not a negative factor in marketing or selling those homes.

She has considered lot sales at Sunshine Farms in Grandy, NC. She indicates that the lots next to the solar farm are selling for less than lots not near the solar farm, but she is actually using lot sales next to the solar farm prior to the solar farm being approved. She also ignores recent home sales adjoining this solar farm after it was built that show no impact on property value.

She also notes a couple of situations where solar developers have purchased adjoining homes and resold them or where a neighbor agreement was paid as proof of a negative impact on property value. Given that there are over 2,500 solar farms in the USA as of 2018 according to the U.S. Energy Information Administration and there are only a handful of such examples, this is clearly not an industry standard but a business decision. Furthermore, solar developers are not in the business of flipping homes and are in a position very similar to a bank that acquires a home as OREO (Other Real Estate Owned), where homes are frequently sold at discounted prices, not because of any drop in value, but because they are not a typically motivated seller. Market value requires an analysis of a typically motivated buyer and seller. So these are not good indicators of market value impacts.

The comments throughout this study are heavy in adjectives, avoids stating facts contrary to the conclusion and shows a strong selection bias.

Conclusion of Impact Studies

Of the fives studies noted two included actual sales data to derive an opinion of no impact on value. The two studies to conclude on a negative impact includes the Fred Beck study based on no actual sales data, and he has since indicated that with landscaping screens he would not conclude on a negative impact. The other study by Mary Clay shows improper adjustments for time, a lack of confirmation of sales comparables, and exclusion of data that does not support her position.

I have relied on these studies as additional support for the findings in this impact analysis.

B. Articles

I have also considered a number of articles on this subject as well as conclusions and analysis as noted below.

Farm Journal Guest Editor, March 22, 2021 – Solar's Impact on Rural Property Values

Andy Ames, ASFMRA (American Society of Farm Managers and Rural Appraisers) published this article that includes a discussion of his survey of appraisers and studies on the question of property value related to solar farms. He discusses the university studies that I have cited as well as Patricia McGarr, MAI.

He also discusses the findings of Donald A. Fisher, ARA, who served six years at the Chair of the ASFMRA's National Appraisal Review Committee. He is also the Executive Vice President of the CNY Pomeroy Appraiser and has conducted several market studies on solar farms and property impact. He is quoted in the article as saying, "Most of the locations were in either suburban or rural areas, and all of those studies found either a neutral impact, or ironically, a positive impact, where values on properties after installation of solar farms went up higher than time trends."

Howard Halderman, AFM, President and CEO of Halderman Real Estate and Farm Management attended the ASFMRA solar talk hosted by the Indiana Chapter of the ASFMRA and he concludes that other rural properties would likely see no impact and farmers and landowners shown even consider possible benefits. "In some cases, farmers who rent land to a solar company will insure the viability of their farming operation for a longer time period. This makes them better long-term tenants or land buyers so one can argue that higher rents and land values will follow due to the positive impact the solar leases offer."

National Renewable Energy Laboratory – Top Five Large-Scale Solar Myths, February 3, 2016

Megan Day reports form NREL regarding a number of concerns neighbors often express. Myth #4 regarding property value impacts addresses specifically the numerous studies on wind farms that show no impact on property value and that solar farms have a significantly reduced visual impact from wind farms. She highlights that the appearance can be addressed through mitigation measures to reduce visual impacts of solar farms through vegetative screening. Such mitigations are not available to wind farms given the height of the windmills and again, those studies show no impact on value adjoining wind farms.

North Carolina State University: NC Clean Energy Technology Center White Paper: Balancing Agricultural Productivity with Ground-Based Solar Photovoltaic (PV) Development (Version 2), May 2019

Tommy Cleveland and David Sarkisian wrote a white paper for NCSU NC Clean Energy Technology Center regarding the potential impacts to agricultural productivity from a solar farm use. I have interviewed Tommy Cleveland on numerous occasions and I have also heard him speak on these issues at length as well. He addresses many of the common questions regarding how solar farms work and a detailed explanation of how solar farms do not cause significant impacts on the soils, erosion and other such concerns. This is a heavily researched paper with the references included.

North Carolina State University: NC Clean Energy Technology Center White Paper: Health and Safety Impacts of Solar Photovoltaics, May 2017

Tommy Cleveland wrote a white paper for NCSU NC Clean Energy Technology Center regarding the health and safety impacts to address common questions and concerns related to solar farms. This is a heavily researched white paper addressing questions ranging from EMFs, fire safety, as well as vegetation control and the breakdown of how a solar farm works.

C. Broker Commentary

In the process of working up the matched pairs used later in this report, I have collected comments from brokers who have actually sold homes adjoining solar farms indicating that the solar farm had no impact on the marketing, timing, or sales price for the adjoining homes. I have comments from brokers noted within the solar farm write ups of this report including brokers from Kentucky,

Virginia, Tennessee, and North Carolina. I have additional commentary from other states including New Jersey and Michigan that provide the same conclusion.

V. University Studies

I have also considered the following studies completed by four different universities related to solar farms and impacts on property values.

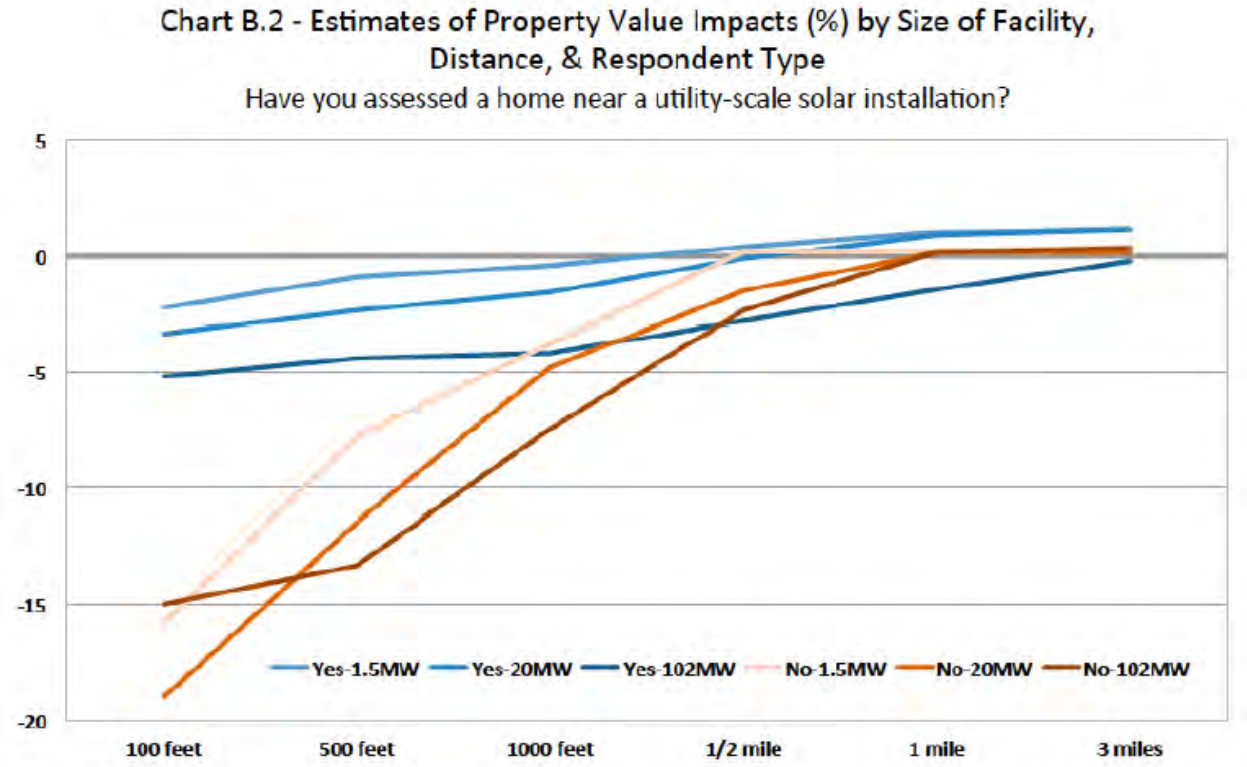
A. University of Texas at Austin, May 2018

An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations

This study considers solar farms from two angles. First it looks at where solar farms are being located and concludes that they are being located primarily in low density residential areas where there are fewer homes than in urban or suburban areas.

The second part is more applicable in that they conducted a survey of appraisers/assessors on their opinions of the possible impacts of proximity to a solar farm. They consider the question in terms of size of the adjoining solar farm and how close the adjoining home is to the solar farm. I am very familiar with this part of the study as I was interviewed by the researchers multiple times as they were developing this. One very important question that they ask within the survey is very illustrative. They asked if the appraiser being surveyed had ever appraised a property next to a solar farm. There is a very noticeable divide in the answers provided by appraisers who have experience appraising property next to a solar farm versus appraisers who self-identify as having no experience or knowledge related to that use.

On Page 16 of that study they have a chart showing the responses from appraisers related to proximity to a facility and size of the facility, but they separate the answers as shown below with appraisers with experience in appraising properties next to a solar farm shown in blue and those inexperienced shown in brown. Even within 100 feet of a 102 MW facility the response from experienced appraisers were -5% at most on impact. While inexperienced appraisers came up with significantly higher impacts. This chart clearly shows that an uninformed response widely diverges from the sales data available on this subject.



Furthermore, the question cited above does not consider any mitigating factors such as landscaping buffers or screens which would presumably reduce the minor impacts noted by experienced appraisers on this subject.

The conclusion of the researchers is shown on Page 23 indicated that "Results from our survey of residential home assessors show that the majority of respondents believe that proximity to a solar installation has either no impact or a positive impact on home values."

This analysis supports the conclusion of this report that the data supports no impact on adjoining property values. The only impact suggested by this study is -5% if a home was within 100 feet of a 100 MW solar farm with little to no landscaping screening. The proposed project has a landscaping screening, is much further setback than 100 feet from adjoining homes, and is less than 100 MW.

B. University of Rhode Island, September 2020

Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island

The University of Rhode Island published a study entitled **Property Value Impacts of Commercial-Scale Solar Energy in Massachusetts and Rhode Island** on September 29, 2020 with lead researchers being Vasundhara Gaur and Corey Lang. I have read that study and interviewed Mr. Corey Lang related to that study. This study is often cited by opponents of solar farms but the findings of that study have some very specific caveats according to the report itself as well as Mr. Lang from the interview.

While that study does state in the Abstract that they found depreciation of homes within 1-mile of a solar farm, that impact is limited to non-rural locations. On Pages 16-18 of that study under Section 5.3 Heterogeneity in treatment effect they indicate that the impact that they found was limited to non-rural locations with the impact in rural locations effectively being zero. For the study they defined "rural" as a municipality/township with less than 850 population per square mile.

They further tested the robustness of that finding and even in areas up to 2,000 population per square mile they found no statistically significant data to suggest a negative impact. They have not specifically defined a point at which they found negative impacts to begin, as the sensitivity study stopped checking at the 2,000-population per square mile.

Where they did find negative impacts was in high population density areas that was largely a factor of running the study in Massachusetts and Rhode Island which the study specifically cites as being the 2nd and 3rd most population dense states in the USA. Mr. Lang in conversation as well as in recorded presentations has indicated that the impact in these heavily populated areas may reflect a loss in value due to the scarce greenery in those areas and not specifically related to the solar farm itself. In other words, any development of that site might have a similar impact on property value.

Based on this study I have checked the population for the Cecillia Division of Hardin County, which has a population of 3,437 population for 2021 based on HomeTownLocator using Census Data and a total area of 54.56 square miles. This indicates a population density of 63 people per square mile which puts this well below the threshold indicated by the Rhode Island Study.

I therefore conclude that the Rhode Island Study supports the indication of no impact on adjoining properties for the proposed solar farm project.

Cecilia Division Data & Demographics (As of July 1, 2021)

POPULATION	
Total Population	3,437 (100%)
Population in Households	3,437 (100.0%)
Population in Families	2,948 (85.8%)
Population in Group Quarters[1]	0
Population Density	63
Diversity Index[2]	11

HOUSING	
Total HU (Housing Units)	1,440 (100%)
Owner Occupied HU	1,139 (79.1%)
Renter Occupied HU	210 (14.6%)
Vacant Housing Units	91 (6.3%)
Median Home Value	$184,954
Average Home Value	$211,282
Housing Affordability Index[3]	234

INCOME	
Median Household Income	$71,632
Average Household Income	$85,085
% of Income for Mortgage[4]	11%
Per Capita Income	$33,082
Wealth Index[5]	91

HOUSEHOLDS	
Total Households	1,349
Average Household Size	2.55
Family Households	1,009
Average Family Size	3

C. Georgia Institute of Technology, October 2020

Utility-Scale Solar Farms and Agricultural Land Values

This study was completed by Nino Abashidze as Post-Doctoral Research Associate of Health Economics and Analytics Labe (HEAL), School of Economics, Georgia Institute of Technology. This research was started at North Carolina State University and analyzes properties near 451 utility-scale ground-mount solar installations in NC that generate at least 1 MW of electric power. A total of 1,676 land sales within 5-miles of solar farms were considered in the analysis.

This analysis concludes on Page 21 of the study "Although there are no direct effects of solar farms on nearby agricultural land values, we do find evidence that suggests construction of a solar farm may create a small, positive, option -value for land owners that is capitalized into land prices. Specifically, after construction of a nearby solar farm, we find that agricultural land that is also located near transmission infrastructure may increase modestly in value."

This study supports a finding of no impact on adjoining agricultural property values and in some cases could support a modest increase in value.

D. Master's Thesis: ECU by Zachary Dickerson July 2018

A Solar Farm in *My* Backyard? Resident Perspectives of Utility-Scale Solar in Eastern North Carolina

This study was completed as part of a Master of Science in Geography Master's Thesis by Zachary Dickerson in July 2018. This study sets out to address three questions:

1. Are there different aspects that affect resident satisfaction regarding solar farms?

2. Are there variations in satisfaction for residents among different geographic settings, e.g. neighborhoods adjacent to the solar farms or distances from the solar farms?

3. How can insight from both the utility and planning sectors, combined with knowledge gained from residents, fill gaps in communication and policy writing in regard to solar farms?

This was done through survey and interview with adjacent and nearby neighbors of existing solar farms. The positive to neutral comments regarding the solar farms were significantly higher than negative. The researcher specifically indicates on Page 46 "The results show that respondents generally do not believe the solar farms pose a threat to their property values."

The most negative comments regarding the solar farms were about the lack of information about the approval process and the solar farm project prior to construction.

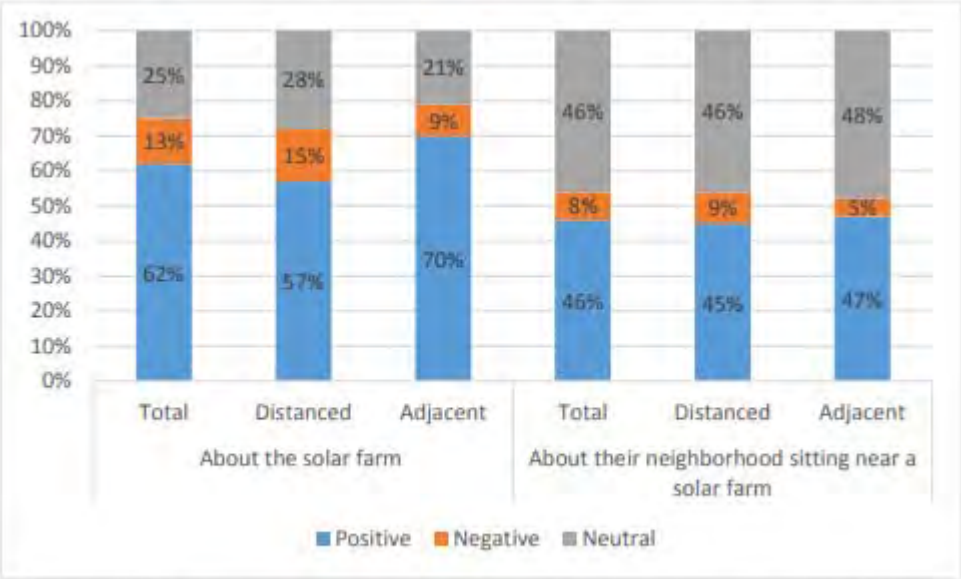


Figure 11: Residents' positive/negative word choices by geographic setting for both questions

VI. Assessor Surveys

I have attempted to contact all of the assessor departments in North Carolina to determine how local assessors are handling solar farms and adjoining property values. I have spoken personally with a number of assessors, but much of this data was obtained via email. I have 39 counties in NC that have both responded to these questions on property value and also have solar farms in that county. I have excluded responses from assessors from counties where there are no current solar farms.

As can be seen in the chart below, of the 39 responses all of the responses have indicated that they make no adjustment to properties adjoining solar farms. Several assessors indicated that it would require an adjoining property owner to appeal their property value with data showing a negative impact before they would make any adjustment and to date they have not had that happen.

I also point out specifically Clay County. I spoke with the assessor there specifically about adjustments that were applied to some properties near a solar farm back in 2008/2011. She was unaware of the details of that event as she was not in this position at that time. As discussed earlier in this report the lower re-assessments at that solar farm were based on a County Official, who owned property adjacent to the solar farm, who made an appeal to the assessor for reductions for his own property. The noted lack of lot sales after announcement of the solar farm however coincided with the recession in 2009 and lack of lot sales effectively defined that area during that time, but without relying on any data the assessor made that change in that time frame based on conversations with the assessor. Since then, Clay County has confirmed that they do not currently make any changes to adjoining property values and the current county assessor was not even aware that they had in the past done so.

NC Assessor Survey on Solar Farm Property Value Impacts

County	Assessor's Name	Number of Farms	Change in Adjacent Property Value
Alexander	Doug Fox	3	No
Buncombe	Lisa Kirbo	1	No
Burke	Daniel Isenhour	3, 2 on 1 parcel, 1 on 3 parcels	No
Cabarrus	Justin	less than 10, more in the works	No
Caldwell	Monty Woods	3 small	No, but will look at data in 2025
Catawba	Lori Ray	14	No
Chatham	Jenny Williams	13	No
Cherokee	Kathy Killian	9	No
Chowan	Melissa Radke	3, I almost operational	No
Clay	Bonnie L. Lyvers		No
Davidson	Libby	1	No
Duplin	Gary Rose	34, 2 more in planning	No
Franklin	Marion Cascone	11	No
Gaston	Traci Hovis	3	No
Gates	Chris Hill	3	No
Granville	Jenny Griffin	8	No
Halifax	C. Shane Lynch	Multiple	No
Hoke	Mandi Davis	4	No
Hyde	Donnie Shumate	1 to supplement egg processing plant	No
Iredell	Wes Long	2, 3 others approved	No
Lee	Lisa Faulkner	8	No
Lincoln	Susan Sain	2	No
Moore	Michael Howery	10	No
New Hanover	Rhonda Garner	35	No
Orange	Chad Phillip	2 or 7 depending on breakdown	No
Pender	Kayla Bolick Futrell	6	No
Person	Russell Jones	9	No
Pitt	Russell D. Hill	8, 1 in planning	No
Randolph	Mark Frick	19	No
Rockingham	Mark C McClintock	6	No
Rutherford	Kim Aldridge	20	No
Sampson	Jim Johnson	9, 1 in construction	No
Scotland	James Brown	15, 1 in process	No
Stokes	Richard Brim	2	No
Surry	Penny Harrison	4, 2 more in process	No
Union	Robin E. Merry	6	No
Vance	Cathy E. Renn	13	No
Warren	John Preston	7	No
Wayne	Alan Lumpkin	32	No
Wilson	William (Witt) Putney	~16	No, mass appraisal standards applied

Responses: 39
Negative Impact on Adjoining Value = Yes: 0
Negative Impact on Adjoining Value = No: 39

I have also been working on a survey of Virginia Assessors regarding property values related to solar farms and whether or not the local assessors have found any data to support any changes to value on property adjoining solar farms. In this process I have contacted every assessor's office by email and I have received responses by email and by phone from a number of these counties. Many of the counties in Virginia rely on outside firms to assist in gathering data for the assessments and where that is the case we have contacted the outside firms regarding the question of whether or not the assessors are currently making any adjustments to properties adjoining solar farms.

I currently have response from 16 counties that have solar farms in them and of those 16 responses none of the assessors are currently applying a negative impact on property value. One response suggested that adjoining values may go up.

I did speak with Randy Willis with Pearson Assessors. His company assists in the assessments in many of the counties south of Richmond. He indicated that they had found no data to suggest a negative impact on property value and they have looked as they were concerned about that issue. He indicated that they would make no negative impact adjustments and that he recognizes that

there are a number of agricultural adjoining uses that have a greater impact on adjoining properties in terms of noise, dust and odor than a solar farm would have. He did indicate that there could be situations where an individual home might have a greater visual impact and those should be looked at on a case-by-case basis, but he also agreed that many allowed agricultural uses could have similar visual impacts on such properties as well.

VIRGINIA Commissioner of the Revenue

County	Assessor Name	Number of Farms in Operation	Change in adjacent property value
Appomattox	Sara Henderson	1, plus one in process	No
Augusta	W. Jean Shrewsbury	no operational	No
Buckingham	Stephanie D. Love	1	No
Charlotte	Naisha Pridgen Carter	1, several others in the works	No
Clarke	Donna Peake	1	No
Frederick	Seth T. Thatcher	none, 2 appoved for 2022	No, assuming compatible with rural area
Goochland	Mary Ann Davis		No
Hanover	Ed Burnett	1	No
Louisa	Stacey C. Fletcher	2 operational by end of year	No, only if supported by market data
Mecklenburg	Joseph E. "Ed" Taylor		No
Nottoway	Randy Willis with Pearson Assessors		No
Powhatan	Charles Everest	2 approved, 1 built	Likely increase in value
Rockingham	Dan Cullers	no operational	Likely no
Southampton	Amy B. Carr	1	Not normally
Surry	Jonathan F. Judkins	1	None at this time
Westmoreland	William K. Hoover	4	No

Responses: 16
Negative Impact on Adjoining Value = Yes: 0
Negative Impact on Adjoining Value = No: 16

VII. Summary of Solar Projects in Kentucky

I have researched the solar projects in Kentucky. I identified the solar farms through the Solar Energy Industries Association (SEIA) Major Projects List and then excluded the roof mounted facilities. This leaves only six solar farms in Kentucky for analysis at this time.

One of these six solar farms has limited analysis potential: E.W. Brown near Harrodsburg in Mercer County. The E. W. Brown 10 MW solar farm was built in 2014 and adjoins three coal-fired units. Given that research studies that I have read regarding fossil fuel power plants including "The Effect of Power Plants on Local Housing Values and Rents" by Lucas W. Davis and published May 2010, it would not be appropriate to use any data from this solar farm due to the influence of the coal-fired power plant that could have an impact on up to a one-mile radius. I note that the closest home to a solar panel at this site is 565 feet and the average distance is 1,026 feet. The homes are primarily clustered at the Herrington Lake frontage. Recent sales in this area range from $164,000 to $212,000 for these waterfront homes. Again, no usable data can be derived from this solar farm due to the adjoining coal fired plant.

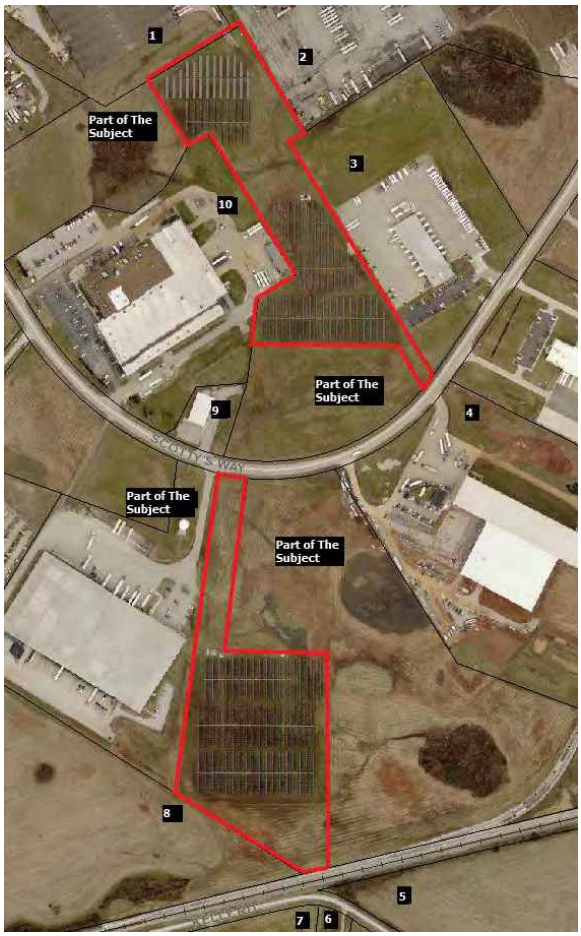
Furthermore, the Cooperative solar farm in Shelby County is a 0.5 MW facility on 35 acres built in 2020 that is proposed to eventually be 4 MW. This project is too new and there have been no home sales adjoining this facility. I also cannot determine how close the nearby homes are to the adjoining solar panels as the aerial imagery does not yet show these panels.

I have provided a summary of projects below and additional detailed information on the projects on the following pages. I specifically note the similarity in most of the sites in Kentucky in terms of mix of adjoining uses, topography, and distances to adjoining homes.

The number of solar farms currently in Kentucky is low compared to a number of other states and North Carolina in particular. I have looked at solar farms in Kentucky for sales activity, but the small number of sites coupled with the relatively short period of time these solar farms have been in place has not provided as many examples of sales adjoining a solar farm as I am able to pull from other places. I have therefore also considered sales in other states, but I have shown in the summary how the demographics around the solar farms in other locations relate to the demographics around the proposed solar farm to show that generally similar locations are being considered. The similarity of the sites in terms of adjoining uses and surrounding demographics makes it reasonable to compare the lack of significant impacts in other areas would translate into a similar lack of significant impacts at the subject site.

Parcel #	State	County	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre					Adjoining Use by Number			
										Res	Agri	Agri/Res	Com		Residen	Agricul	Comm/Ind	%
610	KY	Warren	Bowling Green	Bowling Green	2	17.36	17.36	720	720	1%	64%	0%	36%	100%	10%	30%	60%	100%
611	KY	Clark	Winchester	Cooperative Solar I	8.5	181.47	63	2,110	2,040	0%	96%	3%	0%	100%	22%	78%	0%	100%
612	KY	Kenton	Walton	Walton 2	2	58.03	58.03	891	120	21%	0%	60%	19%	100%	65%	0%	35%	100%
613	KY	Grant	Crittenden	Crittenden	2.7	181.7	34.1	1,035	345	22%	27%	51%	0%	100%	96%	4%	0%	100%
617	KY	Metcalfe	Summer Shade	Glover Creek		968.2	322.4	1,731	375	6%	25%	69%	0%	100%	83%	17%	0%	100%
618	KY	Garrard	Lancaster	Turkey Creek		752.8	297.1	976	240	8%	36%	51%	5%	100%	73%	12%	15%	100%
		Total Number of Solar Farms			6													
				Average	3.80	359.9	132.0	1244	640	9%	41%	39%	10%		58%	24%	18%	
				Median	2.35	181.6	60.5	1006	360	7%	32%	51%	3%		69%	14%	7%	
				High	8.50	968.2	322.4	2110	2040	22%	96%	69%	36%		96%	78%	60%	
				Low	2.00	17.4	17.4	720	120	0%	0%	0%	0%		3%	0%	0%	

610: Bowling Green Solar, Bowling Green, KY



This project was built in 2011 and located on 17.36 acres for a 2 MW project on Scotty's Way with the adjoining uses being primarily industrial. The closest dwelling is 720 feet from the nearest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.58%	10.00%
Agricultural	63.89%	30.00%
Industrial	35.53%	60.00%
Total	**100.00%**	**100.00%**

611: Cooperative Solar I, Winchester, KY

This project was built in 2017 on 63 acres of a 181.47-acre parent tract for an 8.5 MW project with the closest home at 2,040 feet from the closest solar panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.15%	11.11%
Agricultural	96.46%	77.78%
Agri/Res	3.38%	11.11%
Total	**100.00%**	**100.00%**

612: Walton 2 Solar, Walton, KY

This project was built in 2017 on 58.03 acres for a 2 MW project with the closest home 120 feet from the closest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	20.84%	47.06%
Agri/Res	59.92%	17.65%
Commercial	19.25%	35.29%
Total	**100.00%**	**100.00%**

613: Crittenden Solar, Crittenden, KY

This project was built in late 2017 on 34.10 acres out of a 181.70-acre tract for a 2.7 MW project where the closest home is 345 feet from the closest panel.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	1.65%	32.08%
Agricultural	73.39%	39.62%
Agri/Res	23.05%	11.32%
Commercial	0.64%	9.43%
Industrial	0.19%	3.77%
Airport	0.93%	1.89%
Substation	0.15%	1.89%
Total	**100.00%**	**100.00%**

659: Cooperative Shelby Solar, Simpsonville, KY

This project was built in 2020 on 35 acres for a 0.5 MW project that is approved for expansion up to 4 MW.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	6.04%	44.44%
Agricultural	10.64%	11.11%
Agri/Res	31.69%	33.33%
Institutional	51.62%	11.11%
Total	**100.00%**	**100.00%**

660: E.W. Brown Solar, Harrodsburg, KY

This project was built in 2016 on 50 acres for a 10 MW project. This solar facility adjoins three coal-fired units, which makes analysis of these nearby home sales problematic as it is impossible to extract the impact of the coal plant on the nearby homes especially given the lake frontage of the homes shown.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	2.77%	77.27%
Agricultural	43.92%	9.09%
Agri/Res	28.56%	9.09%
Industrial	24.75%	4.55%
Total	**100.00%**	**100.00%**

VIII. Market Analysis of the Impact on Value from Solar Farms

I have researched hundreds of solar farms in numerous states to determine the impact of these facilities on the value of adjoining properties. This research has primarily been in North Carolina, but I have also conducted market impact analyses in Virginia, South Carolina, Tennessee, Texas, Oregon, Mississippi, Maryland, New York, California, Missouri, Florida, Montana, Georgia, Kentucky, and New Jersey.

I have derived a breakdown of the adjoining uses to show where solar farms are located. A summary showing the results of compiling that data over hundreds of solar farms is shown later in the Scope of Research section of this report.

I also consider whether the properties adjoining a solar farm in one location have characteristics similar to the properties abutting or adjoining the proposed site so that I can make an assessment of market impact on each proposed site. Notably, in most cases solar farms are placed in areas very similar to the site in question, which is surrounded by low density residential and agricultural uses. In my over 700 studies, I have found a striking repetition of that same typical adjoining property use mix in over 90% of the solar farms I have looked at. Matched pair results in multiple states are strikingly similar, and all indicate that solar farms – which generate very little traffic, and do not generate noise, dust or have other harmful effects – do not negatively impact the value of adjoining or abutting properties.

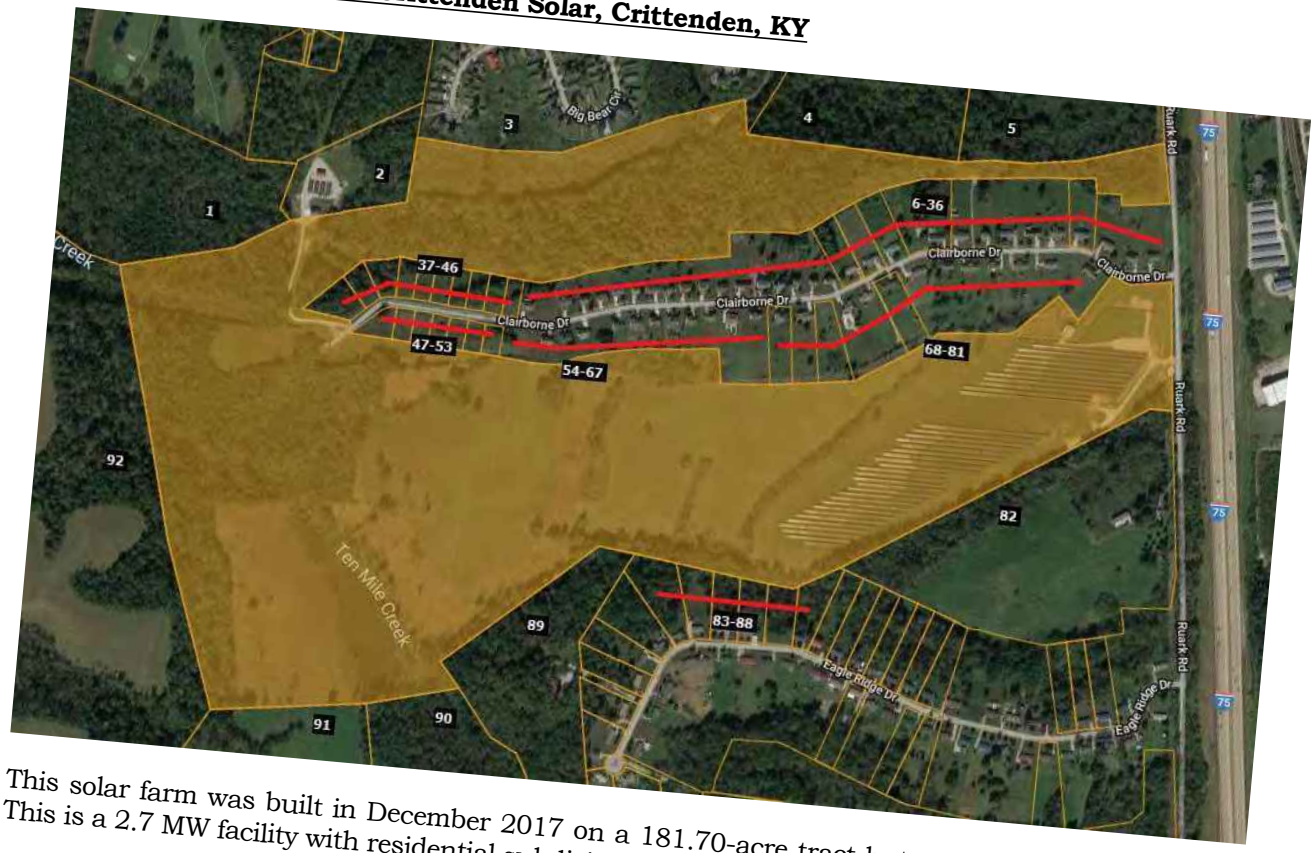
I have previously been asked by the Kentucky Siting Board about how the solar farms and the matched pair sets were chosen. This is the total of all the usable home sales adjoining the 900+ solar farms that I have looked at over the last 12 years. Most of the solar farms that I have looked at are only a few years old and have not been in place long enough for home or land sales to occur next to them for me to analyze. There is nothing unusual about this given the relatively rural locations of most of the solar farms where home and land sales occur much less frequently than they do in urban and suburban areas and the number of adjoining homes is relatively small.

I review the solar farms that I have looked at periodically to see if there are any new sales. If there is a sale I have to be sure it is not an inhouse sale or to a related family member. A great many of the rural sales that I find are from one family member to another, which makes analysis impossible given that these are not "arm's length" transactions. There are also numerous examples of sales that are "arm's length" but are still not usable due to other factors such as adjoining significant negative factors such as a coal fired plant or at a landfill or prison. I have looked at homes that require a driveway crossing a railroad spur, homes in close proximity to large industrial uses, as well as homes adjoining large state parks, or homes that are over 100 years old with multiple renovations. Such sales are not usable as they have multiple factors impacting the value that are tangled together. You can't isolate the impact of the coal fired plant, the industrial building, or the railroad unless you are comparing that sale to a similar property with similar impacts. Matched pair analysis requires that you isolate properties that only have one differential to test for, which is why the type of sales noted above is not appropriate for analysis.

After my review of all sales and elimination of the family transactions and those sales with multiple differentials, I am left with the matched pairs shown in this report to analyze. I do have additional matched pair data in other areas of the United States that were not included in this report due to being states less comparable to Kentucky than those shown. The only other sales that I have eliminated from the analysis are home sales under $100,000, which there haven't been many such examples, but at that price range it is difficult to identify any impacts through matched pair analysis. I have not cherry picked the data to include just the sales that support one direction in value, but I have included all of them both positive and negative with a preponderance of the evidence supporting no impact to mild positive impacts.

A. *Kentucky and Adjoining States Data*

1. Matched Pair – Crittenden Solar, Crittenden, KY



This solar farm was built in December 2017 on a 181.70-acre tract but utilizing only 34.10 acres. This is a 2.7 MW facility with residential subdivisions to the north and south.

I have identified five home sales to the north of this solar farm on Clairborne Drive and one home sale to the south on Eagle Ridge Drive since the completion of this solar farm. The home sale on Eagle Drive is for a $75,000 home and all of the homes along that street are similar in size and price range. According to local broker Steve Glacken with Cutler Real Estate these are the lowest price range/style home in the market. I have not analyzed that sale as it would unlikely provide significant data to other homes in the area.

Mr. Glacken has been selling lots at the west end of Clairborne for new home construction. He indicated in 2020 that the solar farm near the entrance of the development has been a complete non-factor and none of the home sales are showing any concern over the solar farm. Most of the homes are in the $250,000 to $280,000 price range. The vacant residential lots are being marketed for $28,000 to $29,000. The landscaping buffer is considered light, but the rolling terrain allows for distant views of the panels from the adjoining homes along Clairborne Drive.

The first home considered is a bit of an anomaly for this subdivision in that it is the only manufactured home that was allowed in the community. It sold on January 3, 2019. I compared that sale to three other manufactured home sales in the area making minor adjustments as shown on the next page to account for the differences. After all other factors are considered the adjustments show a -1% to +13% impact due to the adjacency of the solar farm. The best indicator is 1250 Cason, which shows a 3% impact. A 3% impact is within the normal static of real estate transactions and therefore not considered indicative of a positive impact on the property, but it strongly supports an indication of no negative impact.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	250 Claiborne	0.96	1/3/2019	$120,000	2000	2,016	$59.52	3/2	Drive	Manuf	
	Not	1250 Cason	1.40	4/18/2018	$95,000	1994	1,500	$63.33	3/2	2-Det	Manuf	Carport
	Not	410 Reeves	1.02	11/27/2018	$80,000	2000	1,456	$54.95	3/2	Drive	Manuf	
	Not	315 N Fork	1.09	5/4/2019	$107,000	1992	1,792	$59.71	3/2	Drive	Manuf	

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	250 Claiborne								$120,000			373
Not	1250 Cason	$2,081		$2,850	$26,144		-$5,000	-$5,000	$116,075	3%		
Not	410 Reeves	$249		$0	$24,615				$104,865	13%		
Not	315 N Fork	-$1,091		$4,280	$10,700				$120,889	-1%		
											5%	

I also looked at three other home sales on this street as shown below. These are stick-built homes and show a higher price range.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	300 Claiborne	1.08	9/20/2018	$212,720	2003	1,568	$135.66	3/3	2-Car	Ranch	Brick
	Not	460 Claiborne	0.31	1/3/2019	$229,000	2007	1,446	$158.37	3/2	2-Car	Ranch	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	Ranch	Brick
	Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	300 Claiborne								$213,000			488
Not	460 Claiborne	-$2,026		-$4,580	$15,457	$5,000			$242,850	-14%		
Not	2160 Sherman	-$5,672		-$2,650	-$20,406				$236,272	-11%		
Not	215 Lexington	$1,072		$3,468	-$2,559	-$5,000			$228,180	-7%		
											-11%	

This set of matched pairs shows a minor negative impact for this property. I was unable to confirm the sales price or conditions of this sale. The best indication of value is based on 215 Lexington, which required the least adjusting and supports a -7% impact.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	350 Claiborne	1.00	7/20/2018	$245,000	2002	1,688	$145.14	3/3	2-Car	Ranch	Brick
	Not	460 Claiborne	0.31	1/3/2019	$229,000	2007	1,446	$158.37	3/2	2-Car	Ranch	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	350 Claiborne								$245,000			720
Not	460 Claiborne	-$3,223		-$5,725	$30,660	$5,000			$255,712	-4%		
Not	2160 Sherman	-$7,057		-$3,975	-$5,743				$248,225	-1%		
Not	215 Lexington	-$136		$2,312	$11,400	-$5,000			$239,776	2%		
											-1%	

The following photograph shows the light landscaping buffer and the distant view of panels that was included as part of the marketing package for this property. The panels are visible somewhat on the left and somewhat through the trees in the center of the photograph. The first photograph is from the home, with the second photograph showing the view near the rear of the lot.

This set of matched pairs shows a no negative impact for this property. The range of adjusted impacts is -4% to +2%. The best indication is -1%, which as described above is within the typical market static and supports no impact on adjoining property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
	Adjoins	370 Claiborne	1.06	8/22/2019	$273,000	2005	1,570	$173.89	4/3	2-Car	2-Story	Brick
	Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
	Not	2290 Dry	1.53	5/2/2019	$239,400	1988	1,400	$171.00	3/2.5	2-Car	R/FBsmt	Brick
	Not	125 Lexington	1.20	4/17/2018	$240,000	2001	1,569	$152.96	3/3	2-Car	Split	Brick

Adjustments

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	370 Claiborne								$273,000			930
Not	2160 Sherman	$1,831		$0	-$20,161				$246,670	10%		
Not	2290 Dry	$2,260		$20,349	$23,256	$2,500			$287,765	-5%		
Not	125 Lexington	$9,951		$4,800					$254,751	7%		
											4%	

This set of matched pairs shows a general positive impact for this property. The range of adjusted impacts is -5% to +10%. The best indication is +7%. I typically consider measurements of +/-5% to be within the typical variation in real estate transactions. This indication is higher than that and suggests a positive relationship.

The photograph from the listing shows panels visible between the home and the trampoline shown in the picture.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	330 Claiborne	1.00	12/10/2019	$282,500	2003	1,768	$159.79	3/3	2-Car	Ranch	Brick/pool
Not	895 Osborne	1.70	9/16/2019	$249,900	2002	1,705	$146.57	3/2	2-Car	Ranch	Brick/pool
Not	2160 Sherman	1.46	6/1/2019	$265,000	2005	1,735	$152.74	3/3	2-Car	R/FBsmt	Brick
Not	215 Lexington	1.00	7/27/2018	$231,200	2000	1,590	$145.41	5/4	2-Car	Ranch	Brick

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	330 Claiborne								$282,500			665
Not	895 Osborne	$1,790		$1,250	$7,387	$5,000		$0	$265,327	6%		
Not	2160 Sherman	$4,288		-$2,650	$4,032			$20,000	$290,670	-3%		
Not	215 Lexington	$9,761		$3,468	$20,706	-$5,000		$20,000	$280,135	1%		
											1%	

This set of matched pairs shows a general positive impact for this property. The range of adjusted impacts is -3% to +6%. The best indication is +6%. I typically consider measurements of +/-5% to be within the typical variation in real estate transactions. This indication is higher than that and suggests a positive relationship. The landscaping buffer on these is considered light with a fair visibility of the panels from most of these comparables and only thin landscaping buffers separating the homes from the solar panels.

I also looked at four sales that were during a rapid increase in home values around 2021, which required significant time adjustments based on the FHFA Housing Price Index. Sales in this time frame are less reliable for impact considerations as the peak buyer demand allowed for homes to sell with less worry over typical issues such as repairs.

The home at 250 Claiborne Drive sold with no impact from the solar farm according to the buyer's broker Lisa Ann Lay with Keller Williams Realty Service. As noted earlier, this is the only manufactured home in the community and is a bit of an anomaly. There was an impact on this sale due to an appraisal that came in low likely related to the manufactured nature of the home. Ms. Lay indicated that there was significant back and forth between both brokers and the appraiser to address the low appraisal, but ultimately, the buyers had to pay $20,000 out of pocket to cover the difference in appraised value and the purchase price. The low appraisal was not attributed to the solar farm, but the difficulty in finding comparable sales and likely the manufactured housing.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	250 Claiborne	1.05	1/5/2022	$210,000	2002	1,592	$131.91	4/2	Drive	Ranch	Manuf
Not	255 Spillman	0.64	3/4/2022	$166,000	1991	1,196	$138.80	3/1	Drive	Ranch	Remodel
Not	546 Waterworks	0.28	4/29/2021	$179,500	2007	1,046	$171.61	4/2	Drive	Ranch	3/4 Fin B
Not	240 Shawnee	1.18	6/7/2021	$180,000	1977	1,352	$133.14	3/2	Gar	Ranch	N/A

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	250 Claiborne							$210,000			365
Not	255 Spillman	-$379	$9,130	$43,971	$10,000		-$20,000	$208,722	1%		
Not	546 Waterworks	$1,772	-$4,488	$74,958			-$67,313	$184,429	12%		
Not	240 Shawnee	$1,501	$22,500	$25,562		-$10,000		$219,563	-5%		
										3%	

The photograph of the rear view from the listing is shown below.

The home at 260 Claiborne Drive sold with no impact from the solar farm according to the buyer's broker Jim Dalton with Ashcraft Real Estate Services. He noted that there was significant wood rot and a heavy smoker smell about the house, but even that had no impact on the price due to high demand in the market.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	260 Claiborne	1.00	10/13/2021	$175,000	2001	1,456	$120.19	3/2	Drive	Ranch	N/A
Not	355 Oakwood	0.58	10/27/2020	$186,000	2002	1,088	$170.96	3/2	Gar	Ranch	3/4 Fin B
Not	30 Ellen Kay	0.50	1/30/2020	$183,000	1988	1,950	$93.85	3/2	Gar	2-Story	N/A
Not	546 Waterworks	0.28	4/29/2021	$179,500	2007	1,046	$171.61	4/2	Drive	Ranch	3/4 Fin B

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	260 Claiborne							$175,000			390
Not	355 Oakwood	$18,339	-$930	$50,329		-$10,000	-$69,750	$173,988	1%		
Not	30 Ellen Kay	$31,974	$11,895	-$37,088		-$10,000		$179,781	-3%		
Not	546 Waterworks	$8,420	-$5,385	$56,287			-$67,313	$171,510	2%		
										0%	

The photograph of the rear view from the listing is shown below.

These next two were brick and with unfinished basements which made them easier to compare and therefore more reliable. For 300 Claiborne I considered the sale of a home across the street that did not back up to the solar farm and it adjusted to well below the range of the other comparables. I have included it, but would not rely on that which means this next comparable strongly supports a range of 0 to +3% and not up to +19%.

djoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	300 Claiborne	0.89	12/18/2021	$290,000	2002	1,568	$184.95	3/3	2-Car	Br Rnch	Bsmt
Not	405 Claiborne	0.41	2/1/2022	$267,750	2004	1,787	$149.83	3/2	2-Car	Br Rnch	Bsmt
Not	39 Pinhook	0.68	3/31/2022	$299,000	1992	1,680	$177.98	3/2	2-Car	Br Rnch	Bsmt
Not	5 Pinhook	0.70	4/7/2022	$309,900	1992	1,680	$184.46	3/2	2-Car	Br Rnch	Bsmt

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	300 Claiborne							$290,000			570
Not	405 Claiborne	-$3,384	-$2,678	-$26,251				$235,437	19%		
Not	39 Pinhook	-$8,651	$14,950	-$15,947				$289,352	0%		
Not	5 Pinhook	-$9,576	$15,495	-$16,528				$299,291	-3%		
										5%	

The photograph of the rear view from the listing is shown below.

The home at 410 Claiborne included an inground pool with significant landscaping around it that was a challenge. Furthermore, two of the comparables had finished basements. I made no adjustment for the pool on those two comparables and considered the two factors to cancel out

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	410 Claiborne	0.31	2/10/2021	$275,000	2006	1,595	$172.41	3/2	2-Car	Br Rnch	Bsmt/Pool
Not	114 Austin	1.40	12/23/2020	$248,000	1994	1,650	$150.30	3/2	2-Car	Br Rnch	Bsmt
Not	125 Liza	0.29	6/25/2021	$315,000	2005	1,913	$164.66	4/3	2-Car	Br Rnch	Ktchn Bsmt
Not	130 Hannahs	0.42	2/9/2021	$295,000	2007	1,918	$153.81	3/3	2-Car	Br Rnch	Fin Bsmt

Solar	Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
Adjoins	410 Claiborne							$275,000			1080
Not	114 Austin	$3,413	$14,880	-$6,613			$20,000	$279,680	-2%		
Not	125 Liza	-$11,945	$1,575	-$41,890	-$10,000			$252,740	8%		
Not	130 Hannahs	$83	-$1,475	-$39,743	-$10,000			$243,864	11%		
										6%	

The nine matched pairs considered in this analysis includes five that show no impact on value, one that shows a negative impact on value, and three that show a positive impact. The negative indication supported by one matched pair is -7% and the positive impacts are +6% and +7%. The two neutral indications show impacts of -5% to +5%. The average indicated impact is +2% when all nine of these indicators are blended.

Furthermore, the comments of the local real estate brokers strongly support the data that shows no negative impact on value due to the proximity to the solar farm.

2. Matched Pair – Mulberry, Selmer, TN

This 16 MW solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet.

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for $15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky Hearnsberger with United County Farm & Home Realty who noted that they have seen no impact on lot or home sales due to the solar farm in this community.

I have included a map below as well as data on recent sales activity on lots that adjoin the solar farm or are near the solar farm in this subdivision both before and after the announced plan for this solar farm facility. I note that using the same method I used to breakdown the adjoining uses at the subject property I show that the predominant adjoining uses are residential and agricultural, which is consistent with the location of most solar farms.

Adjoining Use Breakdown

	Acreage	Parcels
Commercial	3.40%	0.034
Residential	12.84%	79.31%
Agri/Res	10.39%	3.45%
Agricultural	73.37%	13.79%
Total	**100.00%**	**100.00%**

I have run a number of direct matched comparisons on the sales adjoining this solar farm as shown below. These direct matched pairs include some of those shown above as well as additional more recent sales in this community. In each of these I have compared the one sale adjoining the solar farm to multiple similar homes nearby that do not adjoin a solar farm to look for any potential impact from the solar farm.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
3	Adjoins	491 Dusty	6.86	10/28/2016	$176,000	2009	1,801	$97.72	3/2	2-Gar	Ranch	
	Not	820 Lake Trail	1.00	6/8/2018	$168,000	2013	1,869	$89.89	4/2	2-Gar	Ranch	
	Not	262 Country	1.00	1/17/2018	$145,000	2000	1,860	$77.96	3/2	2-Gar	Ranch	
	Not	35 April	1.15	8/16/2016	$185,000	2016	1,980	$93.43	3/2	2-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
3	Adjoins	491 Dusty							$176,000		480
	Not	820 Lake Trail	-$8,324	$12,000	-$3,360	-$4,890			$163,426	7%	
	Not	262 Country	-$5,450	$12,000	$6,525	-$3,680			$154,396	12%	
	Not	35 April	$1,138	$12,000	-$6,475	-$13,380			$178,283	-1%	
									Average	6%	

The best matched pair is 35 April Loop, which required the least adjustment and indicates a -1% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
12	Adjoins	57 Cooper	1.20	2/26/2019	$163,000	2011	1,586	$102.77	3/2	2-Gar	1.5 Story	Pool
	Not	191 Amelia	1.00	8/3/2018	$132,000	2005	1,534	$86.05	3/2	Drive	Ranch	
	Not	75 April	0.85	3/17/2017	$134,000	2012	1,588	$84.38	3/2	2-Crprt	Ranch	
	Not	345 Woodland	1.15	12/29/2016	$131,000	2002	1,410	$92.91	3/2	1-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
12	Adjoins	57 Cooper	$163,000							$163,000		685
	Not	191 Amelia	$132,000	$2,303		$3,960	$2,685	$10,000	$5,000	$155,947	4%	
	Not	75 April	$134,000	$8,029	$4,000	-$670	-$135	$5,000	$5,000	$155,224	5%	
	Not	345 Woodland	$131,000	$8,710		$5,895	$9,811		$5,000	$160,416	2%	
										Average	4%	

The best matched pair is 191 Amelia, which was most similar in time frame of sale and indicates a +4% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
15	Adjoins	297 Country	1.00	9/30/2016	$150,000	2002	1,596	$93.98	3/2	4-Gar	Ranch	
	Not	185 Dusty	1.85	8/17/2015	$126,040	2009	1,463	$86.15	3/2	2-Gar	Ranch	
	Not	53 Glen	1.13	3/9/2017	$126,000	1999	1,475	$85.42	3/2	2-Gar	Ranch	Brick

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
15	Adjoins	297 Country	$150,000							$150,000		650
	Not	185 Dusty	$126,040	$4,355		-$4,411	$9,167	$10,000		$145,150	3%	
	Not	53 Glen	$126,000	-$1,699		$1,890	$8,269	$10,000		$144,460	4%	
										Average	3%	

The best matched pair is 53 Glen, which was most similar in time frame of sale and required less adjustment. It indicates a +4% increase in value due to the solar farm adjacency.

The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm. The landscaping buffer for this project is mostly natural tree growth that was retained as part of the development but much of the trees separating the panels from homes are actually on the lots for the homes themselves. I therefore consider the landscaping buffer to be thin to moderate for these adjoining homes.

I have also looked at several lot sales in this subdivision as shown below.

These are all lots within the same community and the highest prices paid are for lots one parcel off from the existing solar farm. These prices are fairly inconsistent, though they do suggest about a $3,000 loss in the lots adjoining the solar farm. This is an atypical finding and additional details suggest there is more going on in these sales than the data crunching shows. First of all Parcel 4 was purchased by the owner of the adjoining home and therefore an atypical buyer seeking to expand a lot and the site is not being purchased for home development. Moreover, using the SiteToDoBusiness demographic tools, I found that the 1-mile radius around this development is expecting a total population increase over the next 5 years of 3 people. This lack of growing demand for lots is largely explained in that context. Furthermore, the fact that finished home sales as shown above are showing no sign of a negative impact on property value makes this data unreliable and inconsistent with the data shown in sales to an end user. I therefore place little weight on this outlier data.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019 Adj for Time	$/AC	4/18/2019 Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	$16,000	$16,728	$7,805	$8,160
10	Adjoins	Carter	1.70	8/2/2018	$14,000	$14,306	$8,235	$8,415
11	Adjoins	Cooper	1.28	9/17/2018	$12,000	$12,215	$9,375	$9,543
	Not	75 Dusty	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976
	Not	Lake Trl	1.47	11/7/2018	$13,000	$13,177	$8,844	$8,964
	Not	Lake Trl	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976

	Adjoins	Per Acre	Not Adjoins	Per Acre	% DIF/Lot	% DIF/AC
Average	$14,416	$8,706	$17,726	$10,972	19%	21%
Median	$14,306	$8,415	$20,000	$11,976	28%	30%
High	$16,728	$9,543	$20,000	$11,976	16%	20%
Low	$12,215	$8,160	$13,177	$8,964	7%	9%

3. Matched Pair – Grand Ridge Solar, Streator, IL

This solar farm has a 20 MW output and is located on a 160-acre tract. The project was built in 2012.

I have considered the recent sale of Parcel 13 shown above, which sold in October 2016 after the solar farm was built. I have compared that sale to a number of nearby residential sales not in proximity to the solar farm as shown below. Parcel 13 is 480 feet from the closest solar panel. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
13	34-21-237-000	2	Oct-16	$186,000	1997	2,328	$79.90

Not Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
712 Columbus Rd	32-39-134-005	1.26	Jun-16	$166,000	1950	2,100	$79.05
504 N 2782 Rd	18-13-115-000	2.68	Oct-12	$154,000	1980	2,800	$55.00
7720 S Dwight Rd	11-09-300-004	1.14	Nov-16	$191,000	1919	2,772	$68.90
701 N 2050th Rd	26-20-105-000	1.97	Aug-13	$200,000	2000	2,200	$90.91
9955 E 1600th St	04-13-200-007	1.98	May-13	$181,858	1991	2,600	$69.95

TAX ID	Date Sold	Adjustments Time	Adjustments Total	$/Sf
34-21-237-000	Oct-16		$186,000	$79.90
32-39-134-005	Jun-16		$166,000	$79.05
18-13-115-000	Oct-12	$12,320	$166,320	$59.40
11-09-300-004	Nov-16		$191,000	$68.90
26-20-105-000	Aug-13	$12,000	$212,000	$96.36
04-13-200-007	May-13	$10,911	$192,769	$74.14

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$79.90	$79.90	$75.57	$74.14
GBA	2,328	2,328	2,494	2,600

Based on the matched pairs I find no indication of negative impact due to proximity to the solar farm.

The most similar comparable is the home on Columbus that sold for $79.05 per square foot. This is higher than the median rate for all of the comparables. Applying that price per square foot to the subject property square footage indicates a value of $184,000.

There is minimal landscaping separating this solar farm from nearby properties and is therefore considered light.

4. Matched Pair – Portage Solar, Portage, IN

This solar farm has a 2 MW output and is located on a portion of a 56-acre tract. The project was built in 2012.

I have considered the recent sale of Parcels 5 and 12. Parcel 5 is an undeveloped tract, while Parcel 12 is a residential home. I have compared each to a set of comparable sales to determine if there was any impact due to the adjoining solar farm. This home is 1,320 feet from the closest solar panel. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
12	64-06-19-326-007.000-015	1.00	Sep-13	$149,800	1964	1,776	$84.35

Nearby Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
2501 Architect Dr	64-04-32-202-004.000-021	1.31	Nov-15	$191,500	1959	2,064	$92.78
336 E 1050 N	64-07-09-326-003.000-005	1.07	Jan-13	$155,000	1980	1,908	$81.24
2572 Pryor Rd	64-05-14-204-006.000-016	1.00	Jan-16	$216,000	1960	2,348	$91.99

Adjoining Land Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	$/AC
5	64-06-19-200-003.000-015	18.70	Feb-14	$149,600	$8,000

Nearby Land Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	$/AC
	64-07-22-401-001.000-005	74.35	Jun-17	$520,450	$7,000
	64-15-08-200-010.000-001	15.02	Jan-17	$115,000	$7,658

Residential Sale Adjustment Chart

		Adjustments		
TAX ID	Date Sold	Time	Total	$/Sf
64-06-19-326-007.000-015	Sep-13	$8,988	$158,788	$89.41
64-04-32-202-004.000-021	Nov-15	$3,830	$195,330	$94.64
64-07-09-326-003.000-005	Jan-13	$9,300	$164,300	$86.11
64-05-14-204-006.000-016	Jan-16		$216,000	$91.99

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/SF	$89.41	$89.41	$90.91	$91.99
GBA	1,776	1,776	2,107	2,064

After adjusting the price per square foot is 2.88% less for the home adjoining the solar farm versus those not adjoining the solar farm. This is within the typical range of variation to be anticipated in any real estate transaction and indicates no impact on property value.

Applying the price per square foot for the 336 E 1050 N sale, which is the most similar to the Parcel 12 sale, the adjusted price at $81.24 per square foot applied to the Parcel 12 square footage yields a value of $144,282.

The landscaping separating this solar farm from the homes is considered light.

Land Sale Adjustment Chart

TAX ID	Date Sold	Adjustments Time	Total	$/Acre
64-06-19-200-003.000-015	Feb-14	$8,976	$158,576	$8,480
64-07-22-401-001.000-005	Jun-17		$520,450	$7,000
64-15-08-200-010.000-001	Jan-17		$115,000	$7,658

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	Median	Average	Median
Sales Price/Ac	$8,480	$8,480	$7,329	$7,329
Acres	18.70	18.70	44.68	44.68

After adjusting the price per acre is higher for the property adjoining the solar farm, but the average and median size considered is higher which suggests a slight discount. This set of matched pair supports no indication of negative impact due to the adjoining solar farm.

Alternatively, adjusting the 2017 sales back to 2014 I derive an indicated price per acre for the comparables at $6,580 per acre to $7,198 per acre, which I compare to the unadjusted subject property sale at $8,000 per acre.

5. Matched Pair – Dominion Indy III, Indianapolis, IN

This solar farm has an 8.6 MW output and is located on a portion of a 134-acre tract. The project was built in 2013.

There are a number of homes on small lots located along the northern boundary and I have considered several sales of these homes. I have compared those homes to a set of nearby not adjoining home sales as shown below. The adjoining homes that sold range from 380 to 420 feet from the nearest solar panel, with an average of 400 feet. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
2	2013249	0.38	12/9/2015	$140,000	2006	2,412	$58.04
4	2013251	0.23	9/6/2017	$160,000	2006	2,412	$66.33
5	2013252	0.23	5/10/2017	$147,000	2009	2,028	$72.49
11	2013258	0.23	12/9/2015	$131,750	2011	2,190	$60.16
13	2013260	0.23	3/4/2015	$127,000	2005	2,080	$61.06
14	2013261	0.23	2/3/2014	$120,000	2010	2,136	$56.18

Nearby Not Adjoining Residential Sales After Solar Farm Completed

#	TAX ID	Acres	Date Sold	Sales Price	Built	GBA	$/GBA
5836 Sable Dr	2013277	0.14	Jun-16	$141,000	2005	2,280	$61.84
5928 Mosaic Pl	2013845	0.17	Sep-15	$145,000	2007	2,280	$63.60
5904 Minden Dr	2012912	0.16	May-16	$130,000	2004	2,252	$57.73
5910 Mosaic Pl	2000178	0.15	Aug-16	$146,000	2009	2,360	$61.86
5723 Minden Dr	2012866	0.26	Nov-16	$139,900	2005	2,492	$56.14

		Adjustments		
TAX ID	**Date Sold**	**Time**	**Total**	**$/Sf**
2013249	12/9/2015	$5,600	$145,600	$60.36
2013251	9/6/2017		$160,000	$66.33
2013252	5/10/2017		$147,000	$72.49
2013258	12/9/2015	$5,270	$137,020	$62.57
2013260	3/4/2015	$5,080	$132,080	$63.50
2013261	2/3/2014	$7,200	$127,200	$59.55
2013277	6/1/2016	$2,820	$143,820	$63.08
2013845	9/1/2015	$5,800	$150,800	$66.14
2012912	5/1/2016	$2,600	$132,600	$58.88
2000178	8/1/2016	$2,920	$148,920	$63.10
2012866	11/1/2016	$2,798	$142,698	$57.26

2% adjustment/year
Adjusted to 2017

	Adjoins Solar Farm		Not Adjoin Solar Farm	
	Average	**Median**	**Average**	**Median**
Sales Price/SF	$64.13	$63.03	$61.69	$63.08
GBA	2,210	2,163	2,333	2,280

This set of homes provides very strong indication of no impact due to the adjacency to the solar farm and includes a large selection of homes both adjoining and not adjoining in the analysis.

The landscaping screen is considered light in relation to the homes considered above.

6. Matched Pair – Clarke County Solar, Clarke County, VA

This project is a 20 MW facility located on a 234-acre tract that was built in 2017.

I have considered a recent sale or Parcel 3. The home on this parcel is 1,230 feet from the closest panel as measured in the second map from Google Earth, which shows the solar farm under construction.

I've compared this home sale to a number of similar rural homes on similar parcels as shown below. I have used multiple sales that bracket the subject property in terms of sale date, year built, gross living area, bedrooms and bathrooms. Bracketing the parameters insures that all factors are well balanced out in the adjustments. The trend for these sales shows a positive value for the adjacency to the solar farm.

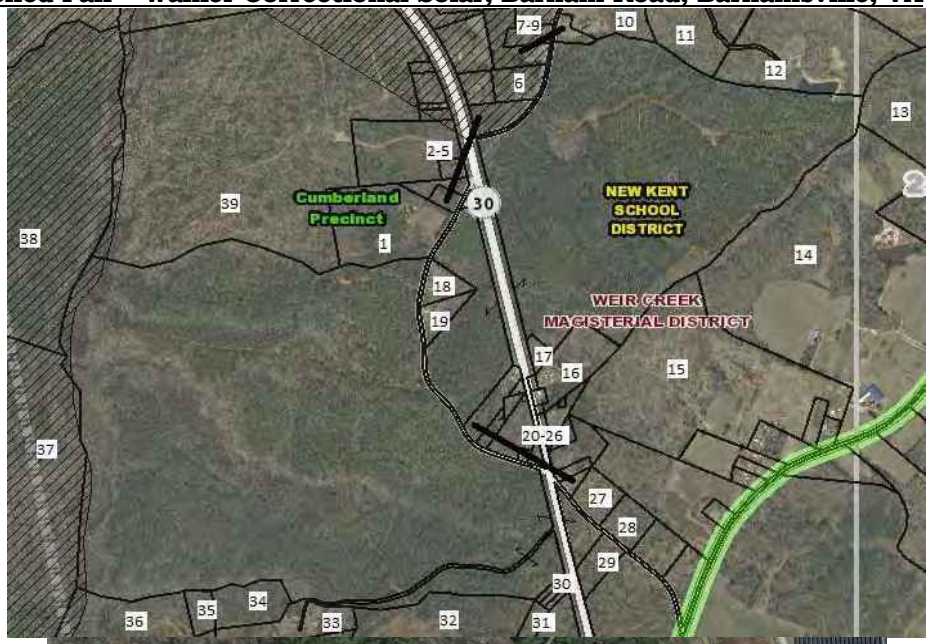
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000	1979	1,392	$211.93	3/2	Det Gar	Ranch	Unfin bsmt
Not	85 Ashby	5.09	9/11/2017	$315,000	1982	2,333	$135.02	3/2	2 Gar	Ranch	
Not	541 Old Kitchen	5.07	9/9/2018	$370,000	1986	3,157	$117.20	4/4	2 Gar	2 story	
Not	4174 Rockland	5.06	1/2/2017	$300,000	1990	1,688	$177.73	3/2	3 Gar	2 story	
Not	400 Sugar Hill	1.00	6/7/2018	$180,000	1975	1,008	$178.57	3/1	Drive	Ranch	

Adjoining Residential Sales After Solar Farm Approved					Adjoining Sales Adjusted								
Solar	Address	Acres	Date Sold	Sales Price	Time	Acres	YB	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000								$295,000	
Not	85 Ashby	5.09	9/11/2017	$315,000	-$6,300		-$6,615	-$38,116		-$7,000	$15,000	$271,969	8%
Not	541 Old Kitchen	5.07	9/9/2018	$370,000	-$18,500		-$18,130	-$62,057		-$7,000	$15,000	$279,313	5%
Not	4174 Rockland	5.06	1/2/2017	$300,000			-$23,100	-$15,782		-$12,000	$15,000	$264,118	10%
Not	400 Sugar Hill	1.00	6/7/2018	$180,000	-$9,000	$43,000	$5,040	$20,571	$10,000	$3,000	$15,000	$267,611	9%
											Average		8%

The landscaping screen is primarily a newly planted buffer with a row of existing trees being maintained near the northern boundary and considered light.

7. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamsville, VA



This project was built in 2017 and located on 484.65 acres for a 20 MW with the closest home at 110 feet from the closest solar panel with an average distance of 500 feet.

I considered the recent sale identified on the map above as Parcel 19, which is directly across the street and based on the map shown on the following page is 250 feet from the closest panel. A limited buffering remains along the road with natural growth being encouraged, but currently the panels are visible from the road. Alex Uminski, SRA with MGMiller Valuations in Richmond VA

confirmed this sale with the buying and selling broker. The selling broker indicated that the solar farm was not a negative influence on this sale and in fact the buyer noticed the solar farm and then discovered the listing. The privacy being afforded by the solar farm was considered a benefit by the buyer. I used a matched pair analysis with a similar sale nearby as shown below and found no negative impact on the sales price. Property actually closed for more than the asking price. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5241 Barham	2.65	10/18/2018	$264,000	2007	1,660	$159.04	3/2	Drive	Ranch	Modular
Not	17950 New Kent	5.00	9/5/2018	$290,000	1987	1,756	$165.15	3/2.5	3 Gar	Ranch	
Not	9252 Ordinary	4.00	6/13/2019	$277,000	2001	1,610	$172.05	3/2	1.5-Gar	Ranch	
Not	2416 W Miller	1.04	9/24/2018	$299,000	1999	1,864	$160.41	3/2.5	Gar	Ranch	

Adjoining Sales Adjusted

Solar	Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
Adjoins	5241 Barham								$264,000		250
Not	17950 New Kent		-$8,000	$29,000	-$4,756	-$5,000	-$20,000	-$15,000	$266,244	-1%	
Not	9252 Ordinary	-$8,310	-$8,000	$8,310	$2,581		-$10,000	-$15,000	$246,581	7%	
Not	2416 W Miller		$8,000	$11,960	-$9,817	-$5,000	-$10,000	-$15,000	$279,143	-6%	
								Average Diff		0%	

I also spoke with Patrick W. McCrerey of Virginia Estates who was marketing a property that sold at 5300 Barham Road adjoining the Walker-Correctional Solar Farm. He indicated that this property was unique with a home built in 1882 and heavily renovated and updated on 16.02 acres. The solar farm was through the woods and couldn't be seen by this property and it had no impact on marketing this property. This home sold on April 26, 2017 for $358,000. I did not set up any matched pairs for this property as it was such a unique property that any such comparison would be difficult to rely on. The broker's comments do support the assertion that the adjoining solar farm had no impact on value. The home in this case was 510 feet from the closest panel.

8. Matched Pair – Sappony Solar, Sussex County, VA

This project is a 30 MW facility located on a 322.68-acre tract that was built in the fourth quarter of 2017.

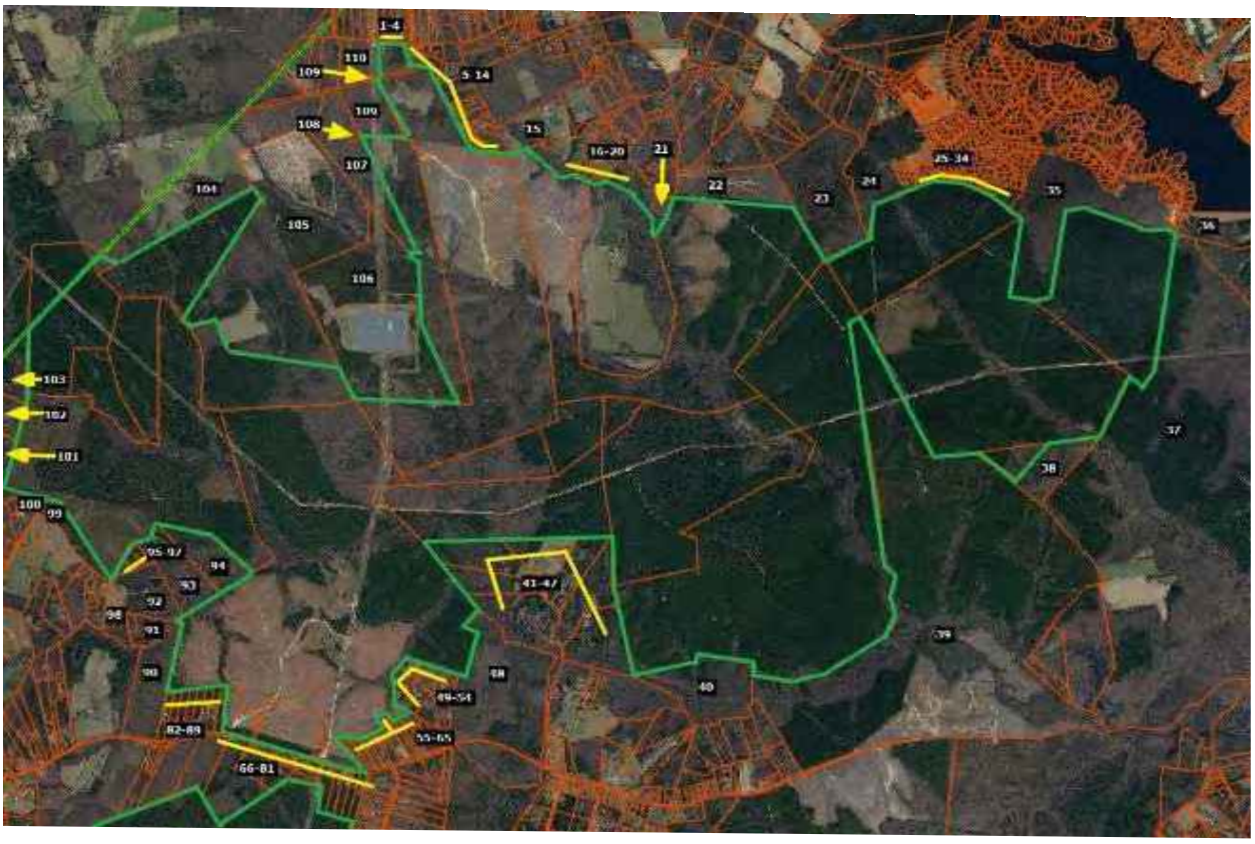
I have considered the 2018 sale of Parcel 17 as shown below. From Parcel 17 the retained trees and setbacks are a light to medium landscaped buffer.

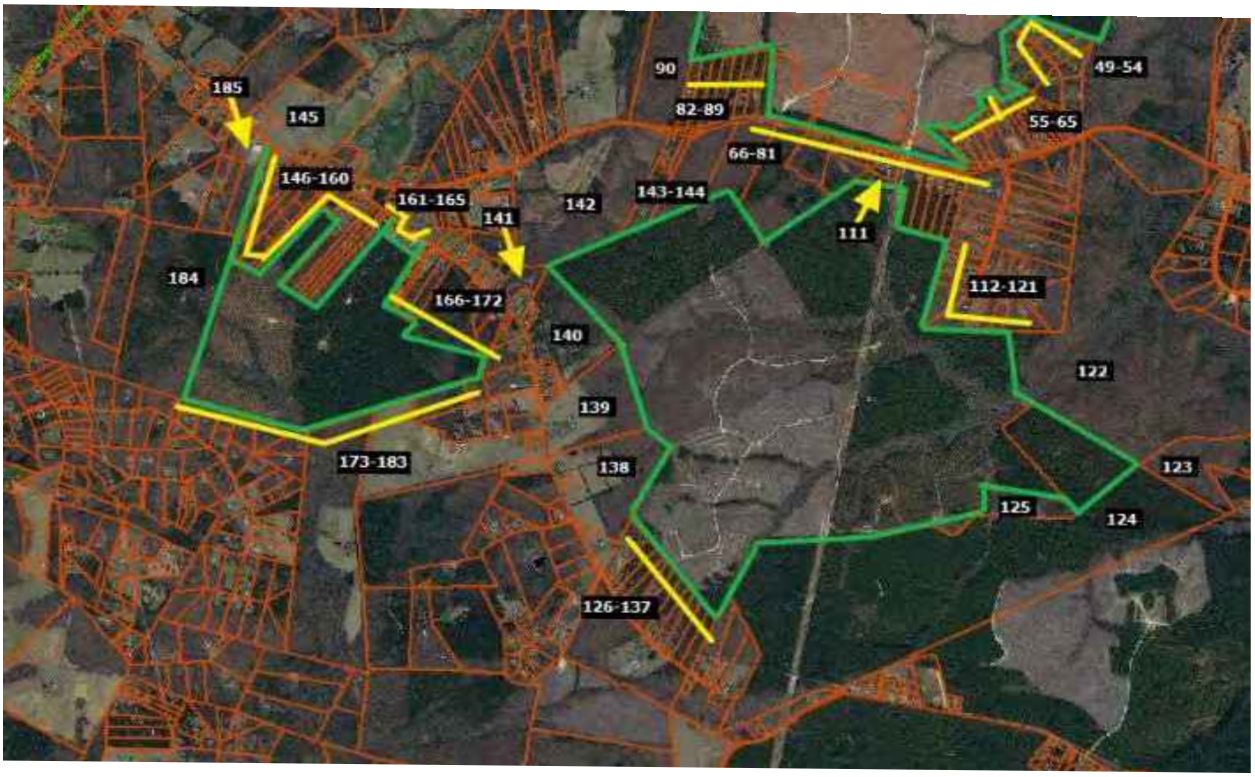
Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
	Adjoins	12511 Palestine	6.00	7/31/2018	$128,400	2013	1,900	$67.58	4/2.5	Open	Manuf	
	Not	15698 Concord	3.92	7/31/2018	$150,000	2010	2,310	$64.94	4/2	Open	Manuf	Fence
	Not	23209 Sussex	1.03	7/7/2020	$95,000	2005	1,675	$56.72	3/2	Det Crpt	Manuf	
	Not	6494 Rocky Br	4.07	11/8/2018	$100,000	2004	1,405	$71.17	3/2	Open	Manuf	

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							$128,400			1425
$0		$2,250	-$21,299	$5,000			$135,951	-6%		
-$5,660	$13,000	$3,800	$10,209	$5,000	$1,500		$122,849	4%		
-$843		$4,500	$28,185				$131,842	-3%		
									-1%	

9. Matched Pair – Spotsylvania Solar, Paytes, VA





This solar farm is being built in four phases with the area known as Site C having completed construction in November 2020 after the entire project was approved in April 2019. Site C, also known as Pleinmont 1 Solar, includes 99.6 MW located in the southeast corner of the project and shown on the maps above with adjoining parcels 111 through 144. The entire Spotsylvania project totals 617 MW on 3500 acres out of a parent tract assemblage of 6,412 acres.

