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July 1, 2025

Samir Jain
EDP Renewables North America, LLC
209 West Jackson Boulevard, Suite 701A
Chicago, IL 60606

RE: Northern Waters Solar Project, Cheboygan County, MI

Mr. Jain,

At your request, we have considered the impact of a proposed Northern Waters Solar Project to be constructed on a portion of an assemblage of 1,626.17 acres off Trudeau Road, near Manning, Cheboygan County, Michigan. Specifically, I have been asked to give my professional opinion on whether the proposed solar project 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, we have researched and visited existing and proposed solar farms in Michigan as well as other states, researched articles through the Appraisal Institute and other studies, and discussed the likely impact with other real estate professionals. We 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 EDP Renewables North America, LLC represented to me by Samir Jain. My findings support the application. The effective date of this consultation is July 1, 2025.

Conclusion

The adjoining properties have sufficient setbacks from the proposed Northern Waters Solar Project solar panels and supplemental vegetation is proposed to enhance the areas where the existing trees are insufficient to provide a proper screen.

The matched pair analysis explained in detail later in this report 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.

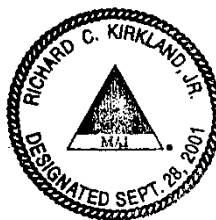
Data from the university studies, broker commentary, and other appraisal studies support a finding of no impact on property value adjoining a solar farm with proper setbacks and landscaped buffers.

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 proposed solar project 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 is quiet, and there is minimal traffic.

If you have any questions, please let me know.

Sincerely,



Richard C. Kirkland, Jr., MAI
NC Certified General Appraiser #A4359
MI Certified General Appraiser #1205076620

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I. Proposed Project and Adjoining Uses

Proposed Use Description

The 110 MW Northern Waters Solar Project is proposed to be constructed on portion of an assemblage of 1,626.17 acres off Trudeau Road, near Manning, Cheboygan County, Michigan.

Adjoining Properties

I have considered adjoining uses and included a map to identify each parcel's location. The closest adjoining home will be 300 feet from the closest solar panel. The developer has indicated that the minimum setback to any home will be 300 feet.

Adjoining land is primarily a mix of residential and agricultural uses, which is very typical of solar farm sites.

The breakdown of those uses by acreage and number of parcels is summarized below showing the percentage of adjoining use as it varies by adjoining acreage or adjoining number of parcels.

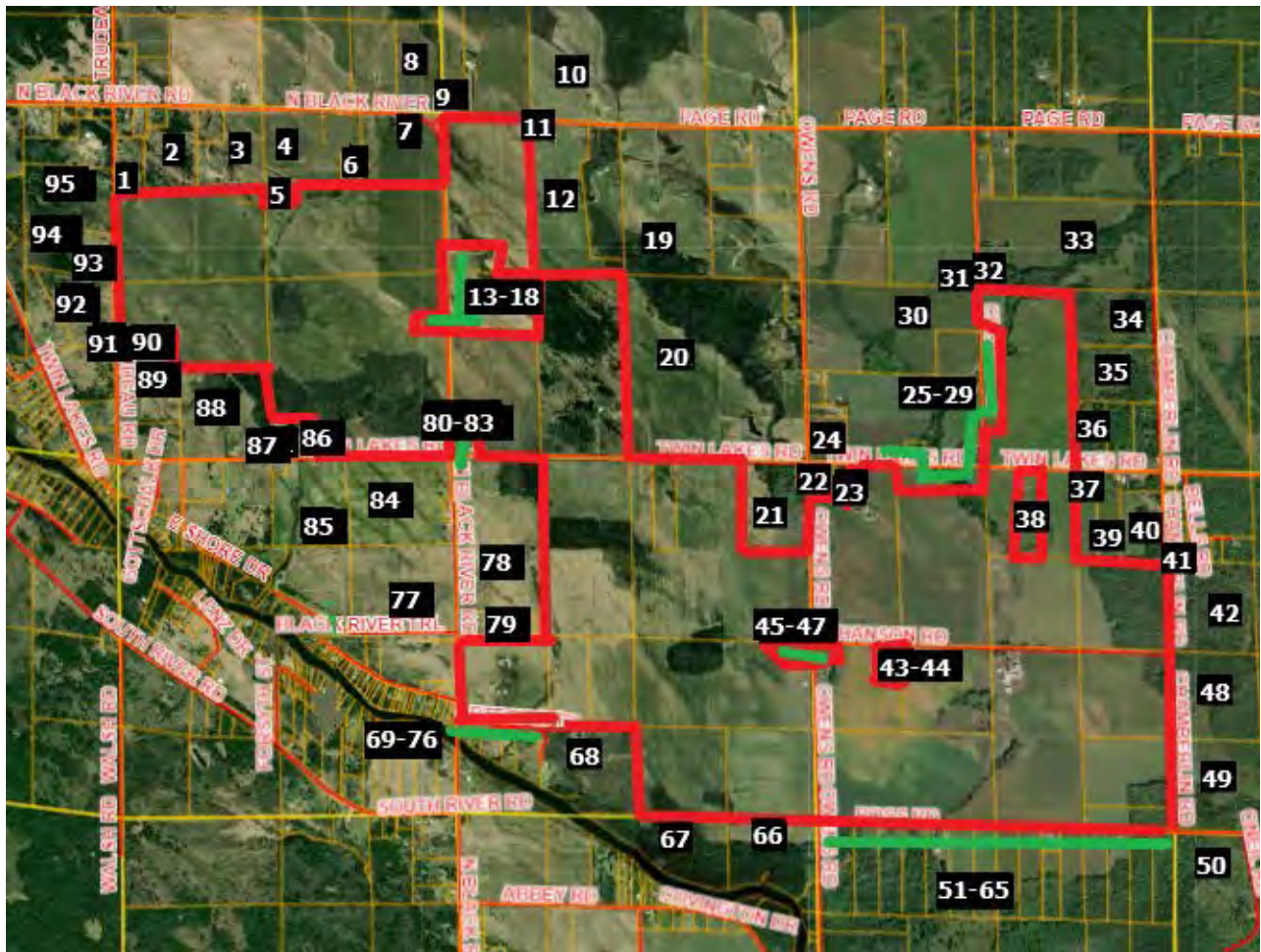
Adjoining Use Breakdown

	Acreage	Parcels
Residential	22.65%	69.70%
Agricultural	45.08%	20.20%
Commercial	0.07%	2.02%
Agri/Res	32.20%	8.08%
Total	100.00%	100.00%

The map on the next page includes some parcels within the project area that will not include panels on them. The red line outlines the parcels participating in the project whether or not they include panels. The green lines show