I have identified three adjoining home sales that occurred during construction and development of the site in 2020.

The first is located on the north side of Site A on Orange Plank Road. The second is located on Nottoway Lane just north of Caparthin Road on the south side of Site A and east of Site C. The third is located on Post Oak Road for a home that backs up to Site C that sold in September 2020 near the completion of construction for Site C.

Spotsylvania Solar Farm

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	12901 Orng Plnk	5.20	8/27/2020	$319,900	1984	1,714	$186.64	3/2	Drive	1.5	Un Bsmt
Not	8353 Gold Dale	3.00	1/27/2021	$415,000	2004	2,064	$201.07	3/2	3 Gar	Ranch	
Not	6488 Southfork	7.26	9/9/2020	$375,000	2017	1,680	$223.21	3/2	2 Gar	1.5	Barn/Patio
Not	12717 Flintlock	0.47	12/2/2020	$290,000	1990	1,592	$182.16	3/2.5	Det Gar	Ranch	

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
12901 Orng Plnk								$319,900		1270
8353 Gold Dale	-$5,219	$20,000	-$41,500	-$56,298		-$20,000		$311,983	2%	
6488 Southfork	-$401	-$20,000	-$61,875	$6,071		-$15,000		$283,796	11%	
12717 Flintlock	-$2,312	$40,000	-$8,700	$17,779	-$5,000	-$5,000		$326,767	-2%	
							Average Diff		4%	

I contacted Keith Snider to confirm this sale. This is considered to have a medium landscaping screen.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	9641 Nottoway	11.00	5/12/2020	$449,900	2004	3,186	$141.21	4/2.5	Garage	2-Story	Un Bsmt
Not	26123 Lafayette	1.00	8/3/2020	$390,000	2006	3,142	$124.12	3/3.5	Gar/DtG	2-Story	
Not	11626 Forest	5.00	8/10/2020	$489,900	2017	3,350	$146.24	4/3.5	2 Gar	2-Story	
Not	10304 Pny Brnch	6.00	7/27/2020	$485,000	1998	3,076	$157.67	4/4	2Gar/Dt2	Ranch	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
9641 Nottoway								$449,900		1950
26123 Lafayette	-$2,661	$45,000	-$3,900	$4,369	-$10,000	-$5,000		$417,809	7%	
11626 Forest	-$3,624		-$31,844	-$19,187		-$5,000		$430,246	4%	
10304 Pny Brnch	-$3,030		$14,550	$13,875	-$15,000	-$15,000	-$10,000	$470,396	-5%	
							Average Diff		2%	

I contacted Annette Roberts with ReMax about this transaction. This is considered to have a medium landscaping screen.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	13353 Post Oak	5.20	9/21/2020	$300,000	1992	2,400	$125.00	4/3	Drive	2-Story	Fn Bsmt
Not	9609 Logan Hgt	5.86	7/4/2019	$330,000	2004	2,352	$140.31	3/2	2Gar	2-Story	
Not	12810 Catharpian	6.18	1/30/2020	$280,000	2008	2,240	$125.00	4/2.5	Drive	2-Story	Bsmt/Nd Pnt
Not	10725 Rbrt Lee	5.01	10/26/2020	$295,000	1995	2,166	$136.20	4/3	Gar	2-Story	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
13353 Post Oak								$300,000		1171
9609 Logan Hgt	$12,070		-$19,800	$5,388		-$15,000	$15,000	$327,658	-9%	
12810 Catharpian	$5,408		-$22,400	$16,000	$5,000		$15,000	$299,008	0%	
10725 Rbrt Lee	-$849		-$4,425	$25,496		-$10,000		$305,222	-2%	
							Average Diff		-4%	

I contacted Joy Pearson with CTI Real Estate about this transaction. This is considered to have a heavy landscaping screen.

All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

There are a couple of recent lot sales located along Southview Court that have sold since the solar farm was approved. The most recent lot sales include 11700 Southview Court that sold on December 29, 2021 for $140,000 for a 0.76-acre lot. This property was on the market for less than 2 months before closing within 6% of the asking price. This lot sold earlier in September 2019 for $55,000 based on a liquidation sale from NTS to an investor.

A similar 0.68-acre lot at 11507 Stonewood Court within the same subdivision located away from the solar farm sold on March 9, 2021 for $109,000. This lot sold for 18% over the asking price within 1 month of listing suggesting that this was priced too low. Adjusting this lot value upward by 12% for very strong growth in the market over 2021, the adjusted indicated value is $122,080 for this lot. This is still showing a 15% premium for the lot backing up to the solar farm.

The lot at 11009 Southview Court sold on August 5, 2019 for $65,000, which is significantly lower than the more recent sales. This lot was sold by NTS the original developer of this subdivision, who was in the process of liquidating lots in this subdivision with multiple lot sales in this time period throughout the subdivision being sold at discounted prices. The home was later improved by the buyer with a home built in 2020 with 2,430 square feet ranch, 3.5 bathrooms, with a full basement, and a current assessed value of $492,300.

I spoke with Chris Kalia, MAI, Mark Doherty, local real estate investor, and Alex Doherty, broker, who are all three familiar with this subdivision and activity in this neighborhood. All three indicated that there was a deep sell off of lots in the neighborhood by NTS at discounted prices under $100,000 each. Those lots since that time are being sold for up to $140,000. The prices paid for the lots below $100,000 were liquidation values and not indicative of market value. Homes are being built in the neighborhood on those lots with home prices ranging from $600,000 to $800,000 with no sign of impact on pricing due to the solar farm according to all three sources.


New areas of new lot construction started after approval of solar farm in 2019 outlined in green.
Future development to the south shown with preliminary road clearing outlined in blue.
Fawn Lake Virginia
Fawnlake Pkwy
Brandermill Park
Cobble Run
Ryan Homes at Fawn Lake
Millenial Creek

Fawn Lake Lot Sales

Parcel	Solar?	Address	Acres	Sale Date	Sale Price	Ad. For Time	% Diff
A	Adjoins	11700 Southview Ct	0.76	12/29/2021	$140,000		
1	1 parcel away	11603 Southview Ct	0.44	3/31/2022	$140,000	$141,960	-1.4%
2	Not adjoin	11507 Stonewood Ct	0.68	3/9/2021	$109,000	$118,374	15.4%
3	Not adjoin	11312 Westgate Wy	0.83	10/15/2020	$125,000	$142,000	-1.4%
4	Not adjoin	11409 Darkstone Pl	0.589	9/23/2021	$118,000	$118,000	15.7%

Average	7.1%
Median	7.0%

Least Adjusted	15.7%
2nd Least Adjusted (Parcel 1 off solar farm)	-1.4%

Time Adjustments are based on the FHFA Housing Price Index

Conclusion

The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in far more urban areas. The median income for the population within 1 mile of a solar farm among this subset of matched pairs is $65,695 with a median housing unit value of $186,463. Most of the comparables are under $300,000 in the home price, with $483,333 being the high end of the set, though I have matched pairs in other states over $1,000,000 in price adjoining large solar farms. The predominate adjoining uses are residential and agricultural. These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for Kentucky and adjoining states as well as the proposed subject property.

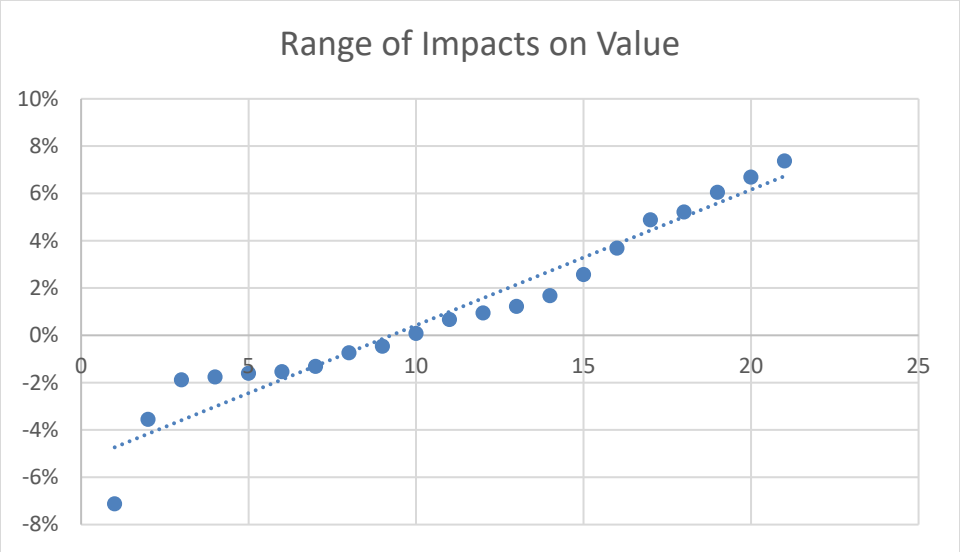
Based on the similarity of adjoining uses and demographic data between these sites and the subject property, I consider it reasonable to compare these sites to the subject property.

Matched Pair Summary

							Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Crittenden	Crittenden	KY	34	2.70	40	22%	51%	27%	0%	1,419	$60,198	$178,643	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
4	Portage	Portage	IN	56	2.00	0	19%	81%	0%	0%	6,642	$65,695	$186,463	Light
5	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	$61,115	$167,515	Light
6	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
7	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
8	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Medium
9	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			565	79.48	50	14%	72%	13%	0%	1,481	$70,241	$247,164	
	Median			160	20.00	40	13%	73%	10%	0%	467	$65,695	$186,463	
	High			3,500	617.00	160	37%	98%	46%	3%	6,642	$120,861	$483,333	
	Low			34	2.00	0	2%	39%	0%	0%	74	$40,936	$155,208	

These are very similar to the demographics shown around these comparable solar farms.

On the following page is a summary of the 31 matched pairs for all of the solar farms noted above. They show a pattern of results from -7% to +7%. As can be seen in the chart of those results below, most of the data points are between -2% and +5%. This variability is common with real estate and consistent with market imperfection. I therefore conclude that these results strongly support an indication of no impact on property value due to the adjacent solar farm.



Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	Area	MW	Approx Distance	Tax ID/Address	Sale Date	Sale Price	Adj. Price	% Diff
1	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%
2	Dominion	Indianapolis	IN	Rural	8.6	400	2013249 (Tax ID)	Dec-15	$140,000		
							5723 Minden	Nov-16	$139,900	$132,700	5%
3	Dominion	Indianapolis	IN	Rural	8.6	400	2013251 (Tax ID)	Sep-17	$160,000		
							5910 Mosaic	Aug-16	$146,000	$152,190	5%
4	Dominion	Indianapolis	IN	Rural	8.6	400	2013252 (Tax ID)	May-17	$147,000		
							5836 Sable	Jun-16	$141,000	$136,165	7%
5	Dominion	Indianapolis	IN	Rural	8.6	400	2013258 (Tax ID)	Dec-15	$131,750		
							5904 Minden	May-16	$130,000	$134,068	-2%
6	Dominion	Indianapolis	IN	Rural	8.6	400	2013260 (Tax ID)	Mar-15	$127,000		
							5904 Minden	May-16	$130,000	$128,957	-2%
7	Dominion	Indianapolis	IN	Rural	8.6	400	2013261 (Tax ID)	Feb-14	$120,000		
							5904 Minden	May-16	$130,000	$121,930	-2%
8	DG Amp	Piqua	OH	Suburban	12.6	155	6060 N Washington	Oct-19	$119,500		
							1511 Sweetbriar	Aug-20	$123,000	$118,044	1%
9	DG Amp	Piqua	OH	Suburban	12.6	585	1011 Plymouth	Feb-20	$113,000		
							1720 Williams	Dec-19	$119,900	$111,105	2%
10	DG Amp	Piqua	OH	Suburban	12.6	155	6010 N Washington	Aug-21	$176,900		
							1834 Wilshire	Dec-21	$168,900	$172,354	3%
11	DG Amp	Piqua	OH	Suburban	12.6	160	6240 N Washington	Oct-21	$155,000		
							424 Pinewood	May-22	$151,000	$145,627	6%
12	Spotsylvania	Paytes	VA	Rural	617	1270	12901 Orange Plnk	Aug-20	$319,900		
							12717 Flintlock	Dec-20	$290,000	$326,767	-2%
13	Spotsylvania	Paytes	VA	Rural	617	1950	9641 Nottoway	May-20	$449,900		
							11626 Forest	Aug-20	$489,900	$430,246	4%
14	Spotsylvania	Paytes	VA	Rural	617	1171	13353 Post Oak	Sep-20	$300,000		
							12810 Catharpin	Jan-20	$280,000	$299,008	0%
15	Walker	Barhamsville	VA	Rural	20	250	5241 Barham	Oct-18	$264,000		
							9252 Ordinary	Jun-19	$277,000	$246,581	7%
16	Clarke Cnty	White Post	VA	Rural	20	1230	833 Nations Spr	Aug-19	$385,000		
							2393 Old Chapel	Aug-20	$330,000	$389,286	-1%
17	Sappony	Stony Creek	VA	Rural	20	1425	12511 Palestine	Jul-18	$128,400		
							6494 Rocky Branch	Nov-18	$100,000	$131,842	-3%
18	Crittenden	Crittenden	KY	Suburban	2.7	373	250 Claiborne	Jan-19	$120,000		
							315 N Fork	May-19	$107,000	$120,889	-1%
19	Crittenden	Crittenden	KY	Suburban	2.7	488	300 Claiborne	Sep-18	$213,000		
							1795 Bay Valley	Dec-17	$231,200	$228,180	-7%
20	Crittenden	Crittenden	KY	Suburban	2.7	720	350 Claiborne	Jul-18	$245,000		
							2160 Sherman	Jun-19	$265,000	$248,225	-1%
21	Crittenden	Crittenden	KY	Suburban	2.7	930	370 Claiborne	Aug-19	$273,000		
							125 Lexington	Apr-18	$240,000	$254,751	7%
22	Crittenden	Crittenden	KY	Suburban	2.7	365	250 Claiborne	Jan-22	$210,000		
							240 Shawnee	Jun-21	$166,000	$219,563	-5%
23	Crittenden	Crittenden	KY	Suburban	2.7	390	260 Claiborne	Oct-21	$175,000		
							355 Oakwood	Oct-20	$186,000	$173,988	1%
24	Crittenden	Crittenden	KY	Suburban	2.7	570	300 Claiborne	Dec-21	$290,000		
							39 Pinhook	Mar-22	$299,000	$289,352	0%
25	Crittenden	Crittenden	KY	Suburban	2.7	1080	410 Claiborne	Feb-21	$275,000		
							114 Austin	Dec-20	$248,000	$279,680	-2%
26	Mulberry	Selmer	TN	Rural	5	400	0900A011	Jul-14	$130,000		
							099CA043	Feb-15	$148,900	$136,988	-5%
27	Mulberry	Selmer	TN	Rural	5	400	099CA002	Jul-15	$130,000		
							0990NA040	Mar-15	$120,000	$121,200	7%
28	Mulberry	Selmer	TN	Rural	5	480	491 Dusty	Oct-16	$176,000		
							35 April	Aug-16	$185,000	$178,283	-1%
29	Mulberry	Selmer	TN	Rural	5	650	297 Country	Sep-16	$150,000		
							53 Glen	Mar-17	$126,000	$144,460	4%
30	Mulberry	Selmer	TN	Rural	5	685	57 Cooper	Feb-19	$163,000		
							191 Amelia	Aug-18	$132,000	$155,947	4%
31	Grand Ridge	Streator	IL	Rural	20	480	1497 E 21st	Oct-16	$186,000		
							712 Columbus	Jun-16	$166,000	$184,000	1%

	MW	Avg. Distance
Average	67.15	648
Median	8.60	480
High	617.00	1,950
Low	2.00	155

	% Dif
Average	1%
Median	1%
High	7%
Low	-7%

B. Southeastern USA Data – Over 5 MW

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

This 5 MW solar farm adjoins Spring Garden Subdivision which had new homes and lots available for new construction during the approval and construction of the solar farm. The recent home sales have ranged from $200,000 to $250,000. This subdivision sold out the last homes in late 2014. The solar farm is clearly visible particularly along the north end of this street where there is only a thin line of trees separating the solar farm from the single-family homes.

Homes backing up to the solar farm are selling at the same price for the same floor plan as the homes that do not back up to the solar farm in this subdivision. According to the builder, the solar farm has been a complete non-factor. Not only do the sales show no difference in the price paid for the various homes adjoining the solar farm versus not adjoining the solar farm, but there are actually more recent sales along the solar farm than not. There is no impact on the sellout rate, or time to sell for the homes adjoining the solar farm.

I spoke with a number of owners who adjoin the solar farm and none of them expressed any concern over the solar farm impacting their property value.

The data presented on the following page shows multiple homes that have sold in 2013 and 2014 adjoining the solar farm at prices similar to those not along the solar farm. These series of sales indicate that the solar farm has no impact on the adjoining residential use.

The homes that were marketed at Spring Garden are shown below.

The homes adjoining the solar farm are considered to have a light landscaping screen as it is a narrow row of existing pine trees supplemented with evergreen plantings.

Matched Pairs
As of Date: 9/3/2014

Adjoining Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600195570	Helm	0.76	Sep-13	$250,000	2013	3,292	$75.94	2 Story
3600195361	Leak	1.49	Sep-13	$260,000	2013	3,652	$71.19	2 Story
3600199891	McBrayer	2.24	Jul-14	$250,000	2014	3,292	$75.94	2 Story
3600198632	Foresman	1.13	Aug-14	$253,000	2014	3,400	$74.41	2 Story
3600196656	Hinson	0.75	Dec-13	$255,000	2013	3,453	$73.85	2 Story
	Average	1.27		$253,600	2013.4	3,418	$74.27	
	Median	1.13		$253,000	2013	3,400	$74.41	

Adjoining Sales After Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
0	Feddersen	1.56	Feb-13	$247,000	2012	3,427	$72.07	Ranch
0	Gentry	1.42	Apr-13	$245,000	2013	3,400	$72.06	2 Story
	Average	1.49		$246,000	2012.5	3,414	$72.07	
	Median	1.49		$246,000	2012.5	3,414	$72.07	

Adjoining Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600183905	Carter	1.57	Dec-12	$240,000	2012	3,347	$71.71	1.5 Story
3600193097	Kelly	1.61	Sep-12	$198,000	2012	2,532	$78.20	2 Story
3600194189	Hadwan	1.55	Nov-12	$240,000	2012	3,433	$69.91	1.5 Story
	Average	1.59		$219,000	2012	2,940	$74.95	
	Median	1.59		$219,000	2012	2,940	$74.95	

Nearby Sales After Solar Farm Completed

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600193710	Barnes	1.12	Oct-13	$248,000	2013	3,400	$72.94	2 Story
3601105180	Nackley	0.95	Dec-13	$253,000	2013	3,400	$74.41	2 Story
3600192528	Mattheis	1.12	Oct-13	$238,000	2013	3,194	$74.51	2 Story
3600198928	Beckman	0.93	Mar-14	$250,000	2014	3,292	$75.94	2 Story
3600196965	Hough	0.81	Jun-14	$224,000	2014	2,434	$92.03	2 Story
3600193914	Preskitt	0.67	Jun-14	$242,000	2014	2,825	$85.66	2 Story
3600194813	Bordner	0.91	Apr-14	$258,000	2014	3,511	$73.48	2 Story
3601104147	Shaffer	0.73	Apr-14	$255,000	2014	3,453	$73.85	2 Story
	Average	0.91		$246,000	2013.625	3,189	$77.85	
	Median	0.92		$249,000	2014	3,346	$74.46	

Nearby Sales Before Solar Farm Announced

TAX ID	Owner	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	Style
3600191437	Thomas	1.12	Sep-12	$225,000	2012	3,276	$68.68	2 Story
3600087968	Lilley	1.15	Jan-13	$238,000	2012	3,421	$69.57	1.5 Story
3600087654	Burke	1.26	Sep-12	$240,000	2012	3,543	$67.74	2 Story
3600088796	Hobbs	0.73	Sep-12	$228,000	2012	3,254	$70.07	2 Story
	Average	1.07		$232,750	2012	3,374	$69.01	
	Median	1.14		$233,000	2012	3,349	$69.13	

Matched Pair Summary

	Adjoins Solar Farm		Nearby Solar Farm	
	Average	**Median**	**Average**	**Median**
Sales Price	$253,600	$253,000	$246,000	$249,000
Year Built	2013	2013	2014	2014
Size	3,418	3,400	3,189	3,346
Price/SF	$74.27	$74.41	$77.85	$74.46

Percentage Differences

Median Price	-2%
Median Size	-2%
Median Price/SF	0%

I note that 2308 Granville Drive sold again in November 2015 for $267,500, or $7,500 more than when it was purchased new from the builder two years earlier (Tax ID 3600195361, Owner: Leak). The neighborhood is clearly showing appreciation for homes adjoining the solar farm.

The Median Price is the best indicator to follow in any analysis as it avoids outlying samples that would otherwise skew the results. The median sizes and median prices are all consistent throughout the sales both before and after the solar farm whether you look at sites adjoining or nearby to the solar farm. The average size for the homes nearby the solar farm shows a smaller building size and a higher price per square foot. This reflects a common occurrence in real estate where the price per square foot goes up as the size goes down. So even comparing averages the indication is for no impact, but I rely on the median rates as the most reliable indication for any such analysis.

I have also considered four more recent resales of homes in this community as shown on the following page. These comparable sales adjoin the solar farm at distances ranging from 315 to 400 feet. The matched pairs show a range from -9% to +6%. The range of the average difference is -2% to +1% with an average of 0% and a median of +0.5%. These comparable sales support a finding of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	103 Granville Pl	1.42	7/27/2018	$265,000	2013	3,292	$80.50	4/3.5	2-Car	2-Story		385
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	103 Granville Pl								$265,000		-2%
Not	2219 Granville	$4,382		$1,300	$0				$265,682	0%	
Not	634 Friendly	-$8,303		-$6,675	$16,721	-$10,000			$258,744	2%	
Not	2403 Granville	-$6,029		-$1,325	$31,356				$289,001	-9%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	104 Erin	2.24	6/19/2017	$280,000	2014	3,549	$78.90	5/3.5	2-Car	2-Story		315
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	104 Erin								$280,000		0%
Not	2219 Granville	-$4,448		$2,600	$16,238				$274,390	2%	
Not	634 Friendly	-$17,370		-$5,340	$34,702	-$10,000			$268,992	4%	
Not	2403 Granville	-$15,029		$0	$48,285				$298,256	-7%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2312 Granville	0.75	5/1/2018	$284,900	2013	3,453	$82.51	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2312 Granville								$284,900		1%
Not	2219 Granville	$2,476		$1,300	$10,173				$273,948	4%	
Not	634 Friendly	-$10,260		-$6,675	$27,986	-$10,000			$268,051	6%	
Not	2403 Granville	-$7,972		-$1,325	$47,956				$303,659	-7%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	2310 Granville	0.76	5/14/2019	$280,000	2013	3,292	$85.05	5/3.5	2-Car	2-Story		400
	Not	2219 Granville	1.15	1/8/2018	$260,000	2012	3,292	$78.98	4/3.5	2-Car	2-Story		
	Not	634 Friendly	0.96	7/31/2019	$267,000	2018	3,053	$87.45	4/4.5	2-Car	2-Story		
	Not	2403 Granville	0.69	4/23/2019	$265,000	2014	2,816	$94.11	5/3.5	2-Car	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2310 Granville								$280,000		1%
Not	2219 Granville	$10,758		$1,300	$0				$272,058	3%	
Not	634 Friendly	-$1,755		-$6,675	$16,721	-$10,000			$265,291	5%	
Not	2403 Granville	$469		-$1,325	$31,356				$295,500	-6%	

I have also considered the original sales prices in this subdivision relative to the recent resale values as shown in the chart below. This rate of appreciation is right at 2.5% over the last 6 years. Zillow indicates that the average home value within the 27530 zip code as of January 2014 was $101,300 and as of January 2020 that average is $118,100. This indicates an average increase in the market of 2.37%. I conclude that the appreciation of the homes adjoining the solar farm are not impacted by the presence of the solar farm based on this data.

	Address	Initial Sale Date	Price	Second Sale Date	Price	Year Diff	Apprec.	% Apprec.	Apprec. %/Year
1	103 Granville Pl	4/1/2013	$245,000	7/27/2018	$265,000	5.32	$20,000	8.16%	1.53%
2	105 Erin	7/1/2014	$250,000	6/19/2017	$280,000	2.97	$30,000	12.00%	4.04%
3	2312 Granville	12/1/2013	$255,000	5/1/2015	$262,000	1.41	$7,000	2.75%	1.94%
4	2312 Granville	5/1/2015	$262,000	5/1/2018	$284,900	3.00	$22,900	8.74%	2.91%
5	2310 Granville	8/1/2013	$250,000	5/14/2019	$280,000	5.79	$30,000	12.00%	2.07%
6	2308 Granville	9/1/2013	$260,000	11/12/2015	$267,500	2.20	$7,500	2.88%	1.31%
7	2304 Granville	9/1/2012	$198,000	6/1/2017	$225,000	4.75	$27,000	13.64%	2.87%
8	102 Erin	8/1/2014	$253,000	11/1/2016	$270,000	2.25	$17,000	6.72%	2.98%
								Average	2.46%
								Median	2.47%

2. Matched Pair – Mulberry, Selmer, TN

This 16 MW solar farm was built in 2014 on 208.89 acres with the closest home being 480 feet.

This solar farm adjoins two subdivisions with Central Hills having a mix of existing and new construction homes. Lots in this development have been marketed for $15,000 each with discounts offered for multiple lots being used for a single home site. I spoke with the agent with Rhonda Wheeler and Becky Hearnsberger with United County Farm & Home Realty who noted that they have seen no impact on lot or home sales due to the solar farm in this community.

I have included a map below as well as data on recent sales activity on lots that adjoin the solar farm or are near the solar farm in this subdivision both before and after the announced plan for this solar farm facility. I note that using the same method I used to breakdown the adjoining uses at the subject property I show that the predominant adjoining uses are residential and agricultural, which is consistent with the location of most solar farms.

Adjoining Use Breakdown

	Acreage	Parcels
Commercial	3.40%	0.034
Residential	12.84%	79.31%
Agri/Res	10.39%	3.45%
Agricultural	73.37%	13.79%
Total	**100.00%**	**100.00%**

I have run a number of direct matched comparisons on the sales adjoining this solar farm as shown below. These direct matched pairs include some of those shown above as well as additional more recent sales in this community. In each of these I have compared the one sale adjoining the solar farm to multiple similar homes nearby that do not adjoin a solar farm to look for any potential impact from the solar farm.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
3	Adjoins	491 Dusty	6.86	10/28/2016	$176,000	2009	1,801	$97.72	3/2	2-Gar	Ranch	
	Not	820 Lake Trail	1.00	6/8/2018	$168,000	2013	1,869	$89.89	4/2	2-Gar	Ranch	
	Not	262 Country	1.00	1/17/2018	$145,000	2000	1,860	$77.96	3/2	2-Gar	Ranch	
	Not	35 April	1.15	8/16/2016	$185,000	2016	1,980	$93.43	3/2	2-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
3	Adjoins	491 Dusty							$176,000		480
	Not	820 Lake Trail	-$8,324	$12,000	-$3,360	-$4,890			$163,426	7%	
	Not	262 Country	-$5,450	$12,000	$6,525	-$3,680			$154,396	12%	
	Not	35 April	$1,138	$12,000	-$6,475	-$13,380			$178,283	-1%	
									Average	6%	

The best matched pair is 35 April Loop, which required the least adjustment and indicates a -1% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
12	Adjoins	57 Cooper	1.20	2/26/2019	$163,000	2011	1,586	$102.77	3/2	2-Gar	1.5 Story	Pool
	Not	191 Amelia	1.00	8/3/2018	$132,000	2005	1,534	$86.05	3/2	Drive	Ranch	
	Not	75 April	0.85	3/17/2017	$134,000	2012	1,588	$84.38	3/2	2-Crprt	Ranch	
	Not	345 Woodland	1.15	12/29/2016	$131,000	2002	1,410	$92.91	3/2	1-Gar	Ranch	

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
12	Adjoins	57 Cooper	$163,000							$163,000		685
	Not	191 Amelia	$132,000	$2,303		$3,960	$2,685	$10,000	$5,000	$155,947	4%	
	Not	75 April	$134,000	$8,029	$4,000	-$670	-$135	$5,000	$5,000	$155,224	5%	
	Not	345 Woodland	$131,000	$8,710		$5,895	$9,811		$5,000	$160,416	2%	
										Average	4%	

The best matched pair is 191 Amelia, which was most similar in time frame of sale and indicates a +4% increase in value due to the solar farm adjacency.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
15	Adjoins	297 Country	1.00	9/30/2016	$150,000	2002	1,596	$93.98	3/2	4-Gar	Ranch	
	Not	185 Dusty	1.85	8/17/2015	$126,040	2009	1,463	$86.15	3/2	2-Gar	Ranch	
	Not	53 Glen	1.13	3/9/2017	$126,000	1999	1,475	$85.42	3/2	2-Gar	Ranch	Brick

Adjoining Sales Adjusted

Parcel	Solar	Address	Sales Price	Time	Site	YB	GLA	Park	Other	Total	% Diff	Distance
15	Adjoins	297 Country	$150,000							$150,000		650
	Not	185 Dusty	$126,040	$4,355		-$4,411	$9,167	$10,000		$145,150	3%	
	Not	53 Glen	$126,000	-$1,699		$1,890	$8,269	$10,000		$144,460	4%	
										Average	3%	

The best matched pair is 53 Glen, which was most similar in time frame of sale and required less adjustment. It indicates a +4% increase in value due to the solar farm adjacency.

The average indicated impact from these three sets of matched pairs is +4%, which suggests a mild positive relationship due to adjacency to the solar farm. The landscaping buffer for this project is mostly natural tree growth that was retained as part of the development but much of the trees separating the panels from homes are actually on the lots for the homes themselves. I therefore consider the landscaping buffer to be thin to moderate for these adjoining homes.

I have also looked at several lot sales in this subdivision as shown below.

These are all lots within the same community and the highest prices paid are for lots one parcel off from the existing solar farm. These prices are fairly inconsistent, though they do suggest about a $3,000 loss in the lots adjoining the solar farm. This is an atypical finding and additional details suggest there is more going on in these sales than the data crunching shows. First of all Parcel 4 was purchased by the owner of the adjoining home and therefore an atypical buyer seeking to expand a lot and the site is not being purchased for home development. Moreover, using the SiteToDoBusiness demographic tools, I found that the 1-mile radius around this development is expecting a total population increase over the next 5 years of 3 people. This lack of growing demand for lots is largely explained in that context. Furthermore, the fact that finished home sales as shown above are showing no sign of a negative impact on property value makes this data unreliable and inconsistent with the data shown in sales to an end user. I therefore place little weight on this outlier data.

Parcel	Solar	Address	Acres	Date Sold	Sales Price	4/18/2019 Adj for Time	$/AC	4/18/2019 Adj for Time
4	Adjoins	Shelter	2.05	10/25/2017	$16,000	$16,728	$7,805	$8,160
10	Adjoins	Carter	1.70	8/2/2018	$14,000	$14,306	$8,235	$8,415
11	Adjoins	Cooper	1.28	9/17/2018	$12,000	$12,215	$9,375	$9,543
	Not	75 Dusty	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976
	Not	Lake Trl	1.47	11/7/2018	$13,000	$13,177	$8,844	$8,964
	Not	Lake Trl	1.67	4/18/2019	$20,000	$20,000	$11,976	$11,976

	Adjoins	Per Acre	Not Adjoins	Per Acre	% DIF/Lot	% DIF/AC
Average	$14,416	$8,706	$17,726	$10,972	19%	21%
Median	$14,306	$8,415	$20,000	$11,976	28%	30%
High	$16,728	$9,543	$20,000	$11,976	16%	20%
Low	$12,215	$8,160	$13,177	$8,964	7%	9%

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

This 5 MW solar farm is located on 47 acres and mostly adjoins agricultural and residential uses to the west, south and east as shown above. The property also adjoins retail uses and a church. I looked at a 2016 sale of an adjoining home with a positive impact on value adjoining the solar farm of 2.90%. This is within typical market friction and supports an indication of no impact on property value.

I have shown this data below. The landscaping buffer is considered heavy.

Leonardtown Road Solar Farm, Hughesville, MD

Nearby Residential Sale After Solar Farm Construction

Address	Solar Farm	Acres	Date Sold	Sales Price*	Built	GBA	$/GBA	Style	BR/BA	Bsmt	Park	Upgrades	Other
14595 Box Elder Ct	Adjoins	3.00	2/12/2016	$291,000	1991	2,174	$133.85	Colonial	5/2.5	No	2 Car Att	N/A	Deck
15313 Bassford Rd	Not	3.32	7/20/2016	$329,800	1990	2,520	$130.87	Colonial	3/2.5	Finished	2 Car Att	Custom	Scr Por/Patio

*$9,000 concession deducted from sale price for Box Elder and $10,200 deducted from Bassford

Adjoining Sales Adjusted			Adjustments					
Address	Date Sold	Sales Price	Time	GLA	Bsmt	Upgrades	Other	Total
14595 Box Elder Ct	2/12/2016	$291,000						$291,000
15313 Bassford Rd	7/20/2016	$329,800	-$3,400	-$13,840	-$10,000	-$15,000	-$5,000	$282,560

Difference Attributable to Location $8,440
2.90%

This is within typical market friction and supports an indication of no impact on property value.

4. Matched Pair – Gastonia SC Solar, Gastonia, NC

This 5 MW project is located on the south side of Neal Hawkins Road just outside of Gastonia. The property identified above as Parcel 4 was listed for sale while this solar farm project was going

through the approval process. The property was put under contract during the permitting process with the permit being approved while the due diligence period was still ongoing. After the permit was approved the property closed with no concerns from the buyer. I spoke with Jennifer Bouvier, the broker listing the property and she indicated that the solar farm had no impact at all on the sales price. She considered some nearby sales to set the price and the closing price was very similar to the asking price within the typical range for the market. The buyer was aware that the solar farm was coming and they had no concerns.

This two-story brick dwelling was sold on March 20, 2017 for $270,000 for a 3,437 square foot dwelling built in 1934 in average condition on 1.42 acres. The property has four bedrooms and two bathrooms. The landscaping screen is light for this adjoining home due to it being a new planted landscaping buffer.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	609 Neal Hawkins	1.42	3/20/2017	$270,000	1934	3,427	$78.79	4/2	Open	2-Brick	
Not	1418 N Modena	4.81	4/17/2018	$225,000	1930	2,906	$77.43	3/3	2-Crprt	2-Brick	
Not	363 Dallas Bess	2.90	11/29/2018	$265,500	1968	2,964	$89.57	3/3	Open	FinBsmt	
Not	1612 Dallas Chry	2.74	9/17/2018	$245,000	1951	3,443	$71.16	3/2	Open	2-Brick	Unfin bath

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
609 Neal Hawkins								$270,000			225
1418 N Modena	$7,319		$2,700	$32,271		-$10,000		$257,290	5%		
363 Dallas Bess	$746		-$27,081	$33,179	-$10,000		$53,100	$262,456	3%		
1612 Dallas Chry	$4,110		-$12,495	-$911			$10,000	$235,704	13%		
										7%	

I also considered the newer adjoining home identified as Parcel 5 that sold later in 2017 and it likewise shows no negative impact on property value. This is also considered a light landscaping buffer.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style
Adjoins	611 Neal Hawkins	0.78	7/6/2017	$288,000	1991	2,256	$127.66	5/3	2-Gar	1.5 Brick
Not	1211 Still Frst	0.51	7/30/2018	$280,000	1989	2,249	$124.50	3/3	2-Gar	Br Rnch
Not	2867 Colony Wds	0.52	8/14/2018	$242,000	1990	2,006	$120.64	3/3	2-Gar	Br Rnch
Not	1010 Strawberry	1.00	10/4/2018	$315,000	2002	2,330	$135.19	3/2.5	2-Gar	1.5 Brick

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
611 Neal Hawkins								$288,000			145
1211 Still Frst	$1,341		$2,800	$697				$284,838	1%		
2867 Colony Wds	$7,714		$1,210	$24,128				$275,052	4%		
1010 Strawberry	-$4,555		-$17,325	-$8,003	$5,000			$290,116	-1%		
										2%	

5. Matched Pair – Summit/Ranchlands Solar, Moyock, NC

This project is located at 1374 Caritoke Highway, Moyock, NC. This is an 80 MW facility on a parent tract of 2,034 acres. Parcels Number 48 and 53 as shown in the map above were sold in 2016. The project was under construction during the time period of the first of the matched pair sales and the permit was approved well prior to that in 2015.

I looked at multiple sales of adjoining and nearby homes and compared each to multiple comparables to show a range of impacts from -10% up to +11% with an average of +2% and a median of +3%. These ranges are well within typical real estate variation and supports an indication of no impact on property value.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
48	Adjoins	129 Pinto	4.29	4/15/2016	$170,000	1985	1,559	$109.04	3/2	Drive	MFG		1,060
	Not	102 Timber	1.30	4/1/2016	$175,500	2009	1,352	$129.81	3/2	Drive	MFG		
	Not	120 Ranchland	0.99	10/1/2014	$170,000	2002	1,501	$113.26	3/2	Drive	MFG		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	129 Pinto								$170,000		-3%
Not	102 Timber	$276	$10,000	-$29,484	$18,809				$175,101	-3%	
Not	120 Ranchland	$10,735	$10,000	-$20,230	$4,598				$175,103	-3%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	105 Pinto	4.99	12/16/2016	$206,000	1978	1,484	$138.81	3/2	Det G	Ranch	
Not	111 Spur	1.15	2/1/2016	$193,000	1985	2,013	$95.88	4/2	Gar	Ranch	
Not	103 Marshall	1.07	3/29/2017	$196,000	2003	1,620	$120.99	3/2	Drive	Ranch	
Not	127 Ranchland	0.00	6/9/2015	$219,900	1988	1,910	$115.13	3/2	Gar/3Det	Ranch	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
105 Pinto								$206,000			980
111 Spur	$6,747	$10,000	-$6,755	-$25,359				$177,633	14%		
103 Marshall	-$2,212	$10,000	-$24,500	-$8,227		$5,000		$176,212	14%		
127 Ranchland	$13,399	$10,000	-$10,995	-$24,523		-$10,000		$197,781	4%		
										11%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
15	Adjoins	318 Green View	0.44	9/15/2019	$357,000	2005	3,460	$103.18	4/4	2-Car	1.5 Brick		570
	Not	195 St Andrews	0.55	6/17/2018	$314,000	2002	3,561	$88.18	5/3	2-Car	2.0 Brick		
	Not	336 Green View	0.64	1/13/2019	$365,000	2006	3,790	$96.31	6/4	3-Car	2.0 Brick		
	Not	275 Green View	0.36	8/15/2019	$312,000	2003	3,100	$100.65	5/3	2-Car	2.0 Brick		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	318 Green View								$357,000		4%
Not	195 St Andrews	$12,040		$4,710	-$7,125	$10,000			$333,625	7%	
Not	336 Green View	$7,536		-$1,825	-$25,425			-$5,000	$340,286	5%	
Not	275 Green View	$815		$3,120	$28,986	$10,000			$354,921	1%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
29	Adjoins	164 Ranchland	1.01	4/30/2019	$169,000	1999	2,052	$82.36	4/2	Gar	MFG		440
	Not	150 Pinto	0.94	3/27/2018	$168,000	2017	1,920	$87.50	4/2	Drive	MFG		
	Not	105 Longhorn	1.90	10/10/2017	$184,500	2002	1,944	$94.91	3/2	Drive	MFG		
	Not	112 Pinto	1.00	7/27/2018	$180,000	2002	1,836	$98.04	3/2	Drive	MFG	Fenced	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	164 Ranchland								$169,000		-10%
Not	150 Pinto	$5,649		-$21,168	$8,085			$5,000	$165,566	2%	
Not	105 Longhorn	$8,816	-$10,000	-$3,875	$7,175			$5,000	$191,616	-13%	
Not	112 Pinto	$4,202		-$3,780	$14,824			$5,000	$200,245	-18%	

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Adjoins	358 Oxford	10.03	9/16/2019	$478,000	2008	2,726	$175.35	3/3	2 Gar	Ranch		635
	Not	276 Summit	10.01	12/20/2017	$355,000	2006	1,985	$178.84	3/2	2 Gar	Ranch		
	Not	176 Providence	6.19	5/6/2019	$425,000	1990	2,549	$166.73	3/3	4 Gar	Ranch	Brick	
	Not	1601 B Caratoke	12.20	9/26/2019	$440,000	2016	3,100	$141.94	4/3.5	5 Gar	Ranch	Pool	

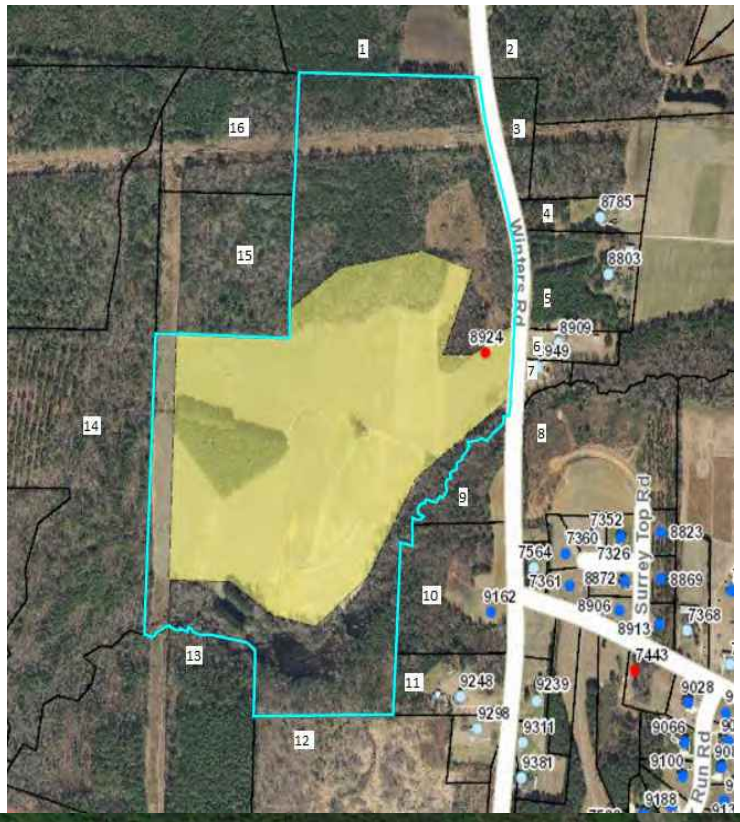
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	358 Oxford								$478,000		5%
Not	276 Summit	$18,996		$3,550	$106,017	$10,000			$493,564	-3%	
Not	176 Providence	$4,763		$38,250	$23,609		-$10,000	-$25,000	$456,623	4%	
Not	1601 B Caratoke	-$371	$50,000	-$17,600	-$42,467	-$5,000	-$10,000		$414,562	13%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
	Nearby	343 Oxford	10.01	3/9/2017	$490,000	2016	3,753	$130.56	3/3	2 Gar	1.5 Story	Pool	970
	Not	287 Oxford	10.01	9/4/2017	$600,000	2013	4,341	$138.22	5/4.5	8-Gar	1.5 Story	Pool	
	Not	301 Oxford	10.00	4/23/2018	$434,000	2013	3,393	$127.91	5/3	2 Gar	1.5 Story		
	Not	218 Oxford	10.01	4/4/2017	$525,000	2006	4,215	$124.56	4/3	4 Gar	1.5 Story	VG Barn	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	343 Oxford								$490,000		3%
Not	287 Oxford	-$9,051		$9,000	-$65,017	-$15,000	-$25,000		$494,932	-1%	
Not	301 Oxford	-$14,995	-$10,000	$6,510	$36,838				$452,353	8%	
Not	218 Oxford	-$1,150		$26,250	-$46,036		-$10,000	-$10,000	$484,064	1%	

6. Matched Pair – Tracy Solar, Bailey, NC



This project is located in rural Nash County on Winters Road with a 5 MW facility that was built in 2016 on 50 acres. A local builder acquired parcels 9 and 10 following construction as shown below

at rates comparable to other tracts in the area. They then built a custom home for an owner and sold that at a price similar to other nearby homes as shown in the matched pair data below. The retained woods provide a heavy landscaped buffer for this homesite.

Adjoining Land Sales After Solar Farm Completed

#	Solar Farm	TAX ID	Grantor	Grantee	Address	Acres	Date Sold	Sales Price	$/AC	Other
9 &10	Adjoins	316003 & 316004	Cozart	Kingsmill	9162 Winters	13.22	7/21/2016	$70,000	$5,295	
	Not	6056	Billingsly		427 Young	41	10/21/2016	$164,000	$4,000	
	Not	33211	Fulcher	Weikel	10533 Cone	23.46	7/18/2017	$137,000	$5,840	Doublewide, structures
	Not	106807	Perry	Gardner	Claude Lewis	11.22	8/10/2017	$79,000	$7,041	Gravel drive for sub, cleared
	Not	3437	Vaughan	N/A	11354 Old Lewis Sch	18.73	Listing	$79,900	$4,266	Small cemetery,wooded

Adjoining Sales Adjusted

Time	Acres	Location	Other	Adj $/Ac	% Diff
				$5,295	
$0	$400	$0	$0	$4,400	17%
-$292	$292	$0	-$500	$5,340	-1%
-$352	$0	$0	-$1,000	$5,689	-7%
-$213	$0	$0	$213	$4,266	19%
				Average	7%

Adjoining Residential Sales After Solar Farm Completed

#	Solar Farm	n	Address	Acres	Date Sold	Sales Price	Built	GLA	$/GLA	BR/BA	Style	Other
9 &10	Adjoins	gs	9162 Winters	13.22	1/5/2017	$255,000	2016	1,616	$157.80	3/2	Ranch	1296 sf wrkshp
	Not	w	7352 Red Fox	0.93	6/30/2016	$176,000	2010	1,529	$115.11	3/2	2-story	

Adjoining Sales Adjusted

Time	Acres	YB	GLA	Style	Other	Total	% Diff
						$255,000	
$0	$44,000	$7,392	$5,007	$5,000	$15,000	$252,399	1%

The comparables for the land show either a significant positive relationship or a mild negative relationship to having and adjoining solar farm, but when averaged together they show no negative impact. The wild divergence is due to the difficulty in comping out this tract of land and the wide variety of comparables used. The two comparables that show mild negative influences include a property that was partly developed as a residential subdivision and the other included a doublewide with some value and accessory agricultural structures. The tax assessed value on the improvements were valued at $60,000. So both of those comparables have some limitations for comparison. The two that show significant enhancement due to adjacency includes a property with a cemetery located in the middle and the other is a tract almost twice as large. Still that larger tract after adjustment provides the best matched pair as it required the least adjustment. I therefore conclude that there is no negative impact due to adjacency to the solar farm shown by this matched pair.

The dwelling that was built on the site was a build-to-suit and was compared to a nearby homesale of a property on a smaller parcel of land. I adjusted for that differenced based on a $25,000 value for a 1-acre home site versus the $70,000 purchase price of the larger subject tract. The other adjustments are typical and show no impact due to the adjacency to the solar farm.

The closest solar panel to the home is 780 feet away.

I note that the representative for Kingsmill Homes indicated that the solar farm was never a concern in purchasing the land or selling the home. He also indicated that they had built a number of nearby homes across the street and it had never come up as an issue.

7. Matched Pair – Manatee Solar Farm, Parrish, FL

This solar farm is located near Seminole Trail, Parrish, FL. The solar farm has a 74.50 MW output and is located on a 1,180.38 acre tract and was built in 2016. The tract is owned by Florida Power & Light Company.

I have considered the recent sale of 13670 Highland Road, Wimauma, Florida. This one-story, concrete block home is located just north of the solar farm and separated from the solar farm by a railroad corridor. This home is a 3 BR, 3 BA 1,512 s.f. home with a carport and workshop. The property includes new custom cabinets, granite counter tops, brand new stainless steel appliances, updated bathrooms and new carpet in the bedrooms. The home is sitting on 5 acres. The home was built in 1997.

I have compared this sale to several nearby homesales as part of this matched pair analysis as shown below. The landscaping separating the home from the solar farm is considered heavy.

Solar	TAX ID/Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Note
Adjoins	13670 Highland	5.00	8/21/2017	$255,000	1997	1,512	$168.65	3/3	Carport/Wrkshp	Ranch	Renov.
Not	2901 Arrowsmith	1.91	1/31/2018	$225,000	1979	1,636	$137.53	3/2	2 Garage/Wrkshp	Ranch	
Not	602 Butch Cassidy	1.00	5/5/2017	$220,000	2001	1,560	$141.03	3/2	N/A	Ranch	Renov.
Not	2908 Wild West	1.23	7/12/2017	$254,000	2003	1,554	$163.45	3/2	2 Garage/Wrkshp	Ranch	Renov.
Not	13851 Highland	5.00	9/13/2017	$240,000	1978	1,636	$146.70	4/2	3 Garage	Ranch	Renov.

		Adjoining Sales Adjusted								
Solar	**TAX ID/Address**	**Time**	**Acres**	**YB**	**GLA**	**BR/BA**	**Park**	**Note**	**Total**	**% Diff**
Adjoins	13670 Highland								$255,000	
Not	2901 Arrowsmith	$2,250	$10,000	$28,350	-$8,527	$5,000	-$10,000	$10,000	$262,073	-3%
Not	602 Butch Cassidy	-$2,200	$10,000	-$6,160	-$3,385	$5,000	$2,000		$225,255	12%
Not	2908 Wild West	$0	$10,000	-$10,668	-$3,432	$5,000	-$10,000		$244,900	4%
Not	13851 Highland	$0	$0	$31,920	-$9,095	$3,000	-$10,000		$255,825	0%
									Average	3%

The sales prices of the comparables before adjustments range from $220,000 to $254,000. After adjustments they range from $225,255 to $262,073. The comparables range from no impact to a strong positive impact. The comparables showing -3% and +4% impact on value are considered within a typical range of value and therefore not indicative of any impact on property value.

This set of matched pair data falls in line with the data seen in other states. The closest solar panel to the home at 13670 Highland is 1,180 feet. There is a wooded buffer between these two properties.

I have included a map showing the relative location of these properties below.

8. Matched Pair – McBride Place Solar Farm, Midland, NC

This project is located on Mount Pleasant Road, Midland, North Carolina. The property is on 627 acres on an assemblage of 974.59 acres. The solar farm was approved in early 2017 for a 74.9 MW facility.

I have considered the sale of 4380 Joyner Road which adjoins the proposed solar farm near the northwest section. This property was appraised in April of 2017 for a value of $317,000 with no consideration of any impact due to the solar farm in that figure. The property sold in November

2018 for $325,000 with the buyer fully aware of the proposed solar farm. The landscaping buffer relative to Joyner Road, Hayden Way, Chanel Court and Kristi Lane is considered medium, while the landscaping for the home at the north end of Chanel Court is considered very light.

I have considered the following matched pairs to the subject property.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	4380 Joyner	12.00	11/22/2017	$325,000	1979	1,598	$203.38	3/2	2xGar	Ranch	Outbldg
Not	3870 Elkwood	5.50	8/24/2016	$250,000	1986	1,551	$161.19	3/2.5	Det 2xGar	Craft	
Not	8121 Lower Rocky	18.00	2/8/2017	$355,000	1977	1,274	$278.65	2/2	2xCarprt	Ranch	Eq. Fac.
Not	13531 Cabarrus	7.89	5/20/2016	$267,750	1981	2,300	$116.41	3/2	2xGar	Ranch	

Adjoining Sales Adjusted

Time	Acres	YB	Condition	GLA	BR/BA	Park	Other	Total	% Diff
								$325,000	
$7,500	$52,000	-$12,250	$10,000	$2,273	-$2,000	$2,500	$7,500	$317,523	2%
$7,100	-$48,000	$4,970		$23,156	$0	$3,000	-$15,000	$330,226	-2%
$8,033	$33,000	-$3,749	$20,000	-$35,832	$0	$0	$7,500	$296,702	9%
								Average	3%

The home at 4380 Joyner Road is 275 feet from the closest solar panel.

I also considered the recent sale of a lot at 5800 Kristi Lane that is on the east side of the proposed solar farm. This 4.22-acre lot sold in December 2017 for $94,000. A home was built on this lot in 2019 with the closest point from home to panel at 689 feet. The home site is heavily wooded and their remains a wooded buffer between the solar panels and the home. I spoke with the broker, Margaret Dabbs, who indicated that the solar farm was considered a positive by both buyer and seller as it insures no subdivision will be happening in that area. Buyers in this market are looking for privacy and seclusion.

The breakdown of recent lot sales on Kristi are shown below with the lowest price paid for the lot with no solar farm exposure, though that lot has exposure to Mt Pleasant Road South. Still the older lot sales have exposure to the solar farm and sold for higher prices than the front lot and adjusting for time would only increase that difference.

Adjoining Lot Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	$/AC	$/Lot
	Adjoins	5811 Kristi	3.74	5/1/2018	$100,000	$26,738	$100,000
	Adjoins	5800 Kristi	4.22	12/1/2017	$94,000	$22,275	$94,000
	Not	5822 Kristi	3.43	2/24/2020	$90,000	$26,239	$90,000

The lot at 5811 Kristi Lane sold in May 2018 for $100,000 for a 3.74-acre lot. The home that was built later in 2018 is 505 feet to the closest solar panel. This home then sold to a homeowner for $530,000 in April 2020. I have compared this home sale to other properties in the area as shown below.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5811 Kristi	3.74	3/31/2020	$530,000	2018	3,858	$137.38	5/3.5	2 Gar	2-story	Cement Ext
Not	3915 Tania	1.68	12/9/2019	$495,000	2007	3,919	$126.31	3/3.5	2 Gar	2-story	3Det Gar
Not	6782 Manatee	1.33	3/8/2020	$460,000	1998	3,776	$121.82	4/2/2h	2 Gar	2-story	Water
Not	314 Old Hickory	1.24	9/20/2019	$492,500	2017	3,903	$126.18	6/4.5	2 Gar	2-story	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	5811 Kristi								$530,000		5%
Not	3915 Tania	$6,285		$27,225	-$3,852		-$20,000		$504,657	5%	
Not	6782 Manatee	$1,189		$46,000	$4,995	$5,000			$517,183	2%	
Not	314 Old Hickory	$10,680		$2,463	-$2,839	-$10,000			$492,803	7%	

After adjusting the comparables, I found that the average adjusted value shows a slight increase in value for the subject property adjoining a solar farm. As in the other cases, this is a mild positive impact on value but within the typical range of real estate transactions.

I also looked at 5833 Kristi Lane that sold on 9/14/2020 for $625,000. This home is 470 feet from the closest panel.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Nearby	5833 Kristi	4.05	9/14/2020	$625,000	2008	4,373	$142.92	5/4	3-Car	2-Brick	
Not	4055 Dakeita	4.90	12/30/2020	$629,000	2005	4,427	$142.08	4/4	4-Car	2-Brick	4DetGar/Stable
Not	9615 Bales	2.16	6/30/2020	$620,000	2007	4,139	$149.79	4/5	3-Car	2-Stone	2DetGar
Not	9522 Bales	1.47	6/18/2020	$600,000	2007	4,014	$149.48	4/4.5	3-Car	2-Stone	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
5833 Kristi								$625,000			470
4055 Dakeita	-$9,220		$5,661	-$6,138		-$25,000		$594,303	5%		
9615 Bales	$6,455		$1,860	$28,042	-$10,000	-$15,000		$631,356	-1%		
9522 Bales	$7,233		$1,800	$42,930	-$5,000			$646,963	-4%		
										0%	

The average difference is 0% impact and the differences are all within a close range with this set of comparables and supports a finding of no impact on property value.

I have also looked at 4504 Chanel Court. This home sold on January 1, 2020 for $393,500 for this 3,010 square foot home built in 2004 with 3 bedroooms, 3.5 bathrooms, and a 3-car garage. This home includes a full partially finished basement that significantly complicates comparing this to other sales. This home previously sold on January 23, 2017 for $399,000. This was during the time that the solar farm was a known factor as the solar farm was approved in early 2017 and public discussions had already commenced. I spoke with Rachelle Killman with Real Estate Realty, LLC the buyer's agent for this transaction and she indicated that the solar farm was not a factor or consideration for the buyer. She noted that you could see the panels sort of through the trees, but it wasn't a concern for the buyer. She was not familiar with the earlier 2017 sale, but indicated that it was likely too high. This again goes back to the partially finished basement issue. The basement has a fireplace, and an installed 3/4 bathroom but otherwise bare studs and concrete floors with different buyers assigning varying value to that partly finished space. I also reached out to Don Gomez with Don Anthony Realty, LLC as he was the listing agent.

I also looked at the recent sale of 4599 Chanel Court. This home is within 310 feet of solar panels but notably does not have a good landscaping screen in place as shown in the photo below. The plantings appear to be less than 3-feet in height and only a narrow, limited screen of existing hardwoods were kept. The photograph is from the listing.

According to Scott David with Better Homes and Gardens Paracle Realty, this property was under contract for $550,000 contingent on the buyer being able to sell their former home. The former home was apparently overpriced and did not sell and the contract stretched out over 2.5 months.

The seller was in a bind as they had a home they were trying to buy contingent on this closing and were about to lose that opportunity. A cash buyer offered them a quick close at $500,000 and the seller accepted that offer in order to not lose the home they were trying to buy. According to Mr. David, the original contracted buyer and the actual cash buyer never considered the solar farm as a negative. In fact Mr. David noted that the actual buyer saw it as a great opportunity to purchase a home where a new subdivision could not be built behind his house. I therefore conclude that this property supports a finding of no impact on adjoining property, even where the landscaping screen still requires time to grow in for a year-round screen.

I also considered a sale/resale analysis on this property. This same home sold on September 15, 2015 for $462,000. Adjusting this upward by 5% per year for the five years between these sales dates suggests a value of $577,500. Comparing that to the $550,000 contract that suggests a 5% downward impact, which is within a typical market variation. Given that the broker noted no negative impact from the solar farm and the analysis above, I conclude this sale supports a finding of no impact on value.

9. Matched Pair – Mariposa Solar, Gaston County, NC

This project is a 5 MW facility located on 35.80 acres out of a parent tract of 87.61 acres at 517 Blacksnake Road, Stanley that was built in 2016.

I have considered a number of recent sales around this facility as shown below.

The first is identified in the map above as Parcel 1, which is 215 Mariposa Road. This is an older dwelling on large acreage with only one bathroom. I've compared it to similar nearby homes as shown below. The landscaping buffer for this home is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style
Adjoins	215 Mariposa	17.74	12/12/2017	$249,000	1958	1,551	$160.54	3/1	Garage	Br/Rnch
Not	249 Mariposa	0.48	3/1/2019	$153,000	1974	1,792	$85.38	4/2	Garage	Br/Rnch
Not	110 Airport	0.83	5/10/2016	$166,000	1962	2,165	$76.67	3/2	Crprt	Br/Rnch
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	1980	2,156	$112.48	3/2	Drive	1.5
Not	1201 Abernathy	27.00	5/3/2018	$390,000	1970	2,190	$178.08	3/2	Crprt	Br/Rnch

Adjoining Residential Sales After Solar Farm Approved **Adjoining Sales Adjusted**

Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	215 Mariposa	17.74	12/12/2017	$249,000								$249,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$5,583	-$17,136	$129,450	-$20,576	-$10,000			$229,154	8%
Not	110 Airport	0.83	5/10/2016	$166,000	$7,927	-$4,648	$126,825	-$47,078	-$10,000			$239,026	4%
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	-$5,621	-$37,345	$95,475	-$68,048	-$10,000	$5,000		$221,961	11%
Not	1201 Abernathy	27.00	5/3/2018	$390,000	-$4,552	-$32,760	-$69,450	-$60,705	-$10,000			$212,533	15%
												Average	9%

The average difference after adjusting for all factors is +9% on average, which suggests an enhancement due to the solar farm across the street. Given the large adjustments for acreage and size, I will focus on the low end of the adjusted range at 4%, which is within the typical deviation and therefore suggests no impact on value.

I have also considered Parcel 4 that sold after the solar farm was approved but before it had been constructed in 2016. The landscaping buffer for this parcel is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000	1962	1,880	$95.74	3/2	Carport	Br/Rnch	Det Wrkshop
Not	249 Mariposa	0.48	3/1/2019	$153,000	1974	1,792	$85.38	4/2	Garage	Br/Rnch	
Not	110 Airport	0.83	5/10/2016	$166,000	1962	2,165	$76.67	3/2	Crprt	Br/Rnch	
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	1980	2,156	$112.48	3/2	Drive	1.5	

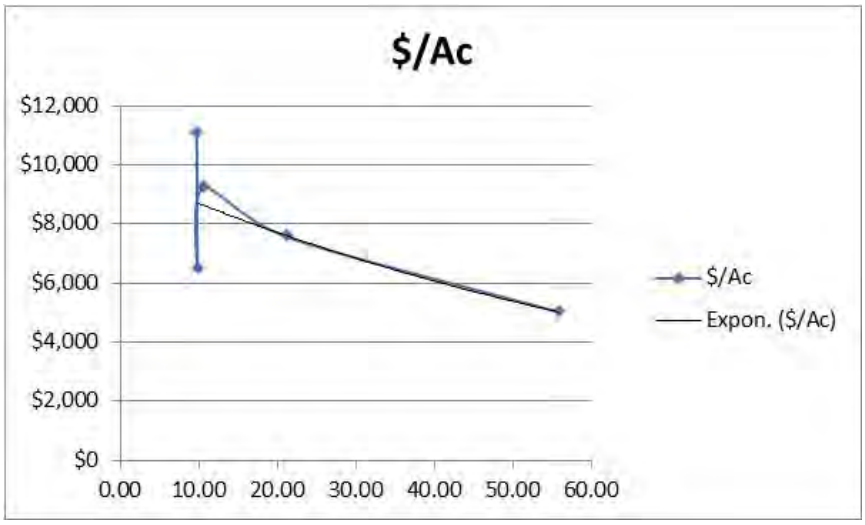
Adjoining Residential Sales After Solar Farm Approved **Adjoining Sales Adjusted**

Solar	Address	Acres	Date Sold	Sales Price	Time	YB	Acres	GLA	BR/BA	Park	Other	Total	% Diff
Adjoins	242 Mariposa	2.91	9/21/2015	$180,000								$180,000	
Not	249 Mariposa	0.48	3/1/2019	$153,000	-$15,807	-$12,852	$18,468	$7,513		-$3,000	$25,000	$172,322	4%
Not	110 Airport	0.83	5/10/2016	$166,000	-$3,165	$0	$15,808	-$28,600			$25,000	$175,043	3%
Not	1249 Blacksnake	5.01	9/20/2018	$242,500	-$21,825	-$30,555	-$15,960	-$40,942		$2,000	$25,000	$160,218	11%
												Average	6%

The average difference after adjusting for all factors is +6%, which is again suggests a mild increase in value due to the adjoining solar farm use. The median is a 4% adjustment, which is within a standard deviation and suggests no impact on property value.

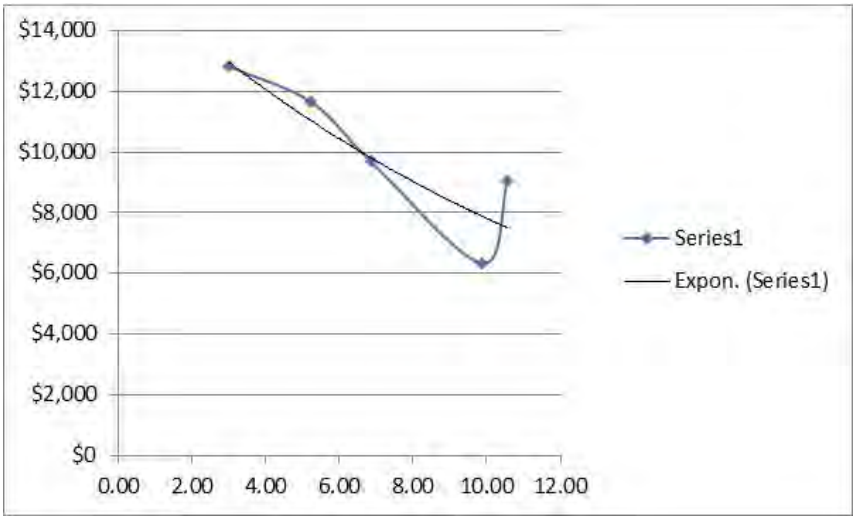
I have also considered the recent sale of Parcel 13 that is located on Blacksnake Road south of the project. I was unable to find good land sales in the same 20-acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 20 acres. As can be seen in the chart below, this lines up exactly with the purchase of the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm.

Adjoining Residential Land Sales After Solar Farm Approved						**Adjoining Sales Adjusted**	
Solar	**Tax/Street**	**Acres**	**Date Sold**	**Sales Price**	**$/Ac**	**Time**	**$/Ac**
Adjoins	174339/Blacksnake	21.15	6/29/2018	$160,000	$7,565		$7,565
Not	227852/Abernathy	10.57	5/9/2018	$97,000	$9,177	$38	$9,215
Not	17443/Legion	9.87	9/7/2018	$64,000	$6,484	-$37	$6,447
Not	164243/Alexis	9.75	2/1/2019	$110,000	$11,282	-$201	$11,081
Not	176884/Bowden	55.77	6/13/2018	$280,000	$5,021	$7	$5,027



Finally, I have considered the recent sale of Parcel 17 that sold as vacant land. I was unable to find good land sales in the same 7 acre range, so I have considered sales of larger and smaller acreage. I adjusted each of those land sales for time. I then applied the price per acre to a trendline to show where the expected price per acre would be for 7 acres. As can be seen in the chart below, this lines up with the trendline running right through the purchase price for the subject property. I therefore conclude that there is no impact on Parcel 13 due to proximity to the solar farm. I note that this property was improved with a 3,196 square foot ranch built in 2018 following the land purchase, which shows that development near the solar farm was unimpeded.

Adjoining Residential Land Sales After Solar Farm Approved						**Adjoining Sales Adjusted**		
Solar	**Tax/Street**	**Acres**	**Date Sold**	**Sales Price**	**$/Ac**	**Time**	**Location**	**$/Ac**
Adjoins	227039/Mariposa	6.86	12/6/2017	$66,500	$9,694			$9,694
Not	227852/Abernathy	10.57	5/9/2018	$97,000	$9,177	-$116		$9,061
Not	17443/Legion	9.87	9/7/2018	$64,000	$6,484	-$147		$6,338
Not	177322/Robinson	5.23	5/12/2017	$66,500	$12,715	$217	-$1,272	$11,661
Not	203386/Carousel	2.99	7/13/2018	$43,500	$14,548	-$262	-$1,455	$12,832



10. Matched Pair – Clarke County Solar, Clarke County, VA

This project is a 20 MW facility located on a 234-acre tract that was built in 2017.

I have considered two recent sales of Parcel 3. The home on this parcel is 1,230 feet from the closest panel as measured in the second map from Google Earth, which shows the solar farm under construction. This home sold in January 2017 for $295,000 and again in August 2019 for $385,000. I show each sale below and compare those to similar home sales in each time frame. The significant increase in price between 2017 and 2019 is due to a major kitchen remodel, new roof, and related upgrades as well as improvement in the market in general. The sale and later resale of the home with updates and improvements speaks to pride of ownership and increasing overall value as properties perceived as diminished are less likely to be renovated and sold for profit.

I note that 102 Tilthammer includes a number of barns that I did not attribute any value in the analysis. The market would typically give some value for those barns but even without that adjustment there is an indication of a positive impact on value due to the solar farm. The landscaping buffer from this home is considered light.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
3	Adjoins	833 Nations Spr	5.13	8/18/2019	$385,000	1979	1,392	$276.58	3/2	Det Gar	Ranch	UnBsmt
	Not	167 Leslie	5.00	8/19/2020	$429,000	1980	1,665	$257.66	3/2	Det2Gar	Ranch	
	Not	2393 Old Chapel	2.47	8/10/2020	$330,000	1974	1,500	$220.00	3/1.5	Det Gar	Ranch	
	Not	102 Tilthammer	6.70	5/7/2019	$372,000	1970	1,548	$240.31	3/1.5	Det Gar	Ranch	UnBsmt

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							$385,000			1230
-$13,268		-$2,145	-$56,272		-$5,000	$50,000	$402,315	-4%		
-$9,956	$25,000	$8,250	-$19,008	$5,000		$50,000	$389,286	-1%		
$3,229		$16,740	-$29,991	$5,000			$366,978	5%		
									0%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
3	Adjoins	833 Nations Spr	5.13	1/9/2017	$295,000	1979	1,392	$211.93	3/2	Det Gar	Ranch	UnBsmt
	Not	6801 Middle	2.00	12/12/2017	$249,999	1981	1,584	$157.83	3/2	Open	Ranch	
	Not	4174 Rockland	5.06	1/2/2017	$300,000	1990	1,688	$177.73	3/2	2 Gar	2-story	
	Not	400 Sugar Hill	1.00	6/7/2018	$180,000	1975	1,008	$178.57	3/1	Open	Ranch	

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							$295,000			1230
-$7,100	$25,000	-$2,500	-$24,242		$5,000	$50,000	$296,157	0%		
$177		-$16,500	-$42,085		-$10,000	$50,000	$281,592	5%		
-$7,797		$3,600	$54,857	$10,000	$5,000	$50,000	$295,661	0%		
									1%	

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

This 30 MW solar farm is located off Hawkins Academy Road and Social Circle Fairplay Road. I identified three adjoining sales to this tract after development of the solar farm. However, one of those is shown as Parcel 12 in the map above and includes a powerline easement encumbering over a third of the 5 acres and adjoins a large substation as well. It would be difficult to isolate those impacts from any potential solar farm impact and therefore I have excluded that sale. I also excluded the recent sale of Parcel 17, which is a farm with conservation restrictions on it that similarly would require a detailed examination of those conservation restrictions in order to see if there was any impact related to the solar farm. I therefore focused on the recent sale of Parcel 7 and the adjoining parcel to the south of that. They are technically not adjoining due to the access road for the flag-shaped lot to the east. Furthermore, there is an apparent access easement serving the two rear lots that encumber these two parcels which is a further limitation on these sales. This analysis assumes that the access easement does not negatively impact the subject property, though it may.

The landscaping buffer relative to this parcel is considered medium.

Adjoining Land Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	$/AC	Type	Other
7+	Adjoins	4514 Hawkins	36.86	3/31/2016	$180,000	$4,883	Pasture	Esmts
	Not	HD Atha	69.95	12/20/2016	$357,500	$5,111	Wooded	N/A
	Not	Pannell	66.94	11/8/2016	$322,851	$4,823	Mixed	*
	Not	1402 Roy	123.36	9/29/2016	$479,302	$3,885	Mixed	**

* Adjoining 1 acre purchased by same buyer in same deed. Allocation assigned on the County Tax Record.

** Dwelling built in 1996 with a 2016 tax assessed value of $75,800 deducted from sales price to reflect land value

Adjoining Sales Adjusted						Avg
Time	Size	Type	Other	Total/Ac	% Diff	% Diff
				$4,883		
$89	$256			$5,455	-12%	
-$90	$241			$4,974	-2%	
-$60	$389			$4,214	14%	
						0%

The range of impact identified by these matched pairs are -12% to +14%, with an average of 0% impact due to the solar farm. The best matched pair with the least adjustment supports a -2% impact due to the solar farm. I note again that this analysis considers no impact for the existing access easements that meander through this property and it may be having an impact. Still at -2% impact as the best indication for the solar farm, I consider that to be no impact given that market fluctuations support +/- 5%.

12. Matched Pair – Candace Solar, Princeton, NC

This 5 MW solar farm is located at 4839 US 70 Highway just east of Herring Road. This solar farm was completed on October 25, 2016.

I identified three adjoining sales to this tract after development of the solar farm with frontage on US 70. I did not attempt to analyze those sales as they have exposure to an adjacent highway and railroad track. Those homes are therefore problematic for a matched pair analysis unless I have similar homes fronting on a similar corridor.

I did consider a land sale and a home sale on adjoining parcels without those complications.

The lot at 499 Herring Road sold to Paradise Homes of Johnston County of NC, Inc. for $30,000 in May 2017 and a modular home was placed there and sold to Karen and Jason Toole on September 29, 2017. I considered the lot sale first as shown below and then the home sale that followed. The landscaping buffer relative to this parcel is considered medium.

Adjoining Land Sales After Solar Farm Approved							**Adjoining Sales Adjusted**				
Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Other**	**Time**	**Site**	**Other**	**Total**	**% Diff**
16	Adjoins	499 Herring	2.03	5/1/2017	$30,000					$30,000	
	Not	37 Becky	0.87	7/23/2019	$24,500	Sub/Pwr	-$1,679	$4,900		$27,721	8%
	Not	5858 Bizzell	0.88	8/17/2016	$18,000		$390	$3,600		$21,990	27%
	Not	488 Herring	2.13	12/20/2016	$35,000		$389			$35,389	-18%
										Average	5%

Following the land purchase, the modular home was placed on the site and sold. I have compared this modular home to the following sales to determine if the solar farm had any impact on the purchase price.

Adjoining Residential Sales After Solar Farm Approved

Parcel	**Solar**	**Address**	**Acres**	**Date Sold**	**Sales Price**	**Built**	**GBA**	**$/GBA**	**BR/BA**	**Park**	**Style**	**Other**
16	Adjoins	499 Herring	2.03	9/27/2017	$215,000	2017	2,356	$91.26	4/3	Drive	Modular	
	Not	678 WC	6.32	3/8/2019	$226,000	1995	1,848	$122.29	3/2.5	Det Gar	Mobile	Ag bldgs
	Not	1810 Bay V	8.70	3/26/2018	$170,000	2003	2,356	$72.16	3/2	Drive	Mobile	Ag bldgs
	Not	1795 Bay V	1.78	12/1/2017	$194,000	2017	1,982	$97.88	4/3	Drive	Modular	

Adjoining Residential Sales Af			**Adjoining Sales Adjusted**									**Avg**	
Parcel	**Solar**	**Address**	**Time**	**Site**	**YB**	**GLA**	**BR/BA**	**Park**	**Other**	**Total**	**% Diff**	**% Diff**	**Distance**
16	Adjoins	499 Herring								$215,000			488
	Not	678 WC	-$10,037	-$25,000	$24,860	$37,275	-$5,000	-$7,500	-$20,000	$220,599	-3%		
	Not	1810 Bay V	-$2,579	-$20,000	$11,900	$0				$159,321	26%		
	Not	1795 Bay V	-$1,063		$0	$21,964				$214,902	0%		
												8%	

The best comparable is 1795 Bay Valley as it required the least adjustment and was therefore most similar, which shows a 0% impact. This signifies no impact related to the solar farm.

The range of impact identified by these matched pairs ranges are therefore -3% to +26% with an average of +8% for the home and an average of +4% for the lot, though the best indicator for the lot shows a $5,000 difference in the lot value due to the proximity to the solar farm or a -12% impact.

13. Matched Pair – Walker-Correctional Solar, Barham Road, Barhamsville, VA

This project was built in 2017 and located on 484.65 acres for a 20 MW with the closest home at 110 feet from the closest solar panel with an average distance of 500 feet.

I considered the recent sale identified on the map above as Parcel 19, which is directly across the street and based on the map shown on the following page is 250 feet from the closest panel. A

limited buffering remains along the road with natural growth being encouraged, but currently the panels are visible from the road. Alex Uminski, SRA with MGMiller Valuations in Richmond VA confirmed this sale with the buying and selling broker. The selling broker indicated that the solar farm was not a negative influence on this sale and in fact the buyer noticed the solar farm and then discovered the listing. The privacy being afforded by the solar farm was considered a benefit by the buyer. I used a matched pair analysis with a similar sale nearby as shown below and found no negative impact on the sales price. Property actually closed for more than the asking price. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	5241 Barham	2.65	10/18/2018	$264,000	2007	1,660	$159.04	3/2	Drive	Ranch	Modular
Not	17950 New Kent	5.00	9/5/2018	$290,000	1987	1,756	$165.15	3/2.5	3 Gar	Ranch	
Not	9252 Ordinary	4.00	6/13/2019	$277,000	2001	1,610	$172.05	3/2	1.5-Gar	Ranch	
Not	2416 W Miller	1.04	9/24/2018	$299,000	1999	1,864	$160.41	3/2.5	Gar	Ranch	

Adjoining Sales Adjusted

Solar	Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
Adjoins	5241 Barham								$264,000		250
Not	17950 New Kent		-$8,000	$29,000	-$4,756	-$5,000	-$20,000	-$15,000	$266,244	-1%	
Not	9252 Ordinary	-$8,310	-$8,000	$8,310	$2,581		-$10,000	-$15,000	$246,581	7%	
Not	2416 W Miller		$8,000	$11,960	-$9,817	-$5,000	-$10,000	-$15,000	$279,143	-6%	
								Average Diff		0%	

I also spoke with Patrick W. McCrerey of Virginia Estates who was marketing a property that sold at 5300 Barham Road adjoining the Walker-Correctional Solar Farm. He indicated that this property was unique with a home built in 1882 and heavily renovated and updated on 16.02 acres. The solar farm was through the woods and couldn't be seen by this property and it had no impact on marketing this property. This home sold on April 26, 2017 for $358,000. I did not set up any matched pairs for this property since it is a unique property that any such comparison would be difficult to rely on. The broker's comments do support the assertion that the adjoining solar farm had no impact on value. The home in this case was 510 feet from the closest panel.

14. Matched Pair – Innovative Solar 46, Roslin Farm Rd, Hope Mills, NC

This project was built in 2016 and located on 532 acres for a 78.5 MW solar farm with the closest home at 125 feet from the closest solar panel with an average distance of 423 feet.

I considered the recent sale of a home on Roslin Farm Road just north of Running Fox Road as shown below. This sale supports an indication of no impact on property value. The landscaping buffer is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	6849 Roslin Farm	1.00	2/18/2019	$155,000	1967	1,610	$96.27	3/3	Drive	Ranch	Brick	435
Not	6592 Sim Canady	2.43	9/5/2017	$185,000	1974	2,195	$84.28	3/2	Gar	Ranch	Brick	
Not	1614 Joe Hall	1.63	9/3/2019	$145,000	1974	1,674	$86.62	3/2	Det Gar	Ranch	Brick	
Not	109 Bledsoe	0.68	1/17/2019	$150,000	1973	1,663	$90.20	3/2	Gar	Ranch	Brick	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	6849 Roslin Farm								$155,000		5%
Not	6592 Sim Canady	$8,278		-$6,475	-$39,444	$10,000	-$5,000		$152,359	2%	
Not	1614 Joe Hall	-$2,407		-$5,075	-$3,881	$10,000	-$2,500		$141,137	9%	
Not	109 Bledsoe	$404	$10,000	-$4,500	-$3,346		-$5,000		$147,558	5%	

15. Matched Pair – Innovative Solar 42, County Line Rd, Fayetteville, NC

This project was built in 2017 and located on 413.99 acres for a 71 MW with the closest home at 135 feet from the closest solar panel with an average distance of 375 feet.

I considered the recent sales identified on the map above as Parcels 2 and 3, which is directly across the street these homes are 330 and 340 feet away. Parcel 2 includes an older home built in 1976, while Parcel 3 is a new home built in 2019. So the presence of the solar farm had no impact on new construction in the area.

The matched pairs for each of these are shown below. The landscaping buffer relative to these parcels is considered light.

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2923 County Ln	8.98	2/28/2019	$385,000	1976	2,905	$132.53	3/3	2-Car	Ranch	Brick/Pond	340
Not	1928 Shaw Mill	17.00	7/3/2019	$290,000	1977	3,001	$96.63	4/4	2-Car	Ranch	Brick/Pond/Rental	
Not	2109 John McM.	7.78	4/25/2018	$320,000	1978	2,474	$129.35	3/2	Det Gar	Ranch	Vinyl/Pool,Stable	

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2923 County Ln								$385,000		3%
Not	1928 Shaw Mill	-$3,055	$100,000	-$1,450	-$7,422	-$10,000			$368,074	4%	
Not	2109 John McM.	$8,333		-$3,200	$39,023	$10,000		$5,000	$379,156	2%	

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	2935 County Ln	1.19	6/18/2019	$266,000	2019	2,401	$110.79	4/3	Gar	2-Story		330
Not	3005 Hemingway	1.17	5/16/2019	$269,000	2018	2,601	$103.42	4/3	Gar	2-Story		
Not	7031 Glynn Mill	0.60	5/8/2018	$255,000	2017	2,423	$105.24	4/3	Gar	2-Story		
Not	5213 Bree Brdg	0.92	5/7/2019	$260,000	2018	2,400	$108.33	4/3	3-Gar	2-Story		

Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff
Adjoins	2935 County Ln								$266,000		3%
Not	3005 Hemingway	$748		$1,345	-$16,547				$254,546	4%	
Not	7031 Glynn Mill	$8,724		$2,550	-$1,852				$264,422	1%	
Not	5213 Bree Brdg	$920		$1,300	$76			-$10,000	$252,296	5%	

Both of these matched pairs adjust to an average of +3% on impact for the adjoining solar farm, meaning there is a slight positive impact due to proximity to the solar farm. This is within the standard +/- of typical real estate transactions, which strongly suggests no impact on property value. I noted specifically that for 2923 County Line Road, the best comparable is 2109 John McMillan as it does not have the additional rental unit on it. I made no adjustment to the other sale for the value of that rental unit, which would have pushed the impact on that comparable downward – meaning there would have been a more significant positive impact.

16. Matched Pair – Sunfish Farm, Keenebec Rd, Willow Spring, NC

This project was built in 2015 and located on 49.6 acres (with an inset 11.25 acre parcel) for a 6.4 MW project with the closest home at 135 feet with an average distance of 105 feet.

I considered the 2017 sale identified on the map above, which is 205 feet away from the closest panel. The matched pairs for each of these are shown below followed by a more recent map showing the panels at this site. The average difference in the three comparables and the subject property is +3% after adjusting for differences in the sales date, year built, gross living area, and other minor differences. This data is supported by the comments from the broker Brian Schroepfer with Keller Williams that the solar farm had no impact on the purchase price. The landscaping screen is considered light.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style
	Adjoins	7513 Glen Willow	0.79	9/1/2017	$185,000	1989	1,492	$123.99	3/2	Gar	BR/Rnch
	Not	2968 Tram	0.69	7/17/2017	$155,000	1984	1,323	$117.16	3/2	Drive	BR/Rnch
	Not	205 Pine Burr	0.97	12/29/2017	$191,000	1991	1,593	$119.90	3/2.5	Drive	BR/Rnch
	Not	1217 Old Honeycutt	1.00	12/15/2017	$176,000	1978	1,558	$112.97	3/2.5	2Carprt	VY/Rnch

Adjustments											Avg
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff
Adjoins	7513 Glen Willow								$185,000		
Not	2968 Tram	$601		$3,875	$15,840		$10,000		$185,316	0%	
Not	205 Pine Burr	-$1,915		-$1,910	-$9,688	-$5,000			$172,487	7%	
Not	1217 Old Honeycutt	-$1,557		$9,680	-$5,965	-$5,000		$5,280	$178,438	4%	
											3%

17. Matched Pair – Sappony Solar, Sussex County, VA

This project is a 30 MW facility located on a 322.68-acre tract that was built in the fourth quarter of 2017.

I have considered the 2018 sale of Parcel 17 as shown below. This was a 1,900 s.f. manufactured home on a 6.00-acre lot that sold in 2018. I have compared that to three other nearby manufactured homes as shown below. The range of impacts is within typical market variation with an average of -1%, which supports a conclusion of no impact on property value. The landscaping buffer is considered medium.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
	Adjoins	12511 Palestine	6.00	7/31/2018	$128,400	2013	1,900	$67.58	4/2.5	Open	Manuf	
	Not	15698 Concord	3.92	7/31/2018	$150,000	2010	2,310	$64.94	4/2	Open	Manuf	Fence
	Not	23209 Sussex	1.03	7/7/2020	$95,000	2005	1,675	$56.72	3/2	Det Crpt	Manuf	
	Not	6494 Rocky Br	4.07	11/8/2018	$100,000	2004	1,405	$71.17	3/2	Open	Manuf	

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							$128,400			1425
$0		$2,250	-$21,299	$5,000			$135,951	-6%		
-$5,660	$13,000	$3,800	$10,209	$5,000	$1,500		$122,849	4%		
-$843		$4,500	$28,185				$131,842	-3%		
									-1%	

18. Matched Pair – Camden Dam, Camden, NC

This 5 MW project was built in 2019 and located on a portion of 49.83 acres.

Parcel 1 noted above along with the home on the adjoining parcel to the north of that parcel sold in late 2018 after this solar farm was approved but prior to construction being completed in 2019. I have considered this sale as shown below. The landscaping screen is considered light.

The comparable at 548 Trotman is the most similar and required the least adjustment shows no impact on property value. The other two comparables were adjusted consistently with one showing significant enhancement and another as showing a mild negative. The best indication is the one requiring the least adjustment. The other two sales required significant site adjustments which make them less reliable. The best comparable and the average of these comparables support a finding of no impact on property value.

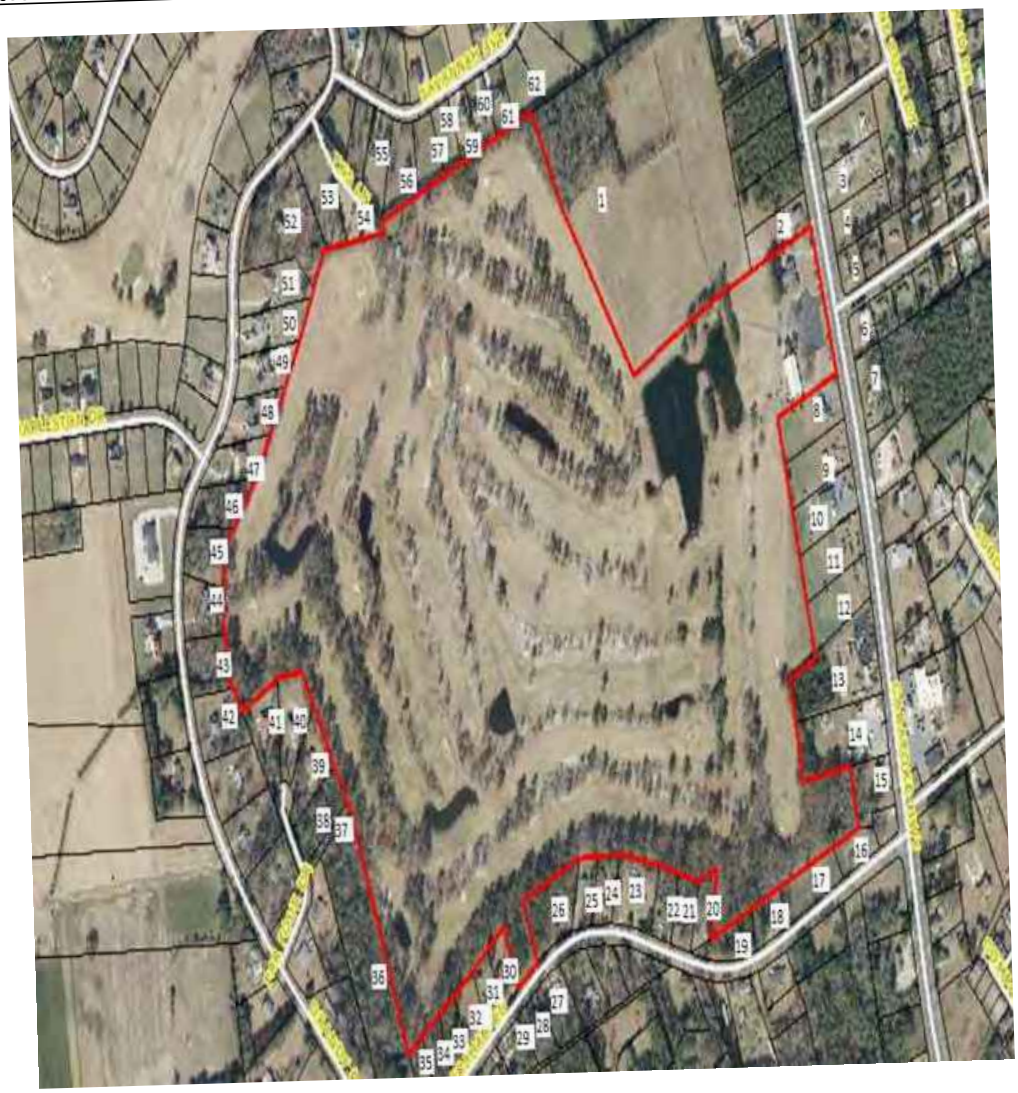
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	122 N Mill Dam	12.19	11/29/2018	$350,000	2005	2,334	$149.96	3/3.5	3-Gar	Ranch	
Not	548 Trotman	12.10	5/31/2018	$309,000	2007	1,960	$157.65	4/2	Det2G	Ranch	Wrkshp
Not	198 Sand Hills	2.00	12/22/2017	$235,000	2007	2,324	$101.12	4/3	Open	Ranch	
Not	140 Sleepy Hlw	2.05	8/12/2019	$330,000	2010	2,643	$124.86	4/3	1-Gar	1.5 Story	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
122 N Mill Dam								$350,000			342
548 Trotman	$6,163		-$3,090	$35,377	$5,000			$352,450	-1%		
198 Sand Hills	$8,808	$45,000	-$2,350	$607		$30,000		$317,064	9%		
140 Sleepy Hlw	-$9,258	$45,000	-$8,250	-$23,149	$5,000	$30,000		$369,343	-6%		
										1%	

19. Matched Pair – Grandy Solar, Grandy, NC



This 20 MW project was built in 2019 and located on a portion of 121 acres.

Parcels 40 and 50 have sold since construction began on this solar farm. I have considered both in matched pair analysis below. I note that the marketing for Parcel 40 (120 Par Four) identified the lack of homes behind the house as a feature in the listing. The marketing for Parcel 50 (269 Grandy) identified the property as "very private." Landscaping for both of these parcels is considered light.

Adjoining Residential Sales After Solar Farm Approved											
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	120 Par Four	0.92	8/17/2019	$315,000	2006	2,188	$143.97	4/3	2-Gar	1.5 Story	Pool
Not	102 Teague	0.69	1/5/2020	$300,000	2005	2,177	$137.80	3/2	Det 3G	Ranch	
Not	112 Meadow Lk	0.92	2/28/2019	$265,000	1992	2,301	$115.17	3/2	Gar	1.5 Story	
Not	116 Barefoot	0.78	9/29/2020	$290,000	2004	2,192	$132.30	4/3	2-Gar	2 Story	

Adjoining Sales	Adjusted									Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
120 Par Four								$315,000			405
102 Teague	-$4,636		$1,500	$910	$10,000		$20,000	$327,774	-4%		
112 Meadow Lk	$4,937		$18,550	-$7,808	$10,000	$10,000	$20,000	$320,679	-2%		
116 Barefoot	-$12,998		$2,900	-$318			$20,000	$299,584	5%		
										0%	

Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
Adjoins	269 Grandy	0.78	5/7/2019	$275,000	2019	1,535	$179.15	3/2.5	2-Gar	Ranch	
Not	307 Grandy	1.04	10/8/2018	$240,000	2002	1,634	$146.88	3/2	Gar	1.5 Story	
Not	103 Branch	0.95	4/22/2020	$230,000	2000	1,532	$150.13	4/2	2-Gar	1.5 Story	
Not	103 Spring Lf	1.07	8/14/2018	$270,000	2002	1,635	$165.14	3/2	2-Gar	Ranch	Pool

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
269 Grandy								$275,000			477
307 Grandy	$5,550		$20,400	-$8,725	$5,000	$10,000		$272,225	1%		
103 Branch	-$8,847		$21,850	$270				$243,273	12%		
103 Spring Lf	$7,871		$22,950	-$9,908	$5,000		-$20,000	$275,912	0%		
										4%	

Both of these matched pairs support a finding of no impact on value. This is reinforced by the listings for both properties identifying the privacy due to no housing in the rear of the property as part of the marketing for these homes.

20. Matched Pair – Champion Solar, Lexington County, SC

This project is a 10 MW facility located on a 366.04-acre tract that was built in 2017.

I have considered the 2020 sale of an adjoining home located off 517 Old Charleston Road. Landscaping is considered light.

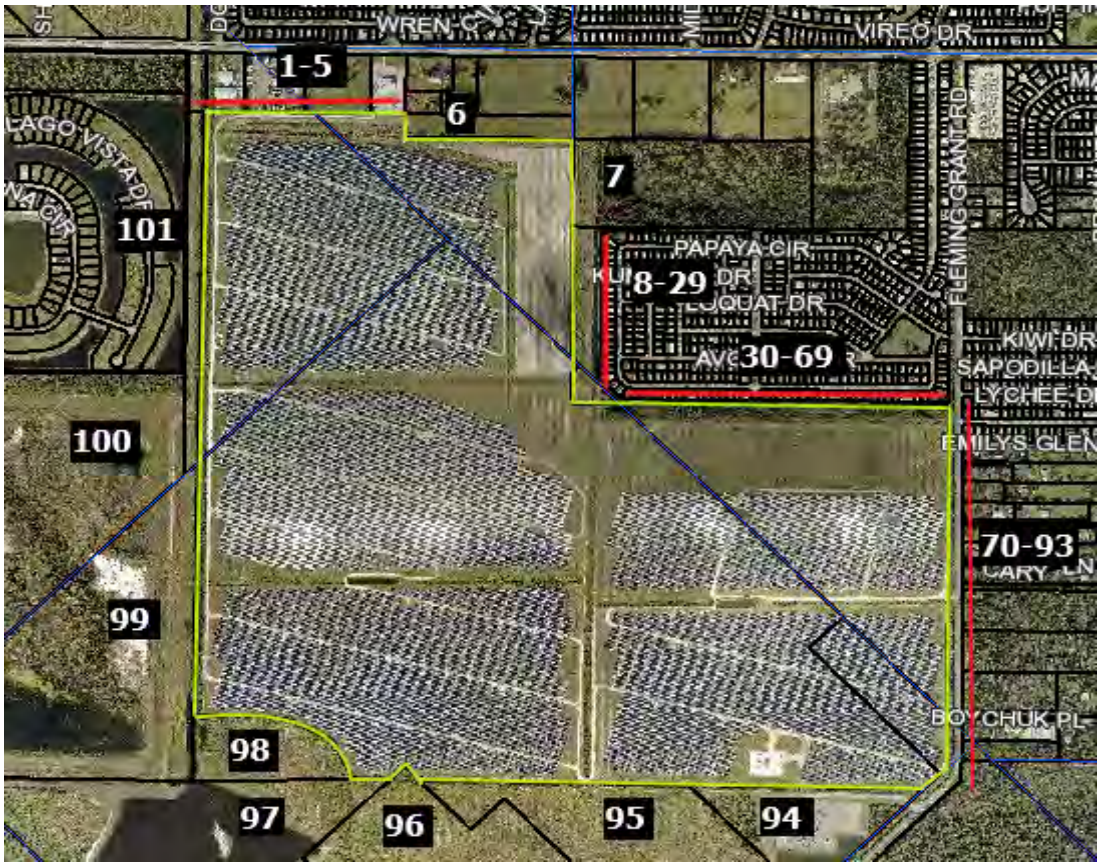
Adjoining Residential Sales After Solar Farm Approved

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	517 Old Charleston	11.05	8/25/2020	$110,000	1962	925	$118.92	3/1	Crport	Br Rnch	
Not	133 Buena Vista	2.65	6/21/2020	$115,000	1979	1,104	$104.17	2/2	Crport	Br Rnch	
Not	214 Crystal Spr	2.13	6/10/2019	$102,500	1970	1,025	$100.00	3/2	Crport	Rnch	
Not	1429 Laurel	2.10	2/21/2019	$126,000	1960	1,250	$100.80	2/1.5	Open	Br Rnch	3 Gar/Brn

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
517 Old Charleston								$110,000			505
133 Buena Vista	$410	$17,000	-$9,775	-$14,917	-$10,000			$97,718	11%		
214 Crystal Spr	$2,482	$18,000	-$4,100	-$8,000	-$10,000		$10,000	$110,882	-1%		
1429 Laurel	$3,804	$18,000	$1,260	-$26,208	-$5,000	$5,000	-$15,000	$107,856	2%		
										4%	

21. Matched Pair – Barefoot Bay Solar Farm, Barefoot Bay, FL



This project is located on 504 acres for a 704.5 MW facility. Most of the adjoining uses are medium density residential with some lower density agricultural uses to the southwest. This project was built in 2018. There is a new subdivision under development to the west.

I have considered a number of recent home sales from the Barefoot Bay Golf Course in the Barefoot Bay Recreation District. There are a number of sales of these mobile/manufactured homes along the eastern boundary and the lower northern boundary. I have compared those home sales to other similar homes in the same community but without the exposure to the solar farm. Staying within the same community keeps location and amenity impacts consistent. I did avoid any comparison with home sales with golf course or lakefront views as that would introduce another variable.

The six manufactured/double wide homes shown below were each compared to three similar homes in the same community and are consistently showing no impact on the adjoining property values. Based on the photos from the listings, there is limited but some visibility of the solar farm to the east, but the canal and landscaping between are providing a good visual buffer and actually are commanding a premium over the non-canal homes.

Landscaping for these adjoining homes is considered light, though photographs from the listings show that those homes on Papaya that adjoin the solar farm from east/west have no visibility of the solar farm and is effectively medium density due to the height differential. The homes that adjoin the solar farm from north/south along Papaya have some filtered view of the solar farm through the trees.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
14	Adjoins	465 Papaya Cr	0.12	7/21/2019	$155,000	1993	1,104	$140.40	2/2	Drive	Manuf	Canal
	Not	1108 Navajo	0.14	2/27/2019	$129,000	1984	1,220	$105.74	2/2	Crprt	Manuf	Canal
	Not	1007 Barefoot	0.11	9/3/2020	$168,000	2005	1,052	$159.70	2/2	Crprt	Manuf	Canal
	Not	1132 Waterway	0.11	7/10/2020	$129,000	1982	1,012	$127.47	2/2	Crprt	Manuf	Canal

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
465 Papaya Cr							$155,000			765
1108 Navajo	$1,565	$5,805	-$9,812				$126,558	18%		
1007 Barefoot	-$5,804	-$10,080	$6,643				$158,759	-2%		
1132 Waterway	-$3,859	$7,095	$9,382				$141,618	9%		
									8%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
19	Adjoins	455 Papaya	0.12	9/1/2020	$183,500	2005	1,620	$113.27	3/2	Crprt	Manuf	Canal
	Not	938 Waterway	0.11	2/12/2020	$160,000	1986	1,705	$93.84	2/2	Crprt	Manuf	Canal
	Not	719 Barefoot	0.12	4/14/2020	$150,000	1996	1,635	$91.74	3/2	Crprt	Manuf	Canal
	Not	904 Fir	0.17	9/27/2020	$192,500	2010	1,626	$118.39	3/2	Crprt	Manuf	Canal

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
455 Papaya							$183,500			750
938 Waterway	$2,724	$15,200	-$6,381				$171,542	7%		
719 Barefoot	$1,770	$6,750	-$1,101				$157,419	14%		
904 Fir	-$422	-$4,813	-$568				$186,697	-2%		
									6%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
37	Adjoins	419 Papaya	0.09	7/16/2019	$127,500	1986	1,303	$97.85	2/2	Crprt	Manuf	Green
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	501 Papaya	0.10	6/15/2018	$109,000	1986	1,234	$88.33	2/2	Crprt	Manuf	
	Not	418 Papaya	0.09	8/28/2019	$110,000	1987	1,248	$88.14	2/2	Crprt	Manuf	

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
419 Papaya							$127,500			690
865 Tamarind	$1,828	-$6,026	-$5,090				$124,613	2%		
501 Papaya	$3,637	$0	$4,876			$5,000	$122,513	4%		
418 Papaya	-$399	-$550	$3,878			$5,000	$117,930	8%		
									5%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
39	Adjoins	413 Papaya	0.09	7/16/2020	$130,000	2001	918	$141.61	2/2	Crprt	Manuf	Grn/Upd
	Not	341 Loquat	0.09	2/3/2020	$118,000	1985	989	$119.31	2/2	Crprt	Manuf	Full Upd
	Not	1119 Pocatella	0.19	1/5/2021	$120,000	1993	999	$120.12	2/2	Crprt	Manuf	Green
	Not	1367 Barefoot	0.10	1/12/2021	$130,500	1987	902	$144.68	2/2	Crprt	Manuf	Green/Upd

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
413 Papaya							$130,000			690
341 Loquat	$1,631	$9,440	-$6,777				$122,294	6%		
1119 Pocatella	-$1,749	$4,800	-$7,784			$5,000	$120,267	7%		
1367 Barefoot	-$1,979	$9,135	$1,852				$139,507	-7%		
									2%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
48	Adjoins	343 Papaya	0.09	12/17/2019	$145,000	1986	1,508	$96.15	3/2	Crprt	Manuf	Gn/Fc/Upd
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	515 Papaya	0.09	3/22/2018	$145,000	2005	1,376	$105.38	3/2	Crprt	Manuf	Green
	Not	849 Tamarind	0.15	6/26/2019	$155,000	1997	1,716	$90.33	3/2	Crprt	Manuf	Grn/Fnce

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
343 Papaya							$145,000			690
865 Tamarind	$3,566	-$6,026	$10,963				$142,403	2%		
515 Papaya	$7,759	-$13,775	$11,128				$150,112	-4%		
849 Tamarind	$2,273	-$8,525	-$15,030			$5,000	$138,717	4%		
									1%	

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
52	Nearby	335 Papaya	0.09	4/17/2018	$110,000	1987	1,180	$93.22	2/2	Crprt	Manuf	Green
	Not	865 Tamarind	0.12	2/4/2019	$133,900	1995	1,368	$97.88	2/2	Crprt	Manuf	Green
	Not	501 Papaya	0.10	6/15/2018	$109,000	1986	1,234	$88.33	2/2	Crprt	Manuf	
	Not	604 Puffin	0.09	10/23/2018	$110,000	1988	1,320	$83.33	2/2	Crprt	Manuf	

Adjoining Sales Adjusted

Address	Time	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
335 Papaya							$110,000			710
865 Tamarind	-$3,306	-$5,356	-$14,721			$0	$110,517	0%		
501 Papaya	-$542	$545	-$3,816			$5,000	$110,187	0%		
604 Puffin	-$1,752	-$550	-$9,333			$5,000	$103,365	6%		
									2%	

I also identified a new subdivision being developed just to the west of this solar farm called The Lakes at Sebastian Preserve. These are all canal-lot homes that are being built with homes starting at $271,000 based on the website and closed sales showing up to $342,000. According to Monique, the onsite broker with Holiday Builders, the solar farm is difficult to see from the lots that back up to that area and she does not anticipate any difficulty in selling those future homes or lots or any impact on the sales price. The closest home that will be built in this development will be approximately 340 feet from the nearest panel.

Based on the closed home prices in Barefoot Bay as well as the broker comments and activity at The Lakes at Sebastian Preserve, the data around this solar farm strongly indicates no negative impact on property value.

22. Matched Pair – Miami-Dade Solar Farm, Miami, FL

This project is located on 346.80 acres for a 74.5 MW facility. All of the adjoining uses are agricultural and residential. This project was built in 2019.

I considered the recent sale of Parcel 26 to the south that sold for over $1.6 million dollars. This home is located on 4.2 acres with additional value in the palm trees according to the listing. The comparables include similar homes nearby that are all actually on larger lots and several include avocado or palm tree income as well. All of the comparables are in similar proximity to the subject and all have similar proximity to the Miami-Dade Executive airport that is located 2.5 miles to the east.

These sales are showing no impact on the value of the property from the adjoining solar farm. The landscaping is considered light.

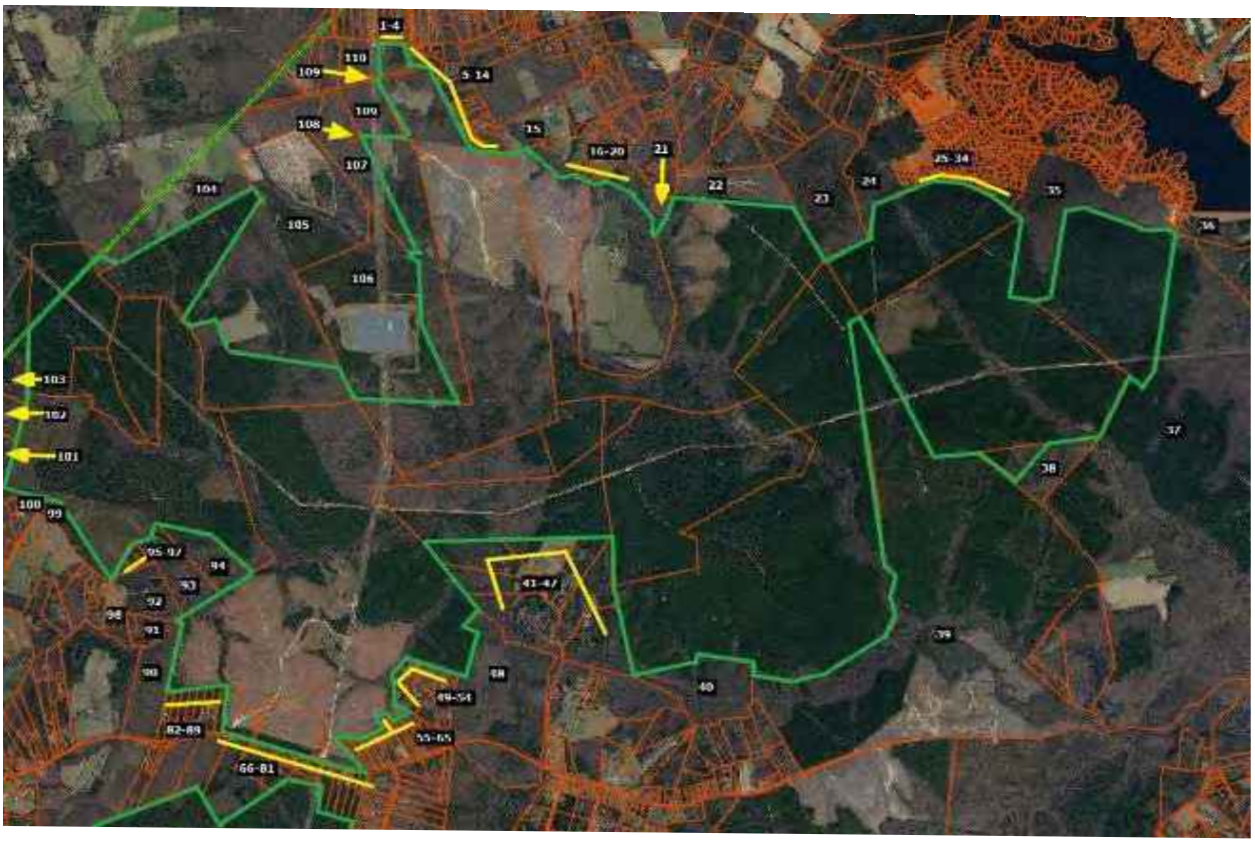
Adjoining Residential Sales After Solar Farm Approved

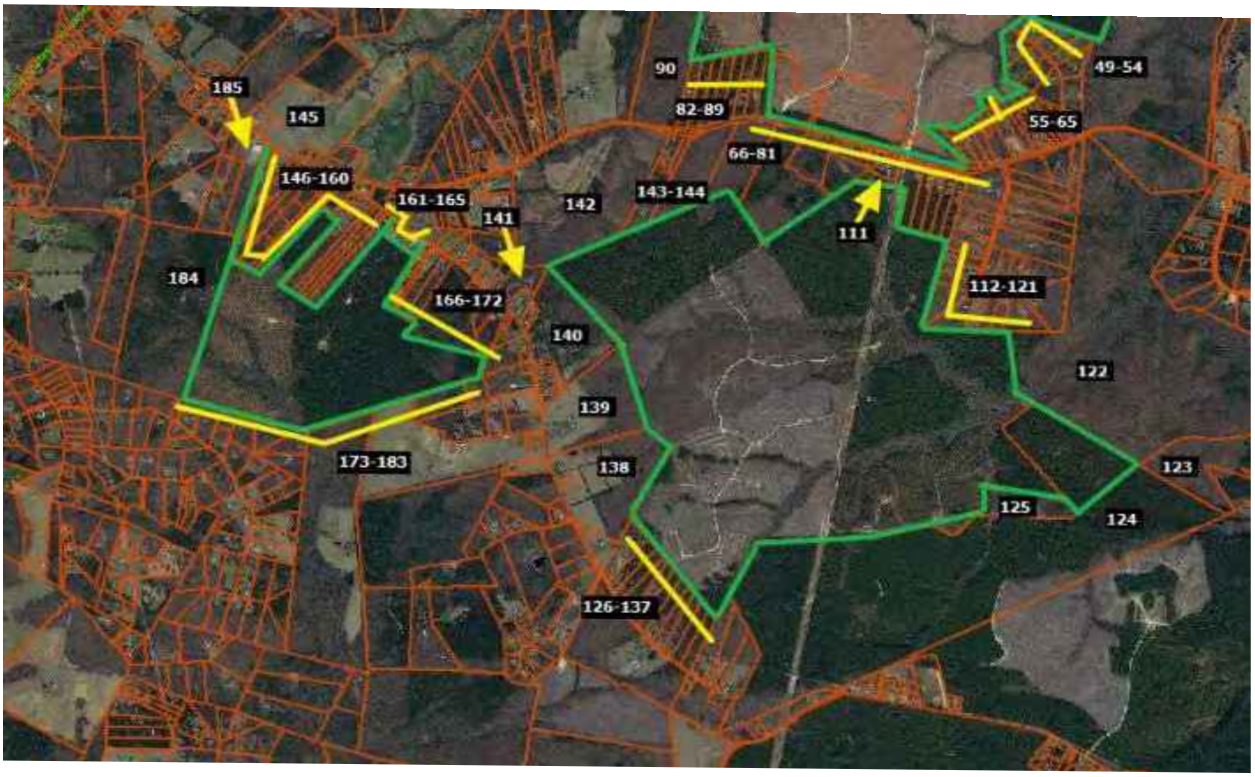
Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GLA	BR/BA	Park	Style	Other
26	Adjoins	13600 SW 182nd	4.20	11/5/2020	$1,684,000	2008	6,427	$262.02	5/5.5	3 Gar	CBS Rnch	Pl/Guest
	Not	18090 SW 158th	5.73	10/8/2020	$1,050,000	1997	3,792	$276.90	5/4	3 Gar	CBS Rnch	
	Not	14311 SW 187th	4.70	10/22/2020	$1,100,000	2005	3,821	$287.88	6/5	3 Gar	CBS Rnch	Pool
	Not	17950 SW 158th	6.21	10/22/2020	$1,730,000	2000	6,917	$250.11	6/5.5	2 Gar	CBS Rnch	Pool

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
13600 SW 182nd								$1,684,000			1390
18090 SW 158th	$2,478		$57,750	$583,703	$30,000			$1,723,930	-2%		
14311 SW 187th	$1,298		$16,500	$600,178	$10,000			$1,727,976	-3%		
17950 SW 158th	$2,041		$69,200	-$98,043		$10,000		$1,713,199	-2%		
										-2%	

23. Matched Pair – Spotsylvania Solar, Paytes, VA





This solar farm is being built in four phases with the area known as Site C having completed construction in November 2020 after the entire project was approved in April 2019. Site C, also known as Pleinmont 1 Solar, includes 99.6 MW located in the southeast corner of the project and shown on the maps above with adjoining parcels 111 through 144. The entire Spotsylvania project totals 617 MW on 3500 acres out of a parent tract assemblage of 6,412 acres.

I have identified three adjoining home sales that occurred during construction and development of the site in 2020.

The first is located on the north side of Site A on Orange Plank Road. The second is located on Nottoway Lane just north of Caparthin Road on the south side of Site A and east of Site C. The third is located on Post Oak Road for a home that backs up to Site C that sold in September 2020 near the completion of construction for Site C.

Spotsylvania Solar Farm

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	12901 Orng Plnk	5.20	8/27/2020	$319,900	1984	1,714	$186.64	3/2	Drive	1.5	Un Bsmt
Not	8353 Gold Dale	3.00	1/27/2021	$415,000	2004	2,064	$201.07	3/2	3 Gar	Ranch	
Not	6488 Southfork	7.26	9/9/2020	$375,000	2017	1,680	$223.21	3/2	2 Gar	1.5	Barn/Patio
Not	12717 Flintlock	0.47	12/2/2020	$290,000	1990	1,592	$182.16	3/2.5	Det Gar	Ranch	

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
12901 Orng Plnk								$319,900		1270
8353 Gold Dale	-$5,219	$20,000	-$41,500	-$56,298		-$20,000		$311,983	2%	
6488 Southfork	-$401	-$20,000	-$61,875	$6,071		-$15,000		$283,796	11%	
12717 Flintlock	-$2,312	$40,000	-$8,700	$17,779	-$5,000	-$5,000		$326,767	-2%	
							Average Diff		4%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	9641 Nottoway	11.00	5/12/2020	$449,900	2004	3,186	$141.21	4/2.5	Garage	2-Story	Un Bsmt
Not	26123 Lafayette	1.00	8/3/2020	$390,000	2006	3,142	$124.12	3/3.5	Gar/DtG	2-Story	
Not	11626 Forest	5.00	8/10/2020	$489,900	2017	3,350	$146.24	4/3.5	2 Gar	2-Story	
Not	10304 Pny Brnch	6.00	7/27/2020	$485,000	1998	3,076	$157.67	4/4	2Gar/Dt2	Ranch	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
9641 Nottoway								$449,900		1950
26123 Lafayette	-$2,661	$45,000	-$3,900	$4,369	-$10,000	-$5,000		$417,809	7%	
11626 Forest	-$3,624		-$31,844	-$19,187		-$5,000		$430,246	4%	
10304 Pny Brnch	-$3,030		$14,550	$13,875	-$15,000	-$15,000	-$10,000	$470,396	-5%	
							Average Diff		2%	

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	$/GBA	BR/BA	Park	Style	Other
Adjoins	13353 Post Oak	5.20	9/21/2020	$300,000	1992	2,400	$125.00	4/3	Drive	2-Story	Fn Bsmt
Not	9609 Logan Hgt	5.86	7/4/2019	$330,000	2004	2,352	$140.31	3/2	2Gar	2-Story	
Not	12810 Catharpian	6.18	1/30/2020	$280,000	2008	2,240	$125.00	4/2.5	Drive	2-Story	Bsmt/Nd Pnt
Not	10725 Rbrt Lee	5.01	10/26/2020	$295,000	1995	2,166	$136.20	4/3	Gar	2-Story	Fn Bsmt

Adjoining Sales Adjusted

Address	Time	Ac/Loc	YB	GLA	BR/BA	Park	Other	Total	% Diff	Dist
13353 Post Oak								$300,000		1171
9609 Logan Hgt	$12,070		-$19,800	$5,388		-$15,000	$15,000	$327,658	-9%	
12810 Catharpian	$5,408		-$22,400	$16,000	$5,000		$15,000	$299,008	0%	
10725 Rbrt Lee	-$849		-$4,425	$25,496		-$10,000		$305,222	-2%	
							Average Diff		-4%	

All three of these homes are well set back from the solar panels at distances over 1,000 feet and are well screened from the project. All three show no indication of any impact on property value.

There are a couple of recent lot sales located along Southview Court that have sold since the solar farm was approved. The most recent lot sales include 11700 Southview Court that sold on December 29, 2021 for $140,000 for a 0.76-acre lot. This property was on the market for less than 2 months before closing within 6% of the asking price. This lot sold earlier in September 2019 for $55,000 based on a liquidation sale from NTS to an investor.

A similar 0.68-acre lot at 11507 Stonewood Court within the same subdivision located away from the solar farm sold on March 9, 2021 for $109,000. This lot sold for 18% over the asking price within 1 month of listing suggesting that this was priced too low. Adjusting this lot value upward by 12% for very strong growth in the market over 2021, the adjusted indicated value is $122,080 for this lot. This is still showing a 15% premium for the lot backing up to the solar farm.

The lot at 11009 Southview Court sold on August 5, 2019 for $65,000, which is significantly lower than the more recent sales. This lot was sold by NTS the original developer of this subdivision, who was in the process of liquidating lots in this subdivision with multiple lot sales in this time period throughout the subdivision being sold at discounted prices. The home was later improved by the buyer with a home built in 2020 with 2,430 square feet ranch, 3.5 bathrooms, with a full basement, and a current assessed value of $492,300.

I spoke with Chris Kalia, MAI, Mark Doherty, local real estate investor, and Alex Doherty, broker, who are all three familiar with this subdivision and activity in this neighborhood. All three indicated that there was a deep sell off of lots in the neighborhood by NTS at discounted prices under $100,000 each. Those lots since that time are being sold for up to $140,000. The prices paid for the lots below $100,000 were liquidation values and not indicative of market value. Homes are being built in the neighborhood on those lots with home prices ranging from $600,000 to $800,000 with no sign of impact on pricing due to the solar farm according to all three sources.

Fawn Lake Lot Sales

Parcel	Solar?	Address	Acres	Sale Date	Sale Price	Ad. For Time	% Diff
A	Adjoins	11700 Southview Ct	0.76	12/29/2021	$140,000		
1	1 parcel away	11603 Southview Ct	0.44	3/31/2022	$140,000	$141,960	-1.4%
2	Not adjoin	11507 Stonewood Ct	0.68	3/9/2021	$109,000	$118,374	15.4%
3	Not adjoin	11312 Westgate Wy	0.83	10/15/2020	$125,000	$142,000	-1.4%
4	Not adjoin	11409 Darkstone Pl	0.589	9/23/2021	$118,000	$118,000	15.7%

Average	7.1%
Median	7.0%

Least Adjusted	15.7%
2nd Least Adjusted (Parcel 1 off solar farm)	-1.4%

Time Adjustments are based on the FHFA Housing Price Index

Conclusion – SouthEast Over 5 MW

Southeast USA Over 5 MW
Matched Pair Summary

							Adj. Uses By Acreage				1 mile Radius (2010-2020 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Pop.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	$37,358	$148,375	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	$106,550	$350,000	Light
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	$35,057	$126,562	Light
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
6	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	$43,940	$99,219	Heavy
7	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
8	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
9	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	$36,439	$137,884	Light
10	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
11	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
12	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	$51,002	$107,171	Medium
13	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
14	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
15	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
16	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	$63,652	$253,138	Light
17	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Light
18	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	$84,426	$230,288	Light
19	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Light
20	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	$46,867	$171,939	Light
21	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
22	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
23	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Md to Hvy
	Average			485	57.04	38	24%	48%	22%	6%	923	$63,955	$237,700	
	Median			234	20.00	20	17%	59%	11%	0%	467	$60,037	$231,408	
	High			3,500	617.00	160	76%	98%	94%	44%	4,689	$120,861	$483,333	
	Low			35	5.00	0	1%	0%	0%	0%	48	$35,057	$99,219	

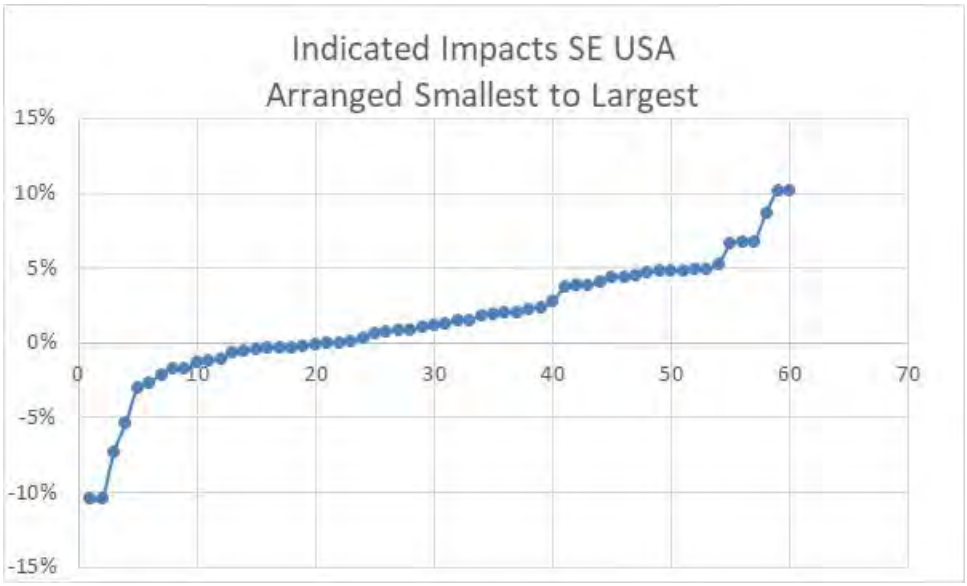
The solar farm matched pairs shown above have similar characteristics to each other in terms of population, but with several outliers showing solar farms in farm more urban areas. The median income for the population within 1 mile of a solar farm is $60,037 with a median housing unit value of $231,408. Most of the comparables are under $300,000 in the home price, with $483,333 being the high end of the set, though I have matched pairs in multiple states over $1,000,000 adjoining solar farms. The adjoining uses show that residential and agricultural uses are the predominant adjoining uses. These figures are in line with the larger set of solar farms that I have looked at with the predominant adjoining uses being residential and agricultural and similar to the solar farm breakdown shown for Virginia and adjoining states as well as the proposed subject property.

Based on the similarity of adjoining uses and demographic data between these sites and the subject property, I consider it reasonable to compare these sites to the subject property.

I have pulled 56 matched pairs from the above referenced solar farms to provide the following summary of home sale matched pairs and land sales next to solar farms. The summary shows that the range of differences is from -10% to +10% with an average of +1% and median of +1%. This means that the average and median impact is for a slight positive impact due to adjacency to a solar farm. However, this +1 to rate is within the typical variability I would expect from real estate. I therefore conclude that this data shows no negative or positive impact due to adjacency to a solar farm.

While the range is seemingly wide, the graph below clearly shows that the vast majority of the data falls between -5% and +5% and most of those are clearly in the 0 to +5% range. This data strongly supports an indication of no impact on adjoining residential uses to a solar farm.

I therefore conclude that these matched pairs support a finding of no impact on value at the subject property for the proposed project, which as proposed will include a landscaped buffer to screen adjoining residential properties.


Indicated Impacts SE USA
Arranged Smallest to Largest
15%
10%
5%
0%
-5%
-10%
-15%
0
10
20
30
40
50
60
70

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
1	AM Best	Goldsboro	NC	5	280	3600195570	Sep-13	$250,000			Light
						3600198928	Mar-14	$250,000	$250,000	0%	
2	AM Best	Goldsboro	NC	5	280	3600195361	Sep-13	$260,000			Light
						3600194813	Apr-14	$258,000	$258,000	1%	
3	AM Best	Goldsboro	NC	5	280	3600199891	Jul-14	$250,000			Light
						3600198928	Mar-14	$250,000	$250,000	0%	
4	AM Best	Goldsboro	NC	5	280	3600198632	Aug-14	$253,000			Light
						3600193710	Oct-13	$248,000	$248,000	2%	
5	AM Best	Goldsboro	NC	5	280	3600196656	Dec-13	$255,000			Light
						3601105180	Dec-13	$253,000	$253,000	1%	
6	AM Best	Goldsboro	NC	5	280	3600182511	Feb-13	$247,000			Light
						3600183905	Dec-12	$240,000	$245,000	1%	
7	AM Best	Goldsboro	NC	5	280	3600182784	Apr-13	$245,000			Light
						3600193710	Oct-13	$248,000	$248,000	-1%	
8	AM Best	Goldsboro	NC	5	280	3600195361	Nov-15	$267,500			Light
						3600195361	Sep-13	$260,000	$267,800	0%	
9	Mulberry	Selmer	TN	5	400	0900A011	Jul-14	$130,000			Light
						099CA043	Feb-15	$148,900	$136,988	-5%	
10	Mulberry	Selmer	TN	5	400	099CA002	Jul-15	$130,000			Light
						0990NA040	Mar-15	$120,000	$121,200	7%	
11	Mulberry	Selmer	TN	5	480	491 Dusty	Oct-16	$176,000			Light
						35 April	Aug-16	$185,000	$178,283	-1%	
12	Mulberry	Selmer	TN	5	650	297 Country	Sep-16	$150,000			Medium
						53 Glen	Mar-17	$126,000	$144,460	4%	
13	Mulberry	Selmer	TN	5	685	57 Cooper	Feb-19	$163,000			Medium
						191 Amelia	Aug-18	$132,000	$155,947	4%	
14	Leonard Rd	Hughesville	MD	5.5	230	14595 Box Elder	Feb-16	$291,000			Light
						15313 Bassford Rd	Jul-16	$329,800	$292,760	-1%	
15	Neal Hawkins	Gastonia	NC	5	225	609 Neal Hawkins	Mar-17	$270,000			Light
						1418 N Modena	Apr-18	$225,000	$242,520	10%	
16	Summit	Moyock	NC	80	1,060	129 Pinto	Apr-16	$170,000			Light
						102 Timber	Apr-16	$175,500	$175,101	-3%	
17	Summit	Moyock	NC	80	980	105 Pinto	Dec-16	$206,000			Light
						127 Ranchland	Jun-15	$219,900	$198,120	4%	
18	Tracy	Bailey	NC	5	780	9162 Winters	Jan-17	$255,000			Heavy
						7352 Red Fox	Jun-16	$176,000	$252,399	1%	
19	Manatee	Parrish	FL	75	1180	13670 Highland	Aug-18	$255,000			Heavy
						13851 Highland	Sep-18	$240,000	$255,825	0%	
20	McBride Place	Midland	NC	75	275	4380 Joyner	Nov-17	$325,000			Medium
						3870 Elkwood	Aug-16	$250,000	$317,523	2%	
21	McBride Place	Midland	NC	75	505	5811 Kristi	Mar-20	$530,000			Medium
						3915 Tania	Dec-19	$495,000	$504,657	5%	
22	Mariposa	Stanley	NC	5	1155	215 Mariposa	Dec-17	$249,000			Light
						110 Airport	May-16	$166,000	$239,026	4%	
23	Mariposa	Stanley	NC	5	570	242 Mariposa	Sep-15	$180,000			Light
						110 Airport	Apr-16	$166,000	$175,043	3%	
24	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Jan-17	$295,000			Light
						6801 Middle	Dec-17	$249,999	$296,157	0%	
25	Candace	Princeton	NC	5	488	499 Herring	Sep-17	$215,000			Medium
						1795 Bay Valley	Dec-17	$194,000	$214,902	0%	
26	Walker	Barhamsville	VA	20	250	5241 Barham	Oct-18	$264,000			Light
						9252 Ordinary	Jun-19	$277,000	$246,581	7%	
27	AM Best	Goldsboro	NC	5	385	103 Granville Pl	Jul-18	$265,000			Light
						2219 Granville	Jan-18	$260,000	$265,682	0%	
28	AM Best	Goldsboro	NC	5	315	104 Erin	Jun-17	$280,000			Light
						2219 Granville	Jan-18	$265,000	$274,390	2%	
29	AM Best	Goldsboro	NC	5	400	2312 Granville	May-18	$284,900			Light
						2219 Granville	Jan-18	$265,000	$273,948	4%	

Residential Dwelling Matched Pairs Adjoining Solar Farms

Pair	Solar Farm	City	State	MW	Approx Distance	Tax ID/Address	Date	Sale Price	Adj. Sale Price	% Diff	Veg. Buffer
30	AM Best	Goldsboro	NC	5	400	2310 Granville	May-19	$280,000			Light
						634 Friendly	Jul-19	$267,000	$265,291	5%	
31	Summit	Moyock	NC	80	570	318 Green View	Sep-19	$357,000			Light
						336 Green View	Jan-19	$365,000	$340,286	5%	
32	Summit	Moyock	NC	80	440	164 Ranchland	Apr-19	$169,000			Light
						105 Longhorn	Oct-17	$184,500	$186,616	-10%	
33	Summit	Moyock	NC	80	635	358 Oxford	Sep-19	$478,000			Light
						176 Providence	Sep-19	$425,000	$456,623	4%	
34	Summit	Moyock	NC	80	970	343 Oxford	Mar-17	$490,000			Light
						218 Oxford	Apr-17	$525,000	$484,064	1%	
35	Innov 46	Hope Mills	NC	78.5	435	6849 Roslin Farm	Feb-19	$155,000			Light
						109 Bledsoe	Jan-19	$150,000	$147,558	5%	
36	Innov 42	Fayetteville	NC	71	340	2923 County Line	Feb-19	$385,000			Light
						2109 John McMillan	Apr-18	$320,000	$379,156	2%	
37	Innov 42	Fayetteville	NC	71	330	2935 County Line	Jun-19	$266,000			Light
						7031 Glynn Mill	May-18	$255,000	$264,422	1%	
38	Sunfish	Willow Sprng	NC	6.4	205	7513 Glen Willow	Sep-17	$185,000			Light
						205 Pine Burr	Dec-17	$191,000	$172,487	7%	
39	Neal Hawkins	Gastonia	NC	5	145	611 Neal Hawkins	Jun-17	$288,000			Light
						1211 Still Forrest	Jul-18	$280,000	$274,319	5%	
40	Clarke Cnty	White Post	VA	20	1230	833 Nations Spr	Aug-19	$385,000			Light
						2393 Old Chapel	Aug-20	$330,000	$389,286	-1%	
41	Sappony	Stony Creek	VA	20	1425	12511 Palestine	Jul-18	$128,400			Medium
						6494 Rocky Branch	Nov-18	$100,000	$131,842	-3%	
42	Camden Dam	Camden	NC	5	342	122 N Mill Dam	Nov-18	$350,000			Light
						548 Trotman	May-18	$309,000	$352,450	-1%	
43	Grandy	Grandy	NC	20	405	120 Par Four	Aug-19	$315,000			Light
						116 Barefoot	Sep-20	$290,000	$299,584	5%	
44	Grandy	Grandy	NC	20	477	269 Grandy	May-19	$275,000			Light
						103 Spring Leaf	Aug-18	$270,000	$275,912	0%	
45	Champion	Pelion	SC	10	505	517 Old Charleston	Aug-20	$110,000			Light
						1429 Laurel	Feb-19	$126,000	$107,856	2%	
46	Barefoot Bay	Barefoot Bay	FL	74.5	765	465 Papaya	Jul-19	$155,000			Medium
						1132 Waterway	Jul-20	$129,000	$141,618	9%	
47	Barefoot Bay	Barefoot Bay	FL	74.5	750	455 Papaya	Sep-20	$183,500			Medium
						904 Fir	Sep-20	$192,500	$186,697	-2%	
48	Barefoot Bay	Barefoot Bay	FL	74.5	690	419 Papaya	Jul-19	$127,500			Medium
						865 Tamarind	Feb-19	$133,900	$124,613	2%	
49	Barefoot Bay	Barefoot Bay	FL	74.5	690	413 Papaya	Jul-20	$130,000			Medium
						1367 Barefoot	Jan-21	$130,500	$139,507	-7%	
50	Barefoot Bay	Barefoot Bay	FL	74.5	690	343 Papaya	Dec-19	$145,000			Light
						865 Tamarind	Feb-19	$133,900	$142,403	2%	
51	Barefoot Bay	Barefoot Bay	FL	74.5	710	335 Papaya	Apr-18	$110,000			Light
						865 Tamarind	Feb-19	$133,900	$110,517	0%	
52	Miami-Dade	Miami	FL	74.5	1390	13600 SW 182nd	Nov-20	$1,684,000			Light
						17950 SW 158th	Oct-20	$1,730,000	$1,713,199	-2%	
53	Spotsylvania	Paytes	VA	617	1270	12901 Orange Plnk	Aug-20	$319,900			Medium
						12717 Flintlock	Dec-20	$290,000	$326,767	-2%	
54	Spotsylvania	Paytes	VA	617	1950	9641 Nottoway	May-20	$449,900			Medium
						11626 Forest	Aug-20	$489,900	$430,246	4%	
55	Spotsylvania	Paytes	VA	617	1171	13353 Post Oak	Sep-20	$300,000			Heavy
						12810 Catharpin	Jan-20	$280,000	$299,008	0%	
56	McBride Place	Midland	NC	75	470	5833 Kristi	Sep-20	$625,000			Light
						4055 Dakeita	Dec-20	$600,000	$594,303	5%	

MW	Avg. Distance
64.91	612
20.00	479
617.00	1,950
5.00	145

	Indicated Impact
Average	1%
Median	1%
High	10%
Low	-10%

I have further broken down these results based on the MWs, Landscaping, and distance from panel to show the following range of findings for these different categories.

Most of the findings are for homes between 201 and 500 feet. Most of the findings are for Light landscaping screens.

Light landscaping screens are showing no impact on value at any distances, including for solar farms over 75.1 MW.

MW Range 4.4 to 10									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	1	19	2	0	1	2	0	0	1
Average	5%	2%	3%	N/A	0%	4%	N/A	N/A	1%
Median	5%	1%	3%	N/A	0%	4%	N/A	N/A	1%
High	5%	10%	4%	N/A	0%	4%	N/A	N/A	1%
Low	5%	-5%	3%	N/A	0%	4%	N/A	N/A	1%

10.1 to 30									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	3	2	0	0	1	0	0	0
Average	N/A	4%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
Median	N/A	5%	-1%	N/A	N/A	-3%	N/A	N/A	N/A
High	N/A	7%	0%	N/A	N/A	-3%	N/A	N/A	N/A
Low	N/A	0%	-1%	N/A	N/A	-3%	N/A	N/A	N/A

30.1 to 75									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	3	0	0	4	0	0	0
Average	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
Median	N/A	1%	0%	N/A	N/A	0%	N/A	N/A	N/A
High	N/A	2%	2%	N/A	N/A	9%	N/A	N/A	N/A
Low	N/A	1%	-2%	N/A	N/A	-7%	N/A	N/A	N/A

75.1+									
Landscaping	**Light**	**Light**	**Light**	**Medium**	**Medium**	**Medium**	**Heavy**	**Heavy**	**Heavy**
Distance	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**	**100-200**	**201-500**	**500+**
#	0	2	5	0	0	2	0	0	1
Average	N/A	-3%	2%	N/A	N/A	1%	N/A	N/A	0%
Median	N/A	-3%	4%	N/A	N/A	1%	N/A	N/A	0%
High	N/A	5%	5%	N/A	N/A	4%	N/A	N/A	0%
Low	N/A	-10%	-3%	N/A	N/A	-2%	N/A	N/A	0%

C. Summary of National Data on Solar Farms

I have worked in 19 states related to solar farms and I have been tracking matched pairs in most of those states. On the following pages I provide a brief summary of those findings showing 37 solar farms over 5 MW studied with each one providing matched pair data supporting the findings of this report.

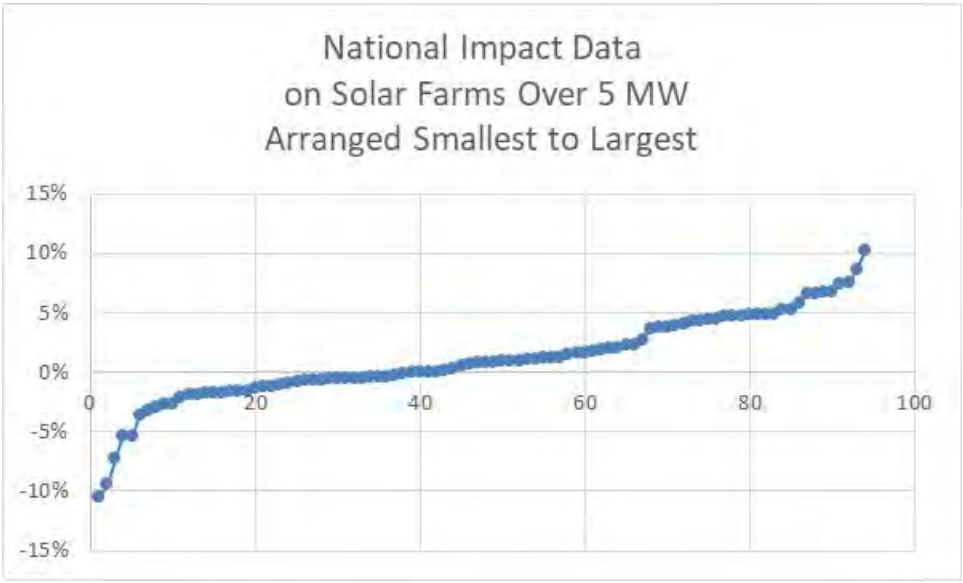
The solar farms summary is shown below with a summary of the matched pair data shown on the following page.

Matched Pair Summary							**Adj. Uses By Acreage**				**1 mile Radius (2010-2020 Data)**			
	Name	**City**	**State**	**Acres**	**MW**	**Topo Shift**	**Res**	**Ag**	**Ag/Res**	**Com/Ind**	**Popl.**	**Med. Income**	**Avg. Housing Unit**	**Veg. Buffer**
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	$37,358	$148,375	Light
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	$40,936	$171,746	Lt to Med
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	$106,550	$350,000	Light
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	$35,057	$126,562	Light
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
7	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	$43,940	$99,219	Heavy
8	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
9	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
10	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
11	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	$61,115	$167,515	Light
12	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	$36,439	$137,884	Light
13	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
14	Flemington	Flemington	NJ	120	9.36	N/A	13%	50%	28%	8%	3,477	$105,714	$444,696	Lt to Med
15	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	35%	29%	0%	457	$111,562	$515,399	Light
16	McGraw	East Windsor	NJ	95	14.00	N/A	27%	44%	0%	29%	7,684	$78,417	$362,428	Light
17	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	$92,346	$343,492	Light
18	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
19	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	$51,002	$107,171	Medium
20	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
21	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
22	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
23	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	$47,208	$187,214	Light
24	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	$46,839	$110,361	Light
25	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	$63,652	$253,138	Light
26	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	$81,081	$280,172	None
27	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	$80,997	$292,308	None
28	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	Medium
29	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	$84,426	$230,288	Light
30	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Light
31	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	$46,867	$171,939	Light
32	Eddy II	Eddy	TX	93	10.00	N/A	15%	25%	58%	2%	551	$59,627	$139,088	Light
33	Somerset	Somerset	TX	128	10.60	N/A	5%	95%	0%	0%	1,293	$41,574	$135,490	Light
34	DG Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	$38,919	$96,555	Light
45	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
36	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
37	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			362	42.05	32	24%	52%	19%	6%	1,515	$66,292	$242,468	
	Median			150	17.80	10	16%	59%	7%	0%	560	$62,384	$230,848	
	High			3,500	617.00	160	98%	98%	94%	44%	7,684	$120,861	$515,399	
	Low			35	5.00	0	1%	0%	0%	0%	48	$35,057	$96,555	

From these 37 solar farms, I have derived 94 matched pairs. The matched pairs show no negative impact at distances as close as 105 feet between a solar panel and the nearest point on a home. The range of impacts is -10% to +10% with an average and median of +1%.

	MW	Avg. Distance		Indicated Impact
Average	44.80	569	**Average**	1%
Median	14.00	400	**Median**	1%
High	617.00	1,950	**High**	10%
Low	5.00	145	**Low**	-10%

While the range is broad, the two charts below show the data points in range from lowest to highest. There is only 3 data points out of 94 that show a negative impact. The rest support either a finding of no impact or 9 of the data points suggest a positive impact due to adjacency to a solar farm. As discussed earlier in this report, I consider this data to strongly support a finding of no impact on value as most of the findings are within typical market variation and even within that, most are mildly positive findings.



D. Larger Solar Farms

I have also considered larger solar farms to address impacts related to larger projects. Projects have been increasing in size and most of the projects between 100 and 1000 MW are newer with little time for adjoining sales. I have included a breakdown of solar farms with 20 MW to 80 MW facilities with one 617 MW facility.

Matched Pair Summary - @20 MW And Larger							Adj. Uses By Acreage				1 mile Radius (2010-2019 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
4	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	$70,158	$187,037	Light
5	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	$81,022	$374,453	Light
6	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	$76,155	$269,922	Medium
7	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	$80,773	$320,076	Light
8	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
9	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
10	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	$47,208	$187,214	Light
11	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	$46,839	$110,361	Light
12	Picure Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	$81,081	$280,172	Light
13	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	$80,997	$292,308	None
14	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	$51,410	$155,208	None
15	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	$50,355	$231,408	Medium
16	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
17	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
18	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			640	76.03		19%	64%	17%	4%	721	$69,501	$262,659	
	Median			335	29.20		12%	68%	2%	0%	293	$72,579	$273,135	
	High			3,500	617.00		75%	98%	94%	25%	2,446	$120,861	$483,333	
	Low			121	19.60		1%	0%	0%	0%	48	$36,737	$110,361	

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set. The matched pairs for each of these were considered earlier and support a finding of no negative impact on the adjoining home values.

I have included a breakdown of solar farms with 50 MW to 617 MW facilities adjoining.

Matched Pair Summary - @50 MW And Larger							Adj. Uses By Acreage				1 mile Radius (2010-2019 Data)			
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Popl.	Med. Income	Avg. Housing Unit	Veg. Buffer
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	$79,114	$281,731	Light
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	$75,000	$291,667	Heavy
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	$63,678	$256,306	Lt to Med
4	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	$58,688	$183,435	Light
5	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	$60,037	$276,347	Light
6	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	$36,737	$143,320	Lt to Med
7	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	$90,909	$403,571	Light
8	Spotyslvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	$120,861	$483,333	Med to Hvy
	Average			1,142	143.19		19%	58%	23%	1%	786	$73,128	$289,964	
	Median			580	75.00		15%	67%	0%	0%	390	$69,339	$279,039	
	High			3,500	617.00		41%	97%	94%	3%	2,446	$120,861	$483,333	
	Low			347	71.00		2%	0%	0%	0%	48	$36,737	$143,320	

The breakdown of adjoining uses, population density, median income and housing prices for these projects are very similar to those of the larger set. The matched pairs for each of these were considered earlier and support a finding of no negative impact on the adjoining home values.

The data for these larger solar farms is shown in the SE USA and the National data breakdowns with similar landscaping, setbacks and range of impacts that fall mostly in the +/-5% range as can be seen earlier in this report.

On the following page I show 81 projects ranging in size from 50 MW up to 1,000 MW with an average size of 111.80 MW and a median of 80 MW. The average closest distance for an adjoining home is 263 feet, while the median distance is 188 feet. The closest distance is 57 feet. The mix of adjoining uses is similar with most of the adjoining uses remaining residential or agricultural in nature. This is the list of solar farms that I have researched for possible matched pairs and not a complete list of larger solar farms in those states.

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

Parcel #	State	City	Name	Output (MW)	Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre Res	Agri	Ag/R	Com
638	GA	Dry Branch	Twiggs	200	2132.7	2132.7	-	-	10%	55%	35%	0%
639	NC	Hope Mills	Innovative Solar 46	78.5	531.87	531.87	423	125	17%	83%	0%	0%
640	NC	Hope Mills	Innovative Solar 42	71	413.99	413.99	375	135	41%	59%	0%	0%
645	NC	Stanley	Hornet	75	1499.5	858.4	663	110	30%	40%	23%	6%
650	NC	Grifton	Grifton 2	56	681.59	297.6	363	235	1%	99%	0%	0%
651	NC	Grifton	Buckleberry	52.1	367.67	361.67	913	180	5%	54%	41%	0%
657	KY	Greensburg	Horseshoe Bend	60	585.65	395	1,394	63	3%	36%	61%	0%
658	KY	Campbellsville	Flat Run	55	429.76	429.76	408	115	13%	52%	35%	0%
666	FL	Archer	Archer	74.9	636.94	636.94	638	200	43%	57%	0%	0%
667	FL	New Smyrna Bea	Pioneer Trail	74.5	1202.8	900	1,162	225	14%	61%	21%	4%
668	FL	Lake City	Sunshine Gateway	74.5	904.29	472	1,233	890	11%	80%	8%	0%
669	FL	Florahome	Coral Farms	74.5	666.54	580	1,614	765	19%	75%	7%	0%
672	VA	Appomattox	Spout Spring	60	881.12	673.37	836	335	16%	30%	46%	8%
676	TX	Stamford	Alamo 7	106.4	1663.1	1050	-	-	6%	83%	0%	11%
677	TX	Fort Stockton	RE Roserock	160	1738.2	1500	-	-	0%	100%	0%	0%
678	TX	Lamesa	Lamesa	102	914.5	655	921	170	4%	41%	11%	44%
679	TX	Lamesa	Ivory	50	706	570	716	460	0%	87%	2%	12%
680	TX	Uvalde	Alamo 5	95	830.35	800	925	740	1%	93%	6%	0%
684	NC	Waco	Brookcliff	50	671.03	671.03	560	150	7%	21%	15%	57%
689	AZ	Arlington	Mesquite	320.8	3774.5	2617	1,670	525	8%	92%	0%	0%
692	AZ	Tucson	Avalon	51	479.21	352	-	-	0%	100%	0%	0%
				81								
			Average	111.80	1422.4	968.4	1031	263	10%	62%	22%	6%
			Median	80.00	914.5	646.0	836	188	7%	64%	17%	0%
			High	1000.00	9661.2	4813.5	5210	1790	58%	100%	100%	70%
			Low	50.00	347.1	185.1	343	57	0%	0%	0%	0%

IX. Distance Between Homes and Panels

I have measured distances at matched pairs as close as 105 feet between panel and home to show no impact on value. This measurement goes from the closest point on the home to the closest solar panel. This is a strong indication that at this distance there is no impact on adjoining homes.

However, in tracking other approved solar farms across Kentucky, North Carolina and other states, I have found that it is common for there to be homes within 100 to 150 feet of solar panels. Given the visual barriers in the form of privacy fencing or landscaping, there is no sign of negative impact.

I have also tracked a number of locations where solar panels are between 50 and 100 feet of single-family homes. In these cases the landscaping is typically a double row of more mature evergreens at time of planting. There are many examples of solar farms with one or two homes closer than 100-feet, but most of the adjoining homes are further than that distance.

X. Topography

As shown on the summary charts for the solar farms, I have been identifying the topographic shifts across the solar farms considered. Differences in topography can impact visibility of the panels, though typically this results in distant views of panels as opposed to up close views. The topography noted for solar farms showing no impact on adjoining home values range from as much as 160-foot shifts across the project. Given that appearance is the only factor of concern and that distance plus landscape buffering typically addresses up close views, this leaves a number of potentially distant views of panels. I specifically note that in Crittenden in KY there are distant views of panels from the adjoining homes that showed no impact on value.

General rolling terrain with some distant solar panel views are showing no impact on adjoining property value.

XI. Potential Impacts During Construction

I have previously been asked by the Kentucky Siting Board about potential impacts during construction. This is not a typical question I get as any development of a site will have a certain amount of construction, whether it is for a commercial agricultural use such as large-scale poultry operations or a new residential subdivision. Construction will be temporary and consistent with other development uses of the land and in fact dust from the construction will likely be less than most other construction projects given the minimal grading. I would not anticipate any impacts on property value due to construction on the site.

I note that in the matched pairs that I have included there have been a number of home sales that happened after a solar farm was approved but before the solar farm was built showing no impact on property value. Therefore the anticipated construction had no impact as shown by that data.

XII. Scope of Research

I have researched over 800 solar farms and sites on which solar farms are existing and proposed in Kentucky, Illinois, Tennessee, North Carolina, Virginia as well as other states to determine what uses are typically found in proximity with a solar farm. The data I have collected and provide in this report strongly supports the assertion that solar farms are having no negative consequences on adjoining agricultural and residential values.

Beyond these references, I have quantified the adjoining uses for a number of solar farm comparables to derive a breakdown of the adjoining uses for each solar farm. The chart below shows the breakdown of adjoining or abutting uses by total acreage.

Percentage By Adjoining Acreage

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	19%	53%	20%	2%	6%	887	344	91%	8%
Median	11%	56%	11%	0%	0%	708	218	100%	0%
High	100%	100%	100%	93%	98%	5,210	4,670	100%	98%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

I have also included a breakdown of each solar farm by number of adjoining parcels to the solar farm rather than based on adjoining acreage. Using both factors provides a more complete picture of the neighboring properties.

Percentage By Number of Parcels Adjoining

	Res	Ag	Res/AG	Comm	Ind	Avg Home	Closest Home	All Res Uses	All Comm Uses
Average	61%	24%	9%	2%	4%	887	344	93%	6%
Median	65%	19%	5%	0%	0%	708	218	100%	0%
High	100%	100%	100%	60%	78%	5,210	4,670	105%	78%
Low	0%	0%	0%	0%	0%	90	25	0%	0%

Res = Residential, Ag = Agriculture, Com = Commercial

Total Solar Farms Considered: 705

Both of the above charts show a marked residential and agricultural adjoining use for most solar farms. Every single solar farm considered included an adjoining residential or residential/agricultural use.

XIII. Specific Factors Related To Impacts on Value

I have completed a number of Impact Studies related to a variety of uses and I have found that the most common areas for impact on adjoining values typically follow a hierarchy with descending levels of potential impact. I will discuss each of these categories and how they relate to a solar farm.

1. Hazardous material
2. Odor
3. Noise
4. Traffic
5. Stigma
6. Appearance

1. Hazardous material

A solar farm presents no potential hazardous waste byproduct as part of normal operation. Any fertilizer, weed control, vehicular traffic, or construction will be significantly less than typically applied in a residential development and even most agricultural uses.

The various solar farms that I have inspected and identified in the addenda have no known environmental impacts associated with the development and operation.

2. Odor

The various solar farms that I have inspected produced no odor.

3. Noise

Whether discussing passive fixed solar panels, or single-axis trackers, there is no negative impact associated with noise from a solar farm. The transformer reportedly has a hum similar to an HVAC that can only be heard in close proximity to this transformer and the buffers on the property are sufficient to make emitted sounds inaudible from the adjoining properties. No sound is emitted from the facility at night.

The various solar farms that I have inspected were inaudible from the roadways.

4. Traffic

The solar farm will have no onsite employee's or staff. The site requires only minimal maintenance. Relative to other potential uses of the site (such as a residential subdivision), the additional traffic generated by a solar farm use on this site is insignificant.

5. Stigma

There is no stigma associated with solar farms and solar farms and people generally respond favorably towards such a use. While an individual may express concerns about proximity to a solar farm, there is no specific stigma associated with a solar farm. Stigma generally refers to things such as adult establishments, prisons, rehabilitation facilities, and so forth.

Solar panels have no associated stigma and in smaller collections are found in yards and roofs in many residential communities. Solar farms are adjoining elementary, middle and high schools as well as churches and subdivisions. I note that one of the solar farms in this report not only adjoins a church, but is actually located on land owned by the church. Solar panels on a roof are often cited as an enhancement to the property in marketing brochures.

I see no basis for an impact from stigma due to a solar farm.

6. Appearance

I note that larger solar farms using fixed or tracking panels are a passive use of the land that is in keeping with a rural/residential area. As shown below, solar farms are comparable to larger greenhouses. This is not surprising given that a greenhouse is essentially another method for collecting passive solar energy. The greenhouse use is well received in residential/rural areas and has a similar visual impact as a solar farm.

The solar panels are all less than 20 feet high. 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 significantly taller than thee proposed panels.

Whenever you consider the impact of a proposed project on viewshed or what the adjoining owners may see from their property it is important to distinguish whether or not they have a protected viewshed or not. Enhancements for scenic vistas are often measured when considering properties that adjoin preserved open space and parks. However, adjoining land with a preferred view today conveys no guarantee that the property will continue in the current use. Any consideration of the impact of the appearance requires a consideration of the wide variety of other uses a property already has the right to be put to, which for solar farms often includes subdivision development, agricultural business buildings such as poultry, or large greenhouses and the like.

Dr. Randall Bell, MAI, PhD, and author of the book **Real Estate Damages**, Third Edition, on Page 146 "Views of bodies of water, city lights, natural settings, parks, golf courses, and other amenities are considered desirable features, particularly for residential properties." Dr. Bell continues on Page 147 that "View amenities may or may not be protected by law or regulation. It is sometimes argued that views have value only if they are protected by a view easement, a zoning ordinance, or covenants, conditions, and restrictions (CC&Rs), although such protections are relatively uncommon as a practical matter. The market often assigns significant value to desirable views irrespective of whether or not such views are protected by law."

Dr. Bell concludes that a view enhances adjacent property, even if the adjacent property has no legal right to that view. He then discusses a "borrowed" view where a home may enjoy a good view of vacant land or property beyond with a reasonable expectation that the view might be partly or completely obstructed upon development of the adjoining land. He follows that with "This same concept applies to potentially undesirable views of a new development when the development conforms to applicable zoning and other regulations. Arguing value diminution in such cases is difficult, since the possible development of the offending property should have been known." In other words, if there is an allowable development on the site then arguing value diminution with such a development would be difficult. This further extends to developing the site with alternative uses that are less impactful on the view than currently allowed uses.

This gets back to the point that if a property has development rights and could currently be developed in such a way that removes the viewshed such as a residential subdivision, than a less intrusive use such as a solar farm that is easily screened by landscaping would not have a greater impact on the viewshed of any perceived value adjoining properties claim for viewshed. Essentially, if there are more impactful uses currently allowed, then there is no viewshed enhancement to adjoining parcels.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar farm will not negatively impact adjoining property values. The only category of impact of note is appearance, which is addressed through setbacks and landscaping buffers. The matched pair data supports that conclusion.

XIV. Conclusion

The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The proposed setbacks are further than those measured showing no impact for similar price ranges of homes and for areas with similar demographics to the subject area. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic all support a finding of no impact on property value.

Very similar solar farms in very similar areas have been found by hundreds of towns and counties not to have a substantial injury to abutting or adjoining properties, and many of those findings of no impact have been upheld by appellate courts. Similar solar farms have been approved adjoining agricultural uses, schools, churches, and residential developments.

I have found no difference in the mix of adjoining uses or proximity to adjoining homes based on the size of a solar farm and I have found no significant difference in the matched pair data adjoining larger solar farms versus smaller solar farms. The data in the Southeast is consistent with the larger set of data that I have nationally, as is the more specific data located in and around Kentucky.

Based on the data and analysis in this report, it is my professional opinion that the solar farm proposed at the subject property will have no negative impact on the value of adjoining or abutting property. I note that some of the positive implications of a solar farm that have been expressed by people living next to solar farms include protection from future development of residential developments or other more intrusive uses, reduced dust, odor and chemicals from former farming operations, protection from light pollution at night, it's quiet, and there is no traffic.

XV. 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. My 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;

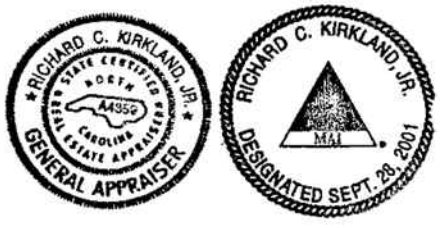
11. No one provided significant real property appraisal assistance to the person signing this certification.

12. As of the date of this report I have completed the continuing education program for Designated Members of the Appraisal Institute;

13. I have not performed services, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment.

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.



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State Certified General Appraiser

Kirkland Appraisals, LLC

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rkirkland2@gmail.com
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Professional Experience

Kirkland Appraisals, LLC, Raleigh, N.C. — 2003 – Present
Commercial appraiser

Hester & Company, Raleigh, N.C.
Commercial appraiser — 1996 – 2003

Professional Affiliations

MAI (Member, Appraisal Institute) designation #11796 — 2001
NC State Certified General Appraiser # A4359 — 1999
VA State Certified General Appraiser # 4001017291
SC State Certified General Appraiser # 6209
FL State Certified General Appraiser # RZ3950
GA State Certified General Appraiser # 321885
MI State Certified General Appraiser # 1201076620
PA State Certified General Appraiser # GA004598
OH State Certified General Appraiser # 2021008689
IN State Certified General Appraiser # CG42100052
KY State Certified General Appraiser # 5522

Education

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

Continuing Education

Uniform Standards of Professional Appraisal Practice Update	2022
Sexual Harassment Prevention Training	2021
Appraisal of Land Subject to Ground Leases	2021
Michigan Appraisal Law	2020
Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017
Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015

Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012
Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005
Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996

SAR EXHIBIT C

LEGEND:

- PROJECT BOUNDARY
- PARCEL LINES
- LOT LINES
- EX. PAVED ROAD
- EX. RAILROAD
- EXCLUSION ZONE

PROJECT PROPERTIES				
IDENTITY	OWNER	DEED BOOK	PAGE	TAX ID
A	KNIGHT, CHRISTOPHER G & DANE N	745	369	147-00-00-043
B	BUCHANAN PROPERTY GROUP, LLC	1416	479	148-00-00-003
C	BUCHANAN PROPERTY GROUP, LLC	1416	491	148-00-00-004
D	BUCHANAN PROPERTY GROUP, LLC	464	305	148-00-00-005
E	WAUGH, JIMMY N & RUTH & JIMMY D WAUGH	1529	1081	148-00-00-006
F	BUCHANAN PROPERTY GROUP, LLC	1416	475	148-00-00-007
G	BUCHANAN PROPERTY GROUP, LLC	574	238	148-00-00-010
H	BUCHANAN, G.B. & REBA	N/A	N/A	148-00-00-011
I	BUCHANAN PROPERTY GROUP, LLC	1416	491	168-00-00-006

Parcel Table		
Line #/Curve #	Length	Direction/Delta
L1	666.130	N07° 55' 45.35"E
L2	607.555	S80° 15' 29.27"E
L3	110.153	N18° 52' 23.93"E
L4	49.699	S66° 32' 12.42"E
L5	2009.591	S56° 30' 04.42"W
L6	49.956	S73° 40' 24.11"W
L7	835.485	S58° 24' 34.21"W
L8	152.618	S66° 07' 51.17"W
L9	1145.919	N41° 47' 11.53"W
L10	485.797	N13° 26' 35.35"E
L11	407.610	S56° 41' 29.58"W
L12	686.340	S46° 54' 07.58"W
L13	273.970	S38° 57' 42.58"W
L14	158.160	S42° 36' 10.58"W
L15	58.960	S72° 25' 01.58"W
L16	255.060	S35° 04' 50.58"W
L17	313.694	S38° 46' 39.62"W
L18	51.830	S38° 35' 26.93"W
L19	497.459	S39° 28' 30.73"W
L20	947.790	S39° 56' 07.12"W
L21	500.467	S38° 00' 57.00"W
L22	156.727	N51° 32' 47.51"W
L23	101.955	N40° 21' 01.08"W
L24	727.614	N29° 39' 53.25"W
L25	235.097	N24° 36' 39.58"E
L26	0.204	N24° 33' 30.76"E
L27	171.930	S24° 02' 00.17"W
L28	593.210	N64° 48' 07.83"W
L29	331.010	N25° 03' 14.78"E
L30	715.785	N25° 03' 14.78"E
L31	546.050	N13° 26' 35.35"E
L32	1026.961	S41° 50' 53.65"E
L33	87.640	S35° 31' 49.00"E
L34	202.990	S51° 11' 37.58"W
L35	511.739	S32° 09' 45.28"E
L36	711.087	S55° 56' 01.65"W
L37	447.067	S34° 10' 45.77"E
L38	559.859	S56° 31' 52.55"W

Parcel Table		
Line #/Curve #	Length	Direction/Delta
L39	434.473	S55° 49' 26.65"W
L40	477.060	N41° 20' 02.52"W
L41	249.320	N24° 43' 48.52"W
L42	118.430	N47° 04' 10.52"W
L43	61.780	N36° 23' 43.52"W
L44	163.400	N24° 37' 12.52"W
L45	105.640	N18° 36' 52.52"W
L46	290.630	S50° 09' 19.48"W
L47	632.240	N45° 05' 07.52"W
L48	497.170	N24° 36' 37.52"W
L49	471.793	N24° 53' 25.17"E
L50	392.125	N77° 50' 12.27"W
L51	232.403	N45° 38' 00.73"E
L52	135.934	N24° 14' 14.10"E
L53	527.663	N39° 10' 41.61"E
L54	100.000	N38° 26' 47.63"E
L55	301.500	N32° 44' 08.63"E
L56	150.520	N43° 13' 58.63"E
L57	196.034	N42° 19' 21.06"E
L58	1.096	S75° 10' 24.43"W
L59	464.115	N37° 38' 27.17"E
L60	176.780	N46° 32' 33.11"E
L61	470.700	N34° 04' 18.11"E
L62	327.790	N40° 46' 11.11"E
L63	362.286	N47° 30' 20.13"E
L64	403.982	N48° 38' 10.14"E
L65	335.031	N43° 58' 34.50"E
L66	561.054	N53° 50' 54.79"E
L67	25.000	N33° 36' 55.30"W
L68	385.740	N56° 22' 27.58"E
L69	101.980	N45° 03' 51.58"E
L70	350.000	N56° 22' 27.58"E
L71	53.799	N28° 30' 45.22"E
L72	540.041	N56° 30' 04.42"E
L73	2045.596	N56° 30' 04.42"E
L74	405.710	S47° 26' 24.99"E
L75	557.700	N66° 51' 55.27"E

Parcel Table			
Line #/Curve #	Length	Direction/Delta	Radius
C1	495.371	024.1334	1176.076
C2	412.244	025.5333	925.060

Westwood

Phone (952) 937-5150
Fax (952) 937-5822
Toll Free (888) 937-5150

12701 Whitewater Drive, Suite #300
Minnetonka, MN 55343
westwoodps.com

Westwood Professional Services, Inc.

STATE OF KENTUCKY
DAVID KELENER
LICENSED PROFESSIONAL ENGINEER
7/13/22

PREPARED FOR:

Stonefield Solar, LLC

A Candela Renewable's Project

500 Sansome Street, Suite 500
San Francisco, CA 94111

REVISIONS:

#	DATE	COMMENT

0' 700' 1400' 2100'

Stonefield Solar Project

Hardin County, Kentucky

Parcel Map

FOR APPROVAL

DATE: 07/13/2022

SHEET: C202

Project Land

Landowner No.	Primary Landowner	Agreement Name	Parcel: Parcel #	Total Acreage
1	Buchanan Property Group et al	Solar Ground Lease Agreement	148-00-00-003	150.7
1	Buchanan Property Group et al	Solar Ground Lease Agreement	148-00-00-004	48.1
1	Buchanan Property Group et al	Solar Ground Lease Agreement	168-00-00-006	3.01
1	Buchanan Property Group et al	Solar Ground Lease Agreement	148-00-00-005	30.26
1	Buchanan Property Group et al	Solar Ground Lease Agreement	148-00-00-007	79
1	Buchanan Property Group et al	Solar Ground Lease Agreement	148-00-00-011	99.4
1	Buchanan Property Group et al	Solar Ground Lease Agreement	148-00-00-010	473.5
2	Christopher G. & Dane Nell Knight	Solar Ground Lease Agreement	147-00-00-043	242.8
2	Christopher G. & Dane Nell Knight	Solar Ground Lease Agreement	147-00-00-044	Included in 147-00-00-043 parcel survey
3	Waugh Property Group	Option to Purchase	148-00-00-006	3

Private Gen-Tie Route

Landowner No.	Primary Landowner	Agreement Name	Parcel: Parcel #	Total Acreage
4	Elizabethtown/Hardin County Industrial Foundation	Access & Utility Easement	168-00-00-042	220.07
5	A&P Development, LLC	Access & Utility Easement	168-00-00-015	186.51
6	Steven C. & Ann Rogers	Access & Utility Easement	169-00-00-009.02	110.05
7	David & Jacqueline Felts	Access & Utility Easement	169-00-00-002.01	74.74
8	Charlie Johnson	Access & Utility Easement	169-00-05-001	15.353
9	Phillip & Laura Rogers	Access & Utility Easement	169-00-00-003.01	48.91

SAR EXHIBIT D

Stonefield Solar Noise Assessment

Stonefield Solar Facility

August 1, 2022

Prepared for:

Stonefield Solar, LLC

Prepared by:

Stantec Consulting Services, Inc
Louisville, Kentucky

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Prepared by 
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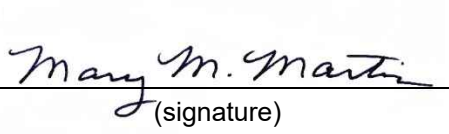
Amber Coleman

Reviewed by 
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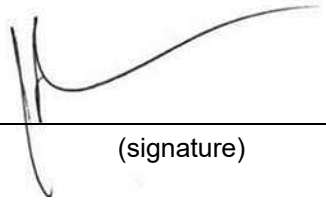
Mary Martin

Approved by 
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Josh Adams

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1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION

The Stonefield Solar Project (Project) is a proposed 120-megawatt (MW) photovoltaic (PV) solar power energy generating facility located in Hardin County, Kentucky. The project site is located on approximately 1,030 acres southwest of Elizabethtown (Figure 1). The solar project consists of solar panels, a panel tracking system, inverters and electrical equipment associated with a solar facility and substation. The power generated by the proposed solar facility will be connected to the existing power grid using a proposed 69kV transmission line connecting to the Central Hardin Substation located on Pritchard Parkway in Elizabethtown, Kentucky. 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 seven-foot agricultural fence. At the end of the project's life the equipment and electrical infrastructure will be decommissioned, and land may return to farming or other development.

A desktop noise assessment was completed to evaluate potential noise impacts to noise sensitive receptors within 1,000 feet from the project boundary (Noise Assessment Area). Background noise as well as noise generated during construction and operation of the Project were considered in the analysis.

1.2 EXISTING LAND USE AND SITE CONDITIONS

The Project is located in a rural area with gently sloping topography. Existing land use within the project site is cultivated cropland with small areas of deciduous forest. (MLRC 2016 and USDA-FSA 2018) Land use adjacent to the Project is comprised of scattered homes, cultivated cropland and a quarry. The community of Cecilia is located to the north of the Project while Elizabethtown is located to the northeast. US Highway 62 transects the project site while a railroad runs along the northwestern edge (Figure 2). There is one 345-kV transmission line that intersects the Project and one 69-kV transmission line that also intersects the Project and connects to the Central Hardin Substation.

2.0 NOISE STUDY

2.1 EXISTING NOISE CONDITIONS

2.1.1 Noise Sensitive Receptors

A noise sensitive receptor is generally defined as locations where people reside or where the presence of unwanted sound may adversely affect the use of the land. Receptors may include but are not limited to schools, homes, churches, hospitals, and certain types of recreation or outdoor land uses such as outdoor restaurant seating.

Potential noise sensitive receptors were evaluated within a 1,000 foot buffer from the project boundary. High resolution aerial photography, topographic quadrangles and proposed site layouts were analyzed using ESRI ArcMap 10.7 and Google Earth Pro to determine the presence of potential noise sensitive receptors. These receptors include residential dwellings and are shown on Figure 2. No schools, churches, childcare centers, outdoor recreation, medical centers or other types of noise sensitive receptors were observed within the noise assessment area.

Twenty-four (24) residences consisting of single family homes are located within the Noise Assessment Area. These dwellings are referred to as noise sensitive receptors within this report (R1-R24). Eighteen of these dwellings are located within areas that meet the definition of “residential neighborhood” according to KRS 278.700. These 18 dwellings are located in one of two neighborhoods, which include populated areas of five or more acres containing at least one residential structure per acre. The two residential neighborhoods include an area along St. Ambrose Church Lane within the community of Cecilia and the Ranch Hollywood subdivision located on the eastern side of US Highway 62. The nearest residence is approximately 258 feet from the project boundary (Table 1). Proposed inverters are located even further away with the nearest being approximately 639 feet from a residence. Additionally, an active railroad runs between two of the dwellings (R3 and R4) and the proposed solar site and one dwelling (R1) is within 120 feet of US Highway 62. Due to the presence of the nearby railroad and highway, it is likely that noise inputs from the proposed site will be negligible compared to existing background noise for those dwellings (R1, R3, and R4). One adjacent residence along US 62 is currently under a purchase option and will be incorporated into the project. It has been considered a participating parcel and not a noise sensitive receptor.

Table 1. Nearest Sensitive Receptor to the Site

Type	Nearest to	Direction from Project Site	Distance from Property Boundary	Distance from Nearest Solar Panel	Distance from Nearest Inverter or Transformer**
Residence (R2)	Property boundary, solar panels, inverters, tracking motors*	West	Within 258 ft	Within 458 ft	Within 639 ft
Residences - Cecilia Neighborhood (R5-R8)		North	Within 600 ft	Within 747 ft	Within 1,353 ft
Residences – Ranch Hollywood Neighborhood (R9-R22)		Northeast	Within 587 ft	Within 1,060 ft	Within 1,437 ft
Residence (R23)	Substation and Transformer	East	Within 840 ft	Within 1,307 ft	Within 959 ft

*R2 is approximately 615 ft from a tracking motor. Tracking motor locations estimated based on site panel layout.

**All values reflect distance to inverters except for R23 which is the distance to the substation/transformer area.

2.1.2 Noise Ordinances

The unincorporated portions of Hardin County do not appear to have a specific noise ordinance. However, Chapter 97 of the City of Elizabethtown Code of Ordinances limits excessive loud and/or harsh noises. These are defined as noises that are plainly audible by a person with normal hearing at a distance of 50 feet from its point of origin or emanation. There are no specific noise decibel (dB) levels referenced within the ordinance. Since the city limits of Elizabethtown are more than 0.75 miles away from the Project, the noise ordinance does not apply. (Elizabethtown, Kentucky Code of Ordinances 2003).

2.1.3 Existing Noise from Surrounding Areas

Noise is typically measured in decibels (dB_A - A-weighted sound levels) to describe the relative loudness of specific sounds. Unless otherwise noted, sound is presented as equivalent continuous sound level [L_{eq} (dB_A)]. This is defined as the steady sound pressure level which, over a given period of time, has the same total energy as the actual fluctuating noise. This can be generally thought of as average sound levels. L_{min} (dB_A) and L_{max} (dB_A) are the minimum and maximum sound levels at a given period in time.

See Table 2 for example sound levels from the Centers for Disease Control and Prevention (CDC 2020) and the Federal Railroad Administration (FRA 2010).

Table 2. Common Sources of Noise and Decibel Levels

Noise Source	Average Noise Level (dB_A)*
Loud Entertainment Venues (Nightclubs, Bars and Rock Concerts)	105 – 110
Car horn at 16 ft / Sporting Events	100
Motorcycle	95
Locomotives and Rail Cars at 100 feet**	80-90
Gas powered lawnmowers and leaf blowers	80-85
Heavy Traffic	80-85
Washing Machine / Dishwasher	70
Normal Conversation / Air Conditioner	60
Soft Whisper	30

**CDC 2020 **FRA 2010*

The primary source of noise from the surrounding area is similar to the Project site with sparse automotive traffic on rural roads and adjacent farms producing agricultural sounds related to tractors, farm machinery, trucks, and ATVs. Highway noise from US Highway 62 contributes to the local noise as well as periodic noise from the railroad when trains pass through the site. A quarry is located within the noise assessment area on the southeast side of the site and contributes noises related to materials excavation including periodic blasting and drilling as well as materials processing. Additionally, wildlife also contributes to the local noise including insects, birds and frogs.

2.1.4 Existing On-Site Noise

Existing noise on the Project site consists of noises typically produced by agricultural activities. These noises include tractors, trucks, and all-terrain vehicles. Rural wildlife noises contribute to the existing noise conditions including birds, frogs and insects.

2.2 PROPOSED CONSTRUCTION NOISE CONDITIONS

2.2.1 Equipment and Machinery

The Project's construction will require earthmoving and tree removal activities as well as typical solar panel and electrical equipment installation. Typical construction equipment is expected to be used for site preparation and infrastructure installation and may include dump trucks, pile drivers, backhoes, dozers, and excavators. The Federal Transit Administration outlines typical construction equipment noise levels and is presented in Table 3 (FTA 2018). The Federal Highway Administration (FHWA) Roadway Construction Noise Model (RCNM) was used to evaluate noise during construction (FHWA 2006). Pile drivers are expected to be the loudest machinery and will only be used during installation of the solar

panel supports. Since pile drivers will only be used during pole installation, model results have been presented both with and without pile drivers in use.

Table 3. Construction Equipment Noise Emission Levels

Equipment	Typical Noise Levels at 50 ft from Source (dB_A)*
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile Driver (Impact)	101
Pile Driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	84

**Taken from FTA 2018*

2.2.2 Roadway Noise During Construction

Traffic noise is expected to increase temporarily during construction due to the mobilization of labor and materials, equipment and staff moving between sections of the project and construction and equipment vehicles entering and leaving the site. Construction related activity is expected to occur mainly between 7 a.m. and 9 p.m. (sunrise and sunset) and will be of limited duration at any given location within the project.

2.2.3 Assembly of Solar Array and Construction of Facilities

The solar facility consists of solar panels, a panel tracking system, inverters and electrical equipment associated with the solar facility and substation. All solar module equipment is expected to be assembled using handheld equipment and power tools. Assembly will occur within the Project site several hundred to thousands of feet from the nearest receptors. Assembly will take place during daytime hours and will be of limited duration at any given location within the project.

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 (Figure 2). 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 during daylight hours. These tracking motors are a potential source of mechanical noise and are included in this assessment. Tracking motors will not be installed closer than 100 feet from the project boundary. The sound typically produced by panel tracking motors (NexTracker or equivalent) is approximately 78 dB_A. Comparing similar noise values and distances from the RCNM, at the nearest receptor (R2) the tracking system will be approximately 42.2 dB_A as a worst-case maximum noise [L_{max} (dB_A)] which is similar to refrigerator hum. The equivalent continuous sound level [L_{eq} (dB_A)] from the tracking motors is 30.0 dB_A which is quieter than a whisper.

2.3.2 Inverters

Approximately 37 inverters are expected to be installed across the Project site. Inverters installed onsite are expected to be SMA Energy PCS or General Electric (GE) LV5 PCS or similar. Manufacturer's specifications for the equipment include a range of noise emission for SMA Energy PCS from 49 dB_A at 50 meters (164 feet) distance to 67 dB_A at 10 meters (32.8 feet) from the source which roughly translates to 40.9 dB_A at the nearest receptor (R2), comparable to a quiet library. The GE LV5 PCS ranges from 73.6 dB_A at lowest cooling level to 91.3 dB_A at highest cooling levels at 10 meters (32.8 feet) from the source which is approximately 47 dBA at the nearest receptor (R2), comparable to a refrigerator.

The noise produced by the inverters can be characterized as a hum and during average operation is similar in noise level to a household air conditioner at the unit. Proposed inverter locations are shown on Figure 2.

2.3.3 Transformers

The proposed substation covers approximately 2.0 acres and is located on the eastern portion of the Project. Transformers associated with the project will include a SBG-SMIT 3 phase 127 kVA transformer or similar. According to manufacturer specifications the loudest the transformer is expected to be is just over 60 dB_A, measured 1 meter (3.2 feet) from the source, or the level of a normal conversation. The

nearest sensitive receptor (R23) is approximately 950 feet away which equates to a sound level of 10.7 dBA and is barely audible, comparable to normal breathing.

2.3.4 Site Operation and Maintenance

2.3.4.1 Vehicular Traffic

During operation, the solar facility is expected to have a maximum of one technician visiting the site daily for inspection and two to three technicians up to 70 days per year. Operation and maintenance work may be expected at night for up to 30 days per year. Weekend work is not anticipated but may be required upon any component outages that may impact energy production from the site. Other than the scenarios mentioned, vehicular traffic onsite will be limited to typical weekday business hours. Technicians will drive mid- or full-sized trucks and will not contribute noticeably to the existing traffic noise levels.

2.3.4.2 Maintenance Activities

Typical maintenance activities may include inspection, minor repair and maintenance on the solar panels, the tracking system, wiring, and/or inverters. Grounds maintenance will include periodic inspection of the boundary fencing and vegetation control through mowing and herbicide applications.

2.4 NOISE SUMMARY AND CONCLUSIONS

Noise is expected to increase temporarily and intermittently during the construction phase of the project due to increases in vehicular traffic, construction equipment and assembly of the solar facility components. This increase in noise is expected to be within accepted ranges and of short duration at any given location within the project with the majority of the noise producing activities to occur many hundreds to thousands of feet from the nearest noise sensitive receptors. The typical noise levels of construction equipment are not unlike the existing noise levels related to cultivation within and surrounding the Project. Additionally, construction noise levels are expected to be of shorter duration and lower than the adjacent quarry and railroad.

The noisiest portion of the construction will be the use of pile drivers to install the solar panel supports. These will only be used very briefly for each pile. The pile driver's worst-case intermittent maximum noise [L_{max} (dB_A)] level (81.6 dB_A) is expected to occur at the nearest receptor (R2) and is similar to heavy traffic at 25 feet. The equivalent continuous sound level [L_{eq} (dB_A)] from construction including the pile driver is 74.7 dB_A which is similar to the sound level of a dishwasher. The noise model was also evaluated without the inputs of the pile driver since that is more typical of ongoing construction sound levels. The sound levels for typical construction (without pile driving) onsite are less than 60 dB_A which is less than normal conversation (Table 4). Construction activities at the Project site would move around the site and are not anticipated to be performed near a sensitive receptor for more than a few weeks.

Table 4. Calculated Noise Levels at Nearest Receptor Due to Construction (Sunrise to Sunset)

	Distance (ft)	Calculated L_{max} (dB_A)	Calculated L_{eq} (dB_A)
Noise Level at Nearest Residential Receptor (R2) (including pile driver)	458	81.6	74.7
Noise Level at Nearest Residential Receptor (R2) (minus pile driver)	458	61.3	58.8

During site operation, intermittent noise related to the panel tracking system and the constant noise of the inverters is expected. The increase in noise is negligible due to the distance between the panels / inverters and the nearest noise sensitive receptors. The nearest receptor (R2) is more than 450 feet from any solar panels and approximately 639 feet from an inverter. Maximum sound levels from the tracking system can be expected to be the levels of a refrigerator hum at the nearest receptor (R2, 42.2 dB_A), while the sounds will be much quieter at most receptors.

It should be noted that the trackers and the inverters for the panels themselves will not operate at night when residential receptors are most sensitive. During average daytime operation, the inverters will be similar in noise level (~40.9 $dB_{A\ max}$) to a quiet library at the nearest receptor (R2). According to manufacturer specifications the loudest the substation transformer is expected to be is just over 60 dB_A at 1m from the source, or the level of a normal conversation. Since the nearest receptor (R23) is over 950 ft from the substation, transformers are not expected to add additional noise above background noise as the noise levels are barely audible (10.7 dB_A). Site visits and maintenance activities including single vehicular traffic and mowing will be negligible as they are similar to the background agricultural noise characteristics. All site visits, outside of emergency maintenance, will occur during daylight hours.

Table 5. Approximate Noise Levels During Operation (Sunrise to Sunset)

Receptor*	Panel Tracking System		Inverter		Transformer	
	Distance (ft)	dB_A	Distance (ft)	dB_A	Distance (ft)	dB_A
R1	907	38.8	1,358	34.3	9,301	<10
R2	615	42.2	639	40.9	7,552	<10
R3	1,233	36.2	1,698	32.4	8,729	<10
R4	678	41.4	1,202	35.4	8,502	<10
R5	1,214	36.3	1,711	32.3	7,598	<10
R6	1,108	37.1	1,579	33.0	7,546	<10
R7	838	39.5	1,353	34.4	7,360	<10
R8	883	39.1	1,452	33.7	7,126	<10
R9	1,402	35.0	1,912	31.3	1,741	<10
R10	1,406	35.0	1,843	31.7	1,821	<10
R11	1,446	34.8	1,808	31.8	1,916	<10
R12	1,506	34.4	1,796	31.9	2,059	<10
R13	1,471	34.6	1,663	32.6	2,077	<10
R14	1,360	35.3	1,575	33.0	2,021	<10
R15	1,274	35.9	1,554	33.2	1,929	<10
R16	1,254	36.0	1,591	32.9	1,859	<10
R17	1,211	36.3	1,687	32.4	1,751	<10
R18	1,186	36.5	1,723	32.3	1,668	<10
R19	1,224	36.2	1,720	32.3	1,540	<10
R20	1,178	36.6	1,700	32.4	1,459	<10
R21	1,211	36.3	1,674	32.5	1,376	<10
R22	1,182	36.5	1,648	32.6	1,265	<10
R23	1,755	33.1	1,437	33.8	959	10.7
R24	1,330	35.5	1,497	33.5	6,413	<10
Note	Operates 1 minute every 15 minutes during daylight hours		Continuous low hum during daylight hours		Substation area	

Noise Levels are Lmax – maximum noise levels expected.

At the nearest receptors, besides intermittent and infrequent pile driver activity, no elevated and prolonged noise levels above background levels are expected either during construction or operation of the Project site.

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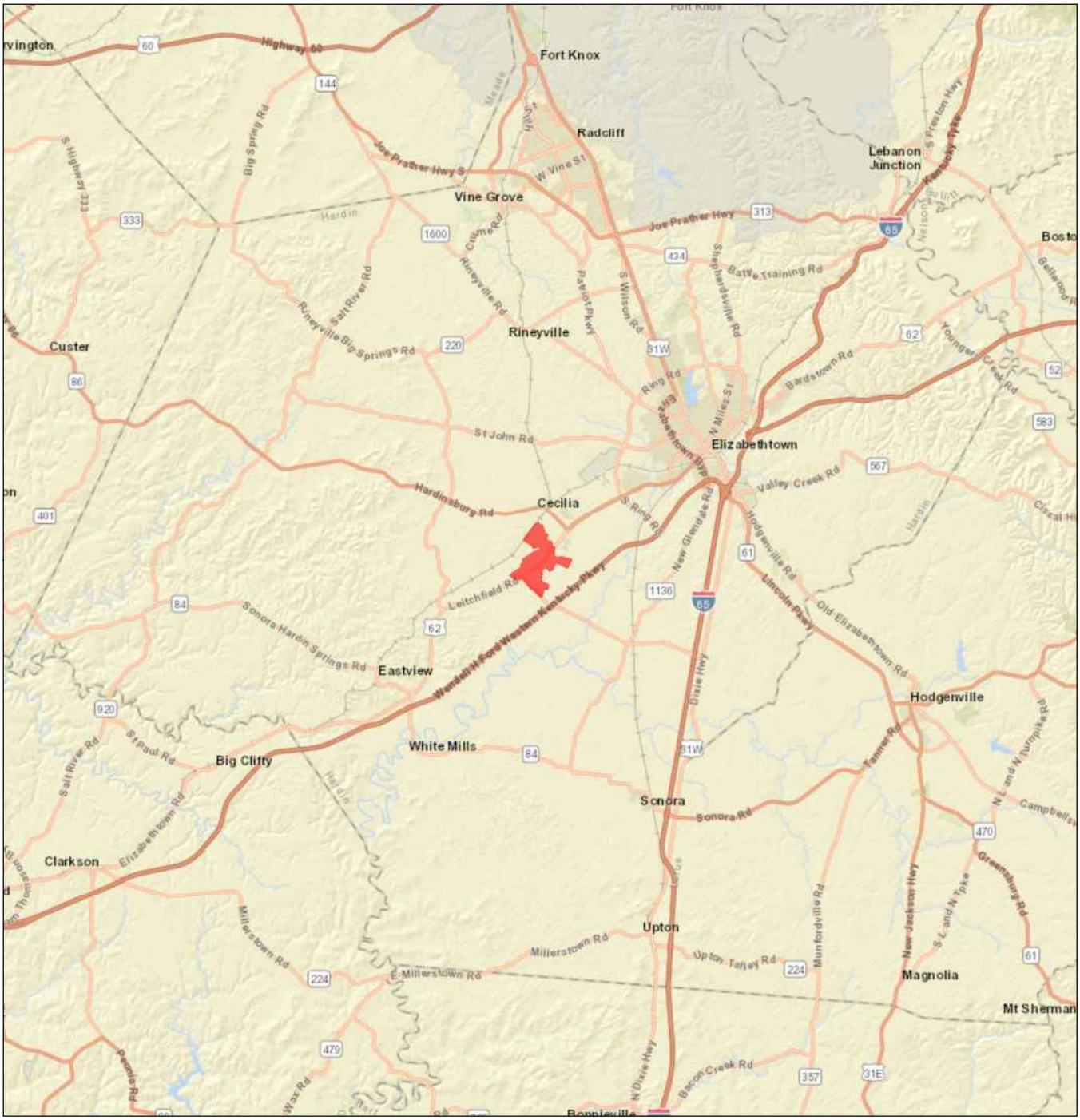
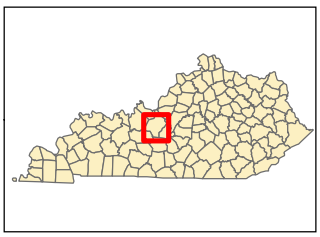
Appendix A FIGURES





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Project Footprint Area

0 2.5 5 Miles

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Stantec

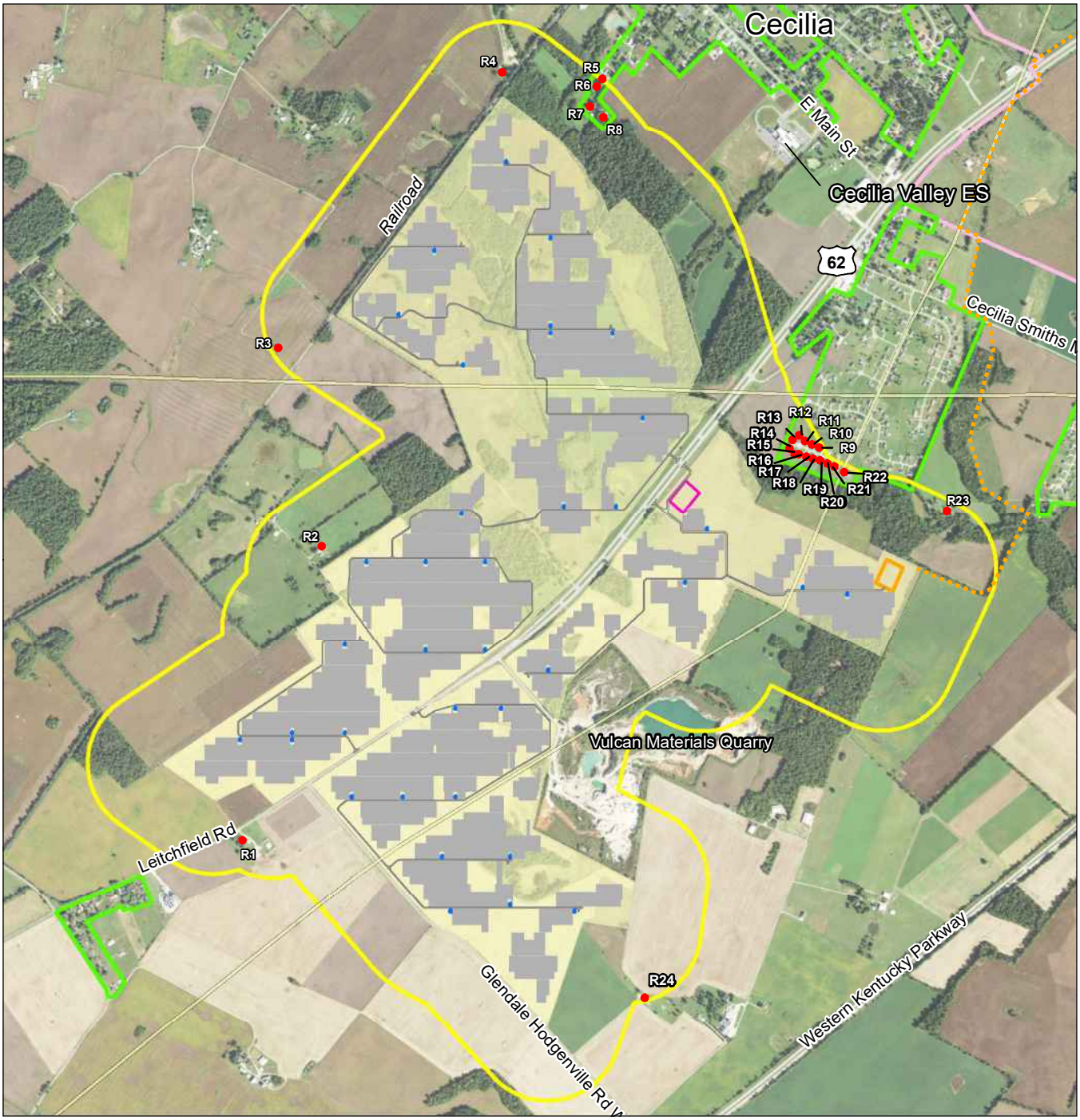
Project Location	Prepared by ALC on 2022-03-31
	TR by MMM on 2022-03-31
Cecilia, KY	IR Review by JA on 2022-03-31
Client/Project	172658271 REVA

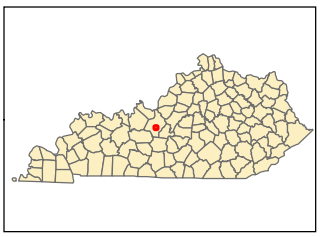
Stonefield Solar Facility
Noise Assessment

Figure No.
1

Title
Vicinity Map

Notes
1. Coordinate System: NAD 1983 2011 StatePlane Kentucky South FIPS 1602 Ft US
2. Data Sources: Stantec
3. Background: Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community





Notes
1. Coordinate System: NAD 1983 2011 StatePlane Kentucky South FIPS 1602 Ft US
2. Data Sources: ESRI, Stantec
3. Background: KY NAIP 2018

Legend

- Noise Sensitive Receptors
- Proposed Gen-Tie
- Transmission Lines
- 1000 ft Noise Assessment Area
- Potential Access Roads
- Potential PV Layout
- Potential Inverter Locations
- Potential Substation Location
- Potential Operations & Maintenance Area
- Project Footprint Area
- Residential Neighborhood per KRS 278.700
- Elizabethtown Municipal Limits

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(At original document size of 8.5x11)
1:25,000

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Stantec

Project Location	Prepared by ALC on 2022-04-18
Cecilia, KY	TR by JA on 2022-04-18
Client/Project	172658271 REVC

Stonefield Solar Facility
Noise Assessment

Figure No.
2

Title
Stonefield Solar Project

SAR EXHIBIT E

Stonefield Solar Traffic Impact Study

July 22, 2022

Prepared for:

Stonefield Solar, LLC

Prepared by:

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Executive Summary

Stonefield Solar Facility development is proposed for a property located south of KY 86 and north of KY 1375 and east of S Black Branch Road and west of Western Kentucky Parkway (WN 9001). The petitioner proposes to utilize the existing land to establish a solar facility on the site. The development will have access points along US 62. Analyses of the 2021 existing conditions and the 2022 construction year were performed. The traffic impact study (TIS) evaluated the operating conditions for the AM and PM peak hours at the two roadway segments below:

- Station 047328: US 62 from KY 86 (MP 12.483) to KY 3005 (MP 14.580)
- Station 047354: US 62 from KY 1375 (MP 9.567) to KY 86 (MP 12.483)

Based on the results of the analysis, the following conclusions were developed:

- During construction, all highway segments are anticipated to continue to operate at acceptable level of service (LOS) standards during both the peak hours. Therefore, the construction for this project will not adversely affect traffic operations on US 62.
- After construction is complete, the future traffic demand related is considered negligible and the operational phase of the project the LOS will operate at an acceptable rate during the peak hours.

1.0 INTRODUCTION

The purpose of this study is to estimate the traffic impacts of the proposed Stonefield Solar Facility in Hardin County, Kentucky. The project site is located south of KY 86 and north of KY 1375 and east of S Black Branch Road and west of Western Kentucky Parkway (WN 9001). The proposed project site is shown in **Figure 1**.

The property currently mainly serves recreational and agricultural land uses. The petitioner proposes to utilize the existing land to establish a solar facility. The development will have a primary access point along US 62. A construction year of 2022 was evaluated as part of the study.

2.0 DATA COLLECTION

Twenty-four-hour count and classification data were obtained from the Kentucky Transportation Cabinet (KYTC) to establish the existing traffic conditions. **Figure 2** shows the locations of the two count stations used in this analysis. The summarized count data for each of these stations is included in **Appendix A** for the following count stations:

- Station 047328: US 62 from KY 86 (MP 12.483) to KY 3005 (MP 14.580)
- Station 047354: US 62 from KY 1375 (MP 9.567) to KY 86 (MP 12.483)

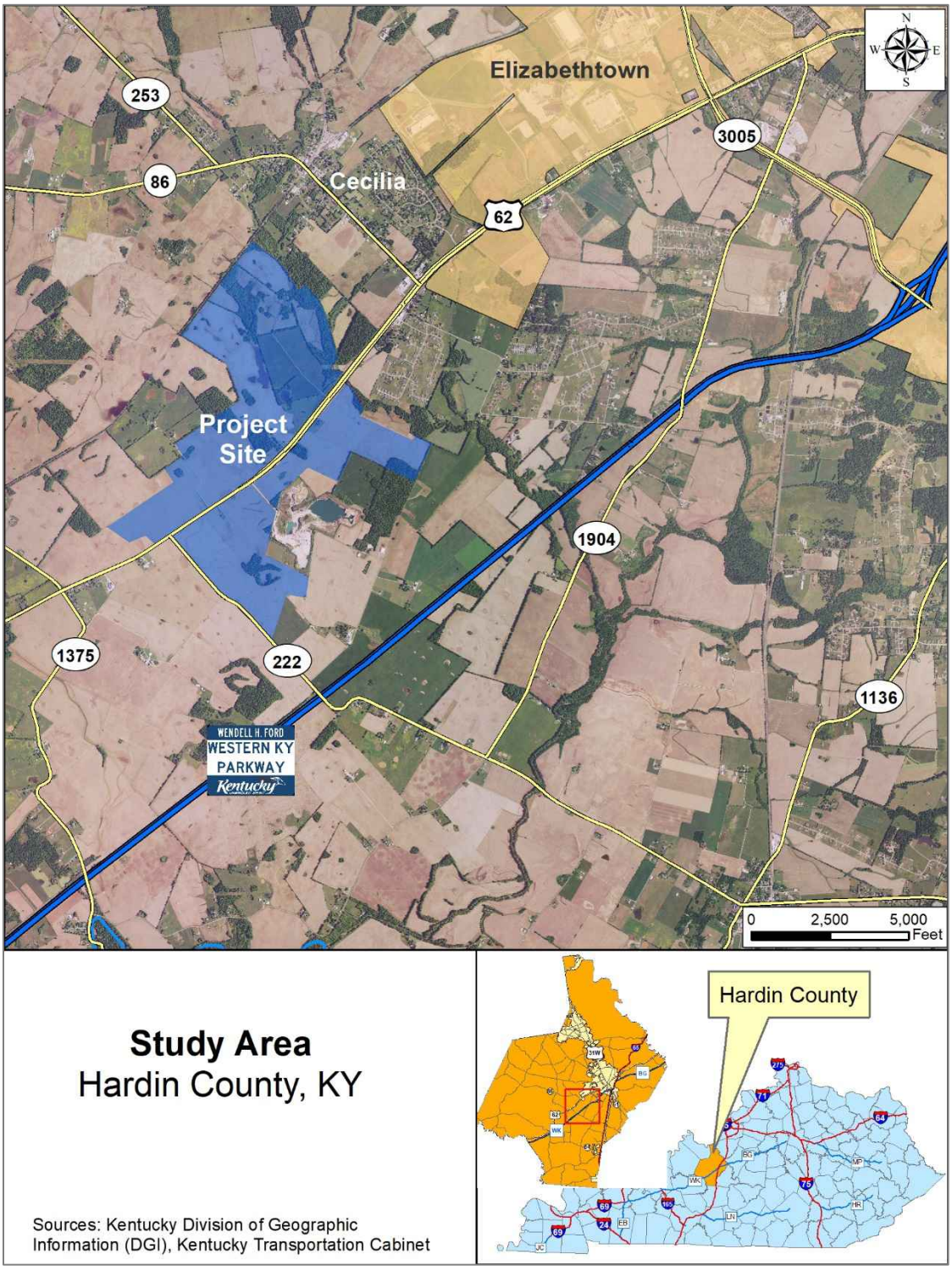

Figure 1: Project Location

DATA COLLECTION

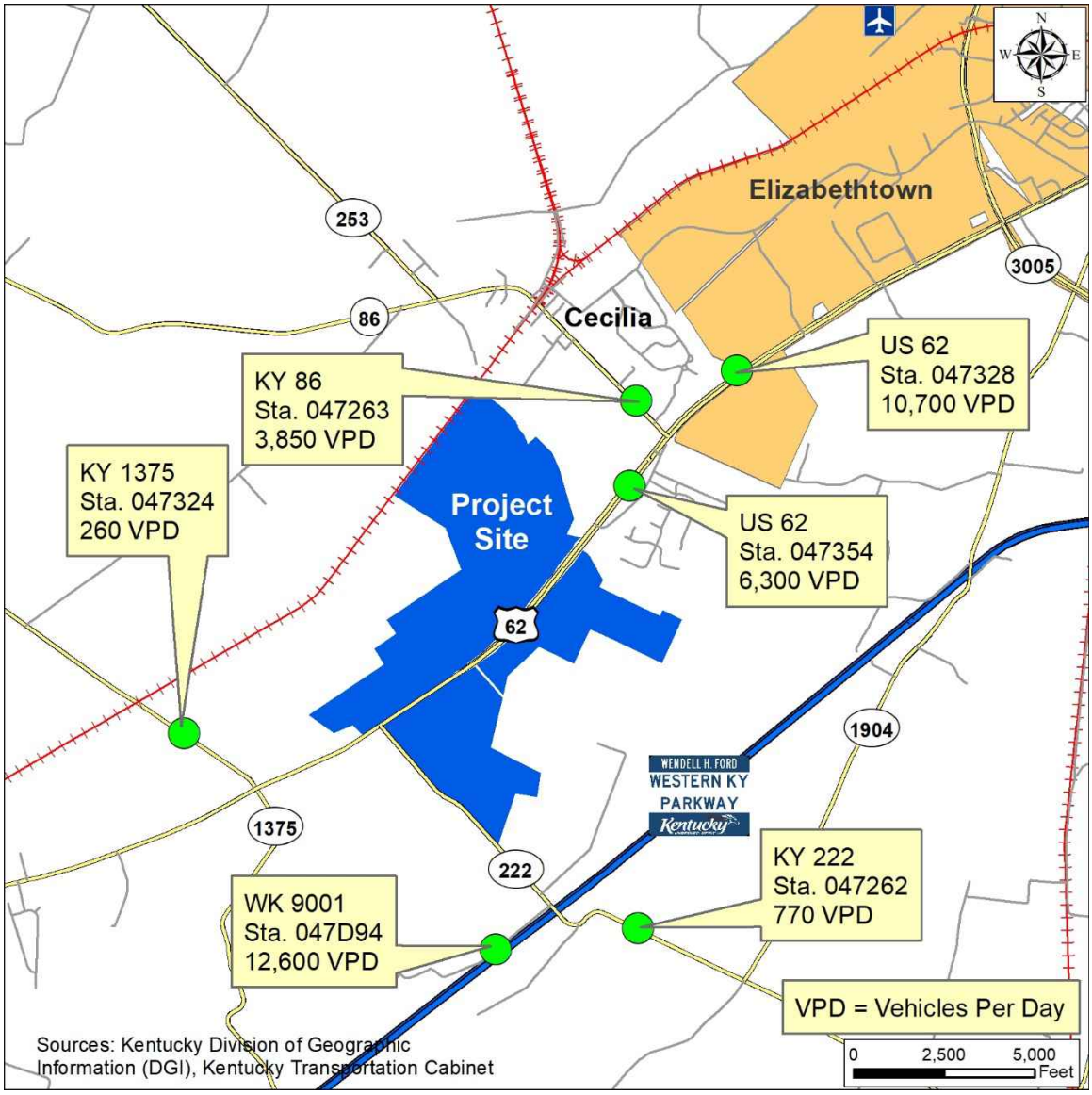

Figure 2: Count Stations

US 62 is the major roadway which bisects the parcels for this project. US 62 between KY 1375 and KY 222 is a two-lane roadway which is functionally classified as rural major collector with a posted speed limit of 55 mph. US 62 between KY 222 and KY 86 is a multi-lane roadway which is functionally classified as an urban major collector with a posted speed limit of 55 mph.

Two-lane and multi-lane highway analysis was used to evaluate the roadways using Highway Capacity Software (HCS 7), and the results can be found in **Appendix B**. Two-lane and multi-lane highway analysis estimates capacity and Level of Service (LOS) for given traffic and geometric conditions. LOS

provides a measure describing the quality of traffic flow provided by a roadway facility, expressed in terms of letter grades with LOS A representing the highest quality traffic flow and minimal delay, and LOS F representing poor traffic operations and significant delay. The two-lane highways method utilizes follower density (followers/mile) as the service measure for LOS. Multi-lane highway analysis method uses density (pc/mi/ln) as the service measure for LOS.

The results of the existing traffic AM and PM peak-hour two-lane analyses are summarized in **Table 1**. The tables indicate that all highways currently operate at acceptable level-of-service standards during both the AM and PM peak hours.

Table 1: Existing AM/PM Two-Lane Highway Analysis

Segment	Existing AM		Existing PM	
	Density (followers/mi/ln)	LOS	Density (followers/mi/ln)	LOS
US 62 at:				
KY 1375 to Near KY 222 (MP 10.958)	2.5	B	2.3	B

The results of the existing traffic AM and PM peak-hour multilane analyses are summarized in **Table 2**. The tables indicate that all highways currently operate at acceptable level-of-service standards during both the AM and PM peak hours.

Table 2: Existing AM/PM Multilane Highway Analysis

Segment	Existing AM		Existing PM	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
US 62 at:				
Near KY 222 (MP 10.958) to KY 86	3.0	A	2.8	A
KY 86 to Near Altec Drive (MP 13.711)	5.9	A	6.0	A

3.0 PROJECT TRIP GENERATION

3.1 CONSTRUCTION

The trip generation analysis for this project is based on the number of workers and the associated construction and delivery truck trips expected during the construction of the project. Construction workers will consist of laborers, equipment operators, electricians, supervisory personnel, support personnel, and construction management personnel. It is envisioned that workers will arrive/depart from passenger vehicles and trucks daily during the AM (7:00 – 9:00 AM) and PM (3:00 – 6:00 PM) peak hours. Equipment deliveries will occur on trailers, flatbeds, or other large vehicles at various times during the day. To account for the temporary increased demand on the roadways, the current traffic volumes were doubled for construction AM and PM peak hours. The construction of the proposed facility will take from eight to twelve months to complete.

3.1.1 CONSTRUCTION ANALYSIS

The construction year analysis assumed the same roadway geometry that was used for the analysis of existing conditions. The results of the construction year for the AM and PM peak-hour two-lane analysis are summarized in **Table 3**. The results of the construction year for the AM/PM multilane analysis are summarized in **Table 4**. The tables indicate that all highway segments are anticipated to continue to operate at acceptable LOS standards during construction for both peak hours. Therefore, the construction for this project will not adversely affect the operation of US 62.

Table 3: Construction AM/PM Two-Lane Highway Analysis

Segment	Construction AM		Construction PM	
	Density (followers/mi/ln)	LOS	Density (followers/mi/ln)	LOS
US 62 at:				
KY 1375 to Near KY 222 (MP 10.958)	7.3	C	6.6	C

Table 4: Construction AM/PM Multilane Highway Analysis

Segment	Construction AM		Construction PM	
	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
US 62 at:				
Near KY 222 (MP 10.958) to KY 86	6.0	A	5.5	A
KY 86 to Near Altec Drive (MP 13.711)	11.8	B	11.9	B

3.2 OPERATION

Once operational, the facility will only have to be managed and monitored. Therefore, it is envisioned that the facility will have one employee on site every day and up to three additional employees for 70 days a year for site inspections and repair. Operations workers are expected to commute to and from the project site individually during the peak AM and PM hours. Work can also be conducted at night up to thirty days a year. This additional volume of daily traffic is considered negligible, and the operational phase of the project will have no measurable impact on the traffic and/or transportation infrastructure.

4.0 CONCLUSION

As demonstrated in the traffic analysis, the construction period trip generation of workers and trucks will not generate a significant number of trips on local roadways. US 62 will continue to operate at a LOS C or better during the scenario of when traffic is doubled during construction peak traffic. Although no significant, adverse traffic impacts are expected during project construction or operation, using mitigation measures such as ridesharing between construction workers, using appropriate traffic controls, or allowing flexible working hours outside of peak hours could be implemented to minimize any potential for delays during the AM and PM peak hours.

Appendix A

TRAFFIC COUNTS AND CLASSIFICATION DATA

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 10/08/2018 through 10/12/2018

Site names:	047328	Seasonal Factor Grp:	3
County:	Hardin	Daily Factor Grp:	3
Funct Class:	U Minor Arterial	Axle Factor Grp:	16
Location:	047-US-0062 -000 @ 13.000 From: KY 86 To:	Growth Factor Grp:	16

	Sun, Oct 7, 2018			Mon, Oct 8, 2018			Tue, Oct 9, 2018			Wed, Oct 10, 2018			Thu, Oct 11, 2018			Fri, Oct 12, 2018			Sat, Oct 13, 2018		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00							55	19	36	63	21	42	85	12	73	76	28	48			
01:00							35	18	17	40	9	31	39	17	22	37	13	24			
02:00							36	14	22	40	11	29	51	18	33	39	17	22			
03:00							36	22	14	39	19	20	49	23	26	56	27	29			
04:00							92	74	18	91	75	16	76	63	13	75	63	12			
05:00							230	195	35	228	201	27	240	206	34	234	197	37			
06:00							653	563	90	660	563	97	641	552	89	611	515	96			
07:00							929	600	329	922	593	329	949	598	351	880	574	306			
08:00							734	506	228	744	527	217	801	542	259	784	512	272			
09:00							525	322	203	480	278	202	548	322	226	491	281	210			
10:00							523	287	236	508	302	206	543	320	223						
11:00				637	322	315	569	296	273	589	326	263	626	330	296						
12:00				707	371	336	661	324	337	637	310	327	652	320	332						
13:00				673	334	339	636	325	311	673	325	348	628	307	321						
14:00				673	337	336	729	319	410	765	335	430	821	372	449						
15:00				773	278	495	943	369	574	920	364	556	960	400	560						
16:00				909	313	596	977	332	645	927	314	613	977	362	615						
17:00				909	359	550	934	317	617	955	341	614	1,003	358	645						
18:00				734	290	444	845	299	546	802	299	503	806	321	485						
19:00				590	216	374	605	254	351	535	193	342	650	257	393						
20:00				396	128	268	435	163	272	358	133	225	479	143	336						
21:00				303	111	192	251	91	160	273	102	171	265	101	164						
22:00				196	80	116	192	70	122	193	76	117	210	78	132						
23:00				128	43	85	127	45	82	114	36	78	128	37	91						
Total				7,628	3,182	4,446	11,752	5,824	5,928	11,556	5,753	5,803	12,227	6,059	6,168	3,283	2,227	1,056			
AM Peak Vol							929	600	329	922	593	329	949	598	351						
AM Peak Fct							1	1	1	1	1	1	1	1	1						
AM Peak Hr				:	:	:	7: 00	7: 00	7: 00	7: 00	7: 00	7: 00	7: 00	7: 00	7: 00						
PM Peak Vol				909	371	596	977	369	645	955	364	614	1,003	400	645						
PM Peak Fct				1	1	1	1	1	1	1	1	1	1	1	1						
PM Peak Hr				16: 00	12: 00	16: 00	16: 00	15: 00	16: 00	17: 00	15: 00	17: 00	17: 00	15: 00	17: 00						
Seasonal Fct				.970	.970	.970	.970	.970	.970	.970	.970	.970	.970	.970	.970	.970	.970	.970			
Daily Fct				.974	.974	.974	.948	.948	.948	.944	.944	.944	.923	.923	.923	.885	.885	.885			
Axle Fct				.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500	.500			
Pulse Fct				2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000	2.000			

Kentucky Transportation Cabinet

Short-term Hourly Traffic Volume for 09/30/2020 through 10/02/2020

Site names:	047354	Seasonal Factor Grp:	2
County:	Hardin	Daily Factor Grp:	2
Funct Class:	R Major Collector	Axle Factor Grp:	07
Location:	047-US-0062 -000 @ 11.800 From: KY 1375	Growth Factor Grp:	07

	Sun, Sep 27, 2020			Mon, Sep 28, 2020			Tue, Sep 29, 2020			Wed, Sep 30, 2020			Thu, Oct 1, 2020			Fri, Oct 2, 2020			Sat, Oct 3, 2020		
	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg	Road	Pos	Neg
00:00													26			25					
01:00													25			17					
02:00													20			12					
03:00													17			17					
04:00													41			38					
05:00													139			115					
06:00													334			332					
07:00													554			515					
08:00													410			385					
09:00													252			283					
10:00													255			345					
11:00													294			385					
12:00													376			393					
13:00													317			374					
14:00													423			464					
15:00										591			610								
16:00										557			512								
17:00										557			517								
18:00										374			390								
19:00										288			281								
20:00										215			193								
21:00										118			141								
22:00										90			105								
23:00										39			65								
Total										2,829			6,297			3,700					
AM Peak Vol													605			549					
AM Peak Fct													.895			.94					
AM Peak Hr													7: 15			7: 15					
PM Peak Vol													619								
PM Peak Fct													.879								
PM Peak Hr													15: 15			:					
Seasonal Fct										.924			.941			.941					
Daily Fct										.986			.949			.860					
Axle Fct										.490			.487			.487					
Pulse Fct										2.000			2.000			2.000					

Kentucky Transportation Cabinet

Count Class Distribution for 10/08/2018 through 10/12/2018

Site names: 047328
County: Hardin
Funct Class: U Minor Arterial
Location: 047-US-0062 -000 @ 13.000 From: KY 86 To: KY 3005 (RING

Seasonal Factor Grp: 3
Daily Factor Grp: 3
Axle Factor Grp: 16
Growth Factor Grp: 16

	Road	Pos	Neg
MC	168 .36%	75 .33%	93 .40%
CAR	30,485 65.64%	14,612 63.41%	15,873 67.83%
PU	12,022 25.88%	6,381 27.69%	5,641 24.11%
BUS	432 .93%	215 .93%	217 .93%
2D	1,816 3.91%	988 4.29%	828 3.54%
SU 3	334 .72%	88 .38%	246 1.05%
SU 4+	260 .56%	202 .88%	58 .25%
ST 4-	516 1.11%	271 1.18%	245 1.05%
ST 5	342 .74%	170 .74%	172 .74%
ST 6+	36 .08%	22 .10%	14 .06%
MT 5-	13 .03%	5 .02%	8 .03%
MT 6	1 .00%	1 .00%	0 .00%
MT 7+	17 .04%	12 .05%	5 .02%
NA	0 .00%	0 .00%	0 .00%
UNCLS	4 .01%	3 .01%	1 .00%
Trucks	3,767 8.11%	1,974 8.57%	1,793 7.66%
Combo Trucks	925 1.99%	481 2.09%	444 1.90%
Classified	46,442 99.99%	23,042 99.99%	23,400 100.00%
Unclassified	4 .01%	3 .01%	1 .00%
Total	46,446 100.00%	23,045 100.00%	23,401 100.00%

Appendix B

HCS FILES

EXISTING HCS

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2021
Jurisdiction		Time Period Analyzed	Existing AM
Project Description	US 62 from MP 10.958 to KY 86	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	4.6
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	58.9		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	323	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	176
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2176
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2176
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.08

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.2		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	172	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	4.23
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	D

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2021
Jurisdiction		Time Period Analyzed	Existing AM
Project Description	US 62 from KY 86 to MP 13.711	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	6.5
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	58.4		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	597	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	345
Total Trucks, %	8.57	Capacity (c), pc/h/ln	2168
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2168
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	5.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.6		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	318	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	6.56
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	F

HCS7 Two-Lane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/19/2021
Agency	STANTEC	Analysis Year	2021
Jurisdiction		Time Period Analyzed	Existing AM
Project Description	US 62 KY 1375 to MP 10.958	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7344
Lane Width, ft	10	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.1

Demand and Capacity

Directional Demand Flow Rate, veh/h	344	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	61.4
Speed Slope Coefficient	3.90697	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.27921	PF Power Coefficient	0.75784
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.5
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7344	-	-	59.2

Vehicle Results

Average Speed, mi/h	59.2	Percent Followers, %	43.4
Segment Travel Time, minutes	1.41	Follower Density, followers/mi/ln	2.5
Vehicle LOS	B		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	2.5	B

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2021
Jurisdiction		Time Period Analyzed	Existing PM
Project Description	US 62 from MP 10.958 to Leitchfield Loop	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	59.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	301	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	164
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2190
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2190
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.07

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	2.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	160	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	4.19
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	D

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Existing PM
Project Description	US 62 from KY 86 to MP 13.7114	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	4.9
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	58.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	607	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	350
Total Trucks, %	8.57	Capacity (c), pc/h/ln	2176
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2176
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	6.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.2		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	323	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	6.57
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	F

HCS7 Two-Lane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/19/2021
Agency	STANTEC	Analysis Year	2021
Jurisdiction		Time Period Analyzed	Existing PM
Project Description	US 62 KY 1375 to MP 10.958	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7344
Lane Width, ft	10	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.1

Demand and Capacity

Directional Demand Flow Rate, veh/h	320	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.19

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	61.4
Speed Slope Coefficient	3.90696	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.27921	PF Power Coefficient	0.75784
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.3
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7344	-	-	59.3

Vehicle Results

Average Speed, mi/h	59.3	Percent Followers, %	41.7
Segment Travel Time, minutes	1.41	Follower Density, followers/mi/ln	2.3
Vehicle LOS	B		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	2.3	B

CONSTRUCTION HCS

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Construction AM
Project Description	US 62 from MP 10.958 to KY 86	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	4.6
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	58.9		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	646	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	350
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2176
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2176
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	6.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	1.2		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	344	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	4.58
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	E

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Construction AM
Project Description	US 62 from KY 86 to MP 13.711	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	6.5
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	58.4		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	1194	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	690
Total Trucks, %	8.57	Capacity (c), pc/h/ln	2168
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2168
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.4
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	1.6		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	635	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	6.91
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	F

HCS7 Two-Lane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/19/2021
Agency	STANTEC	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Construction AM
Project Description	US 62 KY 1375 to MP 10.958	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7344
Lane Width, ft	10	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.1

Demand and Capacity

Directional Demand Flow Rate, veh/h	687	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	61.4
Speed Slope Coefficient	3.90697	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.27921	PF Power Coefficient	0.75784
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.3
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7344	-	-	58.3

Vehicle Results

Average Speed, mi/h	58.3	Percent Followers, %	61.8
Segment Travel Time, minutes	1.43	Follower Density, followers/mi/ln	7.3
Vehicle LOS	C		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	7.3	C

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Construction PM
Project Description	US 62 from MP 10.958 to Leitchfield Loop	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	59.5		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	602	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	326
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2190
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2190
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	59.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	5.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	320	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	4.54
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	E

HCS7 Multilane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/14/2021
Agency	Stantec	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Construction PM
Project Description	US 62 from KY 86 to MP 13.7114	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Access Point Density, pts/mi	4.9
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	58.8		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	1214	Heavy Vehicle Adjustment Factor (f_{HV})	0.921
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	701
Total Trucks, %	8.57	Capacity (c), pc/h/ln	2176
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2176
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.8
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	1.2		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}),veh/h	646	Effective Speed Factor (S_t)	4.79
Effective Width of Volume (W_v), ft	14	Bicyle LOS Score (BLOS)	6.92
Average Effective Width (W_e), ft	14	Bicycle Level of Service (LOS)	F

HCS7 Two-Lane Highway Report

Project Information

Analyst	AWILLIAMSON	Date	10/19/2021
Agency	STANTEC	Analysis Year	2022
Jurisdiction		Time Period Analyzed	Construction PM
Project Description	US 62 KY 1375 to MP 10.958	Unit	United States Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	7344
Lane Width, ft	10	Shoulder Width, ft	6
Speed Limit, mi/h	55	Access Point Density, pts/mi	0.1

Demand and Capacity

Directional Demand Flow Rate, veh/h	640	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.94	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.38

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	61.4
Speed Slope Coefficient	3.90696	Speed Power Coefficient	0.41674
PF Slope Coefficient	-1.27921	PF Power Coefficient	0.75784
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.6
%Improved % Followers	0.0	% Improved Avg Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	7344	-	-	58.4

Vehicle Results

Average Speed, mi/h	58.4	Percent Followers, %	59.9
Segment Travel Time, minutes	1.43	Follower Density, followers/mi/ln	6.6
Vehicle LOS	C		

Facility Results

T	Follower Density, followers/mi/ln	LOS
1	6.6	C

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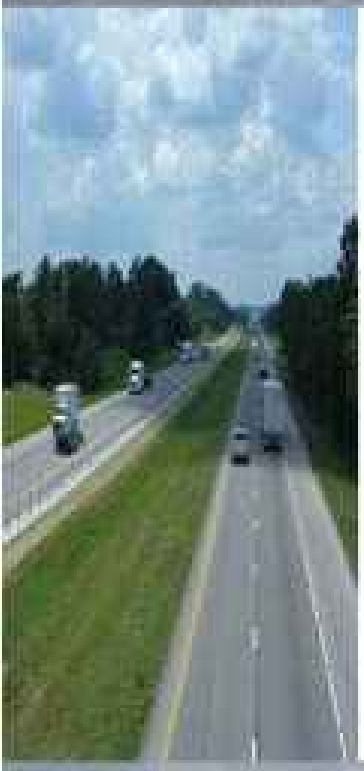

Development Guidance System
Zoning Ordinance, 2009

Hardin County
Planning and Development Commission

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HARDIN COUNTY, KENTUCKY
AMENDMENT NO. 2 TO
ORDINANCE NO. 269, SERIES 2009

AN AMENDMENNT to the ORDINANCE relating to the DEVELOPMENT GUIDANCE SYSTEM 2009 adopted for the unincorporated areas of Hardin County, Commonwealth of Kentucky.

BE IT ORDAINED BY THE FISCAL COURT OF HARDIN COUNTY, COMMONWEALTH OF KENTUCKY, as follows:

WHEREAS, the Hardin Circuit Court rendered a Declaratory Judgment in Case Number 21-CI-00994 which requires an Amendment to Section 5-4 of the Development Guidance System of 2009 by replacing Section 5-4 in its entirety as follows (add language in bold italic and delete language in bold and lined through) :

DEVELOPMENT GUIDANCE SYSTEM

5-4 VARIANCES AND CONDITIONAL USE PERMITS – IN THE COMPANY OF MAP AMENDMENTS

The Applicant for the Map Amendment, at the time of the filing of the application for the Map Amendment, may elect to have any Variances or Conditional Use Permits for the same development to be heard and finally decided by the Planning Commission at the same public hearing set for the Map Amendment, or by the Board of Adjustments as otherwise provided for KRS Chapter 100.

The Commission ***may*** ~~**shall**~~ hear and finally decide applications for Dimensional Variances or Conditional Use Permits when a proposed development requires a Map Amendment and one (1) or more Dimensional Variances or Conditional Use Permits ***when the Applicant elects to have the Commission hear both at the same public hearing*** (pursuant to KRS 100.203 (5)). In such cases, the Commission shall assume all powers and duties otherwise exercised by the Board pursuant to KRS 100.231, 100.233, 100.237, 100.241, ***100.243***, 100.247 and 100.251.

5-5 APPEAL PROCESS TO CIRCUIT COURT

Subsequent to the final action of the Board, any person or party claiming to be aggrieved ***shall appeal*** ~~may request~~ that ***action to*** ~~the~~ Hardin Circuit Court. ~~make the final decision in accordance with this Section of the Zoning Ordinance as follows, pursuant to KRS 100.347:~~

Such appeal shall be taken within thirty (30) days after the final action of the Board. All final actions which have not been appealed within thirty (30) days shall not be subject to judicial review. The board of adjustment shall be a party in any such appeal filed in the Circuit Court.

Final action shall be deemed to have occurred on the calendar date when the vote is taken to approve or disapprove the matter pending before the Board.

First Reading on the 26th day of October, 2021.
Second Reading on the 9th day of November, 2021.
Effective upon passage this 9th day of November, 2021.

HARDIN COUNTY FISCAL COURT

HARRY L. BERRY
HARDIN COUNTY JUDGE/EXECUTIVE

Attest:

Miranda Caswell, deputy Clerk
DEBBIE DONNELLY
HARDIN COUNTY COURT CLERK

Recommended and Tendered:

JENNIFER B. OLDHAM
HARDIN COUNTY ATTORNEY

Hardin County
Planning and Development Commission

HARDIN COUNTY PLANNING
AND DEVELOPMENT COMMISSION
RESOLUTION # 2020-011
NONLISTED USE:
SOLAR FARM

WHEREAS the Hardin County Fiscal Court and the Hardin County Planning and Development Commission have adopted a Comprehensive Plan, Land Use Regulations, and Subdivision Regulations;

WHEREAS the above-mentioned regulations are designed to protect the public health, safety and welfare of the citizens of Hardin County;

WHEREAS the Development Guidance System, Zoning Ordinance, 2009 outlines the Procedures for Nonlisted Uses in Section 15-8;

WHEREAS if a use is not specifically permitted and an application is made for such use, the application shall be referred to the Commission for consideration;

WHEREAS this proposal is to allow for the Nonlisted Use of a Solar Farm;

NOW THEREFORE, BE IT RESOLVED, by the Hardin County Planning and Development Commission that a request for the Nonlisted Use of a Solar Farm (greater than 1 acre in size) be considered on a case by case basis in the A-1, I-1 and I-2 Zones as a Conditional Use Permit because it will not adversely affect long-range planning with the proper conditions based on setbacks, screening, height limits, lighting, signage, phasing, erosion & sediment control measures, stormwater regulations, environmental protections and decommissioning/bonding requirements and is in agreement with the Comprehensive Plan as follows:

Goal 5, Objectives 1, 2 & 4
Goal 6, Objective 5
Goal 9, Objective 2
Goal 13, Objectives 2 & 3

Rooftop Solar Systems mounted to code compliant structures (house, barn or other structure) shall be permitted in all zones as a permitted use by right.

Ground Mount Solar Systems up to 200 sq. ft. in size shall be permitted in all zones as a permitted use by right.

Ground Mount Solar Systems from 200 sq. ft. in size up to 1 acre in size shall be a Conditional Use Permit in all zones.

ADOPTED THIS SEVENTEENTH DAY OF NOVEMBER 2020.

Mark Hinton, Chairman

Adam C. King, AICP, Director

Hardin County
Planning and Development Commission

HARDIN COUNTY PLANNING AND DEVELOPMENT COMMISSION RESOLUTION # 2020-009 NONLISTED USE:

Recreational Vehicle (RV) / Camper / Travel Trailer
To be used for Occupancy as a Dwelling

WHEREAS the Hardin County Fiscal Court and the Hardin County Planning and Development Commission have adopted a Comprehensive Plan, Land Use Regulations, and Subdivision Regulations;

WHEREAS the above-mentioned regulations are designed to protect the public health, safety and welfare of the citizens of Hardin County;

WHEREAS the Development Guidance System, Zoning Ordinance, 2009 outlines the Procedures for Nonlisted Uses in Section 15-8;

WHEREAS if a use is not specifically permitted and an application is made for such use, it shall refer the application to the Commission for consideration;

WHEREAS this proposal is to allow for the Nonlisted Use of a Recreational Vehicle (RV) to be used for Occupancy as a Dwelling;

NOW THEREFORE, BE IT RESOLVED, by the Hardin County Planning and Development Commission that a request for the Nonlisted Use of an RV to be occupied as a dwelling be denied because it will adversely affect long-range planning and is NOT in agreement with the Comprehensive Plan as outline below:

Recreational Vehicles / Campers / Travel Trailers may only be used as temporary living quarters for sixty (60) days in a calendar year as a "Temporary Use" as defined in the Development Guidance System, Zoning Ordinance and/or approved for occupancy in an approved mobile home park or campground.

Goal 1, Objectives 1 & 5
Goal 5, Objectives 2 & 4
Goal 8, Objective 1
Goal 13, Objectives 2 & 3

ADOPTED THIS SEVENTEENTH DAY OF NOVEMBER 2020.

Mark Hinton, Chairman

Adam C. King, AICP, Director

Hardin County
Planning and Development Commission

HARDIN COUNTY PLANNING AND DEVELOPMENT COMMISSION

RESOLUTION NO. 2014-008

NONLISTED USE:

Storage Container Unit
To be Designed and Used for Occupancy

WHEREAS the Hardin County Fiscal Court and the Hardin County Planning and Development Commission have adopted a Comprehensive Plan, Land Use Regulations, and Subdivision Regulations;

WHEREAS the above-mentioned regulations are designed to protect the public health, safety and welfare of the citizens of Hardin County;

WHEREAS the Development Guidance System, Zoning Ordinance, 2009 outlines the Procedures for Nonlisted Uses in Section 15-8;

WHEREAS if a use is not specifically permitted and an application is made for such use, it shall refer the application to the Commission for consideration;

WHEREAS this proposal is to allow for the Nonlisted Use of a Storage Container Unit to be Designed and Used for Occupancy to be considered by the Hardin County Board of Adjustment as a Conditional Use Permit;

NOW THEREFORE, BE IT RESOLVED, by the Hardin County Planning and Development Commission that a request for the Nonlisted Use of a Storage Container Unit be considered on a case by case basis in the R-1, R-2 and R-3 Zones as a Conditional Use Permit by the Hardin County Board of Adjustment because it will not adversely affect long-range planning and is in agreement with the Comprehensive Plan as follows:

Goal 1: TO IMPROVE HARDIN COUNTY AS A PLACE OF RESIDENCE.

Objective 3: Promote a wide variety of new housing types as required within the community

ADOPTED THIS EIGHTTEENTH DAY OF NOVEMBER 2014.

Mark Hinton, Chairman

Wesley T. Wright, Director

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HARDIN COUNTY PLANNING AND DEVELOPMENT COMMISSION
RESOLUTION NO. 2012-012
NONLISTED USE
RADIO BROADCAST TOWER

WHEREAS the Hardin County Fiscal Court and the Hardin County Planning and Development Commission have adopted a Comprehensive Plan, Land Use Regulations, and Subdivision Regulations;

WHEREAS the above-mentioned regulations are designed to protect the public health, safety and welfare of the citizens of Hardin County;

WHEREAS the Development Guidance System, Zoning Ordinance, 2009 outlines the Procedures for Nonlisted Uses in Section 15-8;

WHEREAS if a use is not specifically permitted and an application is made for such use, it shall refer the application to the Commission for consideration;

WHEREAS this proposal is to allow for the Nonlisted Use of Radio Broadcast Tower to be considered by the Hardin County Board of Adjustment as a Conditional Use Permit

NOW THEREFORE, BE IT RESOLVED, by the Hardin County Planning and Development Commission that a request for the Nonlisted Use of a Radio Broadcast Tower be considered on a case by case basis in any zone as a Conditional Use Permit by the Hardin County Board of Adjustment because it will not adversely affect long-range planning and is in agreement with the Comprehensive Plan as follows:

Goal 3: TO PROVIDE THE CITIZENS OF HARDIN COUNTY WITH ADEQUATE PUBLIC SERVICE AND COMMUNITY FACILITIES.

ADOPTED THIS EIGHTEENTH DAY OF DECEMBER 2012.

Brent Goodin, Chairman

Wesley Wright, Senior Planner

HARDIN COUNTY PLANNING AND DEVELOPMENT COMMISSION

RESOLUTION NO. 2012-008

NONLISTED USE

Temporary Dwelling on Agricultural Tract

WHEREAS the Hardin County Fiscal Court and the Hardin County Planning and Development Commission have adopted a Comprehensive Plan, Land Use Regulations, and Subdivision Regulations;

WHEREAS the above-mentioned regulations are designed to protect the public health, safety and welfare of the citizens of Hardin County;

WHEREAS the Development Guidance System, Zoning Ordinance, 2009 outlines the Procedures for Nonlisted Uses in Section 15-8;

WHEREAS if a use is not specifically permitted and an application is made for such use, it shall refer the application to the Commission for consideration;

WHEREAS this proposal is to allow for the Nonlisted Use of a Temporary Dwelling on an Agricultural Tract to be considered by the Hardin County Board of Adjustment as a Conditional Use Permit

NOW THEREFORE, BE IT RESOLVED, by the Hardin County Planning and Development Commission that a request for the Nonlisted Use of a Temporary Dwelling (Agricultural Tract) be considered on a case by case basis in the R-1, R-2 and R-3 Zones as a Conditional Use Permit by the Hardin County Board of Adjustment because it will not adversely affect long-range planning and is in agreement with the Comprehensive Plan as follows:

Goal 1: TO IMPROVE HARDIN COUNTY AS A PLACE OF RESIDENCE.
Objective 3: Promote a wide variety of new housing types as required within the community

ADOPTED THIS SEVENTH DAY OF AUGUST 2012.

Brent Goodin, Chairman

Wesley Wright, Senior Planner

ORDINANCE NO. 273, SERIES 2011

AN ORDINANCE RELATING TO AMENDMENT NO. 1 OF ORDINANCE NO. 269, SERIES 2009

AN ORDINANCE RELATING TO THE REVISED DEVELOPMENT GUIDANCE SYSTEM 2009 TO BE ADOPTED AS AN ORDINANCE FOR THE UNINCORPORATED AREAS OF THE COUNTY OF HARDIN, COMMONWEALTH OF KENTUCKY

WHEREAS the Hardin County Fiscal Court and the Hardin County Planning and Development Commission have adopted a Comprehensive Plan, Land Use Regulations, and Subdivision Regulations; and

WHEREAS the above-mentioned regulations are designed to protect the public health, safety and welfare of the citizens of Hardin County; and

WHEREAS on December 14, 2010 the Hardin County Fiscal Court initiated a text amendment affecting the Interstate and Highway Overlay Zone (IH-O); and

WHEREAS on February 1, 2011 the Hardin County Planning and Development Commission held a Public Hearing on the proposed text amendment and adopted Resolution 01, Series 2011 recommending approval of the proposed text amendment to Fiscal Court; and

WHEREAS the proposed text amendment to Section 2-1 – Specific Definitions, adds a definition of "Green Space" used in Section 3-17; and

WHEREAS the proposed text amendment adds a new sub-section 3 (a) and (b) to Section 3-17 C., providing for the reduction of the required Green Space and Building Setback.

NOW THEREFORE, BE IT ORDAINED BY THE FISCAL COURT OF HARDIN COUNTY COMMONWEALTH OF KENTUCKY TO AMEND THE TEXT OF THE DEVELOPMENT GUIDANCE SYSTEM ZONING ORDINANCE, 2009 AS FOLLOWS:

SECTION 2

DEFINITIONS

Except as otherwise provided, all words used in the DEVELOPMENT GUIDANCE SYSTEM ZONING ORDINANCE shall have their customary dictionary meaning. The words defined are those which have special or limited

Family	One or more individuals occupying a dwelling unit and living as a single household unit.
Fiscal Court	The chief elected body of Hardin County with legislative power.
Floor Area	The total horizontal area of all of the floors of a building or structure, measured on the exterior perimeter.
Frontage	That side of a lot abutting on a public right-of-way; the front lot line is the distance for which the front boundary line of the lot and the public right-of-way are coincident.
Frontage, Street	All property on the side of a street between two intersecting streets (crossing or ending), or if the street is dead-end, then all the property abutting on one side between an intersecting street and the dead-end of the street.
Full-cutoff light fixture	A light fixture that cuts off all upward transmission of light.
Glare	The effect produced by brightness sufficient to cause annoyance, discomfort, or lessen visual performance and visibility.
Grain Bin Facility	Establishments primarily engaged in buying, storing, warehousing and/or marketing grain (such as corn, wheat, oats, barley and soybeans). Country grain elevators primarily engaged in buying or receiving grain from farmers are included, as well as terminal elevators and other merchants marketing grain.
Green Space	***An undeveloped portion of land containing only vegetation, farm crops, trees, shrubs, and other landscaping plants with no buildings, structures, or other manmade obstructions. Signage and retention basins shall be permitted pursuant to DGS Section 9 "General Signage Standards" and Ordinance No. 240, Series 2005, An Ordinance relating to Post-Construction Runoff Control.***

Under Story Tree	A tree which creates an undergrowth of vegetation.
Undeveloped Land	A parcel of land which is not being actively used and cannot be classified in any other land use category.
Unique Habitats	Areas such as wetlands, rare plant communities, barrens, cedar glades, karst features, caves and endangered species habitats.
Use-By-Right	A use which, because of its nature and impact, is permitted within the zoning in question.
Variance	A departure from dimensional terms of this regulation pertaining to the height, width, or location of structures, and the size of yards and open spaces where such departure meets the requirements of KRS 100.241 to 100.247.
Width To Length Ratio	The relationship between the frontage (width) and the depth (length) of a parcel of land; i.e., a parcel with 100 feet of frontage cannot exceed 300 feet in depth to conform to a 1 to 3 width to length ratio.
Zero Lot Line	The location of a building on a lot in such a manner that one or more of the building's sides rest directly on a lot line.

SECTION 3

ZONING REGULATIONS

3-17 INTERSTATE AND HIGHWAY OVERLAY ZONE (IH-O)

A. **INTENT**

This Overlay Zone regulates the land adjacent to and surrounding interstates and highways in Hardin County by guiding the placement of structures, signs, display areas, parking, green space and outdoor storage areas. In addition to the above limitations, this Overlay when and where applied prohibits the establishment of specific business uses that have been determined to be detrimental to the viability of these areas. An example of this Overlay can be found in Figure 5 (Pg. 9) of the Industrial Element of the Comprehensive Plan.

The purpose of this Overlay is to:

1) Protect the safety of the traveling public by limiting the distractions to the traveling public;
2) Preserve the physical appearance and integrity of the Interstates and Highways in Hardin County;
3) Protect and preserve the economic, commercial, industrial or residential integrity of the overlay area by limiting businesses which might be detrimental to the economic viability of the area; and to
4) Allow for the efficient, effective and attractive use of the limited resource that is land located at strategic interchanges in Hardin County.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures in the underlying zoning apply provided that they are not identified as a Prohibited Use as outlined for this Overlay Zone.

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as in the underlying zoning provided that they can meet the regulations as outlined for this Overlay Zone.

The following standards govern the green space and building setbacks that apply in this Overlay Zone:

1. There is a one hundred (100) foot Green Space setback from the right of way line adjacent to Interstates; and

2. There is a one hundred and fifty (150) foot Building Setback from the right of way line of Interstates; and

3. Reduction to Green Space and Building Setbacks:

a. The Building Setback may be reduced to one hundred (100) feet from the right of way line of Interstates with the setback area containing one (1) of the following:

1. Two (2) canopy/shade trees for each fifty (50) linear feet of Interstate frontage and shall be at least one and one-half (1 ½) inches to two (2) inches in caliper size and eight (8) to ten (10) feet in height at

time of planting; OR

2. *Two (2) understory/flowering trees for each twenty-five (25) linear feet of Interstate frontage and shall be at least one and one-half (1 ½) inches to two (2) inches in caliper size and six (6) to eight (8) feet in height at time of planting; OR*
3. *An approved mixture of canopy/shade or understory/flowering trees in ratios as set out above may be used after consultation with the designee of the Commission.*

b. The Green Space and the Building Setback may be reduced to seventy (70') feet from the right of way line of Interstates with the addition of the following, in combination with the landscaping set out above in DGS Section 3-17 (C) (3) (a) 1-3:

1. *An earthen berm having a four-foot minimum height and a three-to-one (3:1) maximum slope, with a six-foot minimum width at the crown. The berm height shall be a minimum of four-foot above the grade of pavement at the Interstate; AND*
2. *Two staggered rows of evergreen trees must be planted atop the earthen berm twenty (20) feet on center and five (5) feet in height at time of planting.*

D. **PROHIBITED USES**

The following uses and uses of a substantially similar nature and with similar incidents of operation as documented and determined by the Director of these regulations are prohibited in the Interstate and Highway Overlay Zone (IH-O):

1) Asphalt Manufacturing;
2) Blast furnaces, Metal Smelting, Ore or Metal Reducing;
3) Crushed Stone, Sand, Gravel Operations;
4) Junk Yard;
5) Livestock Auction and/or Stock Yard;
6) Petroleum Production, Refining and/or Storage;
7) Ready Mix and/or Concrete Plant;
8) Saw Mills;
9) Scrap Metal;
10) Sexually Oriented Business; and
11) Slaughter House

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 70
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

Given First Reading on the 21st day of February, 2011.

BK0005PG0025

BK0095PG0146

Given the Second Reading on the 7th day of March, 2011.

Adopted by the Fiscal Court of Hardin County, Kentucky, on the 21st day of March, 2011.

HARDIN COUNTY FISCAL COURT

HARRY L. BERRY
HARDIN COUNTY JUDGE/EXECUTIVE

Attest:

Kenneth L. Tabb

KENNETH L. TABB
HARDIN COUNTY COURT CLERK

RESOLUTION

NUMBER 09, SERIES 2009

Zoning Ordinance Recommendation to Fiscal Court

WHEREAS the Hardin County Planning and Development Commission desires to operate a planning program for the unincorporated areas of Hardin County and comply with all statutes and laws relating to the operation of a planning program;

WHEREAS the above-mentioned planning program is to promote and protect the public health, safety and general welfare of the citizens of Hardin County and to encourage the development of residential, commercial and industrial activities according to recognized standards and guidelines which provide for sound, efficient and economic development and coordinate land development to ensure that future growth will be orderly;

WHEREAS the Hardin County Planning and Development Commission adopted a comprehensive plan on 15 April 2008 titled *Planning for Growth: Comprehensive Development Guide 2008* to serve as a guide for public and private developments, actions and decisions and desires to implement the comprehensive plan through the adoption of regulations and standards contained within a zoning ordinance;

WHEREAS this ordinance has been formulated with assistance and input from many sources, the Commission has received assistance from Departments of County Government, other local agencies, an Advisory Committee and several Advisory Sub-Committees, two Open Houses were held and a formal Public Hearing was held on 14 July 2009 to receive comments and testimony on the draft ordinance;

WHEREAS the Commission has conducted the preparation of the zoning ordinance in conformance with the procedures as outlined in KRS Chapter 100;

NOW THEREFORE, BE IT RESOLVED, by the Hardin County Planning and Development Commission that Draft 6 of the proposed DEVELOMENT GUIDANCE SYSTEM 2009 be adopted and sent to Hardin County Fiscal Court for adoption as an ordinance for the unincorporated areas of the County of Hardin, Commonwealth of Kentucky.

ADOPTED THIS THE FOURTH DAY OF AUGUST 2009.

Rick Baumgardner, Chairman

Brent Goodin, Vice-Chairman

Bill Ball, Secretary

Rod Grusy, Member

Philip Tabb, Member

Chris Hunsinger, Director

HARDIN COUNTY, KENTUCKY
ORDINANCE NO. 269, SERIES 2009

AN ORDINANCE RELATING TO the revised DEVELOPMENT GUIDANCE SYSTEM 2009 to be adopted as an ordinance for the unincorporated areas of the County of Hardin, Commonwealth of Kentucky and the previous zoning ordinance adopted and as amended is hereby rescinded.

BE IT ORDAINED BY THE FISCAL COURT OF COUNTY OF HARDIN, COMMONWEALTH OF KENTUCKY, AS FOLLOWS:

WHEREAS, the Hardin County Fiscal Court desires to operate a planning program and comply with all statutes and laws relating to the operation of a planning program for the unincorporated area of the County;

WHEREAS, the above-mentioned planning program known as the Hardin County Planning and Development Commission is to promote and protect the public health, safety and general welfare of the citizens of Hardin County and to encourage the development of residential, commercial and industrial activities according to recognized standards and guidelines which provide for sound, efficient and economic development and coordinate land development to ensure that future growth will be orderly;

WHEREAS, the Hardin County Planning and Development Commission adopted a comprehensive plan on 15 April 2008 titled *Planning for Growth: Comprehensive Development Guide 2008* to serve as a guide for public and private developments actions and decisions and to implement the comprehensive plan through the adoption of regulations and standards contained within a zoning ordinance;

WHEREAS, the Planning Commission has recommended for adoption Draft 6 of the proposed zoning ordinance to the Hardin County Fiscal Court and has conducted the preparation of the zoning ordinance in conformance with the procedures as outlined in KRS Chapter 100;

NOW THEREFORE, BE IT ORDAINED, by the Hardin County Fiscal Court that this revised DEVELOPMENT GUIDANCE SYSTEM 2009 be adopted as an ordinance for the unincorporated area of the County of Hardin, Commonwealth of Kentucky and the previous zoning ordinance adopted and as amended is hereby rescinded.

BE IT FURTHER ORDAINED, by the Hardin County Fiscal Court that this ordinance shall become effective upon adoption.

INTRODUCTED AND PUBLICLY READ on first reading on this the 25th day of August, 2009.
READ, ADOPTED AND APPROVED on second reading on this the 8th day of September, 2009.

HARDIN COUNTY FISCAL COURT

HARRY L. BERRY
HARDIN COUNTY JUDGE/EXECUTIVE

ATTESTED BY:

KENNETH L. TABB
HARDIN COUNTY COURT CLERK

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ANCILLARY REGULATIONS

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SECTION 1

INTRODUCTION AND GENERAL PROVISIONS

1-1 PREAMBLE

By the adoption of this ordinance, the Hardin County Fiscal Court wishes to exercise all its power and confer upon the Hardin County Planning and Development Commission and Hardin County Board of Adjustment all authority allowed under the police powers of the United States Constitution, the Kentucky Constitution and Chapter 100 of the Kentucky Revised Statutes, as amended.

1-2 ADOPTION

This Zoning Ordinance, enacted by the Hardin County Fiscal Court, is confirmed and adopted and reads as hereinafter set out.

1-3 SHORT TITLE

This ordinance shall be known as the *Development Guidance System Zoning Ordinance, 2009* and may be cited as the Zoning Ordinance.

1-4 PURPOSE

The purpose of the Zoning Ordinance is to implement the adopted Comprehensive Plan and other plans for Hardin County; to promote the general welfare by establishing and regulating zoning throughout unincorporated Hardin County for the specific purposes detailed in the Kentucky Revised Statutes, Section 100.201. In establishing the zones, these regulations seek to promote the general welfare, by designating sufficient space for all necessary uses of the land in logical patterns, by protecting the permitted uses in each zone from the undesirable effects of conflicting uses, and seek to ensure the stable value of all permitted development. These regulations further ensure the general welfare by protecting the efficiency and encouraging the improvement of traffic circulation and access to the land in all zones in order that daily travel and commerce may increase in safety and may be carried forth with a minimum of delay for the benefit of all activities and persons in Hardin County.

1-5 LEGISLATIVE AUTHORITY

Kentucky Revised Statute (KRS) 100.201(2) gives Fiscal Court the authority to enact permanent land use regulations, including zoning and growth management regulations.

1-6 ROLES AND AUTHORITY

A. Commission

A planning unit and the Hardin County Planning and Development Commission (Commission) are hereby established pursuant to KRS 100.113 through and including KRS 100.182, as amended and Resolution of the Hardin County Fiscal Court Book Number 19 pages 235 and 236. The Commission shall adopt By-Laws for the transaction of business as per KRS 100.167, as amended.

The Commission shall consist of five (5) members appointed by the County Judge/Executive with the approval of the Hardin County Fiscal Court. Each commissioner shall serve four year terms as per KRS 100.143. Any vacancies on the Commission shall be filled within 60 days by the appropriate appointing authority. If no action is taken within that time, then the Commission shall fill the vacancy.

Responsibilities

1) Submit recommendations to the members of the Hardin County Fiscal Court including versions of and revisions to the Zoning Ordinance and Official Zoning Map.
2) Adopt and maintain the Comprehensive Plan and Subdivision Regulations as authorized under Kentucky Revised Statutes.
3) Adopt and maintain rules and procedures for holding meetings, holding public hearings, and administrating and enforcing the Comprehensive Plan, Zoning Ordinance, and Subdivision Regulations.
4) Maintain complete records of all meetings, hearings, correspondences, and affairs of the Commission.
5) Record certificates of land use restrictions and hold financial securities for development and land use functions.
6) Publish and make available to the public all plans, ordinances, and other related materials that are the responsibilities of the Commission.
7) Establish and maintain a process to certify official or approved documents.
8) Review, hear, and approve or deny all applications for conditional use permits based on the provisions of this ordinance in the event that the applicant files for a conditional use permit concurrently with a zoning map amendment request.
9) Review, hear, and approve or deny all applications for variances from development standards (such as height, width, length, or location of structures) of this ordinance in the event that the applicant files for a variance concurrently with a subdivision proposal or map amendment request.

10) Review, hear, and approve or deny development plans and amendments to development plans.
11) Enforce regulations and procedures of the Comprehensive Plan, Zoning Ordinance, and Subdivision Regulations to the extent of the local regulations, Ordinances, and Kentucky Revised Statutes.
12) Establish advisory committees, as necessary, which may include elected officials, appointed officials, and the general public.
13) Help seek funding assistance through grant programs as necessary.
14) Exercise all powers as permitted by Kentucky Revised Statutes.

B. Hardin County Fiscal Court

Hardin County Fiscal Court (Fiscal Court) is the legislative body for unincorporated Hardin County (the area outside the local cities). It is made up of Elected Officials and the County Judge/Executive all of whom are elected officials as established by law.

Responsibilities

1) Adopt, reject, or amend the Zoning Ordinance that has been recommended by the Hardin County Planning and Development Commission.
2) Adopt, reject, or amend proposals to amend or partially repeal the text of the Zoning Ordinance that has been recommended by the Commission.
3) Adopt, reject, or amend proposals to amend the Official Zoning Map following action by the Commission.
4) Initiate amendments to the text of the Zoning Ordinance.
5) Initiate amendments to the Official Zoning Map.
6) Exercise all powers as permitted by Kentucky Revised Statutes.

C. Board of Adjustment

The Board of Adjustment (Board) is hereby established pursuant to KRS 100.217, as amended and by Resolution of the Hardin County Fiscal Court 24 July 1995.

The Board shall consist of three (3) citizen members appointed by the County Judge/Executive with the approval of the Fiscal Court – one member may be a member of the Commission. Each Board member shall serve four year terms as per KRS 100.217 and the Hardin County Board of Adjustment By-Laws. Any vacancies on the Board shall be filled within 60 days by the appropriate appointing authority. If no action is taken within that time, then the Commission shall fill the vacancy (KRS 100.217(5)).

Responsibilities

1) Hear and decide Administrative Reviews where it is alleged by the applicant that there is error in any order, requirement, permit, decision, determination, or refusal made by the Administrator in the enforcement of any provision of this ordinance (KRS 100.257).
2) Review, hear, and approve or deny all applications for conditional use permits based on the provisions of this ordinance and Kentucky Revised Statutes.
3) Revoke conditional use permits or variances for noncompliance with the condition thereof.
4) Review, hear, and approve or deny all applications for variances from development standards (such as height, width, length, or location of structures) of this ordinance.
5) Affirm, modify or reverse the decision of the Code Official where it is alleged by the applicant that there is error in any decision, notice or order issued by the Code Official in the enforcement of any provision of the Property Maintenance Code (Ordinance 159, Series 2000, Section PM 110.0), as amended.
6) Exercise all powers as permitted by Kentucky Revised Statutes.
7) Unless specifically stated to the contrary, the term “Board of Adjustment” shall mean Board of Appeals.

D. Engineers and Technical Professionals

As part of the process of the development and use of land, materials of a technical nature are required. These technical materials are submitted and reviewed by professionals in several fields. These professionals may be employed by governmental, public or private agencies, or hired by an applicant proposing a particular use of land, and/or someone opposed to a proposal. The list of professionals involved in the development process includes, but is not limited to:

- Civil Engineers
- Transportation Engineers
- Environmentalists
- Architects
- Landscape Architects
- Land Use Planners
- Surveyors
- Attorneys

Responsibilities

As stated above, the role of professionals with varying technical expertise is to provide required technical information at the appropriate time in the regulatory or review process. For instance, a survey of property is required for several of the review processes provided for in these regulations. Such a survey must be prepared and certified by a licensed surveyor. These regulations specify the particular required roles of professionals, understanding that other professionals may be involved even though not required by these regulations.

E. Planning Director and Commission Staff

The Commission shall secure the full-time professional services of an individual to serve as the Director of the Hardin County Planning and Development Commission (Director) and Building Official. Other individuals may be employed as Commission Staff (Staff) by the Commission in order to accomplish the duties prescribed by this ordinance pursuant to KRS 100.173, as amended.

Responsibilities

1) This ordinance shall be administered and enforced by the Director. Unless specifically stated to the contrary, the term “Director” shall include his or her designees.
2) The Director may be designated to issue building permits and certificates of occupancy, in accordance with the terms of the regulation, but may not have the power to permit any construction, or to permit any use or any change of use which does not conform to the terms of the regulation.

3) Staff is responsible for and has the authority to interpret and administer this regulation.
4) Serve an advisory role with the Commission, Board and Fiscal Court.
5) Provides staff reports and processes applications and materials related to requests for action.
6) Serve as liaisons between the Commission, Board, technical professionals, elected officials and the public. In that role they distribute and share information as provided in plans, ordinances, regulations, policies, applications and/or other sources.

F. Applicants/Public

Any individual, developer, firm, association, syndicate, co-partnership, corporation, trust, or any other legal entity commencing proceedings under these regulations to bring about development for the individual or another.

Responsibilities

1) By the very nature of the process to develop and use land in Hardin County, the public is involved. Owners and developers of land may act as applicants. Neighbors or other concerned citizens may express their support or concerns relating to a particular proposal or project.
2) Applicants and/or owners are charged with providing any and all information required by these regulations and administratively adopted policies regarding the development process. They must sign applications and verify the completeness and truthfulness of all submittals and testimony offered on their behalf.
3) The public at large may submit in writing or verbally, as appropriate and legally tendered, their opinion concerning any application or proposal to be addressed under these regulations. The public is charged with complying with all administrative and procedural guidelines applicable to providing such information.

1-7 FEE SCHEDULE

The Commission shall adopt and amend, as necessary, a schedule of fees, charges, and expenses (fee schedule) for applications, services, and publications and establish a late fee for applications filed after work, use, or construction has commenced without appropriate permits.

Reasonable fees sufficient to recover incurred cost may be charged as per KRS 100.177 as amended. The Commission shall establish the fee schedule subsequent to appropriate study and research. The adopted fee schedule shall be posted in the Commission office. Until all applicable

fees, charges, and expenses have been paid in full, no action shall be taken on any permit, application, or appeal.

1-8 ESTABLISHMENT OF LAND USE GROUPS, PLANNING AREAS, ZONING DESCRIPTIONS AND GENERAL REGULATIONS

A. Land Use Groups

For the purpose of this ordinance, unincorporated Hardin County, Kentucky is hereby divided into the following Land Use Groups that are based on existing land uses and anticipated growth and development activities as presented in the Comprehensive Plan:

- Urban Areas
- Rural Villages
- Rural Areas
- Kentucky 313 Corridor
- Industrial Areas
- Interstate Commerce Areas

B. Planning Areas

For the purpose of this ordinance, unincorporated Hardin County, Kentucky is hereby divided into the following twenty-eight Planning Areas that have unique existing characteristics and proposed growth characteristics as presented in the Comprehensive Plan:

1	East Urban Area	15	North Dixie Corridor
2	North Glendale Urban Area	16	Shepherdsville Road Corridor
3	North Urban Area	17	South Dixie Corridor
4	Valley Creek Urban Area	18	St John Road Corridor
5	West Urban Area	19	Colesburg Area
6	Cecilia Rural Village	20	East Hardin Area
7	Glendale Rural Village	21	Natural Resource Area
8	Rineyville Rural Village	22	South Hardin Area
9	Stephensburg Rural Village	23	West Hardin Area
10	Bardstown Road Corridor	24	West Point Area
11	E2RC Corridor	25	Glendale Industrial
12	Kentucky 313 Corridor	26	Industrial Park
13	Kentucky 1600 Corridor	27	Glendale Junction (I-65)
14	Leitchfield Road Corridor	28	White Mills Junction (WKPKY)

C. **Zoning Descriptions**

For the purpose of this ordinance, all land in unincorporated Hardin County, Kentucky is hereby designated on the Official Zoning Map as being in one of the following zones:

Zones	Symbol	Page
Urban Residential Zone	R-1	30
Rural Residential Zone	R-2	31
Residential Estate Zone	R-3	32
Multi-family Residential Zone	R-4	33
Mobile Home Community Zone	R-5	34
Agricultural Zone	A-1	36
Neighborhood/Rural Commercial Zone	C-0	37
Convenience Commercial Zone	C-1	38
General Commercial Zone	C-2	39
Interstate Commercial Zone	B-1	40
Tourist and Convenience Commercial Zone	B-2	41
Light Industrial Zone	I-1	42
Heavy Industrial Zone	I-2	43
Industrial Holding Zone	IH	44
Planned Unit Development	PD-1	45
Source Water Protection Overlay Zone	SWP-O	50
Interstate & Highway Overlay Zone	IH-O	53

D. **General Regulations**

The regulations set by this Zoning Ordinance within each zone shall be minimum or maximum limitations, as appropriate to the case, and shall apply uniformly to each class or kind of structure or land, except as hereinafter provided:

1) No land may be used except for a purpose permitted in the zone in which it is located.
2) No building shall be erected, converted, enlarged, reconstructed, moved or structurally altered, nor shall any building be used, designed, or intended to be used for any purpose except a use permitted in the zone in which the building is located.
3) No building shall be erected, converted, enlarged, reconstructed, or structurally altered to exceed the height limit herein established for the zone which the building is located.

4) No building shall be erected, converted, enlarged, reconstructed, or structurally altered except in conformity with the area regulations of the zone in which the building is located.
5) The minimum yards and open spaces, including minimum lot areas, required by these regulations, for each and every building existing at the time of the passage of these regulations or for any building hereafter erected, shall not be encroached upon nor considered as required yard or open space for any other building, nor shall any lot area be reduced to less than the requirements of these regulations.

1-9 BOUNDARIES OF LAND USE GROUPS, PLANNING AREAS AND ZONES

The boundaries of said Groups, Areas and Zones are hereby established as shown upon the Official Zoning Map, Future Land Use Map and Planning Area Map for unincorporated Hardin County, Kentucky. These Maps are hereby made a part of this ordinance. All notations, references, and other matters shown thereon shall be as much a part of this ordinance as if they were fully described herein.

The following rules shall be used to interpret the exact location of the boundaries shown on the above described maps:

1. Boundaries indicated as approximately following the center line of streets, highways or alleys shall be construed to follow such center lines;
2. Boundaries indicated as approximately following platted lot lines shall be construed as following such lot lines;
3. Boundaries indicated as approximately following county boundaries shall be construed as following such boundaries;
4. Boundaries indicated as following railroad lines shall be construed to be midway between the main tracks;
5. Boundaries indicated as following shore lines shall be construed to follow such shore lines, and in the event of change in the shore line, shall be construed as moving with the actual shore line. Streams, rivers, lakes or other bodies of water shall be construed to follow such center lines;
6. Boundaries indicated as parallel to or extensions of features indicated in paragraphs (1) through (5) above shall be so construed. Distances not specifically indicated on an official map shall be determined by the scale of the map; and,
7. Where physical or cultural features existing on the ground are at variance with those shown on the official maps or in other circumstance not covered by subparagraphs (1) through (6) above, the Board shall interpret the boundaries as per KRS 100.257, as amended.

1-10 DESIGNATION OF OFFICIAL MAPS

A. The location and boundaries established by Section 1-9 are set forth and indicated on maps titled "Future Land Use Map", "Planning Area Map" and "Official Zoning Map", these maps shall be a part of this ordinance to the same extent as if set out in this ordinance.

B. No changes of any nature shall be made on the Official Zoning Map or matter shown thereon, except in conformity with the procedures set forth in this ordinance. Any unauthorized change by any person or persons shall be considered a violation of this ordinance.

C. Regardless of the existence of purported copies of the Official Zoning Map, which may from time to time be made or published, the Official Zoning Map is located in the planning office and shall be the final authority as to the current status of land in the county.

D. The Commission reserves the right to use any map which displays information regarding the physical, geologic, topographical, or environmental condition of any portion or portions of the county. Said maps of particular interest are those provided by the Flood Insurance Rate Map, Hardin County Property Valuation Administrator, United States Department of Agriculture, Soil Conservation Service Soil Survey or any map provided by the Natural Resources Conservation Service and the United States Geological Survey.

1-11 INTERPRETATION

In their interpretation and application, the provisions of this ordinance shall be held to be the minimum requirements. More stringent provisions may be required if it is demonstrated that different standards are necessary to promote the public health, safety and welfare.

1-12 CONFLICT OF ORDINANCE

Where the conditions imposed by any provisions of this ordinance, or subdivision plats or development plans approved in conformance with these regulations, are either more restrictive or less restrictive than comparable conditions imposed by any other applicable Kentucky Revised Statutes, local ordinances, resolution, rule or regulation of any kind, the regulations which are more restrictive and impose higher standards or requirements shall govern and shall be enforced by the appropriate agency. Private deed restrictions or private covenants for a subdivision do not fall within the jurisdiction of enforcement by any local agency and cannot be enforced by the Commission. When subdivision and development plans that have been approved by the Commission contain setbacks or other features in excess of the minimum requirements

established by this ordinance, said standards shall be construed as a private deed restriction.

1-13 SEPARABILITY

The provisions of this ordinance are separable. If a section, sentence, clause, or phrase of this ordinance is adjudged by a court of competent jurisdiction to be invalid, the decision shall not affect the remaining portions of this ordinance.

1-14 PLANS AND CONSTRUCTION IN PROGRESS

Nothing in this zoning ordinance requires a change in the plans, construction, or designated use of any building for which actual construction was lawfully begun before the adoption of this ordinance and on which actual construction has been diligently pursued. For the purposes of application of Section 1-14 of this ordinance, "actual construction" means the placing of construction materials in permanent position and fastened in a permanent manner, and/or demolition, elimination, and removal of an existing structure in connection with such construction, provided that actual construction work must be diligently pursued until completion of the building. Grading of a site in preparation for construction does not constitute actual construction. Construction activities may not commence until all required building and zoning permits for construction and/or demolition have been obtained.

Approvals Granted Before Adoption of this Zoning Ordinance
Building permits, variances, conditional-use permits, zoning map amendments, preliminary plats, street design plans, drainage plans, subdivision plats, development plans and other similar development approvals that are valid on the date this ordinance is adopted will remain valid until their expiration date or for one year. Development must be completed in conformance with valid approvals, even if such building, development, or structure does not fully comply with provisions of this Zoning Ordinance. If an approved building, development or structure is not commenced and diligently pursued or any extension granted, then the building, development, or structure must meet the zoning ordinance standards in effect at the time of re-application.

Applications in Progress
Complete applications for building permits, variances, conditional-use permits, zoning map amendments, preliminary plats, street design plans, subdivision plats, development plans and other similar developments that are pending and have not received approval or conditional approval on the date of adoption of this ordinance, must be reviewed wholly under the terms of this Zoning Ordinance. Any re-application for an expired

approval or conditional approval must meet the zoning ordinance standards in effect at the time of re-application.

Violations Continue

Any violation of the previous Zoning Ordinance will continue to be a violation under this Zoning Ordinance and be subject to penalties and enforcement under Section 14 (Pg, 121). If the use, development, construction, or other activity that was a violation under the previous ordinance complies with the express terms of this Zoning Ordinance, enforcement action will cease, except to the extent of collecting penalties for violations that occurred before the adoption of this Ordinance. The adoption of this Zoning Ordinance does not affect nor prevent any pending or future prosecution of, or action to abate, violations of the previous Zoning Ordinance.

1-15 EFFECTIVE DATE

The previous Zoning Ordinance adopted July 17, 1995 and as amended is hereby rescinded. This Zoning Ordinance shall be in full force and effect on the date of its adoption by the Hardin County Fiscal Court and within their respective area of jurisdiction.

SECTION 2

DEFINITIONS

Except as otherwise provided, all words used in the DEVELOPMENT GUIDANCE SYSTEM ZONING ORDINANCE shall have their customary dictionary meaning. The words defined are those which have special or limited meanings as used in the Zoning Ordinance which meanings might not otherwise be clear. The word "shall" is always mandatory.

2-1 SPECIFIC DEFINITIONS

When used within the framework established by this ordinance, the following words or phrases shall have the attendant meanings.

Abandonment of Use	A cease in an activity conducted on a property with the intention neither of transferring rights to the property to another owner, nor of resuming the use of the property.
Accessory Use	A use of land or of a building or portion thereof customarily incidental and subordinate to the principal use of the land or building and located on the same lot with such principal use.
Adjacent Property	Property which shares a common boundary line or property directly across the street which shares a common public right-of-way.
Adjoining Property	Property which shares a common boundary line.
Affected Property Owner	The owner of property in the vicinity of a proposed development which will be impacted either positively or negatively by that proposed development.
Agricultural Use	A parcel of at least five (5) contiguous acres for the production of agriculture or horticultural crops, including but not limited to livestock, livestock products, poultry, poultry products, grain, hay, pastures, soybeans, tobacco, timber, orchard fruits, vegetables, flowers or ornamental plants, including provision for dwellings for persons and their families who are engaged in the above agricultural use on the tract, but not including residential building development for sale or lease to the public.

Agriculture Equipment Sales & Service	Establishments primarily engaged in the sales and service of agricultural machinery and equipment for use in the preparation and maintenance of the soil, the planting and harvesting of crops, and other operations and processes pertaining to work on the farm, the lawn or garden; and dairy and other livestock equipment.
Agri-tourism	The practice of visiting an agribusiness, horticultural, or agricultural operation, including, but not limited to, a farm, orchard, winery, greenhouse, hunting preserve, a companion animal or livestock show, for the purpose of recreation, education, or active involvement in the operation, other than as a contractor or employee of the operation. The Kentucky Department of Agriculture and the local Kentucky Farm Bureau may act as consultants in the determination of activities qualifying as Agricultural Tourism.
Amended Record Plat	A professionally prepared drawing of changes to a plat filed in the Hardin County Clerk's office.
Amenities	A man-made or natural feature which enhances or makes more attractive a particular site for development.
Amusement Enterprises	Indoor establishments engaged in the operation of amusement services. Examples include pool halls, game rooms, arcades, bowling alleys and dance halls.
Applicant	Any individual, developer, firm, association, syndicate, co-partnership, corporation, trust, or any other legal entity commencing proceedings under these regulations to bring about development for the individual or another.
Automotive Storage	The storage, parking, collection or placement of two (2) or more non-licensed and not currently registered vehicles on any property, premises, or place of business. Requires a Conditional Use Permit granted by the Board.
Architect	A person registered by the Commonwealth of Kentucky through the Kentucky Board of Architects.

Billboard	Sign.
Board of Adjustment	The Board of Adjustment is a three (3) citizen member board appointed by the County Judge/Executive with the approval of the Fiscal Court.
Building	Any combination of materials, whether portable or fixed, which comprises a structure or non-mine underground area affording facilities or shelter for any human occupancy, whether infrequent or regular (KRS 198B.010 (4)).
Building Envelope	The three-dimensional space within which a structure is permitted to be built on a lot and that is defined by maximum height regulations, and minimum yard setbacks.
Caliper	The diameter of a tree trunk measured one foot above ground level.
Canopy Tree	A tree which at maturity creates a roof like layer of spreading branches.
Commission	The Hardin County Planning and Development Commission.
Comprehensive Plan	The Hardin County Planning for Growth COMPREHENSIVE DEVELOPMENT GUIDE 2008, which is required by and adopted in accordance with KRS 100.183.
Conditional Use	A use which is essential to or would promote the public health, welfare and safety in one or more zones, but which would impair the integrity and character of the zone in which it is located, or in adjoining zones, unless restrictions on location, size, extent and character of performance are imposed in addition to those imposed by this regulation.
Conditional Use Permit	Legal authorization to undertake a conditional use authorized by the Board consisting of two parts: 1. A statement of factual determination by the Board which justifies issuance of the permit; and, 2. A statement of specific conditions which must be met in order for the use to be permitted.
Contiguous Development	Areas where adjacent properties are developed.

Controlled Access	A condition where the right of owners or occupants of abutting land or other persons to access, in connection with a roadway, is fully or partially controlled by public authority.
Corrected Plat	A professionally prepared drawing of technical corrections to a plat filed in the Hardin County Clerk's office.
County Road	A public road listed on the County Road Maintenance System
Cultural Services	Establishments primarily engaged in providing cultural services to the general public. Examples include art studios and galleries, music lessons, dance & yoga classes, and theatres.
Development	The subdivision of land; construction, reconstruction, conversion, structural alteration, grading, relocation or enlargement of any structure; installation of a sign; and any mining, landfill or land disturbance or change of land use or intensity of use.
Development Plan	A drawing containing written and graphic material for the provision of a development, including any or all of the following: location and bulk of buildings and other structures, intensity of use, density of development, streets, ways, parking facilities, signs, drainage of surface water, access points, a plan for screening or buffering, utilities, existing manmade and natural conditions, and all other conditions agreed to by the applicant KRS 100.111 (8).
Director	The Director of the Hardin County Planning and Development Commission.
Duplex	A building containing two (2) single family dwelling units, under one roof, totally separated from each other by an un-pierced wall extending from ground to roof, or an un-pierced floor in the case of stacked units.
Dwelling Unit	A building or portion thereof providing independent and complete living, cooking, sleeping, and sanitation facilities for one family.

Dwelling, Accessory	An accessory dwelling unit is a habitable living unit detached from a single-family dwelling that provides basic requirements for independent living, cooking, sleeping, and sanitation facilities.
Dwelling, Manufactured Home	(See Manufactured Home, See Pg. 20)
Dwelling, Mobile Home	(See Mobile Home, See Pg. 21)
Dwelling, Multi Family	A building containing three (3) or more units, including units that are located adjacent to or one over the other.
Dwelling, Single Family	A building designed and used exclusively for residential occupancy by one family and providing independent and complete living, cooking, sleeping, and sanitation facilities for one family.
Easement	A grant by a property owner of the use of land for a specific purpose or purposes by the general public, or a corporation, or a certain person or persons.
Engineer	A person registered by the Commonwealth of Kentucky through the Board of Registration of Professional Engineers and Land Surveyors.
Engineering, Planning and Public Works Committee	A committee of members that makes recommendations to Fiscal Court concerning actions taken by or recommendations made by the Commission.
Evergreen Tree	A tree that has foliage that remains green and functional through more than one growing season.
Excavation	The action by which existing elevations or topography are changed by digging, cutting, or scooping of the surface.
Existing Significant Trees	Trees with an approximate diameter at breast height of twenty-four inches (24”) or greater and trees that are listed with the Kentucky Division of Forestry on the Kentucky Champion Tree Program.
Expanded Use	The further development of a developed site.
Facade	The exterior wall of a building exposed to public view, or that wall viewed by persons not within the building.

Family	One or more individuals occupying a dwelling unit and living as a single household unit.
Fiscal Court	The chief elected body of Hardin County with legislative power.
Floor Area	The total horizontal area of all of the floors of a building or structure, measured on the exterior perimeter.
Frontage	That side of a lot abutting on a public right-of-way; the front lot line is the distance for which the front boundary line of the lot and the public right-of-way are coincident.
Frontage, Street	All property on the side of a street between two intersecting streets (crossing or ending), or if the street is dead-end, then all the property abutting on one side between an intersecting street and the dead-end of the street.
Full-cutoff light fixture	A light fixture that cuts off all upward transmission of light.
Glare	The effect produced by brightness sufficient to cause annoyance, discomfort, or lessen visual performance and visibility.
Grain Bin Facility	Establishments primarily engaged in buying, storing, warehousing and/or marketing grain (such as corn, wheat, oats, barley and soybeans). Country grain elevators primarily engaged in buying or receiving grain from farmers are included, as well as terminal elevators and other merchants marketing grain.
Green Space Setback	An undeveloped portion of land containing only vegetation, farm, crops, trees, shrubs, and other landscaping plants with no buildings, structures, or other manmade obstructions except for signage in compliance with DGS Section 9 “General Signage Standards”.
Hardin County Road Classification System	A listing of all roads in the County based on characteristics, such as the type of use, status, pavement width, right-of-way, speed limit and number of adjoining properties.

Hearing Officer	A person appointed by the Commission or Board to preside at public hearings.
Historic Sites and Archeological Sites	As identified by the Kentucky Heritage Council and presented in the Kentucky Historic Resources Inventory
Home Occupation	Any activity carried out for gain by a resident conducted as an accessory use within the principle structure. Such activity shall not cause the description or appearance of the property to change by virtue of the existence of a home occupation. The activity must have no employees working on the premises who are not members of the family, and who do not live in the dwelling unit; must not generate more traffic than the uses existing in the same neighborhood; and must not involve warehousing or storage of any inventory or goods to be transferred to third parties; nor make use of any equipment not normally used for domestic purposes. (To exceed this definition requires a Conditional Use Permit, See 16-27, Pg. 136)
Impervious Surface	Any structure, material, or surface which reduces and prevents absorption of storm water into the earth.
Important Farmlands	Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops.
Junk Yard	Any place where two or more non-licensed and not currently registered vehicles; wrecked and non-operative vehicles or other similar scrap or salvage materials are deposited, parked, placed, or otherwise located. Junkyard also includes any place used for storing, keeping, buying, or selling scrap materials of any kind, ferrous or non-ferrous.
Kennel	Any lot, structure, premises, or establishment where 10 or more dogs or cats are kept for commercial purposes such as where dogs and/or puppies or cats and/or kittens are kept for the primary purpose of breeding, buying, selling, boarding, grooming, or training of such animals. All applicable requirements of the Hardin County Animal Control shall also be imposed.

Land Surveyor	A person registered by the Commonwealth of Kentucky through the Board of Registration of Professional Engineers and Land Surveyors.
Landscape Architect	A person registered by the Commonwealth of Kentucky through the Kentucky Board of Landscape Architects.
Landscaping	The addition of lawns, trees, plants, and/or other natural and decorative features to land which create an expanse of natural scenery.
Lot	Any legally divided portion, piece, division or parcel of land in a platted subdivision.
Local Average Square Foot Standard	A method of assessing the character of the neighborhood whereby the minimum square footage for a dwelling or dwelling units of a proposed development is established by averaging the square footage of the closest twelve dwelling units to the site and then multiplying that figure by 90 percent. The records of the Property Valuation Administrator's office shall be used to calculate this standard – only those dwelling units within one mile shall be calculated.
Manufactured Home	A single-family residential dwelling constructed after June 15, 1976 in an off-site manufacturing facility for installation or assembly at the building site as a permanent structure with transportation features removed, bearing a seal certifying that it is built in compliance with the Federal Manufactured Housing Construction and Safety Standards Act of 1974, 42 U.S.C. section 5401, et.seq., as Amended.
Mature Woodlands	Existing woodland areas approximately three acres or larger in size with consultation provided by a Professional Forester.
Mini Self-Storage	Mini self storage warehouse facilities shall be designed and operated for the storage of goods in individual compartments or rooms, that have controlled-access and which are available for use by the general public on a rental or lease basis. In no case shall storage spaces be used for manufacturing, retail or wholesale selling, repackaging, compounding, office functions, other business or service uses, or human habitation.

Mobile Home	A structure manufactured prior to June 15, 1976, that was not required to be constructed in accordance with the National Manufactured Housing Construction in Safety Standards Act, that is transportable in one (1) or more sections, that, in the traveling mode is eight (8) body feet or more in width and forty (40) body feet or more in length, or when erected on site, four hundred (400) or more square feet, and that is built on a permanent chassis and designed to be used as a dwelling on a temporary or permanent foundation, when connected with the permanent required utilities, including plumbing, heating, air conditioning, and electrical systems.
Mobile Home Community	A parcel of land, under single or multiple ownership and developed specifically for the purpose of leasing two (2) or more residential spaces for the location of manufactured or mobile home dwellings and which contain common facilities and utilities located on the premises as licensed by the Cabinet for Health & Family Services(KRS 219.320(6));
Multi-Residential Use	A deeded lot or parcel on which two or more dwelling units are located, and which does not constitute a Mobile Community.
Open Space	Land within a proposed development site excluding areas devoted to buildings, structures, roadways, and parking.
Open Space Lot	A lot containing a minimum of five (5) acres that is not eligible for a dwelling unit as part of an Open Space Design Subdivision (See 17-10, Pg. 146).
Ordinance	Any legislative action by the Fiscal Court which has the force of law, including any amendment or repeal of any ordinance.
Outdoor Display	The placement of goods for sale or advertisement, outside of a building or structure, including but not limited to vehicles, garden supplies, propane gas tanks, tires, motor oil, food, beverages, boats, farm equipment, motor homes and clothing.

Outdoor Storage	The location of any goods, wares, merchandise, commodities, junk, debris or any other item outside of a completely enclosed building for a continuous period longer than 24 hours.
Owner operated specialty skilled shop related to Agriculture	An owner operated shop where activities related to agriculture are conducted. Examples include welders, mechanics, farm electronics, wood workers and saw mills.
Parcel	A deeded piece of land which is of sufficient size and used for agricultural production.
Plat	A map, plan, or layout of a subdivision indicating the location and boundaries of properties.
Parking Lot	An off street area used for the parking of any type of vehicle, including but not limited to, parking lots, loading and unloading areas and service areas. Driveways, access ways, aisles and maneuvering areas are also considered a part of the parking lots or areas.
Preliminary Plat	A professionally prepared drawing of a proposed subdivision which is not a record plat but which contains detailed information concerning the proposed development.
Prime Soil	A specific soil that possesses the properties of important farmland.
Principal Use	The primary or predominant use of any site.
Print	A reproduction or copy as a positive picture on a sensitized surface from a negative or positive.
Private Roadway	Any road, lane or path which can be used for travel by motor vehicle.
Prohibited Use	A use of land and/or structure that is not permitted as being in violation of this regulation.
Public Facility	Any use of land, whether publicly or privately owned, for transportation, utilities, or communications, or for the benefit of the general public. (KRS 100.111(19))

Public Utility	Any use of land, whether publicly or privately owned, operating under the jurisdiction of the public service commission or the department of vehicle regulation or the federal power commission, any municipally owned electric system and common carriers by rail. (KRS 100.324)
Record Plat	A professionally prepared drawing of a proposed subdivision containing all the data required by this ordinance and the Hardin County Subdivision Regulations that shall be recorded in the Office of the Hardin County Clerk. (KRS 100.283)
Recreational Enterprises	Indoor or outdoor establishments engaged in the operation of recreational services. Examples include; golf courses, swimming pools, tennis courts, campgrounds, fitness facilities, shooting ranges, motor sports, and paintball facilities.
Regulation	Any enactment by the Fiscal Court whether it is an ordinance, resolution, or order.
Replatting	A professionally prepared drawing of the transfer of a portion of a lot or parcel to an adjoining lot or parcel on a plat filed in the Hardin County Clerk's Office. No new lots or parcels are to be created.
Residential Use	The use of any property, structure or portion of a structure as a dwelling for a single family in conformance with this regulation.
Residual Lot	(See 17-14, Pg. 148)
Restaurant	Establishments primarily engaged in the retail sale of prepared food and drinks for on-premise or immediate consumption by the general public.
Resubdivision	A professionally prepared drawing of the creation of new lots or parcels from existing lots or parcels on a plat in the Hardin County Clerk's Office.
Revised Plat	A professionally prepared drawing of changes to items (setback lines, easements, etc.) on a plat filed in the Hardin County Clerk's office.

Right-Of-Way	The strip of land on which a public road is built; includes land for pavement, shoulders, drainage ways, curbs, sidewalks, etc.
Road	A vehicular way used as the principle means of ingress or egress for three (3) or more deeded pieces of property in any use.
Setback Line	The line that is the required minimum distance from the street right-of-way line or any other lot line that establishes the building area within which buildings must be erected or placed. Note: Roads having no dedicated right-of-way – front property line measured 20 feet from centerline of road.
Sewer, Centralized	A system of large-diameter pipes that move waste by gravity flow and/or pumping systems to a wastewater treatment plant. The system can handle large volumes of wastewater and must meet standards for discharge to a surface water body.
Sewer, Decentralized	An onsite or cluster wastewater system used to treat and dispose of relatively small volumes of wastewater, generally from houses and businesses that are typically located close together. The systems can be designed to discharge to surface water bodies or to drip irrigation fields. Wastewater treatment systems managed by a utility provider.
Sewer, Septic System	Onsite wastewater treatment systems that treat and dispose of small volumes of wastewater. The system typically includes a septic tank that digests organic matter and separates floatable matter and settleable solids from the wastewater. Most septic systems then discharge the liquid waste into a series of perforated pipes buried in a leach field.
Sexually Oriented Business	An adult entertainment business, adult arcade, adult bookstore, adult novelty store, adult video store, adult cabaret, adult motel, adult motion picture theater, escort agency, nude model studio or sexual encounter center.
Shrub, Deciduous	A low growing usually several stemmed woody

	plant which has foliage that falls off or is shed seasonally.
Shrub, Evergreen	A low growing usually several stemmed woody plant which has foliage that remains green and functional through more than one growing season.
Sight Triangle	(See 17-17, Pg. 151)
Sign	Any object, device, display or structure, or part thereof, situated outdoors or indoors, which is used to advertise, identify, display, direct or attract attention to an object, person, institution, organization, business, product, service, event or location by any means, including words, letters, figures, designs, symbols, fixtures, colors, illumination or projected images.
Site Plan	A drawing which contains detailed information concerning existing and proposed development.
Soil Value	A relative numeric value assigned to soil groups based on the group's potential for agricultural production.
Source Water Protection	Definitions Specific To Section 3-16, Pg. 51:
• Aquifer	A geological formation, group of formations or part of a formation composed of rock, sand or gravel capable of storing and yielding groundwater to wells and springs.
• Contamination	An impairment of water quality by chemicals, radionuclides, biologic organisms, or other extraneous matter whether or not it affects the potential or intended beneficial use of water.
• Facility	Something that is built, installed, or established for a particular purpose.
• Grey Water	All domestic wastewater except toilet discharge water.
• Source Water Protection Overlay Zone	The zoning defined to overlay other zoning in Hardin County. This Overlay may include specifically designated recharge areas that collect precipitation or surface water and carry

it to aquifers.

- Hazardous Material

A material which is defined in one or more of the following categories:

Ignitable: A gas, liquid or solid which may cause fires through friction, absorption of moisture, or which has low flash points. Examples: white phosphorous and gasoline.

Carcinogenic: A gas, liquid, or solid which is normally considered to be cancer causing or mutagenic. Examples: PCB's in some waste oils.

Explosive: A reactive gas, liquid or solid which will vigorously and energetically react uncontrollably if exposed to heat, shock, pressure or combinations thereof. Examples: dynamite, organic peroxides and ammonium nitrate.

Highly Toxic: A gas, liquid, or solid so dangerous to man as to afford an unusual hazard to life. Example: chlorine gas.

Moderately Toxic: A gas, liquid or solid which through repeated exposure or in a single large dose can be hazardous to man.

Corrosive: Any material, whether acid or alkaline, which will cause severe damage to human tissue, or in case of leakage might damage or destroy other containers of hazardous materials and cause the release of their contents. Examples: battery acid and phosphoric acid.

- Karst Topography

A type of landscape that is formed over limestone, dolomite, or gypsum by dissolution and characterized by sinkholes, caves and underground drainage.

- Primary Containment Facillty

A tank, pit, container, pipe or vessel of first containment of a liquid or chemical.

• Release	Any unplanned or improper discharge, leak, or spill of a potential contaminant including a hazardous material.
• Secondary Containment Facility	A second tank, catchment pit, pipe, or vessel that limits and contains liquid or chemical leaking or leaching from a primary containment area; monitoring and recovery are required,
• Shallow/Surficial Aquifer	An aquifer in which the permeable medial (sand and gravel) starts at the land surface or immediately below the soil profile.
• Sinkhole	Any depression in the surface of the ground into which rainfall is drained.
• Spill Response Plans	Detailed plans for control, recontainment, recovery, and clean up of hazardous material releases, such as during fires or equipment failures.
• Stormwater Treatment Practices (STP).	Measures, either structural or nonstructural, that are determined to be the most effective, practical means of preventing or reducing point source or nonpoint source pollution inputs to stormwater runoff and water bodies.
Staff	Those persons employed by the Commission, whether under direct employment or by contractual agreement.
Standard Industrial Classification	A multi-digit code utilized by the federal Executive Office of Management and Budget to classify establishments by type of activity in which they are engaged.
Street	Any public vehicular way—a general term used to describe right-of-way which provides a channel for vehicular and pedestrian movement between certain points in the community, which may provide for vehicular and pedestrian access to properties adjacent to it, and which may also provide space for the location of under or above ground utilities.

Structure	Any combination of materials fabricated to fulfill a function in a fixed location on the land; includes buildings. A walled and roofed building that is principally above ground, a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.
Subdivision of Land	The division of a deeded piece of land into two (2) or more lots or parcels for any purpose since 1 August 1979, or any division of land involving a new roadway. Only parcels created for agricultural use and not involving a new roadway shall be exempt from classification of a subdivision of land (KRS 100.111(22)).
Surrounding Property Owner	The owner of property adjacent to or within 1,200 feet by road frontage of a proposed development as of records available in the Property Valuation Administrator's office.

Telecommunication Towers	Definitions Specific To Section 12, Pg. 107
• Alternative Cellular Antenna Tower	Any facility, such as a clock or bell tower; steeple; light pole; or other similar alternative-design mounting structure that accommodates, minimizes, camouflages or conceals the presence of a cellular antenna or cellular antenna tower and that is constructed (or reconstructed) primarily for the purpose of accommodating a cellular antenna or cellular antenna tower.
• Antenna Or Related Equipment	Transmitting, receiving, or other equipment used to support cellular telecommunications services or personal communications services.
• Cellular Antenna Tower	A tower constructed for, or an existing building or facility that has been adapted for, the location of transmission or related equipment to be used in the provision of cellular telecommunications services or personal communications services.
• Co-Location	Locating two (2) or more transmission antennae or related equipment on the same cellular antenna tower.

• Uniform Application	The application submitted to the Planning Commission by an applicant, complete and meeting all requirements as provided in KRS 100.9865, for the construction of a cellular antenna tower for cellular telecommunications services or personal communications services.
Temporary Use	A residential or non-residential use carried on for not more than a total of sixty (60) days during one calendar year; or an agricultural use carried on for not more than a total of four months during one calendar year.
Under Story Tree	A tree which creates an undergrowth of vegetation.
Undeveloped Land	A parcel of land which is not being actively used and cannot be classified in any other land use category.
Unique Habitats	Areas such as wetlands, rare plant communities, barrens, cedar glades, karst features, caves and endangered species habitats.
Use-By-Right	A use which, because of its nature and impact, is permitted within the zoning in question.
Variance	A departure from dimensional terms of this regulation pertaining to the height, width, or location of structures, and the size of yards and open spaces where such departure meets the requirements of KRS 100.241 to 100.247.
Width To Length Ratio	The relationship between the frontage (width) and the depth (length) of a parcel of land; i.e., a parcel with 100 feet of frontage cannot exceed 300 feet in depth to conform to a 1 to 3 width to length ratio.
Zero Lot Line	The location of a building on a lot in such a manner that one or more of the building's sides rest directly on a lot line.

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SECTION 3

ZONING REGULATIONS

3-1 URBAN RESIDENTIAL ZONE (R-1)

A. **INTENT**

This Zone is intended for high-density development of single family dwellings, located only where public water supply is available and individual on-site wastewater treatment is permitted by the Hardin County Health Department.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size;
   - 12,000 square feet for property having Sewer or Wastewater Treatment Alternatives;
   - 40,000 square feet for property having on-site septic, access to a government maintained roadway with a 16 foot paved surface or greater and with public water available at the site; or
   - 3.0 acres for property having access to a government maintained roadway with a 16 foot paved surface or greater, but without public water available at the site; or
   - 5.0 acres for property having access to a government maintained roadway with less than 16 foot paved surface.
2. Minimum Lot Frontage – 100’
3. Minimum Width to Length Ratio – 1:4 until 300’ of frontage;
4. Minimum Front Yard Setback - 40';
5. Minimum Side Yard Setback - 10'; 100’ for Subdivision lots platted after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
6. Minimum Rear Yard Setback - 15'; 100’ for Subdivision lots platted after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
7. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Planned Unit Development, Pg. 46
Site Plan Requirements, Pg. 85
Signage Standards, Pg. 97
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- Open Space Subdivision Design, Pg. 146
- Sewer or Wastewater Treatment Alternatives, Pg. 149

3-2 RURAL RESIDENTIAL ZONE (R-2)

A. **INTENT**

This Zone is intended for low-density development of single family dwellings, located where private or public water supply is available and individual on-site wastewater treatment is permitted by the Hardin County Health Department.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size;
   - 12,000 square feet for property having Sewer or Wastewater Treatment Alternatives;
   - Open Space Subdivision Design (Pg. 146)
   - 3.0 acres for property having access to a government maintained roadway with a 16 foot paved surface or greater; or
   - 5.0 acres for property having access to a government maintained roadway with less than 16 foot paved surface.
2. Minimum Lot Frontage - 200’;
3. Minimum Width to Length Ratio – 1:3 until 300’ of frontage;
4. Minimum Front Yard Setback - 40'; or 70' for property 3.0 acres or greater.
5. Minimum Side Yard Setback - 10'; 100’ for Subdivision lots platted after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
6. Minimum Rear Yard Setback - 15'; 50' for property 3 acres or greater; 100’ for Subdivision lots platted after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones.
7. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Planned Unit Development, Pg. 46
Site Plan Requirements, Pg. 85
Signage Standards, Pg. 97
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- Open Space Subdivision Design, Pg. 146
- Sewer or Wastewater Treatment Alternatives, Pg. 149

3-3 RESIDENTIAL ESTATE ZONE (R-3)

A. **INTENT**

This Zone is intended for very low density development of single family dwellings, located where private or public water supply is available and individual on-site wastewater treatment is permitted by the Hardin County Health Department.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size;
   - Open Space Subdivision Design (Special Provisions, Pg. 146);
   - 10.0 acres for property having access to a government maintained roadway;
2. Minimum Lot Frontage - 300’;
3. Minimum Width to Length Ratio – 1:3 until 300’ of frontage;
4. Minimum Front Yard Setback - 40'; or 70' for property 3 acres or greater.
5. Minimum Side Yard Setback - 10'; 20' for property 3 acres or greater; 100’ for Subdivision lots platted after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
6. Minimum Rear Yard Setback - 15'; 50' for property 3 acres or greater; 100’ for Subdivision lots platted after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
7. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Planned Unit Development, Pg. 46
Site Plan Requirements, Pg. 85
Signage Standards, Pg. 97
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- Open Space Subdivision Design, Pg. 146
- Sewer or Wastewater Treatment Alternatives, Pg. 149

3-4 MULTI-FAMILY RESIDENTIAL ZONE (R-4)

A. **INTENT**

This Zone is intended for high-density development of multi-family dwellings, located only where approved water supply is available and sewage treatment is permitted by the Hardin County Health Department.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size;
   - Sewer as Wastewater Treatment Alternatives (Special Provisions, Pg. 142);
   - Single Family - 40,000 square feet;
   - Duplex – 40,000 square feet;
   - Multi Family – 80,000 square feet;
2. Minimum Lot Frontage;
   - Single Family – 100 feet;
   - Duplex – 150 feet
   - Multi Family – 200 feet
3. Minimum Width to Length Ratio – 1:4 until 300’ of frontage;
4. Minimum Front Yard Setback – 40’
5. Minimum Side Yard Setback –20’; 100’ adjoining A-1, I-1, I-2 zones
   Minimum Rear Yard Setback –20’; 100’ adjoining A-1, I-1, I-2 zones
6. Maximum Lot Coverage – 0.75;
7. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Planned Unit Development, Pg. 45
Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Lighting Standards, Pg. 101
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- Open Space Subdivision Design, Pg. 146
- Sewer or Wastewater Treatment Alternatives, Pg. 149

3-5 MOBILE HOME COMMUNITY ZONE (R-5)

A. INTENT

This Zone is intended to permit the establishment of a mobile home community in areas which will provide a residential setting and which will be convenient to major traffic arterials. Because of unique characteristics, mobile home communities require special consideration as to their proper location and character in relation to adjacent uses and to the proper integration of such uses into the community. The standards contained in this provision are intended to provide adequate protection and consideration for both the mobile home dweller and Hardin County.

B. USES FOR THE ZONE

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. DIMENSION AND AREA REGULATIONS

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size;
   - 10.0 acres
2. Minimum Lot Frontage - 210’;
3. Minimum Width to Length Ratio – 1:3 until 300’ of frontage;
4. Minimum Front Yard Setback - 70';
5. Minimum Side Yard Setback - 20'; 100’ adjoining A-1, I-1, I-2 zones
6. Minimum Rear Yard Setback - 20'; 100’ adjoining A-1, I-1, I-2 zones
7. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

D. LOCATIONAL STANDARDS

The following location standards shall be met in the design of a mobile home community:

1. Public water supply is available
2. On-site Wastewater Treatment as permitted by the Hardin County Health Department or Sewer as Wastewater Treatment Alternative.
3. A mobile home community shall have the minimum frontage on a government maintained roadway with a 16-foot paved surface or greater, with a minimum forty foot dedicated right-of-way, and shall have its principal access to and from said roadway, with public water available at the site.
4. Each proposed mobile home community shall be located in proximity to community facilities and services such as public

schools, recreational parks, shopping facilities, and adequate police and fire protection.

E. **MINIMUM DESIGN STANDARDS**

1. Not less than ten percent (10%) of the site on which a mobile home community is located shall be devoted to common open space available to the residents of the entire community.
2. A storm shelter shall be constructed in accordance with design and construction guidelines for community shelters promulgated by the Federal Emergency Management Agency. The storm shelter shall have adequate space for the maximum residential capacity of the mobile home community.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 101
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- MOBILE HOME COMMUNITIES, Pg. 145

3-6 AGRICULTURAL ZONE (A-1)

A. **INTENT**

The intent of this Zone is to preserve agricultural land, protect agricultural operations and allow for very low density development. This Zone allows for agricultural related commercial activities, with the issuance of a Conditional Use Permit, and establishes a 100-foot yard setback for the perimeter of the Zone. Additionally, a 100-foot building setback line is established for any adjoining subdivisions that are platted after the Agriculture Zone is established; thus, creating a 200-foot buffer area of open space to be preserved.

Map Amendments proposed for the Agricultural Zone, shall contain a tract of land or multiple contiguous tracts of land with a minimum of twenty-five (25) acres. This Zone is voluntarily applied for by the applicant and must be reviewed and approved as outline in Section 4, Pg. 59 – Zoning Map Amendment Procedures.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The following regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size;
   - 25.0 acres
   - Open Space Subdivision Design (Special Provisions, Pg. 146);
2. Minimum Lot Frontage - 300';
3. Minimum Width to Length Ratio – 1:3 until 300’ of frontage;
4. Minimum Front Yard Setback - 70';
5. Minimum Side Yard Setback - 100'; 10’ if adjoining A-1
6. Minimum Rear Yard Setback - 100'; 15’ if adjoining A-1

ADDITIONAL STANDARDS THAT MAY APPLY

Site Plan Requirements, Pg. 85

Signage Standards, Pg. 97

Building and Electric Permits, Pg. 117

Special Provisions, Pg. 143

- AGRICULTURAL ZONES ADJACENT TO RESIDENTIAL ZONES, Pg. 144
- LAND USED FOR AGRICULTURAL PURPOSES, Pg. 144
- MANUFACTURED HOME USED AS TEMPORARY DWELLING, Pg. 145

3-7 NEIGHBORHOOD/RURAL COMMERCIAL ZONE (C-0)

A. **INTENT**

The purpose of this Zone is to provide for small scale retailing of commodities and personal services characterized by low volume direct daily customers. The residential or rural character of the neighborhood should be maintained.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size – 1.0 acre;
2. Minimum Lot Frontage – 100';
3. Minimum Width to Length Ratio – 1:3 until 300' of frontage;
4. Minimum Front Yard Setback – 40';
5. Minimum Side Yard Setback –10'; 40' adjoining residential and industrial zones, 100' adjoining agricultural zones;
6. Minimum Rear Yard Setback –15'; 40' adjoining residential and industrial zones, 100' adjoining agricultural zones;
7. Maximum Lot Coverage – 0.85

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-8 CONVENIENCE COMMERCIAL ZONE (C-1)

A. INTENT

This Zone is intended to provide for selected retail shopping, personal service uses and office space to serve the needs of the nearby residential areas. This zoning is intended for locations at strategic sites in relation to population centers and transportation networks.

B. USES FOR THE ZONE

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. DIMENSION AND AREA REGULATIONS

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size – 1.0 acre;
2. Minimum Lot Frontage – 100’;
3. Minimum Width to Length Ratio – 1:3 until 300’ of road frontage;
4. Minimum Front Yard Setback – 40';
5. Minimum Side Yard Setback –10’; 40’ adjoining residential and industrial zones, 100’ adjoining agricultural zones;
6. Minimum Rear Yard Setback –15’; 40’ adjoining residential and industrial zones, 100’ adjoining agricultural zones;
7. Maximum Lot Coverage – 0.85
8. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-9 GENERAL COMMERCIAL ZONE (C-2)

A. INTENT

The purpose of this Zone is to provide sufficient space in appropriate locations for a variety of business, commercial and service activities. Such zoning is intended to be located at strategic locations along major highways and where there are adequate utilities to serve intense development.

B. USES FOR THE ZONE

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. DIMENSION AND AREA REGULATIONS

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size – 2.0 acres;
2. Minimum Lot Frontage – 100';
3. Minimum Width to Length Ratio – 1:3 until 300' of road frontage;
4. Minimum Front Yard Setback – 40';
5. Minimum Side Yard Setback –10'; 40' adjoining residential and industrial zones, 100' adjoining agricultural zones
6. Minimum Rear Yard Setback –15'; 40' adjoining residential and industrial zones, 100' adjoining agricultural zones;
7. Maximum Lot Coverage – 0.85
8. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-10 INTERSTATE COMMERCIAL ZONE (B-1)

A. **INTENT**

The purpose of this Zone is to provide sufficient space adjacent to the interchanges of an interstate highway or Kentucky Parkway for appropriate business, commercial, service activities to serve the needs of thetraveling public, transportation industry and to promote tourism.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size – 2.0 acres;
2. Minimum Lot Frontage – 100’;
3. Minimum Width to Length Ratio – 1:3 until 300’ of road frontage;
4. Minimum Front Yard Setback – 40';
5. Minimum Side Yard Setback –10’; 40’ adjoining residential and industrial zones, 100’ adjoining agricultural zones;
6. Minimum Rear Yard Setback –15’; 40’ adjoining residential and industrial zones, 100’ adjoining agricultural zones
7. Maximum Lot Coverage – 0.85
8. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-11 TOURIST AND CONVENIENCE COMMERCIAL ZONE (B-2)

A. **INTENT**

The purpose of this Zone is to provide sufficient space for selected retail shopping, personal service uses and office space to serve the needs of the nearby residential areas and promote tourism.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1. Minimum Lot Size – 40,000 square feet;
2. Minimum Lot Frontage – 100';
3. Minimum Width to Length Ratio – 1:4 until 300' of road frontage;
4. Minimum Front Yard Setback – 40';
5. Minimum Side Yard Setback –10'; 40' adjoining residential and industrial zones, 100' adjoining agricultural zones;
6. Minimum Rear Yard Setback –15'; 40' adjoining residential and industrial zones, 100' adjoining agricultural zones;
7. Maximum Lot Coverage – 0.85
8. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-12 LIGHT INDUSTRIAL ZONE (I-1)

A. **INTENT**

The purpose of this Zone is to provide for certain types of business and industry, characterized by light manufacturing, fabricating, warehousing and wholesale distribution, which are relatively free from offense and which, with proper landscaping will not detract from residential desirability of adjacent properties. It is intended that such zoning be located with access to major thoroughfares and/or railroads.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1) Minimum Lot Size – 3.0 acres;
2) Minimum Lot Frontage – 210’
3) Minimum Width to Length Ratio – 1:3 until 300’ of road frontage;
4) Minimum Front Yard Setback – 50';
5) Minimum Side Yard Setback –20’; 40’ adjoining commercial zones, 100’ adjoining residential and agricultural zones;
6) Minimum Rear Yard Setback –35’; 40’ adjoining commercial zones, 100’ adjoining residential and agricultural zones;
7) Maximum Lot Coverage – 0.85
8) Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-13 HEAVY INDUSTRIAL ZONE (I-2)

A. **INTENT**

This Zone permits industrial development given the existence of the appropriate government services and utilities. The development shall be sited and designed so as to avoid neighborhoods and residential development in light of the potential nuisances or other hazards.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1) Minimum Lot Size – 3.0 acres;
2) Minimum Lot Frontage – 210';
3) Minimum Width to Length Ratio – 1:3 until 300' of road frontage;
4) Minimum Front Yard Setback – 50';
5) Minimum Side Yard Setback –20'; 40' adjoining commercial zones, 100' adjoining residential and agricultural zones;
6) Minimum Rear Yard Setback –35'; 40' adjoining commercial zones, 100' adjoining residential and agricultural zones;
7) Maximum Lot Coverage – 0.85
8) Street Construction – New subdivision streets must intersection with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 73
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-14 INDUSTRIAL HOLDING ZONE (IH)

A. **INTENT**

The purpose of this Zone is to provide for the expansion of Municipal Industrial Parks and to earmark areas of the county which have the appropriate utilities and infrastructure needed to support industrial development. This Zone shall reserve portions of the County for the development of certain types of business and industry, characterized by manufacturing, fabricating, warehousing and wholesale distribution, which are relatively free from offense and which, with proper landscaping will not detract from residential desirability of adjacent properties. A map amendment to either an I-1 or I-2, as appropriate, shall be a prerequisite to development.

B. **USES FOR THE ZONE**

The Permitted, Accessory and Conditional Uses for lots and structures are set forth in the Land Use Table (Table 1, Pg. 56).

C. **DIMENSION AND AREA REGULATIONS**

The regulations on the dimensions and area for lots and yards are set forth as follows:

1) Minimum Lot Size – 10.0 acres;
2) Minimum Lot Frontage – 300’;
3) Minimum Width to Length Ratio – 1:3 until 300’ of frontage
4) Minimum Front Yard Setback – 40'; 70' for property 3 acres or greater.
5) Minimum Side Yard Setback - 20';
6) Minimum Rear Yard Setback - 15'; 50' for property 3 acres or greater;
7) Maximum Lot Coverage – 0.75

ADDITIONAL STANDARDS THAT MAY APPLY

Site Plan Requirements, Pg. 85
Signage Standards, Pg. 97
Building and Electric Permits, Pg. 117

Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

3-15 PLANNED UNIT DEVELOPMENT (PD-1)

A. INTENT

A Planned Unit Development (PD-1) is defined as an area with a specified minimum contiguous acreage to be developed as a single entity according to a plan for residential and non-residential uses. The PD-1 zone includes provisions for the clustering of buildings, a mixture of land uses and building types, preservation of nature resources, and promotion of common open space. The purpose of PD-1 regulations is to encourage and allow more creative and imaginative design of land developments than is possible under conventional zoning regulations. This can be achieved by providing more flexibility in terms of development standards and requirements such as setback and yard area, lot size and dimensions, and building height. Ideally, this flexibility results in a development that is better planned, contains more amenities, is more desirable to live and work in and, ultimately, provides substantial benefits to the community and environment compared to the conventional zoning.

A PD-1 shall be a design and density alternative. Each PD-1 shall be properly planned and designed to include features that support the following objectives:

- To promote design creativity and excellence that will result in high-quality development;
- To allow a mixture of land uses and building types not otherwise allowed in a conventional zoning district by careful planning that establishes compatible relationships between uses within the site and uses adjacent to the site;
- To promote managed Centralized and Decentralized Wastewater Systems that allow for increased density;
- To encourage creative site design that seeks to preserve natural resources, unique environmental and cultural features, and to ensure that development occurs away from environmentally sensitive areas;
- To provide for abundant, accessible and properly-located open and recreational space, schools and other public and private facilities;
- To promote the efficient use of land resulting in networks of utilities, streets and other infrastructure features that maximize the allocation of fiscal and natural resources;
- To conserve energy through efficient building design, clustering, and a more sustainable use of the land
- To incorporate planning, design and construction techniques that minimize negative impacts on the environment and on human quality of life; and,
- To create a development pattern consistent with the adopted Comprehensive Plan and Recommended Land Use and Development Criteria.

B. GENERAL STANDARDS AND REQUIREMENTS

The following are general standards and requirements for Planned Unit Developments:

1) Comprehensive Plan: A PD-1 should comply with the goals and objectives of the Comprehensive Plan.
2) Size and Ownership of Site: The minimum size of an area required for a PD-1 zone shall be no less than ten (10) contiguous acres under single ownership and/or unified control.
3) Mixed Use Development: A PD-1 shall generally have a mixed-use layout (a combination of a variety of residential housing types, varying density levels, and commercial, institutional and/or recreational uses).
4) Compatibility: Measures shall be taken to assure compatibility with adjacent sites to include perimeter landscaping, a buffer or increased building setbacks.
5) Open Space: A minimum of ten percent (10%) of the land area should be set aside for Common Open Space.
    a. Open Space shall be distributed equitably throughout the PD-1 for easy access by all residents or property owners;
    b. Open Space restrictions or easement shall be permanent;
    c. Amenities for community use shall be provided within the Open Space (may include: sidewalks, trails, recreational facilities, street trees, playgrounds, bus shelters and/or cluster mailboxes, etc).
6) Preservation of Natural Resources and Existing Site Features: To the greatest extent possible, natural resources and existing site features should be preserved, protected and incorporated into the project design. Such resources and features should include: Historic sites and Archeological sites, , Cemeteries, Existing Significant Trees, Unique Habitats, Mature Woodlands, 100-Year Floodplains, Water Features and Water Bodies.
7) Signage: A PD-1 may establish alternative signage standards in lieu of the current Signage Regulations. A consistent signage theme shall be provided within a PD-1.
8) Roads: All roads shall be constructed in accordance with the requirements and standards in the Hardin County Subdivision Regulations.

C. USES PERMITTED AND PROHIBITED

Most uses or mixture of uses may be approved within a PD-1, provided that uses within the site are compatible and not injurious to the adjacent neighborhood or otherwise detrimental to the public health, safety or general welfare. Only the specific uses proposed in an approved application and shown on the Master Plan shall be allowed in the PD-1 zone.

D. **PROCEDURES**

A PD-1 approval includes three (3) steps. The first step is to secure approval of the Master Plan from the Commission in the form of a Zoning Map Amendment. The second step, Development or Site Plan Review (can substitute the Preliminary Plat for Subdivisions), may cover an entire development site or a section of the development and is approved by the Director. The final step, consisting of the review and approval of Street and Drainage Plans and Record Plat, as required under the Subdivision Regulations and as approved by the County Engineer and the Director before any building permits can be issued.

E. **MASTER PLAN – PLANNED UNIT DEVELOPMENT (PD-1)**

Projects developed under the PD-1 require the submission of a Master Plan for review and approval by the Commission. The Master Plan is submitted at the time of a map amendment request for this special zoning designation. The Master Plan shall be prepared according to the following requirements:

Content of Master Plan Required plan information shall be as follows (unless certain items are waived by the Commission):

1. A Professional Engineer, Land Surveyor, Architect or Landscape Architect shall prepare all plans. All plans shall be prepared by using an engineering drafting scale and shall be a minimum size of 11”x17”. The plan’s scale shall be approved by the Commission upon submission but typically should be 1”=100’ or less, unless otherwise approved.
2. The title block shall be placed on the bottom right corner of the sheet and shall contain the plan name, preceded by the words “Master Plan For (name of development)” with a written and graphic scale, north arrow, the name and address of the developer and plan preparer, the development address, deed book, page number and the PVA Map Parcel Number.
3. The boundary of the subject property, its record plat designation (if available) and a record plat name and lot number or owner’s name(s), deed book and page number of all adjoining properties.
4. A vicinity map, oriented in the same direction as the design scheme.
5. Zoning classification of all abutting properties, including those across any street, railroad or public way.
6. Location, pavement width and right-of-way of any proposed or existing streets within or abutting the subject property.
7. Location of the various land uses involved in the project, including type of use, total area for each use and overall density designation.

8. Location of screening, landscape buffering, recreational and other open space areas.
9. General locations and a note for the Natural Features and Drainage & Stormwater Receivers of special flood hazard areas, sinkholes, blue line streams, bodies of water, waterways, storm water retention/detention areas and any other designated environmentally sensitive or geologic hazard areas.

   Natural Features Note
   As indicated on the _____ USGS Quadrangle Map dated ___, there are _____ located within the subject property of this development.

   Drainage and Stormwater Receiver Note
   The stormwater receiver(s) of this development is _____ for the subject property.
10. Proposed building setbacks and easements for drainage, utilities and/or other purposes.
11. Areas of existing trees including those located along fence rows and drainage areas.
12. General circulation patterns for the development, including streets, access locations, parking, sidewalks, paths, bike lanes, trails and bridges.
13. Information on architectural elements of the buildings, structures, lighting and other physical features in the development.
14. A statistical summary of all pertinent site data (this information should be listed in acreage, square footage and/or percentage of the site as applicable), including notes on development type and density, site area, zoning, proposed use(s), density, maximum building coverage and floor area, open space, and park areas. Listing this information by sections or phases of the development is acceptable.
15. The following certifications, in Table 2, shall be presented and executed on all Master Plans:
    - Owner Certification
    - Notary Certification
    - Preparer's Certification
    - Wastewater Certification
    - Commission Certification

F. **MASTER PLAN – FINAL PLANS**

After approval of a Master Plan by the Commission, the owner/developer shall prepare detailed plans for the improvement of the property for approval by the appropriate agencies. These detailed plans may include but are not limited to; subdivision plats, subdivision improvement plans, architectural design plans, development plans for individual lots within the master plan development, landscaping plans, erosion prevention and sediment control plans, emergency response plans, and signage plans. These plans should be submitted for final approval based on the phasing schedule approved by the Commission.

G. **MASTER PLAN – BINDING ELEMENTS**

In addition to the Master Plan indicating site features, a binding elements document shall be prepared in written form for each PD-1 zone which shall include requirements, provisions, restrictions or conditions imposed by the Commission and any promises, covenants, agreements, or restrictions agreed to by the owner/developer. This document shall contain the phasing plan for development of the project. The Commission and the owner/developer shall approve and execute the binding elements document prior to any building permit being issued for construction activity.

H. **MASTER PLAN – AMENDMENTS**

Amendments to approved Master Plans can only be made by the Commission after a public hearing is conducted following the same procedures and criteria for the initial hearing approving the PD-1 zoning and Master Plan.

3-16 SOURCE WATER PROTECTION OVERLAY ZONE (SWP-O)

A. INTENT

Hardin County recognizes that the Hardin County Water Districts rely on groundwater for their safe drinking water supply, and that certain land uses potentially could contaminate groundwater particularly in karst topography aquifers such as found in Hardin County. To ensure the protection of these drinking water supplies, this Section establishes an Overlay Zone to be known as the Source Water Protection Overlay Zone.

The purpose of the Overlay Zone is to protect public health and safety by minimizing the risk of contamination of the identified and mapped source water protection areas to preserve and to protect the existing sources of drinking water supplies for citizens of Hardin County. It is the intent to accomplish this through both public education and public cooperation, as well as, by creating appropriate land use regulations that may be imposed in addition to those currently imposed by the existing zoning or other county, state and federal regulations.

This Overlay Zone, as shown on Map 3 (Pg. 4-2) of the Comprehensive Plan, is superimposed on the current zoning and shall apply to all new construction, reconstruction, or expansion of existing buildings and new or expanded uses. Applicable activities/uses allowed in a portion of one of the underlying zones, which fall within the Source Water Protection Overlay Zone, must additionally comply with the requirements of this Overlay Zone. Uses prohibited in the underlying zone shall not be permitted in the Overlay Zone.

B. USES FOR THE ZONE

The Permitted, Accessory and Conditional Uses for lots and structures in the underlying zoning apply provided that they comply with the Performance Standards as outlined for this Overlay Zone.

C. PERFORMANCE STANDARDS

The following standards shall apply to the Source Water Protection Overlay Zone:

1. Any facility involving the collection, handling, manufacture, use, storage, transfer or disposal of any solid or liquid material or wastes, unless granted a special exception either through permit or another ordinance, must have a secondary containment system which is easily inspected and whose purpose is to intercept any leak or release from the primary containment vessel or structure. Underground tanks or buried pipes carrying such materials must have double walls and inspectable sumps.

2. Open liquid waste ponds containing materials referred to in item (1) above will not be permitted without a secondary containment system.
3. Storage of petroleum products in quantities exceeding fifty (50) gallons at one locality in one tank or series of tanks must be in elevated tanks; such tanks must have a secondary containment system noted in item (1) above where it is deemed necessary by the Hardin County Planning Commission with assistance from the appropriate Hardin County Water District, Hardin County Emergency Management, Local Fire Department or Hardin County Health Department.
4. All onsite sewage disposal facilities must be specifically reviewed for compliance with all applicable state and local regulations and requirements regarding onsite sewage disposal as well as any additional requirements as adopted either in total or by reference by the Hardin County Planning Commission or Hardin County Health Department as needed to insure that the water source is protected.
5. All permitted facilities must adhere to appropriate federal and state standards for storage, handling and disposal of any hazardous waste materials.
6. An acceptable contingency plan for all permitted facilities must be prepared and reviewed by the appropriate Hardin County Water District and the Hardin County Emergency Management for preventing hazardous materials from contaminating the source water should floods, fire, or other natural catastrophes, equipment failure, or releases occur:
   (a) For flood control, all underground facilities shall include but not be limited to a monitoring system and secondary standpipe above the 100 year flood control level, for monitoring and recovery. For above ground facilities, an impervious dike, above the 100 year flood level and capable of containing 100 percent of the largest volume of storage, will be provided with an overflow recovery catchment area (sump).
   (b) For fire control, plans shall include but not be limited to; a safe fire fighting procedure, a fire retarding system, effective containment of any liquid runoff, and provide for dealing safely with any other health and technical hazards that may be encountered by disaster control personnel in combating fire. Hazards to be considered are pipes, liquids, chemicals, or open flames in the immediate vicinity.
   (c) For equipment failures, plans shall include but not be limited to:
      1. Below ground level, removal and replacement of leaking parts, a leak detection system with monitoring, and an overfill protection system.

2. Above ground level, liquid and leaching monitoring of primary containment systems, the replacement or repair and cleanup and/or repair of the impervious surface.

(d) For any other release occurring, the owner and/or operator shall report all incidents involving liquid or chemical material to the appropriate Water District.

(e) Since it is known that improperly abandoned wells can become a direct conduit for contamination of groundwater by surface water, all abandoned wells should be properly plugged according to local and state regulations.

(f) A Groundwater Protection Plan which meets requirements of 401 KAR 5:037 shall be prepared and submitted to the Commission for review before development is completed and shall be kept onsite.

D. **LIABILITY**

Nothing in this ordinance shall be construed to imply that the Hardin County Fiscal Court or any other governmental entity as named herein or involved in administration of this regulation directly or indirectly has accepted any of an owner/developer's liability if a permitted facility or use contaminates groundwater in any aquifer.

E. **ZONE BOUNDARY DISPUTES**

If the location of the Overlay Zone boundary in relation to a particular parcel is in doubt, resolution of boundary disputes shall be through a waiver application. The burden of proof shall be upon the owner(s) of the land to demonstrate the actual location of the boundaries of the Overlay Zone with respect to their individual parcel(s) of land. If the owner(s) request that the Hardin County Planning Commission, in consultation with the local Water District utilizing the water source involved, determine more accurately the boundaries of the Overlay Zone with respect to individual parcels of land, the Commission or Water District may engage a professional engineer, hydrologist, geologist, or soil scientist and charge the owner(s) for the cost of the investigation.

3-17 INTERSTATE AND HIGHWAY OVERLAY ZONE (IH-O)

A. INTENT

This Overlay Zone regulates the land adjacent to and surrounding interstates and highways in Hardin County by guiding the placement of structures, signs, display areas, parking, green space and outdoor storage areas. In addition to the above limitations, this Overlay when and where applied prohibits the establishment of specific business uses that have been determined to be detrimental to the viability of these areas. An example of this Overlay can be found in Figure 5 (Pg. 9) of the Industrial Element of the Comprehensive Plan.

The purpose of this Overlay is to:

1) Protect the safety of the traveling public by limiting the distractions to the traveling public;
2) Preserve the physical appearance and integrity of the Interstates and Highways in Hardin County;
3) Protect and preserve the economic, commercial, industrial or residential integrity of the overlay area by limiting businesses which might be detrimental to the economic viability of the area; and to
4) Allow for the efficient, effective and attractive use of the limited resource that is land located at strategic interchanges in Hardin County.

B. USES FOR THE ZONE

The Permitted, Accessory and Conditional Uses for lots and structures in the underlying zoning apply provided that they are not identified as a Prohibited Use as outlined for this Overlay Zone.

C. DIMENSION AND AREA REGULATIONS

The regulations on the dimensions and area for lots and yards are set forth as in the underlying zoning provided that they can meet the regulations as outlined for this Overlay Zone.

The following standards govern the building, green space and setbacks that apply in this Overlay Zone:

1) There is a one hundred (100') foot Green Space Setback from the right of way line adjacent to Interstates. This one hundred (100') feet Green Space Setback shall be reduced to match the approved reduction in the building limitation outlined in Section 3-17(C) (2) resulting from the installation of a landscaping buffer approved by the Hardin County Planning Commission to screen the view of structures built less than one hundred and fifty (150) feet from the right-of-way line of the interstate; and
2) All buildings are limited to one hundred and fifty (150') feet from the right of way line of Interstates. This limitation may be reduced to an amount between seventy (70') and one houndred (100') feet with the installation of a landscaping buffer as illustrated on a

Development Plan and approved by the Hardin County Planning Commission to screen the view of structures built less than one hundred and fifty (150) feet from the right-of-way line of the interstate.

D. **PROHIBITED USES**

The following uses and uses of a substantially similar nature and with similar incidents of operation as documented and determined by the Director of these regulations are prohibited in the Interstate and Highway Overlay Zone (IH-O):

1) Asphalt Manufacturing;
2) Blast furnaces, Metal Smelting, Ore or Metal Reducing;
3) Crushed Stone, Sand, Gravel Operations;
4) Junk Yard;
5) Livestock Auction and/or Stock Yard;
6) Petroleum Production, Refining and/or Storage;
7) Ready Mix and/or Concrete Plant;
8) Saw Mills;
9) Scrap Metal;
10) Sexually Oriented Business; and
11) Slaughter House

ADDITIONAL STANDARDS THAT MAY APPLY

Development Requirements, Pg. 70
Parking Standards, Pg. 89
Signage Standards, Pg. 97
Landscaping Standards, Pg. 103
Lighting Standards, Pg. 105
Building and Electric Permits, Pg. 117
Special Provisions, Pg. 143
- OUTDOOR STORAGE AND DISPLAY, Pg. 147
- REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

		P = Permitted Use				C = Conditional Use				A = Accessory Use			-- = Not Permitted			
	LISTED USES	A-1	R-1	R-2	R-3	R-4	R-5	C-0	C-1	C-2	B-1	B-2	I-1	I-2	I-H	PD-1
1.	Accessory Structures	A	A/C	A/C	A/C	A	–	P	P	P	P	P	P	P	P	A
2.	Agricultural Tourism	C	--	--	--	--	–	–	–	–	--	--	--	--	--	--
3.	Agricultural Use	P	P	P	P	P	–	P	P	P	P	P	P	P	P	P
4.	Agriculture Equipment Sales & Service	C	--	--	--	--	–	–	P	P	--	--	--	--	--	--
5.	Airports	--	--	--	--	--	–	–	–	–	--	--	C	C	--	--
6.	Amusement Enterprises (Indoor)	--	C	C	C	--	--	C	C	C	C	--	A	A	–	--
7.	Antique, Gift & Craft Shops	C	C	C	C	--	--	P	P	P	--	P	A	A	–	P
8.	Apparel Store	--	--	--	--	--	--	--	P	P	P	P	--	–	–	--
9.	Asphalt Manufacturing	--	--	--	--	--	–	–	–	–	--	--	C	C	--	--
10.	Automobile Manufacturing	--	--	--	--	--	–	–	–	–	--	--	P	P	--	--
11.	Automotive Repair	--	C	C	C	--	--	C	C	C	C	--	C	C	–	--
12.	Automotive Sales	--	--	--	--	--	--	--	C	C	C	--	--	–	–	--
13.	Automotive Storage (2-5 vehicles)	C	C	C	C	C	C	--	--	--	--	--	--	–	–	C
14.	Bank, Savings & Loan	--	--	--	--	--	--	--	P	P	P	--	A	A	–	P
15.	Beauty & Barber Shop	C	C	C	C	--	--	P	P	P	--	P	A	A	–	P
16.	Bed & Breakfast	C	C	C	C	--	--	P	P	P	--	P	--	–	–	P
17.	Blast Furnaces, Metal Smelting, Ore or Metal Reducing	--	--	--	--	--	–	–	–	–	--	--	P	P	--	--
18.	Boarding House and/or Group Home	C	C	C	C	--	–	–	–	–	--	--	--	--	--	--
19.	Building Material Sales	--	--	--	--	--	–	–	–	P	P	--	P	P	--	--
20.	Cemetery	--	--	--	--	--	--	--	P	P	--	--	--	–	–	--
21.	Charitable Gaming Activity	--	C	C	C	--	–	–	C	C	C	--	--	--	--	--
22.	Child Care Center	C	P/C	P/C	P/C	P/C	P/C	P/C	P	P	C	C	A/C	A/C	P/C	P/C
23.	Church (with Cemetery)	P	P	P	P	--	--	P	P	P	P	P	C	C	–	P
24.	Contractor's Equipment Yard	--	--	--	--	--	–	–	–	P	--	--	P	P	--	--
25.	Convenient Store and/or Filling Station	--	--	--	--	--	--	--	P	P	P	--	C	C	–	--
26.	Crushed Stone, Sand, Gravel Operation	--	--	--	--	--	–	–	–	–	--	--	C	C	--	--
27.	Cultural Services	C	C	C	C	--	--	P	P	P	P	P	--	–	–	P
28.	Dry Cleaner	--	--	--	--	--	--	--	P	P	--	P	--	–	–	P
29.	Dwelling; Accessory	C	C	C	C	--	–	--	--	--	--	--	--	--	--	C
30.	Dwelling; Mobile Home	C	C	C	C	--	P	–	–	–	--	--	--	--	C	C
31.	Dwelling Multiple; Two Dwellings on 11.0 acres or greater	P	--	--	--	--	--	--	--	--	--	--	--	–	–	--
32.	Dwelling; Single Family	P	P	P	P	P	P	C	C	C	C	C	C	C	P	P
33.	Educational Institution	P	P	P	P	--	–	–	P	P	--	--	P	P	--	P
34.	Farmers Market	C	--	--	--	--	--	--	P	P	--	--	--	–	–	P
35.	Funeral Home	--	--	--	--	--	--	--	P	P	--	--	--	–	–	--
36.	Furniture Store	--	--	--	--	--	--	--	P	P	P	--	--	–	–	--
37.	Grain Bin Facility	C	--	--	--	--	--	--	P	P	--	--	--	–	–	--
38.	Greenhouse & Plant Nursery	C	C	C	C	--	–	P	P	P	P	P	--	--	--	--
39.	Home Occupation	A/C	A/C	A/C	A/C	A/C	A/C	–	–	–	--	--	--	--	A/C	A/C
40.	Hotel & Motel	--	--	--	--	--	--	--	--	P	P	--	--	–	–	--
41.	Indoor Storage-Construction Equipment	--	--	P	P	--	–	P	P	P	P	--	P	P	--	--
42.	Junk Yard	--	--	--	--	--	--	--	C	C	C	--	C	C	–	--
43.	Kennels	C	C	C	C	--	--	--	C	C	C	--	C	C	–	--
44.	Livestock Auction and/or Stock Yard	C	--	--	--	--	–	–	–	C	--	--	--	C	--	--
45.	Machinery Sales & Service	--	--	--	--	--	–	–	–	P	P	--	P	P	--	--

		P = Permitted Use				C = Conditional Use				A = Accessory Use			-- = Not Permitted			
	LISTED USES	A-1	R-1	R-2	R-3	R-4	R-5	C-0	C-1	C-2	B-1	B-2	I-1	I-2	I-H	PD-1
46.	Manufactured Home Dealers	--	--	--	--	--	–	–	P	P	P	--	--	--	--	--
47.	Manufacturing Use	--	--	--	--	--	–	–	–	–	--	--	P	P	--	--
48.	Meat Packing Plant	--	--	--	--	--	–	–	–	–	--	--	C	C	--	--
49.	Medical Office	--	C	C	C	--	–	P	P	P	--	P	C	C	--	P
50.	Mobile Home Park	--	--	--	--	--	P	–	–	–	--	--	--	--	--	--
51.	Mobile Office	--	C	C	C	--	–	–	C	C	C	--	C	C	--	--
52.	Multi-Family Housing	--	--	--	--	P	–	–	–	–	--	--	--	--	--	P
53.	Non-Commercial Saw Mill	P	--	P	P	--	–	–	–	–	--	--	--	--	--	--
54.	Nursing Home	--	C	C	--	--	–	–	P	P	--	--	--	--	--	P
55.	Outlet Mall and/or Department Store	--	--	--	--	--	–	–	–	P	P	--	--	--	--	--
56.	Owner-Operated, Specially Skilled Shop for Agricultural Related Use	C	--	--	--	--	–	–	–	–	--	--	--	--	--	--
57.	Parking Lot	C	C	C	C	--	–	P	P	P	P	P	--	--	--	P
58.	Petroleum Production, Refining and/or Storage	--	--	--	--	--	–	–	–	–	--	--	--	C	--	--
59.	Plumbing & Electrical Supply	--	--	--	--	--	–	–	P	P	P	--	P	P	--	--
60.	Printing, Publishing & Engraving	--	--	--	--	--	–	–	P	P	--	--	P	P	--	--
61.	Private Club	C	C	C	C	--	–	–	P	P	--	--	C	C	--	P
62.	Private School	P	P	P	P	--	–	–	P	P	--	--	--	--	--	P
63.	Professional Office	--	C	C	C	--	–	P	P	P	--	P	P	P	--	P
64.	Rail Road Siding Operation	--	--	--	--	--	–	–	–	–	--	--	--	P	--	--
65.	Ready Mix and/or Concrete Plant	--	--	--	--	--	–	–	–	–	--	--	C	C	--	--
66.	Recreational Enterprises (Outdoor)	C	C	C	C	--	–	C	P	P	--	--	--	--	--	--
67.	Recycling Center	--	--	--	--	--	–	–	C	C	C	--	C	C	--	--
68.	Repair of Household Appliances	--	C	C	C	--	–	P	P	P	--	--	--	--	--	--
69.	Restaurants	C	C	C	C	--	–	P	P	P	P	P	A	A	--	P
70.	Research Laboratory	--	--	--	--	--	–	–	P	P	--	--	P	P	--	--
71.	Retail Food Store	--	--	--	--	--	–	–	P	P	P	--	--	--	--	P
72.	Retail Neighborhood Use	--	C	C	C	C	C	P	–	–	--	--	--	--	--	P
73.	Retail Sales of Merchandise	--	C	C	C	C	C	P	P	P	C	--	A	A	--	P
74.	Saw mills	C	--	--	--	--	–	–	C	C	C	--	C	C	--	--
75.	Scrap Metal	--	--	--	--	--	–	–	–	C	--	--	C	C	--	--
76.	Self / Mini Storage Units	--	C	C	C	C	C	–	P	P	P	--	--	--	--	P
77.	Self Serve Laundry	--	C	C	C	C	C	P	P	P	--	--	--	--	--	P
78.	Sexually Oriented Business	--	--	--	--	--	–	–	–	–	--	--	P	P	--	--
79.	Shoe Repair	--	C	C	C	C	–	P	P	P	--	P	--	--	--	P
80.	Signage (On and Off-Site)	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C	P/C
81.	Slaughter House	C	--	--	--	--	–	–	–	–	--	--	C	C	--	--
82.	Tailors Shop	--	C	C	C	--	–	P	P	P	--	P	--	--	--	P
83.	Temporary Real Estate Sale Office	--	C	C	C	C	C	–	–	–	--	--	--	--	--	P
84.	Temporary Use- See Definition	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
85.	Theater	--	--	--	--	--	–	–	P	P	P	C	--	--	--	--
86.	Tractor Trailers (Parking & Storage)	P	C	C	C	--	–	C	P	P	P	C	P	P	C	C
87.	Truck or Freight Terminal	--	--	--	--	--	–	–	–	–	C	--	C	C	--	--
88.	Veterinary Clinics	C	C	C	C	--	–	C	P	P	--	--	--	--	--	--
89.	Warehousing	--	--	--	--	--	–	–	–	P	P	--	P	P	--	--
90.	Welding Shop	C	C	C	C	--	–	C	P	P	--	--	P	P	--	--
91.	Wholesaling	--	--	--	--	--	–	–	–	P	--	--	P	P	--	--

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SECTION 4

ZONING MAP AMENDMENT PROCEDURES

4-1 APPLICATION PROCESS Applications for amendments to the Zoning Map shall be made only in accordance with this Section.

A. **INITIATION OF AMENDMENT** Applications for amendment to the Zoning Map shall be filed with the Commission. A request for an amendment may originate from the Commission, the Fiscal Court, the property owner or his/her agent. At the time of filing an application for a Zoning Map Amendment, the non-refundable filing fee shall be paid; however, there shall be no filing fee for an amendment requested by the Fiscal Court, Commission or any other governmental body. If the hearing procedure is initiated by a party other than the owner, the Commission shall promptly notify the owner of the subject property as required by KRS Chapter 100. The application shall be made on forms provided in the commission office.

B. **EXEMPTIONS** Applications for amendment to the Zoning Map, which are initiated by the Commission or the Fiscal Court, shall be exempt from the Development Plan and binding elements Section of this ordinance.

C. **THE PRE-APPLICATION CONFERENCE** Prior to submission of an application for amendment of the Zoning Map, the applicant or his agent should meet with the Commission Staff. The purpose of conference is to discuss, at the earliest stages, the site, the Land Use Group and the Planning Area in which the site is located, as well as, the goals and objectives of the PLANNING FOR GROWTH COMPREHENSIVE DEVELOPMENT GUIDE 2008. It is intended that this conference will help to alleviate possible conflicts by early recognition of existing conditions, necessary facilities and other issues related to the proposed amendment. The discussion shall include the characteristics of the site that would affect the proposed development and also what elements may be required on the preliminary Development or Site Plan of the proposed project.

D. **PLAN SUBMISSION** All applications for any proposed amendment to the Zoning Map shall include a Development Plan or Site Plan in accordance with the provisions and requirements of Sections 6 and 7. The Development Plan or Site Plan is intended to demonstrate to the Commission the character and objectives of the proposed development in adequate detail for the Commission to evaluate the effect the proposed development would have on the community and determine what provisions, if any, should be included as part of the plan and be binding on the use and development of the subject property.

E. APPLICATION FOR AMENDMENT

Applications for amendment to the Zoning Map shall be filed with the Commission in accordance with this Section of the Zoning Ordinance and in compliance with KRS 100.213.

1) Demonstration of Appropriateness:
   To determine whether a request is in compliance with the PLANNING FOR GROWTH COMPREHENSIVE DEVELOPMENT GUIDE 2008, all applications for amendment to the Zoning Map shall be accompanied by the following where applicable:
   (a) Step 1: Compliance with the Community-Wide Development Policies
   Step 2: Property Characteristics
   Step 3: Agreement with Recommended Future Land Use Plan Group
   Step 4: Compliance with the Planning Area Guidelines
   (b) A statement why the existing zoning classification assigned to the property is inappropriate and the proposed zoning classification is appropriate; or
   (c) A statement describing what major changes of an economic, physical, or social nature within the area involved which were not anticipated in the adopted Planning for Growth Comprehensive Development Guide 2008 and which have substantially altered the basic character of such area. This statement shall include the following:
      i. A list of major economic, physical or social changes;
      ii. A description of how said changes were not anticipated by the Comprehensive Plan;
      iii. A description of how said changes altered the basic character of the area; and
      iv. A description of how said changes make the proposed amendment to the Zoning Map appropriate.

2) Property Owners' Signature:
   Unless made by the Commission or the Fiscal Court, all applications for amendment to the Zoning Map shall be signed by the owner(s) of the affected property. Leaseholders, option holders, developers, and agents should also be identified.

3) Responsibility for Accuracy:
   The applicant shall be held responsible for the accuracy of the information submitted as part of the Zoning Map Amendment application.

4-2 ZONING MAP AMENDMENT PROCESS

A. NOTICE REQUIREMENTS OF PUBLIC HEARING

KRS 100.212 mandates the following notice requirements:

1) A sign conspicuously posted for fourteen (14) consecutive days immediately prior to the hearing;
2) Notice shall be provided by first class mail to the owner of every parcel of adjoining and surrounding property of that proposed for amendment. The applicant proposing the map amendment shall furnish the names and addresses of the property owners. The Commission Staff can be requested to assist the applicant in obtaining the addresses for public notice. The notice shall be sent fourteen (14) days in advance. The records of the Hardin County Property Valuation Administrator shall be relied upon conclusively to determine the identity and address of the property owners. The Commission Staff shall affirm by affidavit that the appropriate individuals were notified as stated above;
3) Publication of a legal advertisement shall appear no less than seven (7) days and no more than twenty-one (21) days prior to the hearing pursuant to KRS Chapter 424;
4) Notice of a proposed map amendment shall be provided fourteen (14) days in advance to an adjacent planning unit. If no planning unit exists, said notice must be sent to the mayor of an adjacent city or to the Judge/Executive of that county, if the adjacent property lies in the unincorporated area;
5) Commission or Fiscal Court initiated map amendment – Adjacent and surrounding property owners shall be notified at least thirty (30) days in advance of the hearing;

B. PUBLIC HEARING

The Commission shall hold at least one public hearing on all proposed amendments to the Zoning Map in accordance with the provisions of Kentucky Revised Statutes, Chapters 100, 424 and other applicable law. The public hearing shall consider the appropriateness of the proposed amendment of the zoning map and the appropriateness of the development plan for the site in question and will conform to due process requirements outlined below:

1. Taking and weighing of offered evidence;
2. Cross-examination of witnesses shall be permitted;
3. Findings of facts based upon a consideration of the record;
4. Conclusions supported by substantial evidence; and,
5. Judicial review of the administrative action shall be available.

A total of one (1) hour shall be allotted for evidence and testimony to be presented. The applicant shall be allotted 30 minutes to establish facts for the record in support of the proposed map amendment, as shall those who speak in opposition. A unanimous decision of the

Commission shall be necessary to grant additional time to either party. Strict adherence to these limits shall be required.

Once the public hearing is closed, the Commission shall review the evidence and testimony presented. In addition, Commission members may visit the site of the proposed map amendment in making their decision. However, any discussion of the issue in question outside of the public hearing or ex parte communication is prohibited under the rules of due process.

Before any map amendment is granted, as mandated per KRS 100.213, the Commission must find that the map amendment is in agreement with the County's Comprehensive Plan; or in the absence of such a finding, that one (1) or more of the following apply:

1. The existing zoning given to the property is inappropriate or improper, and that the proposed zoning is appropriate;
2. That there have been major changes of an economic, physical or social nature within the area involved which were not anticipated in the Comprehensive Plan adopted by the Commission and which have substantially altered the basic character of such area.

The Commission shall make its decision no later than its next meeting. Should the Commission elect to wait this extra time, the date, time, and place of the next meeting shall be announced publicly at the conclusion of the public hearing.

C. **COMMISSION ACTION**

Following a public hearing concerning a proposed amendment to the Zoning Map, the Commission shall by vote to approve, deny, or defer action as to the appropriateness of the proposed Zoning Map amendment, pursuant to KRS 100.2111. In addition, the Commission shall by separate vote approve, reject, or defer action on the submitted Development Plan and "binding elements" thereof, if any. Thereafter, a copy of the resolution, its "binding elements" and the Commission's action regarding the Zoning Map amendment shall be forwarded to the Fiscal Court. The decision of the Commission shall be automatically implemented, subject to appeal.

A tie vote of the Commission shall be subject to further consideration for a period not to exceed 30 days. If at the end of this time the tie vote has not been broken, then the decision will pass to the Fiscal Court for approval or denial. It shall take a majority of the entire Fiscal Court to adopt a map amendment sent forward with a tie vote. The decision shall be recorded in the minutes of the Commission.

4-3 ZONING MAP AMENDMENT APPEAL PROCESS

Subsequent to the final action of the Commission, any person or party claiming to be aggrieved may request that the Fiscal Court make the final decision in accordance with this Section of the Zoning Ordinance as follows:

A. APPLICATION FOR APPEAL

An application shall be filed within twenty-one (21) days following the date of the final action being reviewed. This application shall be filed in the Commission's office and shall state specifically the reason(s) for the appeal hearing. Within seven (7) days, the staff shall certify if these conditions have been met and proceed with preparations for the hearing. In cases where these conditions have not been met, the staff shall notify the applicant immediately so that a complete appeal hearing application can be submitted.

The Fiscal Court may file notice with the Commission to finally decide any map amendment. Such action shall be taken within twenty-one (21) days of the final decision of the Commission. A majority vote of the entire Fiscal Court is necessary to override the Commission decision. Unless a majority of the entire Fiscal Court votes to override the Commission then said decision shall become final and effective. If a majority of the entire Fiscal Court does not vote to override the Commission decision and the Commission has voted affirmatively on the issue then the map amendment shall be deemed to have passed by operation of law.

B. NOTICE FOR APPEAL

The Director shall notify the County Judge/Executive, Engineering, Planning and Public Works Committee and the Fiscal Court member whose district the development is proposed that an appeal hearing request has been filed. The notification shall include the name of the person requesting the hearing and the reasons given for the appeal. The Fiscal Court shall have seven days (7) in which to set the date, time, and place for the hearing. The date shall be no more than thirty (30) days following completion of the appeal hearing application.

Notice to the General Public of a map amendment appeal shall follow the same process as found under Section 4-2.A (Pg. 61).

C. **PUBLIC HEARING**

A total of one (1) hour shall be allotted for evidence and testimony to be presented. Twenty (20) minutes shall be granted to the Commission, and/or their staff to explain the events leading to the decision under review, twenty (20) minutes shall be granted to the map amendment applicant and twenty minutes (20) to those who speak in opposition.

A unanimous decision of the Fiscal Court shall be necessary to grant additional time to either party. Strict adherence to these limits shall be required.

The Commission shall provide the entire record collected at the map amendment public hearing in question which includes all evidence and testimony provided and the Commission's public hearing report to the Fiscal Court for consideration during the appeal hearing.

D. **FISCAL COURT ACTION**

At the next regularly scheduled meeting following the appeal hearing, the Fiscal Court shall decide to uphold the decision of the Commission or provide new Findings of Fact and conclusion of law with a new decision (Section 4-1.E.1). It shall take a majority vote of the Fiscal Court membership to reach a decision contrary from that of the Commission.

If the Fiscal Court does not act at the next regularly scheduled meeting following the hearing then it shall have a maximum total of ninety (90) days after the final action of the Commission to make a decision.

4-4 ZONING MAP AMENDMENT DENIALS

Map amendments that have been denied after a public hearing and Commission or Fiscal Court final determination shall not be eligible to submit the same project for a second review for a minimum of one year starting on the date final action was taken. New proposals which are outside the four digit Standard Industrial Classification of the rejected proposal shall be eligible for submission at the applicant's discretion.

4-5 ZONING MAP AMENDMENT WITHDRAWALS

Any request for a map amendment may be withdrawn upon written request by the applicant any time prior to the submission of any public hearing notice for advertisement. If the request for withdrawal is made after publication of the notice of hearing, such withdrawal shall be only with the consent of either the Commission or Fiscal Court, whichever body had advertised the hearing, and no new request concerning any or all of the same shall be filed within six months of the date of action, unless the respective body approving withdrawal specifies that the time limitation shall not apply.

4-6 ZONING TEXT AMENDMENT PROCESS

When necessary to further its purposes, this ordinance shall be amended as per KRS 100.211(2). A proposal to amend the text of the regulation may originate with either the Commission or Fiscal Court. Text amendments to the Zoning Ordinance shall be made only in accordance with this Section.

A. **COMMISSION ACTION**

Said proposals shall be referred to the Commission before adoption. The Commission shall hold at least one (1) public hearing giving notice by publication of a legal advertisement that shall appear not less than seven (7) days and no more than twenty-one (21) days prior to the hearing pursuant to KRS Chapter 424.130(b).

After voting to recommend that an amendment to the text of this Ordinance be granted or denied, the Commission shall forward to Fiscal Court, a recommendation as to the text of the amendment and whether the amendment shall be approved or disapproved and shall state the reasons, in writing, for its recommendation. This action shall be deemed the Final Action by the Commission on the amendment. In the case of a proposed amendment originating with Fiscal Court, the Commission shall make its recommendation within sixty (60) days of the date of its receipt of the proposed amendment.

B. **FISCAL COURT ACTION**

The Fiscal Court shall not act upon a proposed amendment to the text of this ordinance until it has received the written recommendation thereon from the Commission. If the proposed amendment originated with the Commission, it shall take a majority of the entire Fiscal Court to override the recommendation of the Commission.

If the proposed amendment originated with the Fiscal Court, it shall take an affirmative vote of the majority of the Fiscal Court to adopt the proposed amendment. The Fiscal Court shall take final action within ninety (90) days of the date upon which the Commission takes its final action upon such proposal.

Copies of any text amendment shall be available for review by the public at no charge in the Commission office during regular business hours.

SECTION 5

BOARD OF ADJUSTMENT

5-1 AUTHORIZATION

The Board shall administer this ordinance in compliance with KRS 100.217. The Board shall consist of three (3) members, all of whom must be citizen members. Nominations for the Board shall be made by the County Judge/Executive and approved by the Fiscal Court. The filling of vacancies, taking oaths, and removal from office shall be only as provided in KRS 100.217. The Board shall annually elect a Chairman, Vice Chairman and Secretary. Any officer shall be eligible for re-election at the expiration of his/her term.

5-2 MEETINGS AND PROCEDURES

A. The Board shall conduct meetings, as provided in KRS 100.221(1), at the call of the Chairman or Hearing Officer who shall give written or oral notice to all members of the Board at least seven (7) days prior to the meeting, said notice shall contain the date, time, place for the meeting, and the subject or subjects which will be discussed.

B. Quorum and Conflict of Interest. A simple majority of the total membership of the Board, as established by regulation or agreement, shall constitute a quorum. Any member of the Board who has direct or indirect financial interest in the outcome of any question before the body shall disclose the nature of the interest and shall disqualify him/herself from voting on the question, as provided in KRS 100.221(2).

C. By-Laws, Minutes, Records. The Board shall adopt by-laws for the transaction of business and shall keep minutes and records of all proceedings, including regulations, transactions, findings, and determinations, and the number of votes for and against each question, and if any member is absent or abstains from voting, indicating the fact, all of which shall, immediately after adoption, be filed in the office of the Board. Such records shall be available to the general public. A transcript of the minutes of the Board shall be provided, if requested by a party, at the expense of the requesting party, and the transcript shall constitute the record, as provided in KRS 100.221(3).

D. A court reporter may be requested by the applicant or Board at least ten (10) days prior to the hearing and shall be designated and paid by the applicant. The original transcript shall be delivered to the Board.

5-3 POWERS OF BOARD OF ADJUSTMENT

When approving any application, the Board may impose such additional conditions as it deems necessary to safeguard the public welfare, safety, health, convenience, and best interests of the adjoining property and neighborhood.

The Board shall have the following powers:

A. **Conditional Uses**: For the purpose of this Section, in agreement with KRS 100.237, the Board shall hear and resolve applications for Conditional Use Permits to allow the proper integration into the community of uses which are specifically identified as "Conditional Uses", within the Land Use Table 1 (Pg. 56) of this ordinance. These Uses, due to their extent, nature of operation, limited application, or relationship to natural resources, which may be suitable only in specific locations of a Planning Area or Zone only if specific conditions are met (Section 16, Pg. 127 for additional requirements).

   A public hearing is required to review a Conditional Use Permit application by the Board with all surrounding property owners within 1200 feet of road frontage receiving notice by first class mail. Before a Conditional Use Permit is granted, the Board shall find the proposed use to be essential or desirable to the community and not in conflict with the elements and objectives of the Comprehensive Plan.

   Any such conditions shall be recorded in the minutes and on the Conditional Use Permit. The Board shall have power to revoke Conditional Use Permits for noncompliance with the conditions thereof. Furthermore, the Board shall have a right of action to compel the violator to remove offending structures or uses at his/her own costs and may have judgment directed toward a particular individual for such cost.

   The Director may waive certain non-applicable submittal requirements. The Board or the Director may require an application for a Conditional Use Permit to be subject to review by other County agencies.

B. **Dimensional Variance:** For the purpose of this Section, in agreement with KRS 100.111 (24), 100.241, 100.243, 100.247, 100.251 and 100.281 (6), the Board shall hear and resolve applications for variances from the dimensional requirements of the standards set within this regulation on a case-by-case basis. The Board shall not possess the power to grant a variance to permit a use on any land, building, or structure which is not permitted by the zoning regulation in the zone in question. For variance applications, all adjoining property owners shall receive notice by first class mail. In addition, publication of the application, as prescribed in KRS Chapter 424, shall be followed.

Where the Board finds that extraordinary hardships or practical difficulties may result from strict compliance with these dimensional regulations, and/or the purposes and goals of the PLANNING FOR GROWTH COMPREHENSIVE DEVELOPMENT GUIDE 2008 and the DEVELOPMENT GUIDANCE SYSTEM may be served to a greater extent by an alternative proposal, it may approve variances to the provisions herein.

In approving variances, the Board may require such additional conditions and/or restrictions as will, in its judgment, secure the objectives of the PLANNING FOR GROWTH COMPREHENSIVE DEVELOPMENT GUIDE 2008 and the DEVELOPMENT GUIDANCE SYSTEM.

Application and Standards for Variances

The Board shall review all applications for dimensional variances. Applications shall only be approved when it is determined that substantial justice may be achieved and the public interest, health, safety, and welfare secured; provided, however, that they shall not have the effect of nullifying the intent and purposes of the PLANNING FOR GROWTH COMPREHENSIVE DEVELOPMENT GUIDE 2008 and the DEVELOPMENT GUIDANCE SYSTEM.

1. Before any variance is granted, the Board must find that the granting of the variance:
   - will not adversely affect the public health, safety or welfare,
   - will not alter the essential character of the general vicinity,
   - will not cause a hazard or a nuisance to the public, and
   - will not allow an unreasonable circumvention of the requirements of this regulation.

   In making these findings, the Board shall consider whether:
   a. The requested variance arises from special circumstances which do not generally apply to land in the general vicinity;

   b. The strict application of the provisions of the regulation would deprive the applicant of the reasonable use of the land or would create an unnecessary hardship on the applicant;

   c. The circumstances are the result of actions of the applicant taken subsequent to the adoption of this regulation from which relief is sought.

2. The Board shall deny any request for variance arising from circumstances that are the result of willful violations of this regulation by the applicant subsequent to the adoption of this regulation.

A dimensional variance applies to the property for which it is granted, and not to the individual who applied for it. A variance also runs with the land and is transferable to any future owner of the land, but it cannot be transferred by the applicant to a different site (KRS 100.251).

The Board may grant variances on appropriate applications from any part of these regulations as long as that variance is not in conflict with other requirements or limitations set out in this Section.

Following the discussion of the variance request, the Board shall, either vote to grant the variance, alter the request, or deny the variance. All decisions made by the Board shall be binding. Any such conditions shall be recorded in the minutes. The Board shall have power to revoke variances for noncompliance with the conditions thereof. Furthermore, the Board shall have a right of action to compel the violator to remove offending structures or uses at his/her own costs and may have judgment directed toward a particular individual for such cost.

C. **Administrative Review and Appeals**

To hear and resolve applications where it is alleged by an applicant that there is error in any order, requirement, decision, grant, or refusal made by an Administrative Official in the enforcement of this regulation, and for the interpretation of the Zoning Map. Such appeal shall be taken within thirty (30) days of the action of the Board (KRS 100.257).

Appeals to the Board may be taken by any person, or entity claiming to be injuriously affected or aggrieved by an official action, order, requirement, interpretation, grant, refusal, or decision of any zoning enforcement officer. Such appeal shall be taken within thirty (30) days after the appellant or his agent receives notice of the action of the official by filing with said officer and with the Board a notice of appeal specifying the grounds thereof, and giving notice of such appeal to any and all parties of record. Said officer shall forthwith transmit to the Board all papers constituting the record upon which the action appealed from was taken and shall be treated as and be the respondent in such further proceedings. At the public hearing on the appeal held by the Board, any interested person may appear and enter his appearance, and all shall be given an opportunity to be heard (KRS 100.261). The Board shall fix a reasonable time for hearing the appeal and give public notice in accordance with KRS Chapter 424, as well as written notice to the appellant and the administrative official at least one (1) week prior to the hearing and shall decide it within sixty (60) days. The affected party may appear at the hearing in person or by attorney. (KRS 100.263)

5-4 VARIANCES AND CONDITIONAL USE PERMITS – IN THE COMPANY OF MAP AMENDMENTS

The Commission shall hear and finally decide applications for Dimensional Variances or Conditional Use Permits when a proposed development requires a map amendment and one (1) or more Dimensional Variances or Conditional Use Permits (pursuant to KRS 100.203 (5)). In such cases, the Commission shall assume all powers and duties otherwise exercised by the Board pursuant to KRS 100.231, 100.233, 100.237, 100.241, 100.247 and 100.251.

5-5 APPEAL PROCRESS TO CIRCUIT COURT

Subsequent to the final action of the Board, any person or party claiming to be aggrieved may request that the Hardin County Circuit Court make the final decision in accordance with this Section of the Zoning Ordinance as follows, pursuant to KRS 100.347:

Such appeal shall be taken within thirty (30) days after the final action of the Board. All final actions which have not been appealed within thirty (30) days shall not be subject to judicial review. The board of adjustment shall be a party in any such appeal filed in the Circuit Court.

Final action shall be deemed to have occurred on the calendar date when the vote is taken to approve or disapprove the matter pending before the Board.

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SECTION 6

DEVELOPMENT PLAN REQUIREMENTS

6-1 INTENT

This Section establishes and defines Development Plans which may be utilized for a wide variety of planning related procedures. This Section outlines the procedure for submission and content of all Development Plans required by these regulations unless another procedure or different contents are specified elsewhere.

The purpose in requiring submission of a Development Plan is to assure compliance with the standards and requirements of the Zoning Ordinance and other County ordinances for all construction, with the intent of implementing the Comprehensive Plan and promoting the public health, safety and general welfare through planned development. It is the intent of the Development Plan submission to provide as much information to all county departments and public agencies for their reviews, in an effort to streamline the approval process for developers and owners.

6-2 DEVELOPMENT PLAN REQUIRED

Development Plans, as defined by KRS 100.111(8), shall be required as follows:

1. For map amendment requests, as authorized by KRS 100.203(2), (except R-1, R-2, R-3 and A-1 Zones);
2. For new construction within commercial and industrial zones and for assembly and recreational land uses in all residential zones;
3. For enlargements, additions, extensions within commercial and industrial zones and for assembly and recreational uses in all residential zones;
4. For new construction of multifamily structures. This includes the conversion or alteration or addition to existing structures into multifamily units;
5. For Conditional Use Permits within non-residential zones (except R-1, R-2, R-3 and A-1 Zones);
6. For Variances within non-residential zones (except R-1, R-2, R-3 and A-1 Zones);
7. For the conversion of a residential structure to a non-residential use;
8. For a change in use of a commercial or industrial structure when parking, perimeter landscape screening or other similar improvements are required or changed.

6-3 DEVELOPMENT PLAN PROCEDURES

The following shall be the procedure for consideration of any Development Plan. Development Plans, which fully meet the requirements herein, may be approved and certified by the Director without action by the Commission.

FILING – To formally request action on the required Development Plan, the applicant shall file a completed application form, a filing fee, and two (2) copies of the plan prepared by a Professional Engineer or Land Surveyor. After review, the applicant shall then provide two (2) copies of the corrected final plan, with the appropriate certifications signed, for full approval.

REVIEW – The Director and concerned agencies shall meet to review the Development Plan for the purpose of resolving all differences. This review shall be open to the applicant and to any interested citizen.

ACTION – The Director shall act within 60 days of submission in the following form:

- **Approval** — The Director may approve the Development Plan as submitted.
- **Conditional Approval** — The Director may conditionally approve the Development Plan with conditions and require amendment to the plan and/or completion of all conditions before granting full approval.
- **Resubmission** — The Director may review the plan and submit review comments to the owner and/or owner's agent listing items that must be provided, corrected or completed for additional review before full approval.
- **Disapproval —** The Director may disapprove the Development Plan and shall state in writing, its reasons for disapproval. To be reconsidered, a new Development Plan shall be submitted to the Director, and must be approved or disapproved within 60 days of submission.

DEVELOPMENT PLAN PETITION – A request for review before the Commission for final determination of compliance with the development standards may be granted upon proper notice to the Director by written request to appear before the Planning Commission.

COMMISSION ACTION - No Development Plans shall be considered for petition by the Commission until they have been reviewed by the Director unless this requirement is waived by the Commission.

The Commission will review any conditions required by the Director and concerned agencies recommendations and then act for approval, conditional approval with conditions noted, resubmission, or disapproval. The Commission may modify or disapprove the Development Plan if it

finds the plan does not comply with the requirements of the Zoning Ordinance, and when applicable, the Subdivision Regulations, or if it finds there are existing or potential flood, drainage, traffic, topographic, health, safety, nuisance or other similar problems relating to the development of the subject property.

In addition to these items, Development Plans which seek to amend the original Development Plan or its approved amendments shall also be subject to the provisions of this Section. Reasons for action of postponement or disapproval shall be fully incorporated in the minutes of the Commission. The following actions by the Commission shall have the meanings so stated:

Action At the meeting for the appeal request, the Commission shall act in the following form:

- **Approval** — The Commission may approve the Development Plan as submitted. In cases where a map amendment request is later disapproved, this action automatically disapproves the Development Plan.
- **Conditional Approval** — The Commission may conditionally approve the Development Plan with conditions and require amendments to the plan and/or completion of all conditions, before full approval is granted by the Commission.
- **Resubmission** — The Commission may review the plan and submit review comments to the owner and/or owner's agent listing items that must be provided, corrected or completed for additional review before full approval.
- **Disapproval** — The Commission may disapprove the Development Plan and shall state in writing its reasons for disapproval. To be reconsidered, a new Development Plan shall be submitted, and must be approved or disapproved by the Commission within 60 days of resubmission.

6-4 CONSTRUCTION COMMENCEMENT

Any approved Development Plan shall become invalid if the authorized work has not commenced within one (1) year of plan approval. To be reconsidered, a new Development Plan shall be resubmitted to the Commission for approval.

6-5 APPROVAL OF DEVELOPMENT PLAN BEFORE BUILDING PERMIT

When a Development Plan is required, no building permit shall be issued until a Development Plan is approved by the Commission Chair or the Director. The approved Development Plan shall limit and control the issuance of all building and occupancy permits, and restrict the construction, location and use of all land and structures to the conditions as set forth in the plan.

6-6 COMPLETION OF SITE CONSTRUCTION WORK AND REQUIREMENTS

All requirements of the approved Development Plan must be completed within six months of building occupancy unless the Director upon request grants an extension. The Commission Staff will inspect completed site construction work when the applicant receives a certificate of building occupancy and thereafter if necessary. If no building construction is being proposed, all site construction work if begun, is to be completed within six months. A copy of the approved Development Plan shall be retained on the job site until all site improvements have been completed and have been accepted by the Hardin County Planning Commission.

6-7 CONTENT OF DEVELOPMENT PLAN

Required plan information shall be as follows (unless certain items are waived by the Commission):

1. A stamp or seal of a Kentucky registered professional engineer, architect, landscape architect or land surveyor; the scope of work performed by such professionals in conjunction with a development plan submission is limited to that permitted by their respective licensing authorities. If grading and/or storm drainage construction work are being proposed, a Kentucky registered professional engineer shall be required to submit grading information and design the appropriate stormwater system. A stamp or seal of a Kentucky registered professional engineer is required for grading and stormwater construction work. All plans shall be created using an engineering drafting scale and shall be a minimum size of 11”x17”. The plan’s scale shall be approved by the Commission upon submission but typically should be 1”=100’ or less, unless otherwise approved.
2. The title block shall be placed on the bottom right corner of the sheet and shall contain the following:
   a. plan name, preceded by the words “Development Plan For (name of development)”;
   b. a written and graphic scale,
   c. north arrow;
   d. the name and address of the developer and plan preparer;
   e. the development address, deed book, page number and PVA Map Parcel Number.
3. The boundary of the subject property with dimensions, its record plat designation (if available) and a record plat name and lot number or owner’s name(s), deed book and page number of all adjoining properties.
4. A vicinity map, illustrating the entire site and oriented in the same direction as the design scheme with the North arrow pointing up or to the right.
5. Zoning classification of all abutting properties, including those across any street, railroad or other public way.

6. Size, location, height, floor area, number of stories and use of all proposed and/or existing buildings, signs and dumpsters, including service structures.
7. Location, arrangement and dimensions of existing and proposed driveways, walkways, parking areas and arrangement of parking spaces. Appropriate "accessible parking" (handicapped) accommodations must be illustrated. The location of all street entrances and access points and with their respective radius must also be illustrated.
8. Location, pavement width, and right-of-way of any proposed or existing streets within or abutting the subject property.
9. Screening, landscape buffering, recreational and other open space areas including notes on landscaping material used. A separate landscape plan may be required by the Commission.
10. General locations and a note for the Natural Features and Drainage & Stormwater Receivers of special flood hazard areas, sinkholes, blue line streams, bodies of water, waterways, storm water retention/detention areas and any other designated environmentally sensitive or geologic hazard areas.

    Natural Features Note
    As indicated on the _____ USGS Quadrangle Map dated ___, there are _____ located within the subject property of this development.

    Drainage and Stormwater Receiver Note
    The stormwater receiver(s) of this development is _____ for the subject property.

11. A Flood Note relating to a review of the local Flood Insurance Rate Map (F.I.R.M.) determining the property's inclusion in or exclusion from a special flood hazard area.

    As indicated on map number _____ of Flood Insurance Rate Maps dated _____ , this site is located in Zone X which has been determined to be outside the 500-Year Flood.

    As indicated on map number _____ of Flood Insurance Rate Maps dated _____, a portion this site is located in Zone ____ which is a Special Flood Hazard Area Inundated by 100-Year Flood. As noted for Zone ___, (no) base flood elevations have been determined. No structure shall be located in the floodplain unless approval is received in compliance with the Hardin County Ordinance adopted 14 August 2007 relating to Flood Damage Prevention and the National Flood Insurance Program as recorded in Ordinance Book 4 Page 182 and Fiscal Court Order Book 77 Page 452 in the Hardin County Clerks' Office.
12. Proposed and existing building setbacks and easements for drainage, utilities and/or other purposes.

13. Utility information such as water, septic area or sanitary sewer, natural gas, electric service, and the location of all outdoor lighting and fire hydrants.
14. Areas of existing trees including those located along fence rows and drainage areas.
15. Notes relative to any special restrictions on the property, such as, any variances or conditional use permits that have been secured, access, shared features (entrances, parking or drive lanes), record plat restrictions/covenants and maintenance of common areas.
16. A statistical summary of all pertinent site data (this information should be listed in acreage, square footage and/or percentage of the site as applicable), including site area, zoning, use, building coverage and floor area, parking and open space areas, number of parking spaces, number of dwelling units, building height, and required landscaping.
17. The following certifications, Table 2, shall be shown and executed on all Development Plans:

- Owner Certification
- Notary Certification
- Preparer's Certification
- Kentucky Department of Highways Certification
- Hardin County Encroachment Permit Certification
- Wastewater Certification
- Engineering Department Certification
- Commission Certification

6-8 CONTENT OF CONCEPTUAL DEVELOPMENT PLAN

Under certain conditions the Commission may allow the submission of a Conceptual Development Plan with a map amendment request. The purpose of the Conceptual Development Plan is to provide Commission input in the formative stages of subdivision and site plan design. Required plan information shall be as follows (unless certain items are waived by the Commission):

1. A stamp or seal of a Kentucky registered professional engineer, architect, landscape architect or land surveyor; the scope of work performed by such professionals in conjunction with a development plan submission is limited to that permitted by their respective licensing authorities. If grading and/or storm sewer construction work are being proposed, a Kentucky registered professional engineer shall be required to submit grading information and design the appropriate stormwater system. A stamp or seal of a Kentucky registered professional engineer is required for grading and stormwater construction work. All plans shall be prepared by using an engineering drafting scale and shall be a minimum size of 11”x17”. The plan’s scale shall be approved by the Commission upon submission but typically should be 1”=100’ or less, unless otherwise approved.

2. The title block shall be placed on the bottom right corner of the sheet and shall contain the following:
   a. plan name, preceded by the words “Conceptual Development Plan For (name of development)”;
   b. a written and graphic scale;
   c. a north arrow;
   d. the name and address of the developer and plan preparer;
   e. the development address, deed book, page number and PVA Map Parcel Number.

3. The boundary of the subject property, its record plat designation (if available) and a record plat name and lot number or owner’s name(s), deed book and page numbers of all adjoining properties.

4. A vicinity map, oriented in the same direction as the design scheme.

5. Zoning classification of all abutting properties, including those across any street, railroad or public way.

6. Location and arrangement of existing and proposed driveways, general location of proposed walkways and parking areas. Appropriate “accessible parking” (handicapped) accommodations must be illustrated.

7. Location, pavement width, and right-of-way of any proposed or existing streets within or abutting the subject property.

8. Size, location, and floor area of proposed and/or existing buildings and signs.

9. Location of screening, landscape buffering, parking areas, recreational and other open space areas.

10. General locations and a note for the Natural Features and Drainage & Stormwater Receivers of special flood hazard areas, sinkholes, blue line streams, bodies of water, waterways, storm water retention/detention areas and any other designated environmentally sensitive or geologic hazard areas.

    Natural Features Note
    As indicated on the _____ USGS Quadrangle Map dated ___, there are _____ located within the subject property of this development.

    Drainage and Stormwater Receiver Note
    The stormwater receiver(s) of this development is _____ for the subject property.

11. A note relating to a review of the local Flood Insurance Rate Map (F.I.R.M.) determining the property's inclusion in or exclusion from a special flood hazard area.

    Flood Note
    As indicated on map number _____ of Flood Insurance Rate Maps dated _____ , this site is located in Zone X which has been determined to be outside the 500-year flood plain.

    Flood Note
    As indicated on map number _____ of Flood Insurance Rate Maps dated _____, a portion this site is located in Zone ____ which is a Special Flood Hazard Area Inundated by 100-Year Flood. As noted for Zone ___, (no) base flood elevations have been determined. No structure shall be located in the floodplain unless approval is received in compliance with the Hardin County Ordinance adopted 14 August 2007 relating to Flood Damage Prevention and the National Flood Insurance Program as recorded in Ordinance Book 4 Page 182 and Fiscal Court Order Book 77 Page 452 in the Hardin County Clerks' Office.

12. Proposed and existing building setbacks and easements for drainage, utilities and/or other purposes.

13. Areas of existing trees including those located along fence rows and drainage areas.

14. A statistical summary of all pertinent site data (this information should be listed in acreage, square footage and/or percentage of the site as applicable), including site area, zoning, proposed use, maximum building coverage and floor area, parking and open space, and number of freestanding signs.

15. The following certifications, Table 2, shall be shown and executed on all Conceptual Development Plans:

- Owner Certification
- Preparers Certification
- Notary Certification
- Commission Certification

Approval of the Conceptual Development Plan allows the applicant to begin preparation of plats, utility and other improvement plans, and a final Development Plan. Before any building construction can commence, a final Development Plan shall be submitted and approved.

6-9 AMENDMENTS TO DEVELOPMENT PLANS

Amendments to approved Development Plans can be made by the same procedure required for original submission. Amended Development Plans which fully meet the requirements herein, may be approved and certified by the Director without action by the Commission.

Title Content and Format of Amendments

Amendments shall have the same content and format requirements as the original Development Plan except that:

1) The plan title shall be labeled to indicate the plan as an “Amended Development Plan For…”; and
2) A note shall be added, listing the exact nature of the amendments and
3) All site statistical information shall indicate existing and proposed information.

6-10 SUBSTITUTION OF SUBDIVISION PLAT FOR DEVELOPMENT PLAN

In certain cases a preliminary or final Subdivision Plat would be more appropriate to be considered in conjunction with a map amendment request than a Development Plan. Generally, such situations involve developments where placement of structures will be tightly controlled by the street, lot patterns and requirements for placement of structures within the zone (typically in a residential development); or involve development of a large tract of land. When a developer is required to provide a Development Plan, and the developer desires to file a subdivision plat in its place, the developer shall meet with the Director in advance of filing the map amendment request to discuss the appropriateness of a substitution. In any disputed case, the Commission shall have the final judgment as to whether a Development Plan or a Subdivision Plat is required.

OWNER CERTIFICATIONS

I (we) do hereby certify that I am (we are) the only owner(s) of the property shown herein and do adopt this as my (our) (**Master Plan / Conceptual Development Plan)** concept for the property.

Owner signature Date

I (we) do hereby certify that I am (we are) the only owner(s) of the property shown herein, do adopt this as my (our) (**Development Plan / Site Plan)** for the property and agree to complete all site improvements shown hereon in their entirety prior to receiving a Certificate of Occupancy to use and occupy the building(s) and property. I (we) further assure and understand that the building and premises, including all landscape materials shall be maintained in a proper manner.

Owner signature Date

NOTARY CERTIFICATION

COMMONWEALTH OF KENTUCKY
COUNTY OF HARDIN

I, the undersigned Notary Public, do hereby certify that the foregoing instrument was delivered and acknowledged before me in Hardin County, Kentucky. I further certify that the above signature(s) (is, are) legal and (has, have) been executed voluntarily on this date, to the best of my knowledge and belief.

Witness my hand this _____ day of _____ (MONTH); _____ (YR)

Notary Public My Commission Expires

PREPARERS CERTIFICATION

I certify that this Plan was prepared by me and is a true and correct representation of the indicated land.

Preparer signature Date
Certification Number_____

KENTUCKY DEPARTMENT OF HIGHWAYS CERTIFICATION

I certify that the site shown has (a legal and adequate entrance onto the indicated road or has received an Encroachment Permit for access onto the indicated road) as shown.

Official Title Date

HARDIN COUNTY ENCROACHMENT PERMIT CERTIFICATION

I certify that the site shown has (a legal and adequate entrance onto the indicated road or has received an Encroachment Permit for access onto the indicated road) as shown.

Official Title Date

WASTEWATER CERTIFICATION

I certify that the wastewater disposal system(s) installed or proposed for installation in this development fully meet the requirements of this jurisdiction and are approved.

Official Title Date

ENGINEERING DEPARTMENT CERTIFICATION

The plans for this development have been reviewed by this office and appear to meet the requirements of this jurisdiction. In performing this limited review of the plans, this office does not design the plans or rerun any of the design calculations or models or confirm in any way that the plans have been prepared in accordance with the required professional standards.

County Engineer signature Date

COMMISSION CERTIFICATION

I do hereby certify that this Plan has been approved in accordance with the regulations administered by the Hardin County Planning and Development Commission.

Commission Chair or Director Signature Date

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SECTION 7

SITE PLAN REQUIREMENTS

7-1 INTENT

This Section establishes and defines Site Plans, which are utilized for a wide variety of planning related procedures. This Section outlines the procedure for submission and content of all Site Plans required by these regulations unless another procedure or different contents are specified elsewhere.

The purpose in requiring submission of a Site Plan is to assure compliance with the standards and requirements of the Zoning Ordinance and other County ordinances for all construction, with the intent of implementing the county's Comprehensive Plan and promoting the public health, safety and general welfare through planned development. It is the intent of the Site Plan submission to provide as much information to all county departments and public agencies for their reviews, in an effort to streamline the approval process for developers and owners.

7-2 SITE PLAN REQUIRED

Site Plan approval shall be obtained for all residential and agricultural developments, other than those located in a Planned Unit Development (PD-1) Zone which meets one or more of the following criteria:

1. For Map Amendments to R-1, R-2, R-3, and A-1 Zones
2. For Conditional Use Permits, within R-1, R-2, R-3 and A-1 Zones
3. For Variances, within R-1, R-2, R-3 and A-1 Zones

7-3 SITE PLAN PROCEDURES

The following shall be the procedure for consideration of any Site Plan. Site Plans which fully meet the requirements herein may be approved and certified by the Director without action by the Commission.

FILING – To formally request action on the required Site Plan, the applicant shall file a completed application form, a filing fee, and two (2) copies of the plan. After review, the applicant shall then provide two (2) copies of the final plan, signed by the applicant, for full approval.

REVIEW – The Director shall review the plan for compliance and shall consult with County Departments and other agencies as appropriate to ensure proper plan review. Upon determination that all requirements have been met, the Director shall certify the plan as approved. If any questions arise as to compliance, however, the plan shall be referred to the full Commission for action.

ACTION – The Director shall act within 30 days of submission in the following form:

- **Approval** — The Director may approve the Site Plan as submitted.
- **Conditional Approval** — The Director may approve the Site Plan with conditions and require amendment to the plan and/or completion of all conditions before granting full approval.
- **Resubmission** — The Director may review the plan and submit review comments to the owner and/or owner's agent listing items that must be provided, corrected or completed for additional review before full approval.
- **Disapproval** — The Director may disapprove the Site Plan and shall state in writing, its reasons for disapproval. To be reconsidered, a new Site Plan shall be submitted to the Commission, and must be approved or disapproved within 30 days of submission.

7-4 CONSTRUCTION COMMENCEMENT

Any approved Site Plan shall become invalid if the authorized work has not commenced within one (1) year of plan. To be reconsidered, a new Site Plan shall be resubmitted to the Commission for approval.

7-5 APPROVAL OF SITE PLAN BEFORE BUILDING PERMIT

When a Site Plan is required, no building permit shall be issued until a Site Plan is approved. The approved Site Plan shall limit and control the issuance of all building and occupancy permits, and restrict the construction, location and use of all land and structures to the conditions as set forth in the plan.

7-6 COMPLETION OF SITE CONSTRUCTION WORK AND REQUIREMENTS

All requirements of the approved Site Plan must be completed within six months of building occupancy unless the Director upon request grants an extension. The Commission Staff will inspect completed site construction work when the applicant receives a certificate of building occupancy and thereafter if necessary. If no building construction is being proposed, all site construction work if begun, is to be completed within six months. A copy of the approved Site Plan shall be retained on the job site until all site improvements have been completed and have been accepted by the Hardin County Planning Commission.

7-7 CONTENT OF SITE PLAN

Site Plans shall be drawn and submitted at a scale not less than 1" = 100', or other scale acceptable to the Director. All Site Plans shall contain the following:

1. All plans shall be a minimum of 11" x 17".
2. The title block shall be placed on the bottom right corner of the sheet and shall contain the following:
   a. plan name, preceded by the words "Site Plan For (name of development)";
   b. a written and graphic scale, and north arrow;
   c. the name and address of the developer and plan preparer;
   d. the development address, deed book, page number and the PVA Map Parcel Number.
3. The boundary of the subject property, its record plat designation (if available) and a record plat name and lot number or owner's name(s), deed book and page numbers of all adjoining property.
4. A vicinity map.
5. Location, pavement width and right-of-way of any proposed or existing streets within or abutting the subject property.
6. Zoning classification of all abutting properties, including those across any roadway, railroad or other public way.
7. Size, location, height, floor area, number of stories and use of all proposed and/or existing structures, signs, dumpsters and lighting.
8. Location, arrangement and dimensions of existing and proposed driveways, walkways, parking areas and arrangement of parking spaces. Appropriate "accessible parking" (handicapped) accommodations must be illustrated. The location of all driveway entrances and access points shall also be illustrated.
9. Existing and proposed building setbacks and easements for drainage, utilities and/or other purposes.
10. Location of screening, landscape buffering, recreational and other open space areas.
11. The following certifications, in Table 2, shall be shown and executed on all Site Plans:

- Owner Certification
- Notary Certification
- Preparer's Certification
- Kentucky Department of Highways Certification
- Hardin County Encroachment Permit Certification
- Wastewater Certification
- Commission Certification

7-8 AMENDMENTS TO SITE PLANS

Amendments to approved Site Plans can be made by the same procedure required for original submission. Amended Site Plans that fully meet the requirements herein, may be approved and certified by the Director without action by the Commission.

Title Content and Format of Amendments Amendments shall have the same content and format requirements as the original Site Plan except that:

1) The plan title shall be labeled to indicate the plan as an "Amended Site Plan For…"; and
2) A note shall be added, listing the exact nature of the amendments and
3) All site information shall indicate existing and proposed information.

SECTION 8

GENERAL PARKING STANDARDS

8-1 PARKING STANDARDS

This Section establishes and defines parking standards which may be utilized for a wide variety of planning related procedures. This Section outlines the content of all parking for Development Plans and Site Plans required by these regulations.

The purpose in requiring the following standards is to assure compliance with the requirements of the Zoning Ordinance, with the intent of implementing the Comprehensive Plan and promoting the public health, safety and general welfare through planned development. All development shall be provided with adequate parking facilities to handle the expected number of automobiles for that site.

8-2 PARKING/LOADING ESTABLISHED PRIOR TO ADOPTION OF ORDINANCE

Any parking or loading spaces established prior to the adoption or amendment of the Zoning Ordinance which are used or intended to be used in connection with any principal building or use shall hereafter be maintained so long as said building, structure or other use remains unchanged.

8-3 PARKING REQUIREMENTS FOR CHANGE IN PRINCIPAL USE

When the principal use is changed to a use for which additional parking is required by the Zoning Ordinance, it shall be unlawful to begin or maintain such altered use until such time as the required off street parking is provided.

The off-street parking spaces required for each use shall not be less than that found in the Table 4, provided that any fractional parking space is computed as a whole space. Notwithstanding the amount of off-street parking required, the Director may approve less off-street parking when the proponent of a use demonstrates that, because of special circumstances involved with a particular use or site, it is obvious that the off-street parking required exceeds any reasonable likely need.

8-4 MINIMUM DESIGN AND MAINTENANCE REQUIREMENTS

Every parcel of land hereinafter used as a parking area shall be designed and maintained in accordance with the following requirements.

1. Off street parking areas shall equal or exceed the number of spaces required and shall be of usable shape and surface and have convenient ingress and egress. Aisles and access drives shall be designed so as to provide adequate vehicular maneuvering wholly on the property being served.
2. Any lighting used to illuminate off street parking areas shall comply with Section 11 (Pg. 105) and be arranged so as to reflect away from any adjoining residential zone or uses or public right-of-way.
3. All parking spaces located along the perimeter of a parking area or adjacent to any structure on the lot shall be provided with concrete or other wheel stops or a curb, so as to stop any vehicle and provide protection for any landscape materials and pedestrians.

8-5 OFF-STREET PARKING STANDARDS

A. Location of Off-Street Parking Facilities
   1. Required off-street parking facilities shall be located on the same lot as the building to be served unless otherwise provided by these regulations.
   2. An off-street parking space shall be located:
      a. Off the public right-of-way;
      b. Outside of all landscaped areas as required;
      c. Where the lot abuts a street with a designated speed limit in excess of 25 MPH, so arranged that it will not be necessary for the vehicle, when exiting from the space, to back into said street.

B. Off-Street Parking Space

Off-street parking spaces shall be provided at the following dimensions:

Table 3
Parking Space Dimensional Requirements

Type of Space	Size of Space
Standard 90° angel space:	18.0 ft. length, 9.0 ft. width
Standard 60° angel space:	20.0 ft. length, 9.0 ft. width
Standard parallel space:	18.0 ft. length (end), 22.0 ft. length (interior), 9.0 ft. width

C. Aisle Width and Angle

Aisle widths and angles of parking space shall be provided at the following dimensions:

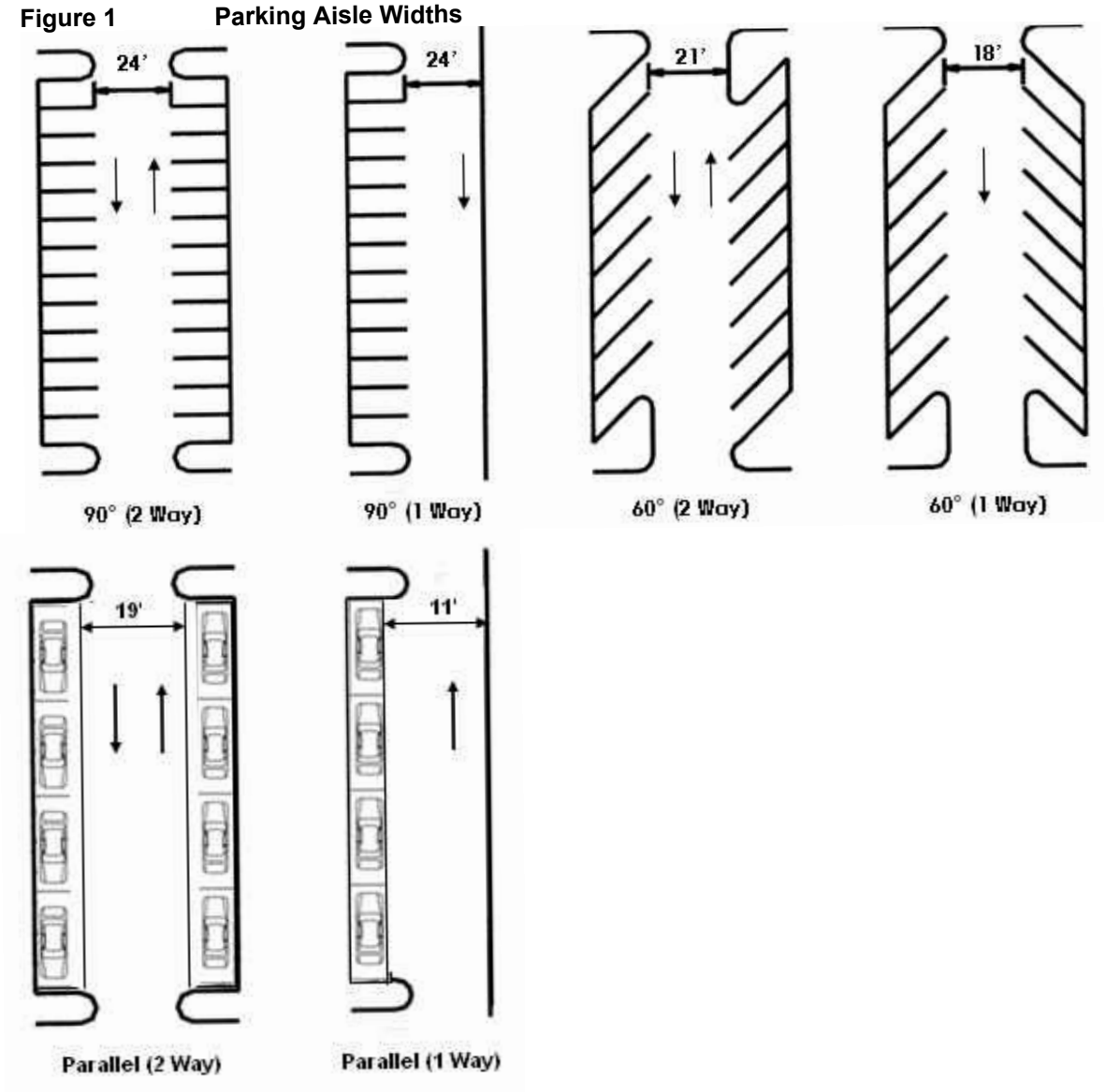
Table 4
Parking Aisle Width and Angle Requirements

		90°	60°	Parallel 0°
Aisle Width	One way traffic	24’	18’	11’
Aisle Width	Two way traffic	24’	21’	19’

Parking angles other than those shown above shall be reviewed by the County Engineering Department and may be approved.

Figure 1 illustrates the layout, design and the minimum aisle widths and angles of parking spaces.

Figure 1 Parking Aisle Widths



8-6 OFF-STREET PARKING REQUIREMENTS

There shall be provided at the time of the erection of any building or structure, minimum off-street parking, plus drives and maneuvering space sufficient for ingress and egress by an automobile of standard size, in accordance with Table 4. When a building or structure is enlarged or increased in capacity, minimum off-street parking shall be provided.

Table 5
Off-Street Parking Requirements

Residential Uses	**Required Spaces**
Single-Family and Duplex Dwellings	Two (2) spaces per dwelling unit
Multi-Family Dwellings	• One and one-half (1.5) spaces for every efficiency or 1-bedroom dwelling units • Two (2) spaces for every 2-bedroom or more dwelling units
Institutional Uses	**Required Spaces**
Child Care facilities	One (1) space per 250 square feet of gross floor area
Churches and other places of religious assembly	One (1) space per five (5) seats or for each five (5) feet length of bench seating
Other Institutional Uses, Not Elsewhere Classified	One (1) space per 250 square feet of gross floor area or as provided in a detail parking study for the proposed use and approved by the Planning Commission
Commercial Uses	**Required Spaces**
General and Professional Offices (including, real estate, engineering and other business related purposes)	One (1) space per 300 square feet of gross floor area
Automobile Repair and Maintenance Shop	One (1) space per employee plus one (1) space per two (2) service bays
Barber or Beauty Shop	One (1) space per chair plus one (1) space per 2 employees
Convenience Store	Three (3) spaces per 1000 square feet of gross floor area
Financial Institutions	One (1) space per 200 square feet of gross floor area
Other Commercial Uses, Not Elsewhere Classified	One (1) space per 300 square feet of gross floor area or as provided in a detail parking study for the proposed use and approved by the Planning Commission
Industrial Uses	**Required Spaces**
Manufacturing and Warehousing	0.25 spaces per 1000 square feet of gross floor area for the manufacturing or warehousing plus one (1) space per 400 square feet of gross floor area for accessory offices
Other Industrial Uses	One (1) space per 400 square feet of gross floor area or as provided in a detail parking study for the proposed use and approved by the Planning Commission

8-7 JOINT USE OF PARKING AREAS

The Director may, upon application by all parties involved, authorize the joint use of off street parking facilities for uses whose normal and regular hours of operation do not coincide or overlap. Joint use of off street parking shall be subject to the following limitations and conditions:

1. Off street parking areas required for residential use shall not be included in any joint parking arrangement.
2. Up to 50% of the off street parking required may be provided by a joint parking arrangement.
3. The joint parking areas shall be within one-quarter of a mile (1,320 feet) of all of the uses being served by such facilities.
4. The applicant shall submit sufficient data to the Director to demonstrate that the normal and regular operating hours of the uses do not coincide or overlap in any manner.
5. All parties shall execute a properly drawn legal instrument for the joint use of off street parking areas. This instrument, having been approved as to form and manner of execution by the legal counsel of the Commission, shall be filed with the application.

8-8 ACCESSIBLE HANDICAP PARKING SPACES STANDARDS AND REQUIREMENTS

A. All parking lots shall provide for accessible handicap parking spaces as indicated in the following table:

Table 6
Minimum Number of Accessible Parking Spaces
ADA Accessibility Guidelines

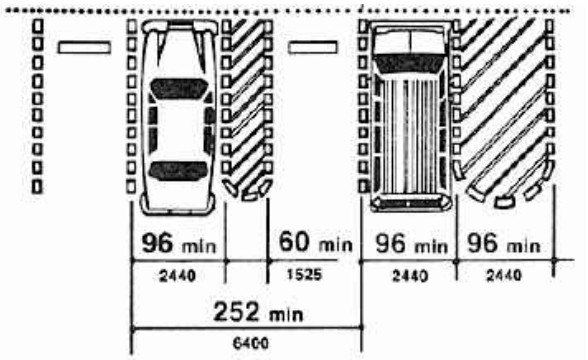
Total Number of Parking Spaces Provided (per lot)	Total Minimum Number of Accessible Parking Spaces (60" & 96" aisles)	Van Accessible Parking Spaces with min. 96" wide access aisle	Accessible Parking Spaces with min. 60" wide access aisle
Column A			
1 to 25	1	1	0
26 to 50	2	1	1
51 to 75	3	1	2
76 to 100	4	1	3
101 to 150	5	1	4
151 to 200	6	1	5
201 to 300	7	1	6
301 to 400	8	1	7
401 to 500	9	2	7
501 to 1000	2% of total parking provided in ea. Lot	1/8 of Column A*	7/8 of Column A**
1001 and over	20, plus 1 for ea. 100 over 1000	1/8 of Column A*	7/8 of Column A**
*one out of every 8 accessible spaces **7 out of every 8 accessible spaces			

B. Accessible Handicap Parking Spaces for Cars:

Accessible handicap parking spaces for cars shall have at least a sixty (60) inch wide access aisle located adjacent to the designated parking space and a ninety six (96) inch parking bay (Figure 2). The access aisle is just wide enough to permit a person using a wheelchair to enter or exit the car. These parking spaces shall be identified with a sign and located on level ground.

C. Van-accessible handicap parking spaces [ninety-six (96) inch bay] are the same as accessible handicap parking spaces for cars except for three features needed for vans:
   1. A wider access aisle (96 inches) to accommodate a wheelchair lift (Figure 2);
   2. Vertical clearance (98 inches) to accommodate van height at the van parking space, the adjacent access aisle, and on the vehicular route to and from the van-accessible space; and
   3. An additional sign that identifies the parking space as "Van Accessible."

Figure 2



D. Figure 2 illustrates the layout, design and the minimum widths for handicap accessible spaces for both cars and vans. Two (2) car or van spaces are allowed to share the access aisle.

E. Location of Handicap Accessible Parking Spaces
   1. Accessible handicap parking spaces shall be located at the shortest accessible route of travel to the principal handicapped accessible entrance(s). In a multi-building development or shopping center, the spaces should be dispersed to ensure easy access and minimize the travel distance for the handicapped. Where buildings have multiple accessible entrances with adjacent parking, the accessible handicap parking spaces must be dispersed and located closest to the accessible entrances for that building.
   2. When accessible handicap parking spaces are added in an existing parking lot, locate the spaces on the most level ground close to the accessible entrance. An accessible route must always be provided from the accessible handicap parking space to the accessible entrance. An accessible route never has curbs or stairs, must be at least three (3) feet wide, and have a firm, stable, slip-resistant surface. The slope along the accessible route shall not be greater than one (1) to twelve (12) in the direction of travel.
   3. Accessible handicap parking spaces might be clustered in one or more lots if equivalent or greater accessibility is provided in terms of distance from the accessible entrance and convenience. Van-accessible handicap parking spaces may be clustered in one area

to accommodate the ninety-eight (98) inches minimum vertical height requirement.

F. Curb Ramps
   1. Curb ramps for accessible handicap parking spaces shall be located adjacent to the accessible handicap parking spaces and shall be provided wherever an accessible route crosses a curb.
   2. An acceptable designed curb ramp shall be provided. Specifications for curb ramps may be obtained from the current *Kentucky Building Code*, Section 2514.0.

8-9 PARKING, LOADING AND UNLOADING REQUIREMENTS

In any zone other than a residential zone, off street parking, loading or unloading areas may be permitted within the required front yard if there is sufficient depth between the street right-of-way line and the building line or other barrier to accommodate all parking and maneuvering without the necessity of backing over the street right-of-way line.

1. Each loading space shall be not less than 10 feet in width and 20 feet in length for loading spaces not requiring loading dock access, and 50 feet in length for loading dock access for trucks
2. Access to and from off-street parking and loading/unloading spaces shall be provided by means of clearly defined entrance and exit drives from public rights-of-way or private streets to clearly limited and defined maneuvering lanes, which, in turn, provide access to individual off-street parking or loading/unloading spaces. Off-street parking and loading/unloading spaces must be designed so as not to interfere with the normal movement of vehicles and pedestrians on the public right-of-way.

8-10 STACKING AREAS FOR DRIVE-THROUGH AREAS

For any uses which utilize a drive-in or drive-through window or service area, an on-site vehicular stacking area shall be provided for:

1. A minimum of five (5) stacking spaces.
2. A stacking space shall be an area measuring eight (8) feet by twenty (20) feet.
3. Vehicular stacking areas shall not include any spaces located at the windows or service area and shall be provided wholly on the property and not include any right-of-way.
4. The stacking area shall not prohibit access to and from or interfere with the required parking spaces.
5. A by-pass aisle shall be required separating the stacking aisle from the by-pass aisle.

8-11 LARGE VEHICLE PARKING

Within the Interstate and Highway Overly any hotel, motel, restaurant, museum, rest areas or convention centers shall install on site parking for buses, recreational vehicles, or other large vehicles. There shall be one space for every 25 required spaces. Each space shall be a minimum of 10 feet in width and 45 feet in length.

SECTION 9

GENERAL SIGNAGE STANDARDS

9-1 SIGN STANDARDS

The purpose of this Section is to support the focus and direction of the Comprehensive Plan; to promote a healthy business climate by encouraging the effective use of signs; to maintain and enhance the aesthetic environment of the county by encouraging signage to be compatible with the surrounding areas and not create a hazard due to collapse, fire, collision, decay or abandonment. Also, to promote the safety of persons and property by requiring that signs do not create traffic hazards by distracting or confusing motorists, or impairing motorist's ability to see pedestrians, other vehicles, obstacles, or to read traffic signs.

9-2 APPLICABILITY

The requirements of this Section shall apply to all businesses, private entities, or individuals erecting signs in unincorporated Hardin County. Certain signs that are exempt from the requirements of this Section are addressed in Section 9-4.

1. All signs must comply with the regulations of the zone in which it is located.
2. Signs shall be maintained in a safe and secure condition thus avoiding creating distractions for the motoring public and competition of size between advertisers. If the Director is of the opinion that a sign is not secure, safe, or in good state of repair, written notice of this fact shall be given to the business owner. If the business owner can not be reached the ultimate responsibility for the sign falls to the property owner. If the defect in the sign is not corrected within the time permitted by the Director, the sign owner shall be deemed in violation of the Zoning Ordinance.
3. No sign shall be placed in any public right-of-way without written permission from the jurisdiction that has ownership of the right-of-way.

9-3 PROCEDURE

A sign permit shall be obtained prior to the construction or erection of any allowable sign and a fee will be required in conjunction with said application. Refer to the current fee schedule in the Planning Commission Office.

No sign, except as specifically exempted herein, shall be displayed, erected, relocated or altered until a permit has been issued by the Director. Applications shall include, but not be limited to the following:

1. A completed application form.
2. A sketch plan and/or building elevations showing the location of the proposed sign(s) on the lot and/or building, including setbacks.

3. Detailed sign information including type of construction, method of illumination, dimensions, copy, method of mounting and/or erecting and other similar information. NOTE: The content of the message or speech displayed on the sign shall not be considered when approving or denying a sign permit. However, the content must be submitted to evaluate the sign type (on-site or off-site).
4. The written consent of the owner of the underlying property or authorized agent.
5. A permit fee.
6. If the sign is temporary the following applies:
   a. The length of time anticipated for use of the sign;
   b. A statement by the applicant in which he or she agrees to remove temporary signs within the time limit herein established.

9-4 EXEMPT SIGN STANDARDS

The following types of signs are not required to obtain a sign permit and shall not be counted towards the total number of signs and allowable sign area, but must meet the following limitations:

1. No trespassing signs of six (6) square feet in area or less.
2. On-Site Directional/Information Sign of four (4) square feet or less– Must not be a public safety hazard.
3. Political signs – Signs shall be removed within ten days following the election. Signs for successful primary election candidates, eligible for the general election, may remain after the primary election. Permission must be granted by the property owner for a sign to be placed on their property and the sign may not be located in any road right-of-way and must comply with sight triangle standards at all street intersections.
4. Private sale or special event signs of thirty-two (32) square feet or less – May be placed thirty (30) days prior to the event and must be removed within fourteen (14) days following the event. These signs shall advertise only the activity lawfully practiced on site and shall not be illuminated or contain any electrical component.
5. Real Estate signs of thirty-two (32) square feet or less – Must be located on the property that is for sale, lease, or rent and must be taken down within fourteen (14)days after the sale is complete. The signs may not be located in any road right-of-way and must comply with the sight triangle standards at all street intersections.
6. Public/Community signs, notices or traffic signs required by law, or any sign relating to an emergency.
7. Signs used to identify local Landmark/National Register of historic sites.
8. Sports signs within a ballpark, field or diamond which indicates sponsorship of the teams or activities that occur therein. These signs shall be oriented toward the field or diamond and shall not be higher that the fences.
9. Traffic signs-traffic control signs which contain no commercial message and that comply with the “Manual of Uniform Traffic Control Devices for Streets and Highways”.

10. Temporary window signs in commercial zones – Total signage area shall not exceed 12% of the building façade.
11. Flags, symbolic in nature, for non-commercial, non-promotional purposes.
12. Memorial signs – Must be in character with the surrounding area and must not be a public safety hazard.

9-5 SIGNS PROHIBITED

The following signs are prohibited:

1. Any sign which obstruct or detract from the visibility of any traffic sign or traffic control devise on public streets and roads, by reason of the size, location, coloring, or illumination.
2. String lights or any unshielded light that is visible by the public from a public street or produces glare onto a residential structure, and is used in connection with commercial premises for commercial purposes, including attention-getting, other than seasonal decorations.
3. Any sign or sign structures which:
   a. is structurally unsafe;
   b. constitutes a hazard to safety or health by reason of inadequate maintenance, dilapidated or abandonment;
   c. is not kept in good repair; or
   d. is capable of causing electrical shocks to persons likely to come into contact with it.
4. Signs which make use of words such as “STOP”, “LOOK”, “DANGER”, “YIELD”, or other similar words, phrases, symbols or characters in such a manner to imply the need or requirement of stopping or the existence of danger.
5. Portable signs, folding signs, “A” frame signs, or any other similar free-standing signs that block pedestrian access.
6. Signs on vehicles or trailers which are parked or located for the primary purpose of displaying said sign.
7. Free-standing banner or banners not attached to a building, wall, or fence.

9-6 SIGN LIGHTING

1. Signs may be internally illuminated, backlit, or illuminated by down-lighting or by ground-mounted light fixtures that illuminate the sign face and base only.
2. Signs shall not have exposed bare-bulb or flashing illumination.

9-7 ELECTRONIC SIGNS

1. Electronic Signs shall be prohibited in the following zoning districts: B-2, C-0, A-1, PD-1, R-1, R-2, R-3, R-4 and R-5 Zones.

2. Electronic Signs shall be permitted in the following zoning districts: B-1, C-1, C-2, I-1, I-2 Zones.

9-8 SIGNAGE FOR C-0, IH, A-1, PD-1, R-1, R-2, R-3, R-4 AND R-5 ZONES:

1. On-site Subdivision identification signs shall not exceed forty-eight (48) square feet for each of their two sides and shall not be greater in height than eight (8) feet, excluding structural supports. Materials used in these signs shall provide for a long life with little or no maintenance.
2. One, on-site or off-site, free-standing sign (except for traffic directional signs less than 30 inches in height for parking areas) shall be permitted per deeded property:
   a. not to exceed six (6) square feet in area; and
   b. eight (8) feet in height.
3. On-site signage for Assembly Uses, such as churches, libraries, schools, parks and other public facilities of a similar nature, shall be permitted not to exceed forty-eight (48) square feet in area and eight (8) feet in height. Such sign shall be solely for the purpose of displaying the name of the institution and its activities or services.

9-9 SIGNAGE FOR B-1, B-2, C-1, C-2, I-1 and I-2 ZONES:

1. On-site Subdivision identification signs shall not exceed forty-eight (48) square feet for each of their two sides and shall not be greater in height than eight (8) feet, excluding structural supports. Materials used in these signs shall provide for a long life with little or no maintenance.
2. Total sign surface per deeded property shall not exceed two square feet per linear foot of road frontage and located a minimum of ten feet from a parking / driving area;
3. One, on-site or off-site, free-standing sign (except for traffic directional signs less than 30 inches in height) shall be permitted per deeded property and shall conform to the following:
   a. On-site signage shall not exceed one-hundred and fifty (150) square feet in area for any one side and twenty-five (25) feet in height; or
   b. Off-site signage shall not exceed the following:
      i. Total sign surface shall not exceed 300 square feet, excluding structural supports, and shall not exceed 25 feet in overall height;
      ii. Signs may be placed back to back or in a "V-type" construction;
      iii. No off-site sign shall be closer than 2,000 feet to any other off-site sign on the same side of road;
      iv. Off-site signs shall be set back at least twenty (20) feet from road right-of-way line.
4. In the B-1 Zone, a second free-standing sign (High-Rise Sign) shall be permitted for the purpose of business identification which follows the schedule below:
   a. Signs less than 75 feet in height shall have a maximum area of 225 square feet in area per side;
   b. Signs between 76 and 100 feet in height shall have a maximum area of 325 square feet in area per side; and,
   c. Signs between 101 and 125 feet in height shall have a maximum area of 400 square feet in area per side.

5. The surface area of wall-mounted signs and painted signs shall not exceed 12 percent of the exposed building face of the wall to which it is attached, each wall to be considered separately.

9-10 NONCONFORMING SIGNS

The following provisions shall apply to nonconforming signs:

1. **Continuation, Off-Site Signs**
   With the exception of those signs which are prohibited, a nonconforming off-site sign may continue in existence and shall be properly maintained in good condition but it shall not be:
   a. Changed to another nonconforming sign;
   b. Structurally altered (except to meet safety requirements) so as to prolong the life of the sign;
   c. Altered so as to increase the degree of nonconformity of the sign;
   d. Expanded or enlarged;
   e. Reestablished after its discontinuance for 90 days;
   f. Moved to a new location on the same building lot;
   g. Reestablished after substantial damage or destruction.

2. **Continuation, On-Site Signs**
   With the exception of those signs which are prohibited, a nonconforming on-site sign may continue in existence and shall be properly maintained in good condition. Should a legal nonconforming sign be replaced, the sign may not increase its degree of nonconformity, but may decrease in degree of nonconformity.

9-11 TEMPORARY SIGNS

Temporary signs shall be allowed in all zones. Every deeded property shall be allowed one temporary sign, not to exceed 50 square feet in area, to be placed on-site. No person shall place a temporary sign on-site without first receiving a permit from the Director. Temporary signs shall be for a period not to exceed thirty (30) consecutive days and for a cumulative period not to exceed one hundred twenty (120) days in any calendar year. Immediately upon expiration of the permit the applicable temporary sign shall be removed. The permit for the temporary sign shall be kept on-site and shall be available for inspection by the Director. Temporary signs shall be securely installed and properly maintained the entire time period of their display. Failure to properly maintain a temporary sign, or if the temporary sign is determined to cause a safety hazard for pedestrians or vehicles, is reason for the Director to order removal of the temporary sign or to take enforcement action against the property owner.

9-12 CONDITIONAL USES

The Board may grant a conditional use permit from these sign regulations if they find the conditional use permit requested is required by special or unique hardship after public hearing in accordance with Section 16-54, Pg. 141.

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SECTION 10

GENERAL LANDSCAPING STANDARDS

10-1 LANDSCAPE STANDARDS

Landscape planting strips shall be used along the frontage of the public street right-of-way and the outer boundary of parking areas to provide vegetation in developed areas, and enhance the appearance of individual properties. An appropriate vegetation screen shall be established and maintained along the outer boundary of commercial and industrial zones that are adjacent to residential zones. Said screening shall be white pines five (5) feet tall and ten (10) on-center, unless an alternate plan is approved by the Director as to location, height, material and/or vegetation types.

The following minimum requirements shall apply to landscape planting strips along the entire frontage of the public street right-of-way:

1. A continuous perimeter-planting strip with a minimum width of ten (10) feet shall be provided adjacent to any right-of-way abutting the property and parking area for the development, which runs the length of said frontage and parking area.
2. Landscape strips shall contain one (1) of the following:
   a. one (1) shade/canopy tree for each fifty (50) linear feet of strip length and shall be at least one and one-half (1 ½) inches to two (2) inches in caliper size and eight (8) to ten (10) feet high planted, **OR**
   b. one (1) understory/flowering tree for each twenty-five (25) linear feet of strip length and shall be at least one and one-half (1 ½) inches to two (2) inches in caliper size and six (6) to eight (8) feet high planted.
3. All Landscape strips shall contain at a minimum of five (5) shrubs for each fifty (50) linear feet of strip length (fifteen (15) inches to thirty (30) inches tall at installation). The majority must be evergreen species, with a minimum of twenty-five (25) percent of the required shrubs to be deciduous.
4. The remaining ground area shall be planted in grass or another appropriate landscaping material.
5. Where landscaping areas adjoin grassed rights-of-way, such areas shall be considered part of the landscaped area for purposes of maintenance. As of completion of site improvements, the property owner shall have an implied easement on rights-of-way extending from the site to the road pavement in order to complete the required maintenance.

A mixture of canopy/shade trees, understory/flowering trees or large shrubs may be used after consultation with the designee of the Commission. Clumping is permitted provided that adequate spacing is

allowed for future growth of the trees. Screening may be waived by the Director in cases where an existing buffer of vegetative screening is adequate, the adjacent land will remain vacant or where it is not desirable or logical for some other unique reason.

10-2 MAINTENANCE AND INSTALLATION

All landscaping materials shall be installed in a sound, workmanship-like manner, and according to accepted, good construction and planting procedures. Any landscape material which fails to meet the minimum requirements of this Section at the time of installation shall be removed and replaced with acceptable materials. The person in charge of or in control of the property whether as owner, lessee, tenant, occupant, or otherwise shall be responsible for the continued proper maintenance of all landscaping materials, and shall keep them in a proper, neat, and orderly appearance, free from refuse and debris, at all times. All unhealthy or dead plant material shall be replaced within one year, or by the next planting period, whichever comes first; while other defective landscape material shall be replaced or repaired within three months. Topping trees or the severe cutting of limbs to stubs larger than three (3) inches in diameter within the tree crown to such a degree as to remove the normal canopy shall not be considered proper or permitted for the maintenance of trees as required by this Section. Violation of these installation and maintenance provisions shall be grounds for the Building Inspector to refuse a Certificate of Occupancy, require replacement of landscape material or institute legal proceedings to enforce the provisions of the Zoning Ordinance.

SECTION 11

GENERAL LIGHTING STANDARDS

11-1 LIGHTING STANDARDS

This Section outlines the content of all lighting for development plans and site plans required by these regulations. Lighting shall be designed for security, safety and illumination without producing undo glare in order to minimize friction between land uses, surrounding property owners and prevent momentary blindness to motorist.

All public and private outdoor lighting installed in unincorporated Hardin County shall be in conformance with the requirements established in this Section.

11-2 LIGHTING REQUIREMENTS

Where lighting is proposed, it shall be provided as follows:

1. No lighting shall be permitted which would glare onto any street, into any adjacent property, or be deemed as lighting trespass, e.g., the shining of light produced by a fixture beyond the boundaries of the property on which such fixture is located;
2. The maximum height of the fixture may not exceed 50 feet.
3. No flashing lights or strobe lights are permitted, either affixed, non-affixed, or internal which would be seen from any adjacent property, road or aerial location, except in situations involving public health or safety;
4. Installation of any new outdoor lighting proposed for installation on any Development or Site Plan shall be approved by the Director.
5. The Director reserves the right to direct the developer and/or owner to conduct studies by a professional engineer using state of the art engineering methods to determine findings of fact as to objectionable lighting deriving from any existing or potential land use.

11-3 KY 313 CORRIDOR PLANNING AREA REQUIREMENTS

Within the KY 313 Corridor Planning Area, full cut-off lighting fixtures shall be used for all walkway, parking lot, canopy and building/wall mounted lighting within C-1, C-2, B-1, I-1 and I-2 zones. The full cut-off fixtures shall be mounted horizontal to the ground. Illumination associated with developments shall not interfere or adversely affect the ability of assigned units to the Fort Knox Military Reservation and its operations in their efforts to conduct training.

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SECTION 12

TELECOMMUNICATION TOWERS

12-1 PURPOSE

The purposes of these regulations are: (1) to provide for the safest and most efficient integration of cellular antenna towers within unincorporated Hardin County; (2) to provide for such facilities in coordination with the recommendations of the comprehensive plan; and (3) to allow for such facilities with the intention of furthering the public health, safety, and general welfare.

12-2 ADMINISTRATIVE REVIEW REQUIRED

Cellular antenna towers may be allowed in any zone after receiving an Administrative Review and approval from the Director in accordance with this Section. The Director may approve the proposed antenna tower only upon finding that the proposal complies with the Comprehensive Plan and the zoning regulations, including this Section. Reasonable attempts to co-locate additional transmitting or related equipment are required.

Any request for review of a proposal to construct an antenna tower shall be made only in accordance with this Section. If the property is subject to an existing approved development plan or to an existing Conditional Use Permit, the property owner shall obtain approval of the appropriate amendment or modification request. Such request shall be filed simultaneously with the cellular antenna tower request filed pursuant to this Section. The property owner shall be responsible for making alternative provisions for any alteration of the Development Plan or Conditional Use Permit or shall obtain a variance or waiver of the specific plan or Permit requirement affected by the location of the tower on the site.

12-3 APPLICABILITY

Every utility, or a company that is engaged in the business of providing the required infrastructure to a utility, that proposes to construct an antenna tower for telecommunications services or personal communications services within unincorporated Hardin County shall submit a completed Uniform Application to the Director. The Director shall not regulate the placement of antennas or related equipment on an existing structure (co-location).

12-4 POSTING PROPERTY

Notice of the filing of the request shall be posted conspicuously in a visible location on the proposed site of the telecommunications tower and in a visible location on the nearest public road at the same time that notice by first class mail is sent. The applicant shall certify that the postings have been made. The notices shall remain until the Director issues its final decision or 60 days has passed since acceptance of the request by the Director, whichever occurs first. The posting shall be as follows:

1. Each sign shall be at least two (2) feet by four (4) feet in size;
2. Each sign shall state: "(Name of applicant) proposes to construct a telecommunications tower on this site. If you have questions, please contact (name and address of applicant). Information on the Director's review of this proposal may be obtained by calling the Planning Commission at (270) 769-5479. Please refer to the request name or number in all inquires."
3. In both posted notices, the words "proposes to construct a telecommunications tower" shall be printed in letters at least (4) inches in height, and the words "Hardin County Planning Commission at (270) 769-5479" shall be in letters at least one (1) inch in height. Both signs shall be constructed of durable, weatherproof material.
4. Any such signs may also include any notices required to be made by regulations of the Kentucky Public Service Commission including 807 KAR 5:063 (as now in effect, or as amended).

12-5 APPLICATION REQUIREMENTS

Applications for the construction of cellular antenna towers shall include the following:

1. The full name and address of the applicant.
2. The applicant's articles of incorporation, if applicable.
3. A geotechnical investigation report signed and sealed by a professional engineer registered in Kentucky that includes boring logs and foundation design recommendations.
4. A written report, prepared by a professional engineer or land surveyor, of findings as to the proximity of the proposed site to flood hazard areas.
5. Clear directions from the City of Elizabethtown (i.e., the county seat) to the proposed site, including highway numbers and street names, if applicable, with the telephone number of the person who prepared the directions.
6. The lease or sale agreement for the property on which the tower is proposed to be located, except that, if the agreement has been filed in abbreviated form with the Hardin County Clerk, an applicant may file a copy of the agreement as recorded by the county clerk and, if applicable, the portion of the agreement that specifies, in the case of abandonment, a method that the utility will follow in dismantling and removing the proposed cellular antenna tower including a timetable for removal.

7. The identity and qualifications of each person directly responsible for the design and construction of the proposed tower.
8. A (site) development plan or survey, signed and sealed by a professional engineer registered in Kentucky, that shows the proposed location of the tower and all easements and existing structures within five hundred (500) feet of the proposed site on the property on which the tower will be located, and all easements and existing structures within two hundred (200) feet of the access drive, including the intersection with the public street system.
9. A vertical profile sketch of the tower, signed and sealed by a professional engineer registered in Kentucky, indicating the height of the tower and the placement of all antennas.
10. The tower and foundation design plans and a description of the standard according to which the tower was designed, signed, and sealed by a professional engineer registered in Kentucky.
11. A map, drawn to a scale no less than one (1) inch equals two hundred (200) feet, that identifies every structure and every owner of real estate within five hundred (500) feet of the proposed tower.
12. A statement that every person who, according to the records of the property valuation administrator, owns property within five hundred (500) feet of the proposed tower or property contiguous to the site upon which the tower is proposed to be constructed, has been:
    (a) Notified by certified mail, return receipt requested, of the proposed construction which notice shall include a map of the location of the proposed construction.
    (b) Given the telephone number and address of the local planning commission; and
    (c) Informed of his or her right to participate in the planning commission's proceedings on the application.
13. A list of the property owners who received the notice, together with copies of the certified letters sent to the listed property owners.
14. A statement that the Judge Executive of the Hardin County Fiscal Court has been notified, in writing, of the proposed construction.
15. A copy of the notice sent to the Judge Executive of the Hardin County Fiscal Court (#14).
16. A statement that notice of the location of the proposed construction has been published in a newspaper of general circulation in the county in which the construction is proposed.
17. A brief description of the character of the general area in which the tower is proposed to be constructed, which includes the existing land use and zoning for the specific property involved.
18. A statement that the applicant has considered the likely effects of the installation on nearby land uses and values and has concluded that there is no more suitable location reasonably available from which adequate service to the area can be provided, and that there is no reasonably available opportunity to locate its antennas and related facilities on an existing structure (i.e., co-locate), including documentation of attempts to locate its antennas and related facilities

on an existing structure, if any, with supporting radio frequency analysis, where applicable, and a statement indicating that the applicant attempted to locate its antennas and related facilities on a tower designed to host multiple wireless service providers' facilities or on an existing structure, such as a telecommunications tower or other suitable structure capable of supporting the applicant's antennas and related facilities.

19. A map of the area in which the tower is proposed to be located, that is drawn to scale, and that clearly depicts the necessary search area within which an antenna tower should, pursuant to radio frequency requirements, be located.
20. A grid map that shows the location of all existing cellular antenna towers and that indicates the general position of proposed construction sites for new cellular antenna towers within an area that includes:
    (a) all of the planning unit's jurisdiction; and
    (b) a one-half (1/2) mile area outside of the boundaries of the planning unit's jurisdiction, if that area contains either existing or proposed construction sites for cellular antenna towers.

12-6 PROCESSING OF APPLICATION

After an applicant’s submission of a completed uniform application to construct an antenna tower, the Director shall process the application as follows:

1. Review the uniform application in light of its agreement with the Comprehensive Plan and the Zoning Regulations;
2. Make final decision to approve or disapprove the uniform application; and
3. Advise the applicant in writing of its final decision within sixty (60) days commencing from the date that the completed uniform application is submitted to the Director or within a date certain specified in a written agreement between the Director and the applicant.

   If the Director fails to issue a final decision within sixty (60) days and if there is no written agreement between the Director and the applicant to a specific date for the Director to issue a decision, the uniform application shall be deemed approved.

   If the Director disapproves of the proposed construction, it shall state the reasons for disapproval in its written decision and may make suggestions which, in its opinion, better accomplish the objectives of the Comprehensive Plan and the Zoning Regulations. No permit for construction of a cellular antenna tower shall be issued until the Director approves the uniform application or the sixty (60) day time period has expired and the Director has failed to issue a decision.

Director may require the applicant to make a reasonable attempt to co-locate additional transmitting or related equipment. The Director may provide the location of existing telecommunication antenna towers on which the Director deems the applicant can successfully co-locate its transmitting and related equipment. If the Director requires the applicant to attempt co-location, the applicant shall provide the Director with a statement indicating that the applicant:

a. Successfully attempted to co-locate on towers designed to host multiple wireless service providers' facilities or existing structures such as a telecommunications tower or another suitable structure capable of supporting the applicant's facilities, and that identifies the location of the tower or suitable structure on which the applicant will co-locate its transmission and related facilities; or
b. Unsuccessfully attempted to co-locate on towers designed to host multiple wireless service provider's facilities or existing structures such as a telecommunications tower or another suitable structure capable of supporting the applicant's facilities. The statement shall include:
    i. The location of the towers or other structures on which the applicant has attempted to co-locate; and
    ii. The reasons why the co-location attempts were unsuccessful in each instance.

4. The Director may deny a uniform application to construct a telecommunication antenna tower based on an applicant's unwillingness to attempt to co-locate additional transmitting or related equipment on any new or existing towers or other structures. Upon the approval of an application for the construction of a telecommunication antenna tower by the Director, the applicant shall notify the Public Service Commission within ten (10) working days of the approval.
5. The notice to the Public Service Commission shall include a map showing the location of the construction site. If an applicant fails to file notice of an approved uniform application with the Public Service Commission, the applicant shall be prohibited from beginning construction on the telecommunication antenna tower until such notice has been made.

12-7 CONFIDENTIALITY OF APPLICATION

All information contained in the application and any updates, except for any map or other information that specifically identifies the proposed location of the cellular antenna tower then being reviewed, shall be deemed confidential and proprietary within the meaning of KRS 61.878. The Directorshall deny any public request for the inspection of this information, whether submitted under Kentucky's Open Records Act or otherwise, except when ordered to release the information by a court of competent jurisdiction. Any person violating this subsection shall be guilty of official misconduct in the second degree as provided under KRS 522.030. The confidentiality of the applications and any updates of the application can be waived by the written authorization of the applicant.

12-8 DESIGN STANDARDS

At the time of filing of a request under this Section, the applicant shall provide information demonstrating compliance with the requirements listed below. Waivers of the following standards may be requested by the applicant and granted by the Director in accordance with the provisions of these Zoning Regulations.

1. All structures, except fences and/or guy wires, shall be located minimum distance from the property line equal to the setback of the respective zone, plus one-half (1/2) the height of the tower.

   All structures constructed in connection with stealth towers shall comply with the applicable setback requirements established for other structures within the applicable zone. Stealth towers that are to be located as part of a utility service facility (e.g. power pole or telephone pole) shall comply with setback requirements applicable to such utility service facilities, if any. No tower may be located closer than fifty (50) feet to any property line or the minimum building setback line established for the zone, which ever is greater.

   Lease lines are not considered property lines and therefore do not have building setback limits.

2. Any monopole, guyed, lattice, or similar type telecommunication antenna tower and any alternative telecommunication antenna tower structure similar to these towers, such as light poles, shall be maintained in either galvanized steel finish or be painted light gray or light blue in color. Alternate sections of aviation orange and aviation white paint may be used ONLY when the FAA finds that none of the alternatives to such marking are acceptable.

3. Lattice and guyed cellular antenna towers constructed in an agricultural or residential zone shall be located a minimum distance of not less than 250 feet from all existing residential structures.

4. A telecommunication antenna tower or alternative telecommunication antenna tower structure may be constructed to a maximum height of two hundred fifty feet (250') regardless of the maximum allowed height for the zone in which it is located. This also applies to any tower taller than fifteen feet (15') constructed on the top of another building, with the height being the overall height of building and tower together measured from the grade to the highest point. When any telecommunication antenna tower or alternative telecommunication antenna tower structure is taller than the distance from its base to the nearest property line, the applicant shall furnish a certification from an engineer registered in the Commonwealth of Kentucky that the tower will withstand winds of seventy (70) miles per hour in accordance with current ANSI/EAI/TAI standards. When a tower taller than fifteen feet (15') constructed on the top of another building results in the overall height of the building and tower, including any antenna, being greater than the distance from the base of the building to the nearest property line, the applicant shall furnish this same certification.

5. A telecommunication antenna tower or alternative telecommunication antenna tower structure may be artificially lighted ONLY with steady-burning red obstruction lights (FAA type L-810) or flashing red obstruction lights (FAA type L-864) flashing no faster than twenty (20) flashes per minute. Flashing red obstruction lights (FAA type L-864) flashing faster than twenty (20) flashes per minute, medium intensity flashing white obstruction lights (FAA type L-865 or L-866), high intensity flashing white lights (FAA type L-856 or L-857), or dual flashing red obstruction lights and medium intensity flashing white obstruction lights (FAA types L-864/L-865) may be used ONLY when the FAA specifies that the specific lighting pattern is the ONLY lighting pattern acceptable to promote aviation safety.

6. The site shall be unstaffed. Personnel may periodically visit the site for maintenance, equipment modification, or repairs. To accommodate such visits, access shall be only from access points approved by the applicable Road Department, and there shall be provided on site an area sufficient to accommodate the parking of the service vehicle.

7. The site shall be enclosed by an eight foot (8') high solid wood security fence, and the fence may be located in any required yard at any height, but not in the sight triangle. The use of barbed wire or sharp pointed fences shall be prohibited.

8. Screening shall be provided by evergreen trees, with a minimum height of five (5) feet, planted in a staggered pattern at a maximum distance of ten (10) feet on center. The Director may increase the distance between plantings based on the type (species) of evergreen tree and its growth characteristics. The screening shall be placed within the Lease Area. A break in the landscape screening, not to exceed fifteen

(15) feet in width, shall be allowed for access of maintenance personnel and vehicles.

9. Surfacing of all driveways and off-street parking areas shall comply with the requirements of Sections 8 and 10 of the Zoning Ordinance and be at least constructed of gravel or other durable surface. The Director may require alternative surface materials based on grade, construction and potential for erosion.

10. The facility shall comply with the FCC's regulations concerning radio frequency emissions. To the extent that the facilities do not comply with the FCC's regulations, the Director may establish additional requirements on the basis of the environmental effects of radio frequency emissions.

11. If the use of any telecommunication antenna or telecommunication antenna tower or alternative telecommunication antenna tower structure is discontinued, the owner shall provide the Director with a copy of the notice to the FCC of intent to cease operations within thirty (30) days of such notice to the FCC. If the telecommunication antenna or telecommunication antenna tower or alternative telecommunication antenna tower structure will not be reused, the owner shall have one hundred eighty (180) days from submittal of the FCC notice to the Director to obtain a demolition permit and remove the antenna or tower that will not be reused. If the telecommunication antenna or telecommunication antenna tower or alternative telecommunication antenna tower structure is to be reused, the owner shall have no more than twelve (12) months from submittal of the FCC notice to the Director in which to commence new operation of the antenna or tower to be reused. Upon failure to commence new operation of the antenna or tower that is to be reused within twelve (12) months, the telecommunication antenna or telecommunication antenna tower or alternative telecommunication antenna tower structure shall be presumed abandoned, and the owner shall immediately obtain a demolition permit and remove the antenna or tower that is presumed abandoned. If the owner fails to remove an antenna or tower in the time provided by this paragraph, the Director may cause the demolition and removal of the antenna or tower recover its costs of demolition and removal.

12. The only signs allowed shall be emergency information signs, owner contact information, warning or safety instructions, and signs required by a federal, state, or local agency. Such signs shall not exceed five (5) square feet in area.

13. All new telecommunication antenna tower or alternative telecommunication antenna tower structure shall be designed and constructed to accommodate a minimum of four (4) service providers.

14. All option and site lease agreements shall not prohibit the possibility of co-location.

12-9 PETITION FOR COMMISSION REVIEW

Any person or party claiming to be aggrieved may request within 30 days of notice or application date that the Commission make the final decision.

This Petition for Review shall be filed in the Commission's office and shall state specifically the reason(s) for the review. Within seven days, the Director shall certify if these conditions have been met and proceed with preparations for the Commission Review. In cases where these conditions have not been met, the Director shall notify the applicant immediately so that a complete Petition for Review can be submitted.

A party aggrieved by a final action of the Commission under the provisions of KRS 100.985 to 100.987 may bring an action for review in any court of competent jurisdiction.

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SECTION 13

BUILDING AND ELECTRIC PERMITS

13-1 PERMITS REQUIRED FOR CONSTRUCTION AND LOCATION OF STRUCTURES

Permits shall be required for the following activities and shall be issued by the Kentucky Building Code Program in conformity with the provisions of this Zoning Ordinance.

A. ZONING PERMIT

No building or other structure shall be erected, constructed, altered, moved, converted, extended, enlarged, nor shall any building, structure, or land be established or changed in use or character without a permit issued by the Director. Zoning permits are required for single family dwelling units, residential additions, accessory structures, swimming pools and retaining walls, except when Development or Site Plans are otherwise required by this ordinance. Zoning permits are also required for tenant finishes for previously occupied commercial structures and where tenants were not known at the time when Plan Review was conducted by the Hardin County Planning Commission for a completed structure. Development and Site Plan Review is required when specified by Sections 6 and 7.

No Zoning Permit shall be issued by the Director except in conformity with the provisions of this ordinance, unless the Director receives a written order from the Board deciding an appeal, conditional use, or variance. Neither the Director nor the Building Inspector shall have the power to permit any construction, or to permit any use or change of use which does not conform to the literal terms of the zoning regulations.

Applications for Zoning Permits shall be made on forms provide by the Kentucky Building Code Program. A completed application form as prescribed by the Director, fee, and a plot plan which indicates the location of the improvement, existing buildings and driveway / parking areas, and property lines, shall be submitted. The Director shall review the application and determine within three (3) working days from the submittal date whether the plan conforms to this Section 13 and all other applicable provisions and Sections.

B. BUILDING AND ELECTRICAL PERMIT REQUIRED

Individuals shall make application and acquire building and electrical permits prior to the commencement of any building, moving, or alteration activities. Applications for said permits shall be made on forms provide by the Kentucky Building Code Program.

Every permit issued shall become invalid unless the work on the site authorized by such permit is commenced within 180 days after its issuance, or if the work authorized on the site by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated (KRC R105.5).

C. PERMITS AUTHORIZED BY THE BOARD OF ADJUSTMENT
The Kentucky Building Code Program shall issue permits in conformance with the written authorization of the Board of Adjustment concerning administrative review appeals, Conditional Use Permits, Variances, or other appeals as authorized in this Zoning Ordinance.

D. SIGN PERMIT
All permanent and temporary signs shall require a permit, except when otherwise exempted by Section 9-4. No Sign Permit shall be issued by the Director except in conformity with the provisions of the Zoning Ordinance and the Subdivision Regulations of Hardin County as well as any recorded subdivision plat or development plan. Applications for Sign Permits shall be made on forms provide by the Kentucky Building Code Program.

E. DEMOLITION PERMIT
No commercial or industrial buildings or dwellings (excluding manufactured homes) shall be razed, demolished or removed, either entirely or in part, nor shall any of said activities be commenced without a demolition permit. Applications for Demolition Permits shall be made on forms provide by the Kentucky Building Code Program.

F. OTHER PERMITS
Additional permits may be required by the Kentucky Building Code Program to enforce the provisions of this Ordinance.

13-2 COMPLIANCE WITH OTHER CODES, STATUTES AND REGULATIONS

Nothing in this Section or other Sections of the Zoning Ordinance shall be construed to exempt any applicant for a permit from compliance with all local, state and federal codes, statutes and regulations.

13-3 PERMIT APPLICATION REQUIREMENTS AND PROCEDURES

All applications for permits shall be accompanied by such plans and information as the Kentucky Building Code Program deems necessary to determine compliance and provide enforcement of the Zoning Ordinance. After reviewing the application materials, the Director of the Kentucky Building Code Program shall approve the application and attest to the same by a signature on and issuance of the Building Permit.

13-4 CERTIFICATE OF OCCUPANCY

No person shall use or permit the use of any structure or premises or part thereof, hereafter created, erected, changed, converted, enlarged or moved, wholly or partly, until a Certificate of Occupancy has been issued by the Commission. Such certificate shall show that the structure or use, or both, or the premises, or the affected part thereof, are in conformance with the provisions of the Kentucky Building Code and the Zoning Ordinance. It shall be the duty of the Commission to issue such certificates if it is found that all provisions of the Kentucky Building Code and the Zoning Ordinance have been met, and to withhold such certificate unless the requirements of the Kentucky Building Code and the Zoning Ordinance have been met.

A. **No Occupancy Permit** No person shall allow occupancy of any building until compliance with the Kentucky Building Code has been achieved and the Commission has been notified by the appropriate agencies that the electrical wiring, plumbing system, and where applicable, onsite septic system or sanitary sewer connection are approved and are available for use on the property in question.

B. **Temporary Certificate of Occupancy** Temporary Certificate(s) of Occupancy may be issued by the Commission for a period not exceeding six (6) months during alteration or partial occupancy of a building pending it's completion in accordance with general rules and regulations concerning such temporary certificate and with such additional conditions or safeguards as are necessary in the circumstances of the case to protect the safety of the general public.

13-5 STOP WORK ORDERS

Whenever the building official finds any work regulated by the Kentucky Building Code being performed in a manner contrary to the provisions of the Kentucky Building Code or in a dangerous or unsafe manner, the building official is authorized to issue a stop work order.

The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease according to the time limitation on the order. The stop work order shall state the reason for the order, and the conditions under which the cited work will be permitted to resume (KBC 113.2)

SECTION 14

ADMINISTRATION, ENFORCEMENT AND PENALTIES

14-1 ADMINISTRATION AND ENFORCEMENT

This ordinance shall be administered and enforced by the Director, or his authorized designee. The Director shall have the right to enter upon any land or into any building for the purpose of making an inspection or acquiring information to determine whether or not the property and the use thereof conform to the requirements of this Ordinance.

If the Director shall find that any of the provisions of this ordinance are being violated, he shall notify, in writing, the person responsible for such violation, indicating the nature of the violation and ordering the action necessary to correct it. Proper measures shall be taken as prescribed by this ordinance to insure compliance and to prevent violations.

14-2 COMPLAINTS FOR VIOLATIONS

Whenever a violation of this ordinance occurs, or is alleged to have occurred, any person may file a written complaint or otherwise make a report to the planning office. Such complaint, stating fully the causes and basis thereof, shall be filed with the Director. The complaint shall be fully investigated and appropriate action shall be taken thereon as provided by the Zoning Ordinance.

14-3 NOTICE OF VIOLATION

Upon becoming aware of any violation of any provision of this ordinance, the Director shall serve notice of such violation on the person committing or permitting the same, and if such violation has not been ceased within such reasonable time as the Director has specified in such notice, he shall institute such action as may be necessary to terminate the violation.

14-4 ENFORCEMENT AND PENALTIES

A. It shall be the duty of the Director to enforce the provisions of this ordinance and to bring any violations or lack of compliance to the attention of the County Attorney.

B. Violation of the provisions of this ordinance shall be handled as per KRS 100.991 (1) through (3) as listed below:

(1) Any person or entity who violates any of the provisions of KRS 100.201 to 100.347 or any of the regulations adopted pursuant thereto for which no other penalty is provided, shall upon conviction, be fined not less than ten dollars ($10) and not more than five hundred dollars ($500) for each conviction. Each day of violation shall constitute a separate offense.

(2) Any person, owner or agent who violates this chapter shall, upon conviction, be fined not less than one hundred dollars ($100) nor more than five hundred dollars ($500) for each lot or parcel which was the subject of sale or transfer, or a contract for sale or transfer.

(3) Any person who intentionally violates any provision of KRS 100.3681 to 100.3684 shall be guilty of a misdemeanor punishable by a fine of not less than one hundred dollars ($100) nor more than five hundred dollars ($500).

SECTION 15

NON CONFORMING USES, STRUCTURES AND LOTS

15-1 NONCONFORMING USES OF LAND AND/OR STRUCTURES

Where, at the time of adoption of this Zoning Ordinance, legally established, uses of land exist which would not be permitted by regulations imposed by this Zoning Ordinance, the uses may be continued so long as they remain otherwise lawful, provided the Board shall not allow the enlargement or extension of a non-conforming use beyond the scope and area of its operation at the time these regulations were adopted in compliance with authority granted in KRS Section 100.253.

A. No such nonconforming use and/or structure shall be enlarged or increased, nor extended to occupy a greater area of land than was occupied on the effective date of adoption or amendment of this chapter, unless said enlargement does not result in an increase in nonconformity or results in a change to a use permitted in the zone.
B. No such nonconforming use and/or structure shall be moved, in whole or in part, to any portion of the lot or parcel other than that occupied by such use and/or structure at the effective date of adoption or amendment of this ordinance, unless said move results in decreasing the degree of nonconformity or results in conformity with the requirements for the zone.
C. Any nonconforming use may be extended throughout any parts of a building which were mainly arranged or designed for such use at the time of adoption or amendment of this ordinance, but no such use shall be extended to occupy any land outside such building.
D. When any nonconforming use, or structure and use in combination, is superseded by a permitted use and/or structure, the use shall thereafter conform to the regulations for the zone and no nonconforming use and/or structure shall thereafter be resumed.

15-2 CHANGE FROM ONE NONCONFORMING USE TO ANOTHER

The Board shall have the power to hear and decide on applications to permit a change from one nonconforming use to another.

The Board shall not permit such a change unless the new nonconforming use is as equally or more compatible with permitted uses in the zone in which it is located as the existing nonconforming use. Application for change of nonconforming use shall conform to the procedures and requirements for appeals as specified in Section 5-3, inclusive, of this Zoning Ordinance and KRS, Section 100.253.

The Board shall not allow any changed nonconforming use to be increased or enlarged, nor extended to occupy a greater area of land than

was occupied by the original nonconforming use. In permitting such change in nonconforming use, the Board may require appropriate conditions and safeguards in accord with other provisions of this Zoning Ordinance, such as the provision of landscaping and buffering, the improvement of parking areas, and restrictions on the hours of operation.

15-3 NONCONFORMING LOTS OF RECORD

A. A nonconforming lot of record is any lot which was lawfully created prior to the adoption of the Zoning Ordinance (Section 1-15 and 2-1) but which has a smaller minimum lot area, frontage, or width than now required for that zone.

B. A nonconforming lot of record may be used in accordance with the other applicable regulations for that zone, but changes to the lot that create greater nonconformity are prohibited. A nonconforming lot shall not be further subdivided or consolidated, in whole or in part, with another parcel, in a manner which increases its nonconformity. It may however, be altered so as to decrease its nonconformity.

C. The Director may approve building permits for a lot of record if the proposed structure can comply with all zone development standards except minimum lot area, frontage, or width. Variances of any other development standard must be obtained only through action of the Board.

15-4 CERTIFICATE OF NONCONFORMING USE

In order to protect the lawful nonconforming status of a nonconforming use, a person who owns or operates a nonconforming use may request a certificate of nonconforming use from the Director on a form available in the Planning Commission office. The applicant shall demonstrate that the use is a lawful nonconforming use prior to the issuance of the certificate.

The form shall be submitted along with a legal description of the property where the use is located and sufficient evidence to support the claim; such evidence shall include any or all of the following:

1. Business records such as sales receipts, invoices, tax receipts, ledger books, Internal Revenue Service filing forms, or other proof of continuous use.
2. Affidavits from the owner and neighboring property owners who have knowledge of the existence of the use.
3. Proof of ownership or tenancy (deed or lease). A contract to purchase shall be acceptable in lieu of a deed.

All evidence must reflect continuous operation by dates of not more than six-month intervals from the date that the use became nonconforming.

15-5 CONSTRUCTION OF NONCONFORMING STRUCTURES

To avoid undue hardship, nothing in this chapter shall be deemed to require a change in the plans, construction or designated use of any building on which actual construction was lawfully begun prior to the effective date of this ordinance or an amendment thereto and upon which actual construction has been carried on diligently. "Actual construction" is hereby defined to include the placing of construction materials in permanent position and fastened in a permanent manner. Where excavation or demolition or removal of an existing building has been substantially begun prior to rebuilding, such excavation or demolition or removal shall be deemed to be actual construction for the purposes of application of Section 15-5, provided that work shall be carried on diligently.

15-6 ABANDONMENT OF NONCONFORMING STATUS

If any such nonconforming use and/or structure or land ceases for any reason for a period of more than twelve (12) months any subsequent use of such land and/or structure shall conform to the regulations specified by this ordinance for the zone in which such land is located.

15-7 REPAIR & MAINTENANCE OF STRUCTURES

A nonconforming structure may continue to exist provided it remains otherwise lawful and shall be regulated as follows:

A. **Routine Maintenance**

On any nonconforming structure or portion of a structure containing a nonconforming use, any change that does not require a building permit is considered routine maintenance and shall not affect the nonconforming status. Work may be done for ordinary repairs, or on repair or replacement of walls, fixtures, wiring, plumbing or other parts of the building, and additions made, provided that the extent of the nonconformity shall not be increased. The Zoning Ordinance shall not be construed to prevent the strengthening, repairing or restoring to a safe condition of any structure or parts thereof.

B. **Unsafe Buildings**

If a nonconforming structure or portion of a structure containing a nonconforming use becomes physically unsafe or unlawful due to lack of repairs and maintenance, and is declared by any building official to be unsafe or unlawful by reason of physical condition, it shall not thereafter be restored, repaired, or rebuilt except in conformity with the regulations of the zone in which it is located.

15-8 PROCEDURES FOR NONLISTED USES

If, in any zone established by this ordinance, a use is not specifically permitted and an application is made by a property owner to the Director for such use, the director shall refer the application to the Commission for consideration. Should the Commission determine that such a nonlisted use could be permitted without adversely affecting long-range planning the use shall be properly advertised for a public hearing before the Board, as an application for a Conditional Use Permit.

Should the Commission determine that such a nonlisted use would adversely affect long-range planning if permitted; the application shall be denied, with an appropriate record to this effect included in the minutes of the Planning Commission.

SECTION 16

CONDITIONAL USE STANDARDS

16-1 PURPOSE

To allow the proper integration into the community of uses which are specifically identified as “Conditional Uses”, within Table 1 (Pg. 56) of this ordinance, due to their extent, nature of operation, limited application, or relationship to natural resources, which may be suitable only in specific locations of a Planning Area or Zone only if specific conditions are met.

A public hearing is required to review a Conditional Use Permit (CUP) application by the Board. Before a CUP is granted, the Board shall find the proposed use to be essential or desirable to the community and not in conflict with the goals and objectives of the Comprehensive Plan.

16-2 GENERAL PROVISIONS

Granting of a conditional use permit does not exempt the applicant from complying with the conditions stated herein, all of the requirements of building, housing, and other regulations, and any necessary conditions the Board may attach to such permit.

Listed “Conditional Uses” that are within Residential Zones must be incidental and subordinate to a permitted use and located on the same parcel with such permitted use.

As part of an application for a conditional use permit, a Development Plan or Site Plan (as required in Sections 5 and 6) of sufficient detail must be submitted to demonstrate to the Board the character and objectives of the proposed development and the potential impacts of the development on the community and its surroundings.

The Director may waive certain non-applicable submittal requirements. The Board or the Director may require an application for a Conditional Use Permit to be subject to review by other State and County agencies.

Upon approval of a Conditional Use Permit by the Board, no certificate of land use can be signed or distributed until the meeting minutes have been approved.

16-3 STANDARDS FOR ISSUANCE

The Board shall issue a CUP only after all of the following standards are satisfied, provided that all other provisions of this section have been complied with:

A. The use shall not tend to change the character and established pattern of development of the area of the proposed use;
B. The use shall be in harmony with the uses permitted by right under the Zone in question and shall not affect adversely the use of neighboring properties;
C. The location and height of buildings, the location, nature, and height of walls and fences and the nature and extent of landscaping on the site shall be such that the use will not hinder or discourage the appropriate development and use of adjacent land and buildings or impair the value thereof;
D. The use shall not adversely affect the health or safety of persons residing or working in the vicinity of the proposed use;
E. The use shall not be detrimental to the public welfare or injurious to property or improvements in the vicinity; and,
F. The use shall be in accordance with the purposes of the Zoning Ordinance and the Comprehensive Plan.

16-4 **GENERAL CONDITIONS** In granting any Conditional Use Permit, the Board shall designate such conditions in connection therewith as will, in its opinion, assure that the use will conform to the requirements set out in the Zoning Ordinance and that it will continue to so do. Such conditions may include, but are not limited to the following:

A. Secure a financial security to insure completion or construction of imposed conditions;
B. Reasonable time limits may be imposed to insure completion of the project in question or any individual components of the project, if none are established, the project shall be complete in one year;
C. Conditions may be imposed to abate or restrict noise, smoke, dust, light, or other elements that may affect surrounding properties;
D. Establish building setbacks and yard requirements necessary for orderly expansion and to prevent traffic congestion;
E. Provide for adequate parking and ingress and egress to public streets and roads;
F. Provide the adjoining property with a buffer or shield from view of the proposed use;
G. Establish minimum dwelling unit square foot requirements in order to protect property values;
H. Establish Hours of Operation for businesses and commercial activities;
I. Establish limits as to the scope and intensity of activities conducted under the Conditional Use Permit;
J. Establish time limits for the Conditional Use Permit at which time the permit shall expire or require renewal;
K. Conditional Uses shall comply with all applicable standards of the Zoning Ordinance, including the parking, landscape, lighting and signage regulations. Additional standards may be included in the listed requirements for a particular use;
L. All other plans, licenses, permits and documentation from/for other agencies may be required by the Board.

CONDITIONAL USES WITHIN THE SPECIFIED ZONES

16-5 ACCESSORY STRUCTURES

An accessory structure is a structure or use customarily incidental and subordinate to the principal structure and located on the same parcel with such principal structure. These standards apply when the accessory structure is developed prior to the start of construction of the principal structure on the property. This regulation does not apply to agricultural uses and related accessory structures.

1. Location. An accessory structure is part of the principal structure when it is attached to the principal structure by a breezeway and shall comply with the applicable setbacks of the zone in which it is located.
2. Agriculture. Accessory structures for agricultural uses shall comply with the building setback requirements for the principal structures of the zone in which it is located.
3. Distance. The minimum distance between buildings shall be five (5) feet.
4. Size. All accessory structures shall be subordinate in scale to the principal structure.

16-6 AGRICULTURAL TOURISM

1. Setbacks. The Board may require additional setbacks for all buildings and structures
2. Parking. Public parking areas must be of an appropriate surface type such as gravel or paved with a durable, dustless, bound surface as determined by the Board.
3. Policies and Procedures. The Policies and Procedures Guide for Rural and Agricultural Health and Safety shall be used to establish appropriate conditions.

The Policies and Procedures Guide will help agritourism operators and workers prepare and plan for emergencies, prearranged visits by groups, documentation, supervision of children, proper hand-washing, animal contact, traffic and parking, fires, tractors and display equipment, locations for barriers and fencing, pest control, and hayride operations. This checklist guide will help create, revise, or add content to the farm's own policies and procedures.

16-7 AGRICULTURAL EQUIPMENT SALES & SERVICE

(General Conditions, Pg. 128)

16-8 AIRPORTS

1. Air Rights. Evidence shall be furnished to the Board of the acquisition of land or air rights over all property at the ends of all runways where the required glide path of aircraft, for the class of the airport, meets the regulations of the Federal Aviation Administration (FAA).
2. Setbacks. The Board may require additional setbacks for all buildings, structures and landing areas.
3. Driveways. All drives and parking areas shall be of an appropriate surface type such as gravel, concrete, asphalt or paver blocks.
4. Emergency Response Plan. An Emergency Response Plan must be submitted and approved by the County Engineer that includes a Spill Reporting Procedure.

16-9 AMUSEMENT ENTERPRISES (INDOOR)

1. Setbacks. The Board may require additional setbacks for all buildings and structures.
2. Setbacks. All skeet and clay target ranges shall be of sufficient length to provide a safe distance for termination of all projectiles from the various types of targets and weapons used.
3. Backstops. All rifle and pistol ranges shall be provided with an approved earthen backstop of sufficient height and thickness to safely stop all projectiles from the various types of weapons used.
4. Warning Signs. Permanent warning signs shall be placed at reasonable visible intervals along all range fences.
5. Distance. All driving ranges, paintball facilities and gun ranges shall be an adequate distance from any street or highway.
6. Competitions. Any large competitions on the site exceeding 100 participants shall be considered as large competitions. The Board may limit the number of large competitions on a site within a year. The owner/developer shall provide a plan for large competition management that identifies the following:
   a. Location of spectator parking based on the expected number of spectators
   b. Location of outdoor restroom facilities
   c. Traffic safety plan for movement of spectator vehicles on and off the property
7. Pools. Swimming pools shall be installed in compliance with the Kentucky Building Code.
8. Garbage and Trash. Central trash collection points shall be completely screened from view from the public right of way.
9. Licensing. Compliance with Occupational Licenses shall be required by the Board.

16-10 **ANTIQUE, GIFT & CRAFT SHOPS** (General Conditions, Pg. 128)

16-11 **ASPHALT MANUFACTURING** (General Conditions, Pg. 128)

16-12 **AUTOMOTIVE REPAIR**

1. Number of Vehicles. The Board may regulate the maximum number of vehicles that shall be located on the property at one time.
2. Number of Wrecked Vehicles. The Board may regulate maximum number of wrecked vehicles that are allowed to be on the property at one time. Wrecked vehicles must be screened from view from public rights-of-way and all adjoining properties.
3. Emergency Response Plan. An emergency response/spill prevention plan shall be required.
4. Screening. Vehicles must be appropriately screened from view from public rights-of-way and all adjoining properties.
5. Location. The designated vehicles must be located on the subject property as shown on the Site/Development Plan.

16-13 **AUTOMOTIVE SALES** (General Conditions, Pg. 128)

16-14 **AUTOMOTIVE STORAGE (2-5 VEHICLES)**

1. Number of Vehicles. The Board may regulate the maximum number of vehicles that shall be located on the property at one time.
2. Screening. Vehicles must be appropriately screened from view from public rights-of-way and all adjoining properties.
3. Location. The designated vehicles must be located on the subject property as shown on the Site/Development Plan.
4. Parking Surface. The designated parking area must be of an appropriate type surface such as gravel, concrete or pavement.

16-15 **BEAUTY & BARBER SHOP** (General Conditions, Pg. 128)

16-16 **BED & BREAKFAST**

1. Number of Guests. The Board may regulate the maximum number of guest or guest rooms that shall be permitted.
2. Length of Stay. The Board may regulate the length of stay of all guests (consecutive days). The resident owner shall keep a current register including names, permanent addresses, dates of occupancy, and motor vehicle license number of all guests.
3. Number of Boarders. The Board may regulate the maximum number of boarders.
4. Administration & Maintenance. All boarding homes shall comply with the administrative and maintenance requirements established in 902 KAR 20:350.

16-17 BOARDING HOUSE AND/OR GROUP HOME

(General Conditions, Pg. 128)

16-18 CHARITABLE GAMING ACTIVITY

1. Number of Sessions. The Board may regulate the maximum number of sessions per day.
2. Licensing. Proof of license by the Kentucky Office of Charitable Gaming shall be required.

16-19 CHILD CARE CENTER

1. Recreation Areas. Outdoor recreational areas shall be fenced and screened on all sides.
2. Number of Children. The Board may regulate the maximum number of children at the Child Care.
3. Signage. The Board may regulate the size and design of the sign advertising the Child Care.
4. Time Limit. The Board may establish a time limit for the Conditional Use Permit.
5. Residential Character. Where applicable, the structure shall remain or shall be constructed so that the exterior design and ornamentation is residential in character and compatible with the immediate neighborhood, so that there is no evidence from the street that the use is other than residential (except for the sign).
6. Alterations. Where conditionally permitted in a residential structure, no substantial alterations or improvements shall be made to the structure which would impair the structure's use as a residence at a later time.
7. The following table shows the number of children permitted at a time for conditional use permits:

Number of Children *(unrelated to the operator)*	***Use Restrictions***	***Approving Authority***	*Proof of Documentation*
1-6	Permitted in A-1, R-1, R-2 , R-3, R-4, R-5, C-0 and IH Zone	None	None
More than 6	Conditional in A-1, R-1, R-2 , R-3, A-1, R-1, R-2 , R-3, R-4, R-5, C-0, B-1, B-2 Zone;	Board	State Certification or Type II license

16-20 CRUSHED STONE, SAND AND GRAVEL OPERATION

1. Elevations. Establishment by the responsible authority or approved engineer of the final ground elevations to be attained for the operations.
2. Performance Bond. The Board may require the filing of a financial security with the county to ensure proper finishing of the area into a usable condition.
3. Fencing. The Board may require a continuous privacy fence for screening from the public right-of-way and all adjoining properties.
4. Nuisance. The operation shall be conducted so as not to create a nuisance or cause undue noise, vibration, dust, or odor to adjacent properties.
5. Blasting. All blasting and the use of explosives must be conducted in accordance with the regulations set forth by the Department of Mines and Minerals, Division of Explosives and Blasting (pursuant to the authority of KRS 351.310 to 351.340 and 351.990) and in accordance with the Standards of Safety for Explosives, for the state of Kentucky, prepared by the Department of Public Safety, Division of Fire Prevention (pursuant to the authority of KRS 227.300).
6. Setbacks. The Board may require additional setbacks for all buildings and structures.
7. Removal Upon Discontinuance. All evidence of the operation shall be removed by the property owner promptly after its discontinuance or abandonment.

16-21 CULTURAL SERVICES (General Conditions, Pg. 128)

16-22 DWELLING; ACCESSORY

Common names for accessory dwelling units and accessory living space include garage apartment, ancillary apartment, mother-in-law unit, guest house, carriage house or granny flat. For the purposes of these regulations, all of these building forms shall be referred to as an “Accessory Dwelling” unless otherwise specified in this Section.

The purpose of permitting Accessory Dwellings with conditions in certain situations is to:

- Create new housing units while respecting the look and scale of single-family dwelling development;
- Increase the housing stock of existing neighborhoods in a manner that is less intense than alternatives;
- Allow more efficient use of existing housing stock and infrastructure;
- Provide a mix of housing that responds to changing family needs and smaller households;
- Provide a means for residents, particularly seniors, single parents, and families with grown children, to remain in their homes and neighborhoods, and obtain extra income, security, companionship and services; and

- Provide a broader range of accessible and more affordable housing.

A. **Permanent Accessory Dwellings**

An accessory dwelling unit is a detached structure. The Board shall consider the following criteria prior to issuance of the Conditional Use Permit:

1. Creation. Constructing a detached accessory dwelling unit on a site with an existing house.
2. Ownership. The property owner must occupy either the principal dwelling unit or the accessory dwelling used as his/her principal residence, and at no time receive rent for the owner-occupied unit. Owner residence must be proven by driver license, voter registration or other evidence acceptable to the Board, such as but not limited to deeds, utility bills and the like. For added assurance that the owner-occupancy requirements will continue to be met, a Certificate of Land Use Restrictions shall be recorded in the Clerk's Office. The Conditional Use Permit is not transferable and the new owners must reapply for the Conditional Use Permit and meet the necessary requirement as stated herein.
3. Parking. Adequate on site parking must be designated on an approved site plan.
4. Driveways. Shared driveways are to be encouraged wherever possible.
5. Maximum size. The size of the accessory dwelling may be no more than 50% of the living area of the house or 900 square feet, whichever is less.
6. Minimum Width. The accessory dwelling must be a minimum width of at least twenty feet at its smallest width measurement.
7. Location. The accessory dwelling should be located behind the principle dwelling in the rear yard to minimize the visual impact of two separate residences.
8. Exterior finish materials. The exterior finish material must be the same or visually match in type, size and placement of the exterior finish material of the house.
9. Sewage System. The accessory dwelling shall have its own septic system approved by the Hardin County Health Department or be connected to a sanitary sewer system.
10. Density. Accessory Dwelling units are not included in the minimum or maximum density calculations for a site.

The Commission and Board reserves the right to allow exceptions from the above requirements at their discretion in cases where strict adherences to the above may be impractical or uneconomical.

B. **Temporary Accessory Dwellings**

Temporary Accessory Dwellings may be permitted on a case by case basis by the Board in the event of care-giver situations and other family circumstances. These Temporary Accessory Dwellings are typically

Manufactured Homes that must meet the installation guidelines as established by County Ordinance. The following criteria shall be considered by the Board prior to issuance of the Conditional Use Permit:

1. Size. The accessory dwelling shall contain a minimum or maximum number of square feet of living space based on neighborhood characteristics.
2. Time Limit. The Board may establish a time limit for the temporary accessory dwelling.
3. Occupancy. The accessory dwelling shall only be occupied by an immediate family member of the property owner (father, mother, son, daughter), and the member's family or an individual who provides "care-giver" services.
4. Restriction. The accessory dwelling shall not be available to the public for rent.
5. Location. The accessory dwelling shall be placed on the property as illustrated on the site plan submitted and in accordance with the building setback lines established for the designated zone.
6. Expiration. The Conditional Use Permit for a Temporary Accessory Dwelling shall be issued to the current property owner and shall expire when the property is transferred. The Conditional Use permit is not transferable to another property owner.
7. Removal. Upon vacancy of the accessory dwelling, it must be removed from the property. Prior to the transfer of the property, the second dwelling must be removed from the property.

16-23 **DWELLING; MOBILE HOME** (General Conditions, Pg. 128)

16-24 **FARMERS MARKET** (General Conditions, Pg. 128)

16-25 **GRAIN BIN FACILITY** (General Conditions, Pg. 128)

16-26 **GREENHOUSE & PLANT NURSERY** (General Conditions, Pg. 128)

16-27 HOME OCCUPATION

A home occupation is an accessory use which is incidental to the use of the dwelling for residential purposes. All home occupations must meet the standards listed in this section. Home occupations do not imply or convey permission to violate or be exempt from any existing or subsequent lawfully enacted deed restrictions or subdivision restrictions for the property of the proposed home occupation.

A home occupation shall be considered an accessory use with administrative approval from the Director when the following standards are met Applications for home occupations must seek a Conditional Use Permit from the Board to exceed the standards below. All applicants shall provide a site plan for the proposed use with the application. This plan shall include, but not be limited to, a Site Plan illustrating the property and all structures, building setbacks, parking and driveways; the proposed scope of the business, the number of employees, occupation, vehicles (including type, weight and size of vehicles) to be used, and estimated daily traffic.

1. Employees. No person other than a resident of the dwelling unit shall be engaged or employed in the home occupation.
2. Signage. No business signs shall be permitted on the house or property.
3. Exterior Modifications. There shall be no exterior evidence of the conduct of a home occupation.
4. Outdoor storage. There shall be no storage of equipment or materials used in connection with the home occupation outside a dwelling unit or accessory structure.
5. Traffic & Parking. The home occupation shall not generate more traffic or a demand for parking than the uses existing in the same neighborhood.

16-28 JUNK YARD

1. Setbacks. The Board may require additional setbacks for all buildings and structures.
2. Nuisance. The operation shall be conducted so as not to create a nuisance or cause undue noise, vibration, dust, color, or light to adjacent properties.
3. Fencing. The Board may require the entire operation to be enclosed within a solid fence with tree plantings consisting of white pine tress.
4. Groundwater Contamination. Salvage yards shall be prohibited in all primary groundwater recharge areas. Groundwater contamination resulting from the operation of any salvage yard shall be prohibited. Contamination of any domestic water supply or surface run-off from the site onto any adjoining land, surface water body, or wetland shall be mitigated by use of holding tanks, settling ponds, or other necessary devices.
5. Removal Upon Discontinuance. All evidence of the salvage yard shall be removed by the property owner promptly after its discontinuance as a business enterprise.
6. Number of Vehicles. The Board may regulate the maximum number of vehicles that shall be located on the property at one time.
7. Stacking. The Board may regulate the maximum height of stacked materials.
8. Hazards. The operation will not have or require any fire, smelting, fumes, chemicals or other toxic materials or hazardous wastes or by-products.
9. Parking. Public parking and yard storage areas must be of appropriate surface type such as gravel, concrete or paved with a durable, dustless, bound surface as determined by the Board.
10. Emergency Response Plan. An Emergency Response Plan shall be required as part of the Conditional Use Permit.

16-29 KENNELS

1. Enclosure. All facilities, except parking, shall be within a totally enclosed building except where it can be demonstrated that a nuisance is not created thereby.
2. Fencing. The Board may require a continuous privacy fence for screening from the public right-of-way and all adjoining properties around the portion of the site used for the kennel operation.
3. Outdoor Facilities. Any outdoor animal facilities shall be screened from view.
4. Noise. The design of any structures shall include features that acoustically shield any animal noise from surrounding property.
5. Run-off. The applicant shall demonstrate adequate provisions to prevent surface water quality impacts due to animal wastes.
6. Permits. The applicant must secure any and all necessary licenses and permits from Hardin County Animal Control.
7. Number of Animals. The maximum number of animals shall be determined by the Board in accordance with the size of the facility, the type of animal to be housed by the clinic, the nature and character of the surrounding neighborhood, and guidelines of recognized organizations concerned with the breeding of animals and the prevention of cruelty to animals.
8. Distances. All kennel pens, runs, shall not be located closer than one hundred feet (100') from all property lines and street rights-of-way lines.
9. Odor. There shall be no objectionable odors generated by the use detectable by neighboring properties.

16-30 LIVESTOCK AUCTION AND/OR STOCK YARD

1. Size. The minimum lot size shall be five (5) acres.
2. Setbacks. All buildings, structures, pens, and yards shall be at least one hundred (100) feet from all property lines or rights-of-way.
3. Water Supply. Adequate water supply shall be available to maintain the premises in a sanitary condition at all times.
4. Run-off. The applicant shall demonstrate adequate provisions to prevent surface water quality impacts due to animal wastes.
5. Health Department Approval. Approval of the Hardin County Health Department shall be a requirement.
6. Permits. Must comply with any and all Department of Agriculture rules and regulations.
7. Screening. All facilities shall be adequately screened and landscaped so as to not become a nuisance to adjoining properties.

16-31 MEAT PACKING PLANT (See Livestock above, Pg. 138)

16-32 MEDICAL OFFICE (General Conditions, Pg. 128)

16-33 **MOBILE HOME** (General Conditions, Pg. 128)

16-34 **MOBILE OFFICE** (General Conditions, Pg. 128)

16-35 **NURSING HOME** (General Conditions, Pg. 128)

16-36 **OWNER-OPERATED, SPECIALTY SKILLED SHOP FOR AGRICULTURAL RELATED USE** (General Conditions, Pg. 128)

16-37 **PARKING LOT** (General Conditions, Pg. 128and Parking, Pg. 89)

16-38 **PETROLEUM PRODUCTION, REFINING AND/OR STORAGE**

1. Drilling. The Board may regulate the distance that drilling must be from a state highway, county road or any other public right-of way.
2. Setbacks. The Board may require additional setbacks for all buildings and structures.
3. Number of wells per acre. The Board may regulate the number of wells per acre.
4. Removal. The Board may regulate the number of days that after the drilling of each well is completed and production started, the derrick and all other drilling equipment shall be removed from the site.
5. Storage. After a well has been brought into production, no earthen sumps shall be used for the storage of petroleum or its by-products.
6. Fires. Fire fighting equipment shall be maintained on the premises at all times during drilling and production operations.
7. Reclamation. The Board may regulate that any areas of site disturbance resulting from construction operations shall be landscaped or replanted upon completion.
8. Nuisance. All drilling and production operations shall be conducted in such a manner as to eliminate, as far as practicable, dust, noise, vibration, and obnoxious odors, in accordance with the best accepted practices incident to drilling for, and production of, oil, gas, and other hydrocarbon substances.
9. Abandonment. At the time of abandonment, all material, equipment, and structures used in the drilling operations shall be completely removed from the site.
10. Bond. The Board may require a bond or financial surety shall be made to insure proper compliance with these regulations.
11. Requirements. All methods of operation, construction of roads, back-filling, grading, blasting, water impoundments, treatment facilities, and reclamation must be in conformance with the regulations adopted by the Department for Natural Resources and Environmental Protection, Division of Reclamation.
12. Regulations. Any excavation or processing operations shall be subject to the regulations of the Kentucky Water Pollution Control Commission.

16-39 **PRIVATE CLUB** (General Conditions, Pg. 128)

16-40 **PROFESSIONAL OFFICE** (General Conditions, Pg. 128)

16-41 **READY MIX AND/OR CONCRETE PLANT** (See Crush Stone, Pg. 133)

16-42 **RESEARCH LABORATORY** (General Conditions, Pg. 128)

16-43 **RECREATIONAL ENTERPRISES (OUTDOOR)**
(Amusement Enterprise, Pg. 130)

16-44 **RECYCLING CENTER** (See Junk Yard, Pg. 137)

16-45 **REPAIR OF HOUSEHOLD APPLIANCES** (General Conditions, Pg. 128)

16-46 **RESTAURANTS** (General Conditions, Pg. 128)

16-47 **RETAIL NEIGHBORHOOD USE** (General Conditions, Pg. 128)

16-48 **RETAIL SALES OF MERCHANDISE** (General Conditions, Pg. 128)

16-49 **SAW MILLS** (General Conditions, Pg. 128)

16-50 **SCRAP METAL** (Junk Yard, Pg. 131)

16-51 **SELF / MINI STORAGE UNITS**

1. Use. Mini-warehouses shall be limited to storage use only. No other commercial, wholesale, or industrial use shall be permitted.
2. Landscaping. The property shall be landscaped so as to blend in with the surrounding area and shall be screened and buffered from adjacent properties.
3. Setbacks. The Board may require additional setbacks for all buildings and structures.
4. Outdoor storage. No outdoor storage shall be permitted on the property.
5. Materials. No storage of toxic or hazardous materials shall be permitted on the property.
6. Doors. Loading doors shall be located as to face inward within the property.
7. Plumbing. Plumbing shall not be extended to individual storage spaces, and plumbing fixtures such as sinks, toilets, and the like shall not be installed.
8. Lot Size. The minimum Lot Size shall be three (3) acres.
9. Prohibited. In no case shall storage spaces be used for manufacturing, retail or wholesale selling, compounding, re-packaging, office functions, other business or service uses, or human habitation.

16-52 **SELF SERVE LAUNDRY** (General Conditions, Pg. 128)

16-53 **SHOE REPAIR** (General Conditions, Pg. 128)

16-54 **SIGNAGE (On and Off-Site)**

1. Sign Permit. The sign shall require a “Sign permit” in accordance with Section 9-3. Pg, 97.
2. Location. The Board may regulate the placement of the sign from parking areas, driving areas and/or property lines.
3. Size. The Board may regulate the total surface area of the sign.
4. Height. The Board may regulate the total height of the sign.
5. Total Number. The Board may regulate the total number of signs on and off-site.

16-55 **SLAUGHTER HOUSE** (See Livestock, Pg. 138)

16-56 **TAILORS SHOP** (General Conditions, Pg. 128)

16-57 **TEMPORARY REAL ESTATE SALES OFFICE**
(General Conditions, Pg. 128)

16-58 **THEATER** (General Conditions, Pg. 128)

16-59 **TRACTOR TRAILERS; PARKING AND STORAGE**

1. Number of Trucks. The Board may regulate the maximum number of truck and/or tractor trailers on site.
2. Location. The trucks and/or tractor trailers shall be parked in the designated area as illustrated on the approved Development/Site Plan.
3. Screening. Screening shall be provided to mitigate the visual impacts from public rights-of-way and adjoining properties.
4. Nuisance. The operation shall be conducted so as to not create a nuisance or cause undue noise, vibration, dust, color, or light to adjacent properties.
5. Stacking. The Board may regulate the maximum height of stacked materials
6. Outdoor Storage. Outdoor storage areas shall be screened from public rights-of-way and adjoining properties.

16-60 **TRUCK OR FREIGHT TERMINAL** (Tractor Trailers, Pg. 141)

16-61 **VETERINARY CLINICS** (See Kennels, Pg. 138)

16-62 **WELDING SHOP** (General Conditions, Pg. 128)

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SECTION 17

SPECIAL PROVISIONS

17-1 PURPOSE

The purpose of this Section is to address specific land uses or conditions and set minimum standards in order to permit proper integration of these items into the community and establish provisions for the protection of the health, safety, and general welfare of the public and for the protection of surrounding properties, persons, and neighborhood values.

17-2 APPLICABILITY

The requirements set forth in this Section qualify or supplement the Zone requirements appearing elsewhere in the ordinance.

17-3 ACCESSORY USES AND STRUCTURES

This Section does not apply to agricultural uses and related accessory structures (e.g., barns, stables).

1. **Shall Follow Principal Use**
   No accessory use or structure may be developed until after the start of the construction of the principal use on the building site, and no accessory use or structure may be used unless the principal use or structure has been developed except after review and approval as a Conditional Use (Section 16, Pg. 127).
2. **Same Parcel**
   Except as otherwise specifically permitted elsewhere in the Zoning Ordinance, accessory uses and structure shall be located on the same parcel as the associated principal use.
3. **Breezeway**
   When an accessory structure is attached to a principal building by a breezeway, roofed passage or similar structure, it shall be deemed to be part of the principal building and shall maintain the yard requirements of the principal building.
4. **Minimum Distance Between Buildings**
   The minimum distance between buildings shall be five feet (5').
5. **Subordinate in Scale**
   All accessory structures shall be subordinate in scale to the principal structure.
6. **Structures over One Hundred Twenty (120) Square Feet**
   All accessory structures over one hundred twenty (120) square feet shall conform to the Kentucky Building Code Program (Section 13, Pg. 117).

17-4 AGRICULTURAL ZONES ADJACENT TO RESIDENTIAL ZONES

Whenever an Agricultural Zone is adjacent to a Residential Zone, the building setback line is increased to one-hundred (100) feet. Map amendments from an Agricultural Zone, must preserve the one-hundred (100) foot building setback line in the proposed Zone to maintain the Open Space Buffer.

17-5 LAND USED FOR AGRICULTURAL PURPOSES

Pursuant to KRS Chapter 100 (refer to the definition of agricultural uses), "land which is used for agricultural purposes shall have no regulations except" as presented in KRS 100.203(4) and as stated below:

1. Building "setback lines shall be required for the protection of existing and proposed streets and highways". Building setback lines shall be as required for the zone in which the use is located (KRS 100.203(4) (a).
2. That "all buildings or structures in a designated floodway or floodplain or which tend to increase flood heights or obstruct the flow of flood waters shall be fully regulated" in accordance with this ordinance and Hardin County's ordinance relating to Flood Damage Prevention (KRS 100.203(4) (b).
3. "Mobile homes and other dwellings may be permitted but shall have regulations imposed which are applicable, such as zoning, building, and certificates of occupancy" (KRS 100.203(4) (c). All dwellings to be constructed or provided as part of land used for agricultural purposes shall meet all requirements of the zone in which said use is located, shall comply with the Kentucky Building Code and shall meet all other requirements of this ordinance.
4. Any parcel of land which is created solely for agricultural use as defined under KRS 100.111(2) shall not be permitted a dwelling unit unless said agricultural tract is twenty-five contiguous acres or greater.
5. In the administration of the Kentucky Building Code, structures that are used solely for agricultural purposes such as barns, workshops, equipment storage, grain bins, animal shelters may request an exemption from obtaining a Building Permit by completing an AGRICULTURAL CERTIFICATION form provided by the Planning Commission.
6. "The uses set out in KRS 100.111(2) (c) may be subject to regulation as a conditional use" (KRS 100.203(4) (d). Conditional Use Standards (Section 16, Pg. 127).
7. "A division of land for agricultural use and not involving a new street shall not be deemed a subdivision" (KRS 100.111(22). An AFFIDAVIT OF AGRICLTURAL USE form provided by the Planning Commission titled shall be used for the purpose of satisfying the statutory definition of an agricultural use which would therefore exempt it from classification of the sale of property as a "subdivision".

17-6 LOCAL AVERAGE SQUARE FOOT STANDARD

A method used by the Director, on a case by case basis, to provide pertinent information in an effort for protecting property values whereby the minimum square footage for the dwelling units of a proposed particular development is established by averaging the square footage of the closest twelve dwelling units to the site and then multiplying that figure by 90 percent.

The records of the Property Valuation Administrator's office shall be used to calculate this standard. If twelve dwelling units are not found within a mile of the application parcel, then only those dwelling units within one mile shall be calculated.

17-7 MANUFACTURED HOME USED AS TEMPORARY DWELLING

When a house needs to be built, rebuilt or rehabilitated due to fire, natural disaster or other reasons, a temporary use of a manufactured home located on the parcel during construction is permitted subject to the following additional regulations:

1. Required building and electrical permits must be provided.
2. Required water and sanitary facilities must be provided.
3. The manufactured home must bear either a HUD Label or a B1 Seal.
4. The maximum length of a permit shall be 12 months, but the Director may extend the permit for a period or periods not to exceed 3 months each provided reasonable construction progress has been made and such construction is being diligently pursued.
5. The manufactured home shall be removed within 30 days from the property upon issuance of any occupancy permit for the new or rehabilitated residence.

17-8 MOBILE HOME COMMUNITIES

902 KAR 15:010. Manufactured and mobile homes.

Section 2 Submission of Construction Plan.
Section 3 Location and General Layout Standards.
Section 4 Lighting within Community.
Section 5 Community Water Supply.
Section 6 Community Sewage and Waste Disposal.
Section 7 Storage, Collection and Disposal of Community Refuse.
Section 8 Insect and Rodent Control within the Community.

17-9 MULTI FAMILY STANDARDS

1. Multi family attached residences shall not contain more than four (4) units per building.
2. All multi family structures shall provide foundation plantings along areas visible from parking areas or street right-of-ways.
3. No parking spaces for multi family shall be allowed in the required front yard setback.

17-10 OPEN SPACE SUBDIVISION DESIGN

A **Objective** The objective of the open space subdivision provisions is to provide a design alternative to the conventional subdivision. A conventional subdivision generally occupies and utilizes the entire development site with individual lots that are equal to or greater than the required minimum lot size specified in the Zoning Ordinance. An open space subdivision has the same gross density of a conventional subdivision, however; individual lot size and width requirements are less restrictive and the remaining portion of the subdivision may be deemed an Open Space Lot – not eligible for a dwelling unit.

The development of an open space subdivision is not intended to allow development densities greater than what is allowed in a conventional subdivision or to allow increased densities using land with marginal development potential. The open space subdivision provides flexibility in the development of areas with environmental constraints, rural character, and valuable agricultural resources. Additionally, the open space subdivision reduces the cost of constructing and maintaining public improvements such as streets and utilities.

B **Approval** The review, approval, and construction of an open space subdivision design shall adhere to all applicable Sections of the Zoning Ordinance and Subdivision Regulations and be treated as a subdivision plat.

C **Design Principle** A subdivision of land using open space subdivision design shall adhere to the following design principles:

1) Individual lot size and width may be smaller than that required by the zone in which the open space subdivision is located. For lots with on-site disposal systems, the minimum lot size shall not be less than 40,000 square feet, and must receive approval of the Hardin County Health Department for onsite disposal systems.
2) The Open Space Lot area shall meet a minimum lot size of five (5) acres.
3) The number of dwelling units shall not exceed the maximum development density of a conventional subdivision located in the same zone.
4) Due to the reduction in the individual lot sizes, a single or series of community lateral fields should be considered when the open space subdivision's sewage disposal is provided by on-site septic systems. A community lateral field should take advantage of any localized occurrence of soil types that are more conducive to septic tank lateral fields. All on-site septic systems, whether individual or grouped community systems, are subject to the approval of the Hardin County Health Department. Building setbacks may be smaller than the required building setbacks of the zone in which the open space subdivision is located. Smaller minimum building setback requirements shall be requested through a variance procedure.

17-11 OUTDOOR STORAGE AND DISPLAY

The intent of this Provision is to provide for the appropriate location and design of outdoor storage and display areas and to minimize the visual impacts to adjacent properties and public rights-of-way. This section applies to all residential, commercial, and industrial development in all zones that propose outdoor storage or display.

Outdoor storage or display of merchandise, material, and equipment is permitted in residential, agricultural, commercial, and industrial zones only when incidental to an allowed use located on the same premises provided the following criteria are met.

A. **Outdoor Storage and Display Standards**

1) Outdoor storage or display of merchandise, material, or equipment is subject to all applicable fire, health, safety, and building regulations.
2) Outdoor storage or display of merchandise, material, or equipment shall not impede the growth or maintenance of required landscaping.
3) The area designated for outdoor storage or display of merchandise, material, or equipment for sale, storage or display shall be on private property and not allowed in areas set aside, required, or designated for driving aisles, driveways, maneuvering areas, emergency access ways, vehicular parking areas, landscape areas, sight distance triangles, front and street-side yards, or centerline setbacks.
4) Outdoor display areas shall be limited in area to the coverage area allowed in the Zone.

B. **Outdoor Storage Standards**

1) All outdoor storage areas shall be adequately screened from view by solid fences, walls, or buildings, or a combination thereof, not less than 6 feet in height. If screening of the merchandise, material, or equipment requires a screening height greater than 6 feet, the storage area and the screening fences, walls, or buildings shall be located on the rear half of the lot, away from any rights-of-way.
2) Outdoor storage shall not occur within 25 feet of any right-of-way.

17-12 REFUSE / GARBAGE DISPOSAL CONTAINERS

1. Location: No container shall be located in any required vehicular use area, buffer, landscape area, or setbacks. All refuse / garbage disposal containers are specifically prohibited in any required yards.
2. Screening: All refuse / garbage containers shall be adequately screened from view from streets and adjacent properties to a height of at least 6 feet, or 6 inches higher than the height of the container (whichever is higher.) This screening may be achieved by walls, landscaping, buffer yards, or by virtue of the location of the container on the building site.

17-13 SUBDIVISIONS ADJACENT TO AGRICULTURAL ZONES

Residential subdivisions platted after the adoption of this ordinance that are adjacent to Agricultural Zones shall have building setback lines increased to one-hundred (100) feet adjoining the Agricultural Zone.

Residential subdivisions platted after the adoption of this ordinance that are not adjacent to, but within one-hundred (100) feet of an Agricultural Zone, must maintain the one-hundred (100) foot building setback line from the Agricultural Zone.

17-14 RESIDUAL LOTS

Residual lots promote the future development of streets and shall meet the following criteria:

1. Residual lots shall only be approved at access points in public right-of-ways that are pre-approved by the Hardin County Road Department or the Kentucky Department of Transportation for future street intersections.
2. Residual lots shall contain a minimum of 5 acres.
3. Only one residual lot with a minimum of sixty (60) feet of road frontage shall be approved per subdivision per deeded tract that existed on 17 July 1995 the date the Zoning Ordinance was adopted by Fiscal Court.
4. The entire deeded tract must be subdivided to be eligible for a residual lot.
5. Residual lots shall not be approved when platted subdivision lots are being re-subdivided.

17-15 SEWER AND WASTEWATER TREATMENT ALTERNATIVES

This Provision is intended to implement and facilitate orderly growth consistent with the Land Use Element of the 2008 PLANNING FOR GROWTH COMPREHENSIVE DEVELOPMENT GUIDE by assuring that new development activity is served by adequate public facilities and managed sanitary sewer treatment for Hardin County.

The provision shall implement concepts contained in the Regional Wastewater Facilities Plan and the Inter-local Agreement in a manner consistent with the laws of the Commonwealth of Kentucky.
Wastewater Alternatives (also called Decentralized or community wastewater) can be defined as the centralized management of decentralized wastewater treatment systems, including on-site septic systems, cluster wastewater systems serving two or more properties, and traditional collection systems. These systems are overseen by a management entity, whether a municipality, the county, or a home owners association. This approach recognizes that on-site systems, like sewer systems, must be properly managed and maintained to protect the environment and public health, and to achieve water quality goals. Managing septic systems is appealing in areas of Hardin County that do not have the growth potential to support multi-million dollar sewer projects.

All proposals must comply with the Standards, Specifications and Details for Design and Construction of Wastewater Collection, Conveyance, and Treatment Systems as established by the Wastewater Utility Provider. Additionally, all lots must have access to a government maintained roadway with a 16 foot paved surface or greater and have public water available at the site.

DIMENSION AND AREA REGULATIONS

1. Minimum Lot Size
   - 12,000 square feet for single family;
   - 20,000 square feet for a duplex;
   - 40,000 square feet for multi family;
2. Minimum Lot Frontage – 75’
3. Minimum Width to Length Ratio – 1:4 until 300’ of road frontage;
4. Minimum Front Yard Setback - 30';
5. Minimum Side Yard Setback - 10'; 100’ for Subdivision lots created after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
6. Minimum Rear Yard Setback - 15'; 100’ for Subdivision lots created after the adoption of this ordinance and adjoining A-1, I-1, I-2 zones
7. Street Construction – New subdivision streets must intersect with government maintained roads with a minimum of 40 foot dedicated right-of-way and a minimum 18-foot paved road surface. To achieve street connectivity the Commission may approve secondary streets to intersect with other government maintained roads.

17-16 SEXUALLY ORIENTED BUSINESSES

A. **Purpose**

The regulations established herein are intended to protect and preserve the quality, property values, integrity and character of the county's neighborhoods and commercial zones, and to ensure that the adverse effects created by adult entertainment establishments are minimized and controlled so as not to cause or contribute to crime, increasing blight, or downgrading of adjacent property and the surrounding neighborhood by restricting their proximity to Public Parks, schools, childcare, hospitals, churches, certain governmental and civic facilities, and scenic corridors.

The provisions of this Section are not intended to impose a limitation or restriction on the content of any communicative materials, nor to restrict or deny access by adults to sexually oriented materials protected by the First Amendment to the Constitution of the United States, nor to deny access by distributors and exhibitors of sexually oriented entertainment to their intended market.

B. **Location and Distance**

Permitted Zones: Sexually Oriented Businesses located within the unincorporated area of Hardin County shall be allowed only in the Light Industrial (I-1) or Heavy Industrial (I-2) Zones subject to the following limitations:

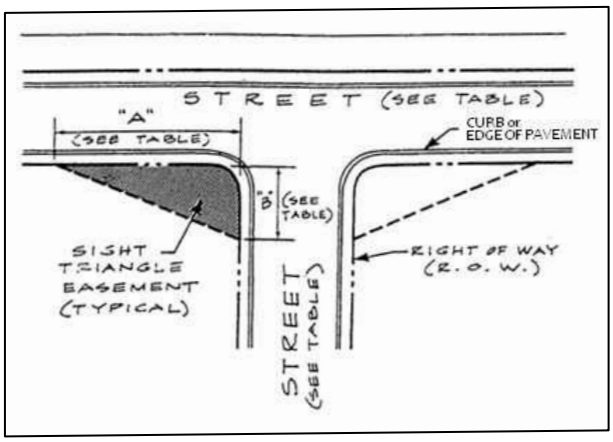
1) Sexually Oriented Businesses must be located a minimum of 1,000 feet from any residentially zoned area, Planned Unit Development (PD-1), and a minimum of 1,000 feet from any public or private recreation facility, school, church, childcare center or any establishment that sells or serves alcohol;

C. **Development Plan Requirements**

1) Development Requirements, Pg. 73
2) Parking Standards, Pg. 89
3) Signage Standards, Pg. 97
4) Landscaping Standards, Pg. 103
5) Lighting Standards, Pg. 105
6) Special Provisions, Pg. 143
   - OUTDOOR STORAGE AND DISPLAY, Pg. 147
   - REFUSE / GARBAGE DISPOSAL CONTAINERS, Pg. 148

17-17 SIGHT TRIANGLE

Sight triangles easements shall be required and shall include the area on each street corner that is bounded by the line that connects the sight or "connecting" points located on each of the right-of-way lines of the intersecting street. The planting of trees or other plantings or the location of structures exceeding thirty inches in height that would obstruct the clear sight across the area of the easement shall be prohibited, and a public right-of-entry shall be reserved for removing any object, material or otherwise, that obstructs clear sight. The distances between the connecting points and the intersection of the right-of-way lines shall be required as listed on the following table:



Typical Requirements By Speed Limit (Measured Along ROW Line)		
	"A" (Distance in Feet)	"B" (Distance in Feet) Stop Controlled
Stop Controlled	30'	30'
≤ 25 M.P.H	30'	30'
≤ 35 M.P.H	100'	30'
≤ 45 M.P.H	130'	30'
≤ 55 M.P.H	150'	30'

17-18 WAIVER PROCEDURE

An applicant may request a waiver from the Special Provisions as contained in this Section. As part of the waiver request, the applicant shall have the burden of proof in showing that there will be no adverse impact upon the neighborhood or general area by the granting of the waiver. In granting a waiver, the Commission shall consider the following:

1. The special circumstances of the proposed use; and
2. Site constraints that would make compliance economically unfeasible; and
3. The neighborhood and the general development patterns of the surrounding properties and the prospects for development in the near future; and
4. Whether the development as proposed would serve the purpose of enhancing the public welfare and safety; and
5. The guidelines listed in the Development Criteria of the Planning Area of the Comprehensive Plan.
6. The Commission may also consider other factors it may deem relevant in making its decision. A waiver of any of the requirements of this Section does not exempt the development from any other requirements of the Ordinance.

SECTION 18

SEWAGE DISPOSAL AND TREATMENT REQUIREMENTS

18-1 INTENT

The purpose of this section is to set forth the requirements to provide adequate and acceptable sewage disposal and treatment for all properties in Unincorporated Hardin County, Kentucky.

18-2 APPLICABILITY

Connection to a centralized sewer system shall be required for the following activities or actions within 300 feet of a publically or government owned treatment works collection asset (gravity pipe, manhole, wetwell):

1. For new construction within commercial and industrial zones and for assembly land uses in all residential zones
2. For enlargements, additions, extensions within commercial and industrial zones and for assembly uses in all residential zones
3. For new construction of multifamily structures. This includes the conversion or alteration or addition to existing structures into multifamily units
4. For the conversion of a residential structure to a non-residential use
5. For a change in use of a commercial or industrial structure
6. For the development of new subdivisions with streets
7. For new subdivisions of land or re-subdivided property that creates five (5) or more new lots for development
8. For the development of a new mobile home park
9. For properties determined to have a “failing” on-site septic system by the Environmental Services Office of the Lincoln Trail Health Department. For the purposes of this Section, failing means that the on-site septic system is not functioning adequately or within applicable regulatory parameters and that the cost of repair or improvement exceeds the cost of connecting to sewer, or that the property has no means of repair or improvement due to soil conditions or available area. The determination of whether a system is failing, including projected costs of repair, improvement or connection to sewer, shall be determined by the Environmental Services Office of the Lincoln Trail Health Department.

The design and installation of the collection system, lift stations or other conveyance infrastructure needed to convey sewage into the system is the responsibility of the owner or developer. The 300 feet shall be

measured from the closest existing entry point of the collection asset to the closest property line. The publically or government owned treatment works shall be responsible for notifying Hardin County Planning & Development and the Hardin County Health Department when centralized sewer service becomes available to areas within the County.

18-3 PROHIBITED FACILITIES

The following facilities or methods of sewage disposal are prohibited and will not be allowed to be constructed or used in Unincorporated Hardin County;

1. Straight pipe installed direct to creek, stream, sinkhole, open ditch, cesspool (non-agricultural) or any other method that is banned or prohibited by any state or federal law or regulation.
2. Floor, basement, or crawl space drains which are lower than ground surfaces surrounding the building shall not be connected to any building sanitary sewer which flows to a centralized or public treatment system.
3. No customer shall make connection of roof down spouts, basement wall seepage or floor seepage, exterior foundation drains, areaway drains, or other surface runoff or groundwater to a building sewer or building drain, which flows to a centralized or public treatment system.

The owner of a building connected to such facilities and any person(s) that performs the work in making such a connection shall be subject to the penalties set out herein.

18-4 ALLOWABLE DISPOSAL / TREATMENT METHODS

The following four (4) methods are available for sewage disposal / treatment within the County where available. Only one of the methods may be used, and is required and described, in accordance with location or type of development as described in subsequent sections below:

1. PTW1 – Connection to a Publically Owned Treatment Works (“POTW”) where treatment occurs off-site from the development. The entities that may own these systems may be a County Water District (“WD”), authorized to operate sewage disposal systems by KRS 74.407. Certain fees and connection charges of the WD will be set forth in their tariff, which fees must be paid by the developer or property owner. Design, construction and specifications for the required infrastructure will be determined by the requirements of the District. Other than a private sewer lateral line conveying flows to the POTW, the infrastructure ownership, maintenance and replacement will be transferred to the POTW after a warranty period specified by the District. Any monthly charges to discharge to the POTW and receive future sewer service will be as set forth in the District’s latest approved tariff and will apply to subsequent property owners connected to and using the system.

2. PTW2 – This is the same type of system as PTW1, but the owner or entity providing the service could be a City government ("City") organized under KRS 81. Only those cities having an agreement with Hardin County Water District 1 or Hardin County Water District 2 will be available to provide sewer service to properties or lots being developed in unincorporated areas of Hardin County. Certain fees and connection charges of the City will be set forth in that entities ordinance, which must be paid by the developer or property owner. Design, construction and specifications for the required infrastructure will be determined by the requirements of the City. Other than a private sewer lateral line conveying flows to the POTW, the infrastructure ownership, maintenance and replacement will be transferred to the POTW after a period specified by the City. Any monthly charges to discharge to the POTW and receive future sewer service will be as set forth in the City's latest approved ordinance and will apply to subsequent property owners connected to and using the system.
3. OS1 – On-site, septic system. These systems are designed, inspected and permitted under authority of Kentucky Department for Public Health Protection and Safety and the Kentucky Division of Water. KRS 211.350 designates the cabinet as the regulatory entity for the construction, installation, or alteration of onsite sewage disposal systems. 902 KAR 10:085 outlines the site and system requirements. KRS 211.360 outlines the requirements of any person approving construction, installation, or alteration of an on-site sewage disposal system. The local authority which will issue a permit and provide an inspection is the Environmental Services office of the Lincoln Trail Health Department. Certain fees as published by that office must be paid by the development owner or applicant in order to have this type of system permitted and installed. All costs to install, maintain and repair the system shall be borne by the individual property owner once the system is installed.
4. OS2– Alternative or on-site, cluster or experimental systems. These systems typically will serve multiple lots or buildings, but do not connect to a POTW. An OS2 may be located on a separate tract of land, within a subdivision or development. These systems are designed, inspected and permitted under authority of Kentucky Department for Public Health Protection and Safety and the Kentucky Division of Water. In addition to regulations and statutes cited in above section, KRS 322.010 and 322.020 add additional requirements for the design and construction of these systems. The local authority which will issue a permit and provide an inspection is the Environmental Services office of Lincoln Trail Health Department. Certain fees as published by that office must be paid by the development owner or applicant in order to have this type of system permitted and installed. All costs to install, maintain and repair the system shall be borne by the individual property owner or, may be maintained by a Homeowners Association or similar responsible party.

18-5 FEES, RATES AND CHARGES

The Water Districts shall devise, review annually and publish its schedule of fees, rates, and charges, which shall be based on the actual costs of providing services as provided in KAR 807 5:011. The schedule may include service assessments, system development charges and other similar fees and charges.

18-6 PENALTIES

Any person, entity or corporation violating any of the provisions of this Ordinance or failing or refusing to comply with the rules and regulations of Hardin County Planning & Development, the Hardin County Health Department or Hardin County Water District #1 or #2 relating to this Ordinance shall be fined not less than fifty dollars ($50.00) nor more than five hundred dollars ($500.00) for each offense. Each day such person, entity or corporation fails or refuses to comply with the specific provisions of this Ordinance shall constitute a separate offense.

SAR EXHIBIT G

Glare Hazard Analysis

Stonefield Solar, LLC
Hardin County, Kentucky

July 26, 2022

Prepared for:

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Executive Summary

Stantec Consulting Services, Inc. (Stantec) utilized the web-based ForgeSolar glare hazard analysis program to analyze the potential for glare from the proposed Stonefield Solar, LLC project (Project), a 120-megawatt (MW), utility-scale, solar-powered electric generating facility located in Hardin County, Kentucky **(Figure 1)**. The Project will include photovoltaic (PV) solar panels mounted on a racking system to maximize solar energy capture and electric generation of the array. The Project area encompasses approximately 1030-acres in an agricultural and industrial area located approximately 5 miles southwest of the City of Elizabethtown in central Kentucky. Only approximately 642 acres will be utilized for solar panels.

The ForgeSolar program identifies the three following types of glare (no color indicates no glare predicted):

GREEN - Low potential for temporary after-image.
YELLOW - Potential for temporary after-image.
RED - Potential for permanent eye damage.

The ForgeSolar glare analysis was conducted following a viewshed analysis, which accounted for existing trees that would block views of the array, and with consideration of a tree buffer planting and screening plan required per County ordinances. Once areas that cannot see the array were eliminated, and once areas adjacent to screening measures were removed from consideration, short stretches of roads and houses representing clusters visible to the PV array were added to the analysis.

Based on the solar array parameters provided and the current site design, glare from the Project is predicted for pilots landing at one of three airports located within a 10-mile radius of the Project. Minor green glare is predicted for a maximum of approximately 18 minutes per day in the spring and fall for pilots approaching the Oz Airport towards the northwest. Minor green glare is also predicted for approximately a maximum of 30 minutes per day November through January for helicopter pilots hovering 500 ft above the helipad at the Hardin Memorial Hospital Heliport. Glare is not predicted for pilots approaching the Hornback or Elizabethtown Regional Airports.

Federal Aviation Administration guidance from 2013 required that pilots not see yellow or red glare and that personnel in Air Traffic Control Towers not see green, yellow or red glare. This guidance was revised in 2021 to allow pilots to see yellow glare because it was determined that yellow glare as viewed by pilots was similar in nature to sunlight reflecting off of natural lakes, buildings, etc. (FAA 2021). It should be noted that airplanes passing through areas with glare will generally only experience a few moments of glare before the airplane moves into an area from which the array is not visible.

The results of the ForgeSolar analysis determined that glare from the Project is predicted to occur for drivers of vehicles on 5 of 9 roadway segments and a railroad adjacent to the Project (**Table 2**). The five roadways and railroad are predicted to see a wide array of both green and yellow glare over the course of the year in the short stretches of roadway/train track visible to the array. It should be noted that cars and trains passing through areas with glare will generally only experience a few moments of glare before the car or train moves into a road segment from which the array is not visible. The analysis was completed at two viewing heights

for roadways: 5 feet for cars and small trucks and 9 feet for semi-trucks, with no significant differences in results based on vehicle heights. A viewing height of 15 feet was used for trains.

Green and yellow glare is predicted for 46 of the 52 structures, primarily residences, that were analyzed within proximity to the Project area; however, at least 5 of these residences (Observation Points [OPs] 30-34 are expected to be screened from the array by existing and/or enhanced vegetative screening. The timing, type and duration of the glare varies widely between the representative structures chosen to include in the analysis. The glare is most commonly less than 10 minutes per day; however, some areas of the PV array produce glare up to 50 minutes per day for several months of the year.

All routes and structures were analyzed using 3.5-foot, 9.5-foot and 20-foot panel heights. The analysis was conducted using the 'shade-slope' methodology, which simulates backtracking of panels at night and during the daytime to account for operational measures used to avoid shading effects, in addition to using existing topography to calculate the approximate tilt of panels resulting from irregular topography. Glare is predicted to occur primarily in the morning for receptors located west of the PV array and in the evening for receptors located east of the array, to correspond with sunlight reflecting off PV panels at sunrise and sunset (**Figure 2**).

In conclusion the glare, green and yellow, and durations predicted to be experienced at the airport, flight paths, surrounding roads and buildings is considered acceptable by existing standards and industry practice.

Abbreviations

AGL	above ground level
deg	degrees (0 is due north, 180 is due south)
DNI	direct normal irradiance
FAA	Federal Aviation Administration
FP	flight path (landing path from threshold to two miles out)
ft	foot
kW	kilowatt
kWh	kilowatt hour
m	meters
mi	mile
min	minutes
mrad	milliradian
MW	megawatt
MSL	mean sea level
OP	observation point (e.g., control tower, vehicle location)
PV	photovoltaic
W/m^2	Watts per square meter

Glossary

After-Image	An image temporarily imprinted on the retina that can still be seen for a few seconds after looking at a bright object.
Eye Focal Length [meter (m)]	Typical distance between the cornea and the retina of the human eye, default is 0.017, though some sources indicate that the typical length is 0.022.
Glide Slope [degrees (deg)]	Angle at which the plane approaches the runway during landing (default is 3 deg from horizontal).
Maximum Tracking Angle (deg)	Rotation limit of panels in either direction. Full rotation is 2×maximum tracking angle. E.g., maximum tracking angle of 60 deg indicates full panel rotation range of 120 deg.
Resting Angle (deg)	Angle modules return to after maximum angle is reached.
Observation Point	A specific location, such as a control tower or vehicle, from which an observer might experience glare.
Ocular Transmission Coefficient	Related to the ability of the eye to transmit light, set by at 0.5 by ForgeSolar.
Offset angle of module (deg)	Additional tilt/elevation angle between the tracking axis and the panel.
Orientation of Tracking Axis (deg)	Azimuthal position of tracking axis measured clockwise from true north. Tracking systems in the northern hemisphere are typically oriented near 180 deg. Tracking systems in the southern hemisphere are typically oriented near 0 deg.
Peak DNI (W/m^2)*	This value is set at 1,000 by ForgeSolar and is the amount of solar radiation per unit surface area by a surface perpendicular to the sun's rays in a straight line from the direction of the sun at its current position in the sky.
Pupil Diameter (m)	Typical pupil diameter for observer, default is 0.002 m.
PV Array Axis Tracking	Panel tracking mode, if any. Panel can be set to track along one (single) or two (dual) axis tracking. This parameter affects the positioning of the panels at every time step when the sun is up.
PV Array Panel Material	Surface material of panels, including use of anti-reflective coating (ARC). Options include: smooth glass without ARC, smooth glass with ARC, light-textured glass without ARC, light-textured glass with ARC, and deeply textured glass.
Rated Power (kilowatts)	Power rating of the solar array - used to estimate the energy output per year of the array (optional).
Slope Error (mrad)	Accounts for beam scatter of sunlight on the array. Default is 8.43 mrads for smooth glass with anti-reflective coating but the value may be adjusted based on the panel material type.
Subtended Angle of Sun (mrad)	The angle above horizontal at which the viewer observes the sun, default value is 9.3 mrad.

Threshold	The physical beginning of the runway. Aircraft are typically expected to be 50 feet above ground at this point.
Time Interval (minutes)	Time step intervals used by the program for analyses. Default is set to analyze for glare at every one-minute interval throughout the year.
Time zone	Time zone difference from Greenwich Mean Time at the location of the analysis.
Tilt of Tracking Axis (deg)	The elevation angle of the tracking axis upon which panels rotate (e.g., torque tube), measured from flat ground. 0 deg implies the axis is on level, flat ground. Values between 0 and 30 deg are typical.
Vary Reflectivity	Varies panel reflectivity with sun position at each time step.
Maximum Downward Viewing Angle (deg)	The angle extending downward from the horizon indicating the maximum downward viewing angle from the cockpit. Used to determine whether glare is visible by the pilot along the flight path. Default is 30 degrees.

Sources:
Ho, Clifford, et. Al (2015)
*3tier.com (2022)

1.0 INTRODUCTION

On behalf of Stonefield Solar, LLC, Stantec Consulting Services Inc. utilized the web based ForgeSolar glare hazard analysis program to complete a glare analysis for the Project to determine the potential effect of glint and/or glare (glare) from the photovoltaic (PV) solar panels on pilots and airport operations, residents in the area, and drivers in the Project Area. The Project is located approximately 5 miles southwest of the City of Elizabethtown in Hardin County, central Kentucky (**Figure 1**).

ForgeSolar is an interactive tool that provides a quantified assessment of (1) when and where glare will occur throughout the year for a prescribed solar project and (2) potential effects on the human eye at locations where glare occurs. Glare can occur from the reflection of sunlight on the PV solar panels of utility-scale solar-powered electric generating facilities. While PV solar panels absorb direct sunlight, some reflection can occur when the panels are directed close to horizontal, which predominately occurs during sunset and sunrise when the incidence angle of the panels is highest, as depicted in **Figure 2** below.

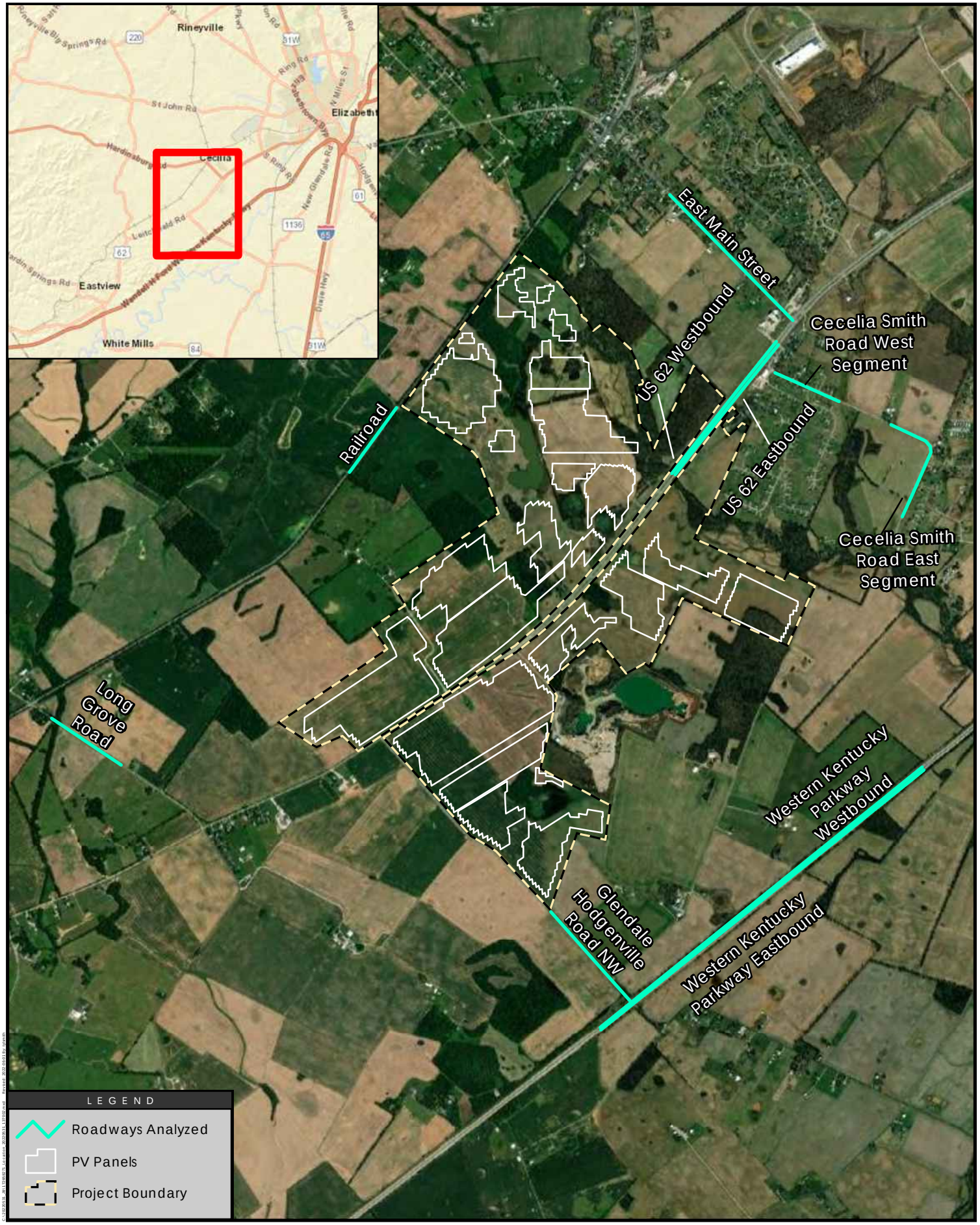
2.0 GLARE HAZARD ASSESSMENT METHODOLOGY

ForgeSolar uses an interactive Google map for site location, mapping the proposed PV array(s), and specifying observer locations, vehicular travel routes, and flight paths. Latitude, longitude, and elevation are automatically recorded through the Google interface, providing necessary information for sun position and vector calculations. Additional information regarding the orientation and tilt of the PV solar panels, reflectance, environment, and ocular factors are entered by the user and/or calculated by ForgeSolar. The arrays used in the analysis program were drawn to be conservative in the glare analysis by analyzing slightly more area than the panels will actually occupy.

If glare is found, ForgeSolar calculates the retinal irradiance and subtended angle (size/distance) of the glare source to predict potential ocular hazards ranging from temporary after-image to retinal burn. The results are presented in a plot that specifies when glare will occur throughout the year, with color codes indicating the potential ocular hazard.

This glare study analyzes potential glare for airline pilots landing at all three airports and the only helipad within 10 miles of the Project area (**Figure 3**). Glare analyses were also conducted for drivers of vehicles at 5-feet (ft) above ground level (AGL) for cars and small trucks and 9-ft AGL for semi-truck viewing heights on 9 roadway segments and one railroad adjacent to the PV panels using a 15-ft AGL viewing height (**Figures 4 and 5**). **Table 1** indicates which roadways were analyzed with each block. Federal Aviation Administration guidance from 2013 required that pilots not see yellow or red glare and that personnel in Air Traffic Control Towers not see green, yellow or red glare. This guidance was revised in 2021 to allow pilots to see yellow glare because it was determined that yellow glare to pilots was similar in nature to sunlight reflecting off of natural lakes, buildings, etc. (FAA 2021).

The analysis also included a determination of potential glare to viewers at approximately 52 unique structures, primarily residences, in the vicinity of the Project using a 16-ft AGL viewing height, which is a conservative viewing height for one- and two-story structures (**Figures 4 and 5**).



Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Notes:
1. Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere
2. Source data: Stantec
3. Imagery: ESRI Aerial Basemap 2020

Stonefield Solar, LLC Glare

Figure 1: Location Map

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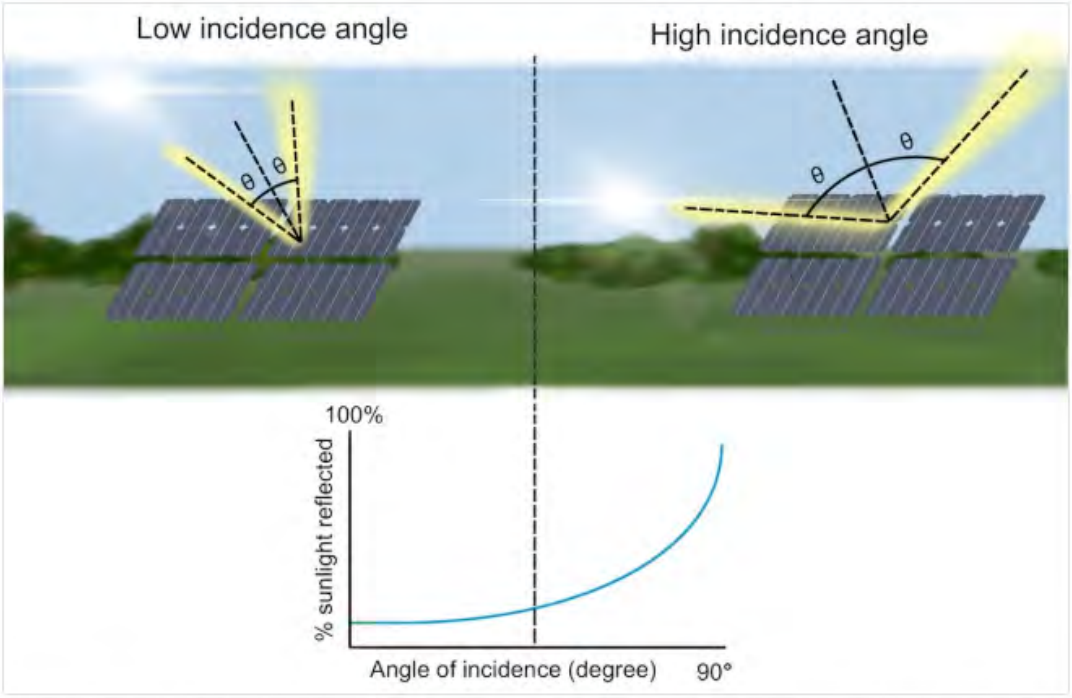
Figure 2. **Reflectivity Differences Between Low and High Incidence Angles**



PV panel reflectance depends on incidence angle between panel normal (i.e. facing) and sun position. Large incidence angle yields more reflected sunlight.

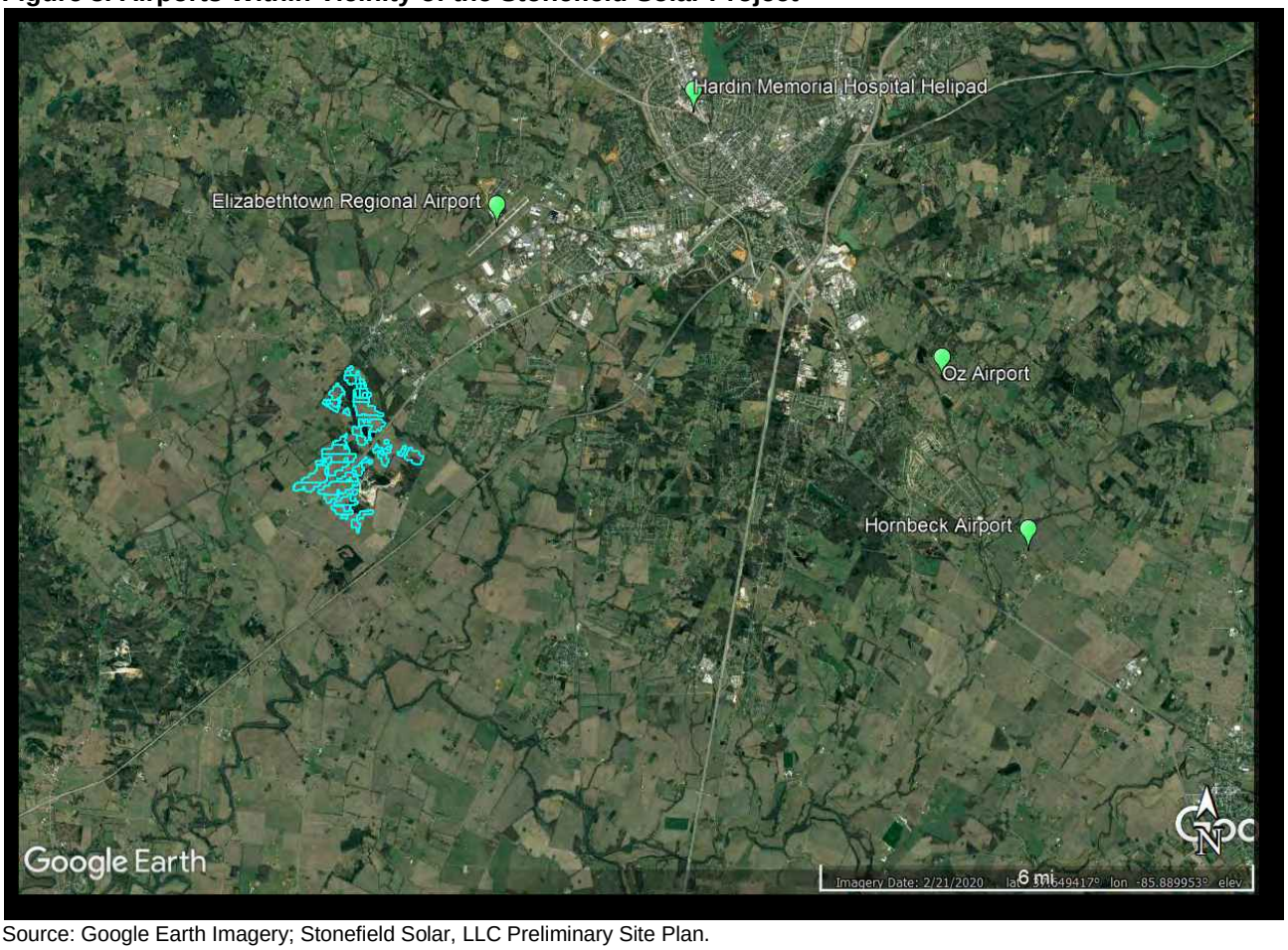
Source: ForgeSolar.com

Table 1: Roadways Included in ForgeSolar Analysis

Route Name	Blocks Including Route in Analysis*
US 62 Eastbound	1,2
US 62 Westbound	1,2
Cecilia Smith Mills Road west segment	1
Cecilia Smith Mills Road east segment	1
Glendale Hodgenville Road	1
Eastbound Western Kentucky Parkway	1
Westbound Western Kentucky Parkway	1
East Main Street	2
Railroad	2
Long Grove Road	2

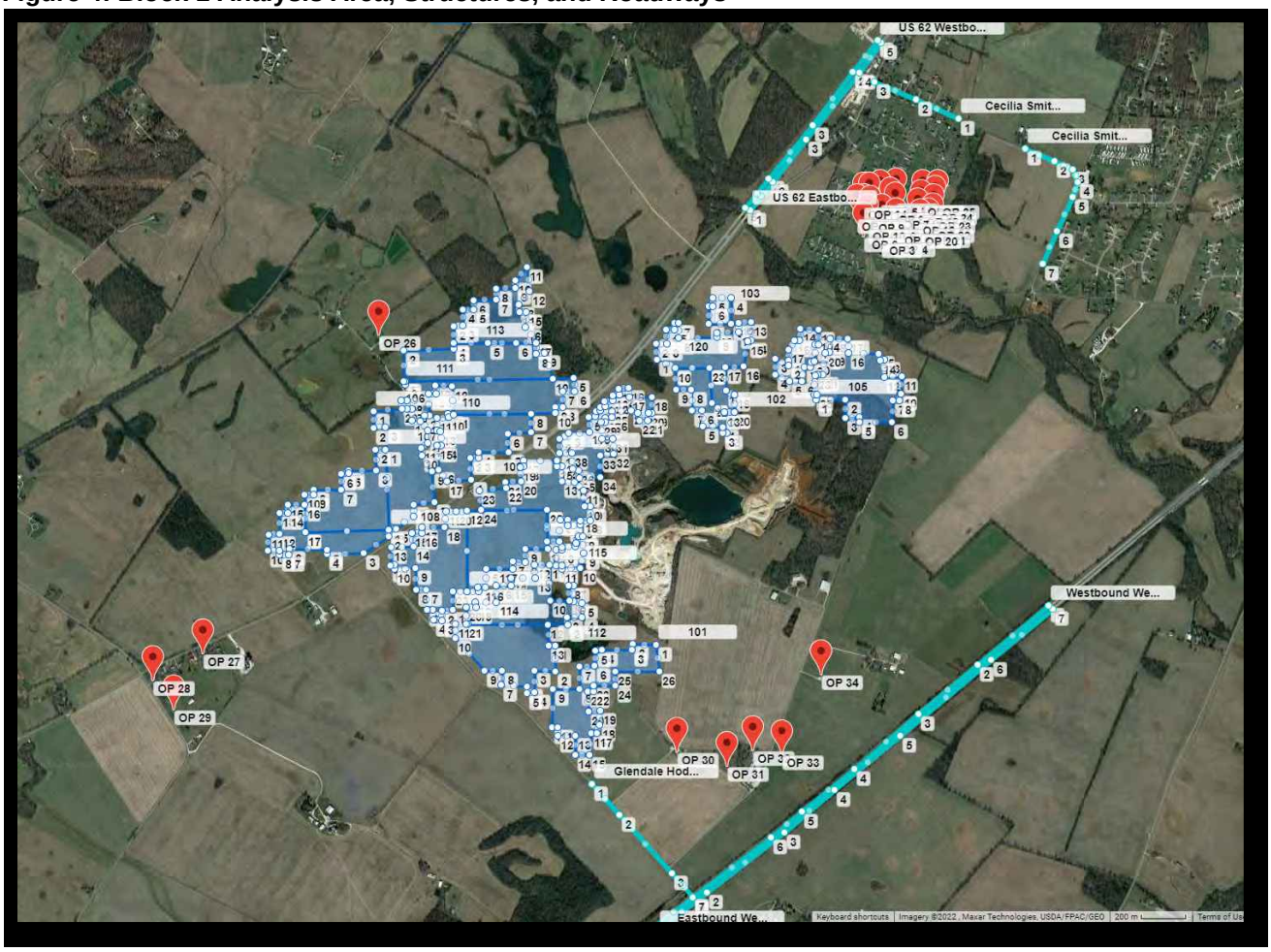
*The analysis was split into two blocks due to program limitations and not all routes were analyzed with both blocks. Routes analyzed with each block were chosen based on proximity to the block.

Figure 3. Airports Within Vicinity of the Stonefield Solar Project



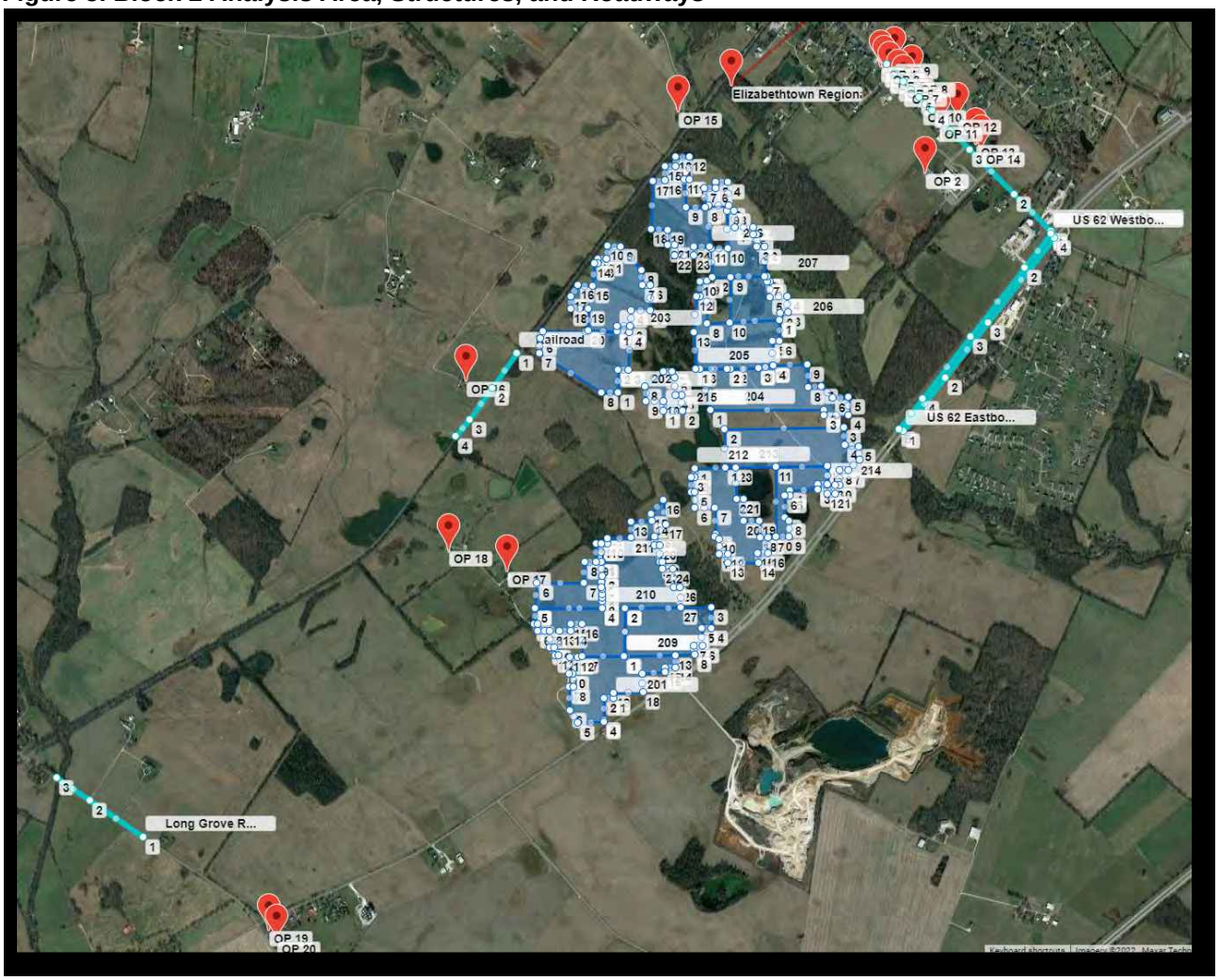
Source: Google Earth Imagery; Stonefield Solar, LLC Preliminary Site Plan.

Figure 4: Block 1 Analysis Area, Structures, and Roadways*



*Red markers indicate structures, turquoise lines indicate roads, and blue polygons indicate PV arrays. Source: ForgeSolar, Google Earth Imagery; Stonefield Solar Preliminary Site Plan.

Figure 5. Block 2 Analysis Area, Structures, and Roadways*



*Red markers indicate structures, turquoise lines indicate roadways, and blue polygons indicate PV arrays.
Source: ForgeSolar, Google Earth Imagery; Stonefield Solar Preliminary Site Plan.

3.0 DATA INPUT SUMMARY

The parameters used for the analyses are listed in **Table 2** below. "Default" indicates the default parameter value set by ForgeSolar and is considered the most conservative value for the parameter. "Chosen" parameters were selected to perform the most conservative analysis with respect to glare potential. "Provided" parameters are Project specific information provided by the client.

3.1 SOLAR ARRAY

The location of the solar array and array parameters used for the analyses are based on information provided by Stonefield Solar, LLC. The analyses described below were conducted using 3.5-ft, 9.5-ft and 20-ft panel heights AGL. A detailed description of each parameter is provided in the Glossary.

Table 2: Solar Panel Parameters Used for Glare Analysis

Parameter	Value Used	Default, Chosen or Provided?
Axis tracking	Single	Provided
Tracking Axis Tilt (deg)	Calculated by ForgeSolar	Shade-Slope Analysis Method Used
Tracking Axis Orientation (deg)	180.0	Provided
Tracking Axis Panel Offset (deg)	0.0	Default
Maximum Tracking Angle (deg)	60.0	Provided
Resting Angle (deg)	0.0	Provided
Rated Power (kW)	Not Used	NA
Vary reflectivity?	Yes	Default
Panel material	Smooth glass with Anti-Reflective Coating	Provided
Time zone offset	-5	Based on site location
Subtended angle of sun (mrad)	9.3	Default
Peak DNI (W/m^2)	1,000	Default
Ocular transmission coefficient	0.5	Default
Pupil diameter (m)	0.002	Default
Eye focal length (m)	0.017	Default
Time interval (min)	1	Default
Correlate slope error with surface type?	Yes	Default
Slope error (mrad)	8.43	Default

3.2 AIRPORT APPROACH PATHS AND AIR TRAFFIC CONTROL TOWER

Three airports and one helipad were included in the glare analyses for this Project: Elizabethtown Regional Airport/Addington Field, Oz Airport, Hornback Airport, and the Hardin Memorial Hospital Helipad. Approach paths were analyzed for runways in both directions available to pilots at each of the airports. Since helicopters do not have a landing path, the medical center helicopter was analyzed hovering 500-ft AGL over the helicopter landing pad (Observation Point (OP) 1 in the ForgeSolar reports in **Appendix A**). None of the airports included in the analysis have control towers. **Table 3** lists the included airports and their approach paths.

Table 3: Airports and Runways Included in ForgeSolar Analysis

Airport	Flight Paths Analyzed	Air Traffic Control Tower?	Approximate Distance to Project Area
Elizabethtown Regional Airport/Addington Field	Runways 5 and 23	No	2.2 miles
Oz Airport	Northwest and Southeast Bound Approaches	No	7.3 miles
Hornback Airport	Northbound and Southbound Approaches	No	8.5 miles
Hardin Memorial Hospital Helipad	Hovering 500 feet above helipad	No	5.7 miles

3.3 ROADWAYS AND PROPERTIES LOCATED ADJACENT TO THE SOLAR ARRAYS

This analysis included potential glare to vehicles travelling on 10 roads and one railroad in the vicinity of the Project area (**Table 1**). The ForgeSolar program sets the default viewing angle of the array at 50 degrees from the driver's direct line of sight when looking forward. The Federal Aviation Administration (FAA) has determined that glare beyond 50 degrees from the line of sight will have no impact on the viewer[1].

Potential glare to drivers was evaluated for both passenger vehicles and semi-trucks, where the passenger vehicles were assumed to have a maximum viewing height of 5-ft AGL while the viewing height for drivers of semi-trucks was assumed to be a maximum of 9-ft AGL. The viewing height for trains was set at 15-ft AGL. The location of the roadway routes analyzed are shown as blue-green route lines on **Figures 1, 4 and 5**. Roadways were analyzed for glare within proximity to each panel block, and therefore not every roadway was analyzed for both panel blocks[2]. In addition, only segments of roadway that were predicted

[1] Rogers, J. A., et al. (2015).
[2] Due to program limitations, only 20 subarrays can be included in a single analysis and therefore the entire array was divided into two blocks.

to be visible from the PV array through a viewshed analysis were included. Additional roadway area was excluded where the road was near proposed tree buffer plantings or other screening.

The analyses for each of the two array blocks were run twice, once for 5-ft car heights and once for 9-ft truck heights, and once each again for each of the three panel heights (3.5-ft, 9.5-ft, and 20-ft AGL).

Potential glare to viewers from approximately 52 unique structures, primarily residences, in the vicinity of the Project was also analyzed at 16-ft AGL viewing heights. The 16-ft AGL viewing height assumes a 6-ft tall person standing on the second floor of a typical residential structure. The analyses were separated into two blocks of arrays due to program limitations on the size of subarrays[3] and the analyses conducted for each block considered the structures most likely to see glare from the array. A different set of structures were analyzed with each panel block. All structures were analyzed using 3.5-ft, 9.5-ft and 20-ft AGL panel heights.

3.4 VIEWSHED ANALYSIS

In consideration of the rolling topography and the forested lands present in the vicinity of the project, a viewshed analysis was conducted to define areas within 2 miles of the project site that are not predicted to be able to see the array due to topographic or forested obstructions, and therefore these areas would not experience glare. The option to add such obstructions is not yet available in ForgeSolar. The viewshed analysis was conducted as follows:

The viewshed analysis of the solar array (Project) was performed within a 2-mile Visual Study Area (VSA) using ESRI ArcGIS® software with the Spatial Analyst Extension V10.6. The analysis used a 1/3 arc second USGS Digital Elevation Model (DEM)[4], a grid representing the planned layout of the panels within the planned solar array area with an assumed maximum panel height of 20 feet and an assumed observer height of 5.6 feet. Tree coverage was included in the analysis to account for obstructions in observer views of the solar array. The 2019 National Land Cover Database Land Cover[5] cartographic coverage was utilized to identify areas with significant forested land (labeled as deciduous, evergreen or mixed forest or woody wetlands in the database). Areas with known tree coverage near the perimeter of the project area were added to the tree cover data to simulate actual project conditions. The DEM was vertically offset in tree-covered areas to represent an average tree height of 12.2 m (40 feet).

The viewshed analysis identifies cells (image pixels) that contain elevation information and computes the differences along the terrain surface between an observer at any point within the study area and a target. The analysis is a clear line of site and therefore certain factors in the interpretation of results need to be considered. The model assumes the viewer to have perfect vision at all distances. Therefore, a certain amount of reasonable interpretation needs to be considered because of the limitations of human vision at greater distances or atmospheric conditions that may cause imperfect vision, such as haze or inclement

[3] Subarrays, as shown in Figures 4 and 5, can be no larger than 25 acres in size to allow ForgeSolar to produce the most accurate results.
[4] U.S. Geological Survey, 2021.
[5] NLDC 2019.

weather. Areas with modeled visibility may not see the entirety of the project at that location. The viewshed analysis depicts area of visibility of the array over a regional area. The analysis is done in terms of the extent of the array that would be visible to an observer at human height at any point within the area. Additionally, if visibility is occurring in an area, it may sometimes only be glimpsing a portion of the Project over undulating treetops or between gaps of trees and not a full-on view.

4.0 GLARE ANALYSES RESULTS

The web-based ForgeSolar program was used to analyze glare potential in one-minute increments throughout the year. The program identifies the three following types of glare (no color indicates no glare predicted):

GREEN - Low potential for temporary after-image.
YELLOW - Potential for temporary after-image.
RED - Potential for permanent eye damage.

Complete glare results are presented in the ForgeSolar Aviation reports included in **Appendix A**.

4.1 AIRPORT APPROACH PATHS

Minor green glare, approximately up to 18 minutes per day at a maximum, is predicted for pilots approaching the Oz airport from the southeast towards the northwest in the evening March-April and September-October. This glare is predicted for the entire 2-mile length of the final approach path as plotted by ForgeSolar.

Minor green glare is also predicted for helicopters hovering 500 feet above the Hardin Memorial Hospital helipad for up to 30 minutes per day from November through January. These results are the maximum duration of glare at any given point and pilots will be moving past the glare locations; therefore, the maximum duration of glare at a given point should not be interpreted as the length of time a pilot sees glare. Glare is not predicted for planes approaching the Hornback or Elizabethtown Regional Airports. Results are detailed for each of the approach paths and the helicopter simulation (OP 1) in the Glare Summary table in **Appendix B**. Green glare is not considered to be problematic pilots according to reviews conducted by the Federal Aviation Administration (FAA 2021).

4.2 AIR TRAFFIC CONTROL TOWERS (ATCTS)

None of the airports located within 10 miles of the Project include Air Traffic Control Towers and therefore impacts to ATCTs are not predicted.

4.3 ROADWAYS ADJACENT TO THE PV ARRAYS

Glare is predicted for drivers along the 5 of the 9 road segments and for the railroad segment included in this analysis. The potential for glare for a range of driver conditions was evaluated for viewing heights of 5-ft for cars and small trucks and 9-ft for semi-trucks. Results indicate that glare is predicted for up to a maximum of 8 to 42 minutes per day at different times of the year depending on the location of the road segment. Only road segments predicted to be visible to the array by the viewshed analysis were included in this analysis, with additional exclusions where the road was located adjacent to planned vegetative or other screening devices.

In all cases, predicted glare to drivers occurs in the morning or evening, generally in evening for roads east of the arrays and in the morning for roads west of the arrays. A detailed summary of glare predicted for roadways and the railroad is included in the Glare Summary table in **Appendix B**. Given that the glare will occur when drivers are already facing glare from the rising or setting sun, and that green and yellow glare are not considered problematic for pilots, this glare is not predicted to be problematic for drivers, who will rapidly pass through the glare locations as they drive along the roadways. The duration of glare at any given point or short road segment should not be interpreted as the length of time that a driver will experience glare.

4.4 PROPERTIES LOCATED WITHIN THE VICINITY OF THE PV ARRAYS

Green and yellow glare is also predicted for 46 of 52 unique structures representative of areas visible to the PV array, primarily residences, analyzed at 16-ft viewing heights as shown in **Figures 4-5**. It should be noted that OPs 30-34 are anticipated to have views of the array blocked by existing and/or planned vegetation and therefore may not actually see glare. While glare is predicted for up to a maximum of 50 minutes per day for many of these structures, in most cases predicted glare is closer to 10 minutes or less per day from the subarrays causing the glare. Yellow glare predicted for longer periods (up to 50 minutes per day) are predicted from November through February and are primarily derived from subarray 119.

Detailed results for the representative structures included in this analysis are included in the Glare Summary table in **Appendix B**. As with other predicted glare, homes east of the PV arrays are predicted to see glare at sunset, when the sun is low in the sky to the west and already causing glare to viewers at the analyzed residences. Similarly, glare is predicted for homes to the west of the PV array at sunrise, when the sun is low in the sky to the east and already causing glare to the residences.

5.0 CONCLUSIONS

Based on the solar array parameters provided and the current site design, glare from the Project is predicted for pilots landing at one of three airports located within a 10-mile radius of the Project. Minor green glare is predicted for pilots approaching the Oz Airport towards the northwest. Minor green glare is also predicted for helicopter pilots hovering 500 ft above the helipad at the Hardin Memorial Hospital Heliport. Glare is not predicted for pilots approaching the Hornback or Elizabethtown Regional Airports. It should be noted that green glare is not considered an issue for pilots in accordance with guidance issued by the FAA in both 2013 and 2021 (FAA 2021).

The results of the ForgeSolar analysis determined that glare from the Project is predicted to occur for drivers of vehicles on 5 of 9 roadways and one railroad adjacent to the Project (**Table 2**). The five roadways and the railroad are predicted to see a wide array of both green and yellow glare over the course of the year in the short stretches of roadway visible to the array. It should be noted that cars passing through areas with glare will generally only experience a few moments of glare before the car moves into a road segment from which the array is not visible. The analysis was completed at two viewing heights for roadways: 5 feet for cars and small trucks and 9 feet for semi-trucks, with no significant differences in results based on vehicle heights.

Green and yellow glare is predicted for 46 of the 52 structures, primarily residences, that were analyzed within proximity to the Project area. The timing, type and duration of the glare varies widely between the representative structures chosen to include in the analysis. It should be noted that OPs 30-34 are anticipated to have views of the array blocked by existing and/or planned vegetation and therefore may not actually see glare. The glare is most commonly less than 10 minutes per day; however, some areas of the PV array produce glare up to 50 minutes a day for several months of the year. Yellow glare predicted for longer periods (up to 50 minutes per day) are predicted from November through February and are primarily derived from subarray 119.

In conclusion the glare, green and yellow, and durations predicted to be experienced at the airport, flight paths, surrounding roads and buildings is considered acceptable by existing standards and industry practice.

6.0 REFERENCES

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APPENDIX A

ForgeSolar Reports – Provided Separately

APPENDIX B

Glare Summary

Table A.1: Stonefield Glare Summary

Block 1	Glare?	Yellow or Green?	Approx. length (maximum minutes/day)	Approx. Time of Day	Approx. Time of Year	Observation Point Latitude/Longitude
Airports/Heliport						
Elizabethtown Regional Airport Runway 5	no					
Elizabethtown Regional Airport Runway 23	no					
Oz Airport Southeast Bound	no					
Oz Airport Northwest Bound	yes	green	18	evening	Mar-Apr/Sep-Oct	
Hornback Airport Northbound	no					
Hornback Airport Southbound	no					
Hardin Memorial Hospital Heliport (OP1)	yes	green	30	evening	Nov-Jan	
Roads						
Cecilia Smith Mills Road East segment	yes	both	30	evening	Oct-Mar	
Cecilia Smith Mills Road West segment	no					
Eastbound Western Kentucky Parkway	no					
Glendale Hodgenville Road	no					
US 62 Eastbound	no					
US 62 Westbound	yes	both	8	evening	Dec	
Westbound Western Kentucky Parkway	yes	both	22	evening	Aug-Oct,Feb-Apr	
Eastern Residences						
OP2	yes	both	46	evening	Nov-Feb	37.64635 / -85.9459
OP3	yes	both	42	evening	Oct-Feb	37.64613 / -85.9450
OP4	yes	both	40	evening	Oct-Feb	37.64613 / -85.9443
OP5	yes	both	40	evening	Oct-Feb	37.64650 / -85.9442
OP6	yes	both	42	evening	Oct-Feb	37.64668 / -85.9449
OP7	yes	both	42	evening	Oct-Feb	37.64718 / -85.9442
OP8	yes	both	42	evening	Oct-Feb	37.64736 / -85.9445
OP9	yes	both	50	evening	Nov-Feb	37.64703 / -85.9455
OP10	yes	both	47	evening	Oct-Feb	37.64668 / -85.9457
OP11	yes	both	50	evening	Nov-Feb	37.64710 / -85.9458
OP12	yes	both	52	evening	Nov-Feb	37.64709 / -85.9462
OP13	yes	both	53	evening	Nov-Feb	37.64759 / -85.9459
OP14	yes	both	52	evening	Nov-Feb	37.64759 / -85.9456
OP15	yes	both	50	evening	Nov-Feb	37.64768 / -85.9450
OP16	yes	both	43	evening	Nov-Feb	37.64774 / -85.9442
OP17	yes	both	42	evening	Oct-Feb	37.64766 / -85.9428
OP18	yes	both	41	evening	Oct-Feb	37.64726 / -85.9429
OP19	yes	both	40	evening	Oct-Feb	37.64691 / -85.9431
OP20	yes	both	38	evening	Oct-Feb	37.64647 / -85.9430
OP21	yes	both	37	evening	Oct-Feb	37.64651 / -85.9425
OP22	yes	both	38	evening	Oct-Feb	37.64672 / -85.9423
OP23	yes	both	40	evening	Oct-Feb	37.64711 / -85.9423
OP24	yes	both	40	evening	Oct-Feb	37.64744 / -85.9422
OP25	yes	both	41	evening	Oct-Feb	37.64768 / -85.9420
OP30	yes	both	15	evening	Mar-Sep	37.62527 / -85.9501
OP31	yes	both	10	evening	Mar-Sep	37.62539 / -85.9516
OP32	yes	both	13	evening	Mar-Sep	37.62476 / -85.9530
OP33	yes	both	11	evening	Mar-Sep	37.62534 / -85.9555
OP34	yes	both	23	evening	Feb-Oct	37.62853 / -85.9481
Western Residences						
OP26	yes	green	20	morning	Aug-Oct/Feb-Apr	37.64234 / -85.9709
OP27	yes	both	10	morning	Apr-Sep	37.62935 / -85.9799
OP28	yes	both	8	morning	Apr-Aug	37.62828 / -85.9825
OP29	yes	both	10	morning	Apr-Aug	37.62707 / -85.9814

Block 2	Glare?	Yellow or Green?	Approx. length (maximum minutes/day)	Approx. Time of Day	Approx. Time of Year	Observation Point Latitude/Longitude
Airports/Heliport						
Elizabethtown Regional Airport Runway 5	no					
Elizabethtown Regional Airport Runway 23	no					
Oz Airport Southeast Bound	no					
Oz Airport Northwest Bound	yes	green	15	evening	Mar-Apr/Sep-Oct	
Hornback Airport Northbound	no					
Hornback Airport Southbound	no					
Hardin Memorial Hospital Heliport (OP1)	yes	green	32	evening	Nov-Jan	
Roads						
East Main Street	yes	both	13	evening	Mar-Apr/Aug-Oct	
Long Grove Road	yes	green	9	morning	Mar-May/Aug-Sep	
Railroad	yes	both	2	morning	Mar/Sep	
US 62 Eastbound	no					
US 62 Westbound	yes	both	48	evening	Sep-Apr	

Eastern Residences						
OP2	yes	both	17	evening	Oct-Feb	37.65781 / -85.9503
OP3	no					37.66173 / -85.9523
OP4	no					27.66196 / -85.9525
OP5	yes	green	13	evening	Dec	37.66152 / -85.9520
OP6	yes	green	14	evening	Dec-Jan	37.66121 / -85.9516
OP7	yes	both	14	evening	Dec-Jan	37.66099 / -85.9514
OP8	yes	both	15	evening	Nov-Jan	37.66137 / -85.9509
OP9	no					37.66209 / -85.9518
OP10	yes	both	18	evening	Nov-Jan	37.66027 / -85.9504
OP11	yes	both	18	evening	Oct-Jan	37.65963 / -85.9496
OP12	yes	both	20	evening	Oct-Jan	37.65991 / -85.9487
OP13	yes	both	18	evening	Nov-Feb	37.65893 / -85.9478
OP14	yes	both	18	evening	Nov-Feb	37.65865 / -85.9475
OP15	no					37.66019 / -85.9624
Western Residences						
OP16	yes	green	8	morning	Mar/Sep-Oct	37.64970 / -85.9729
OP17	yes	both	10	morning	Apr-Aug	37.64232 / -85.9709
OP18	yes	both	10	morning	Apr-Sep	37.64313 / -85.9737
OP19	no					37.62833 / -85.9826
OP20	no					37.66209 / -85.9518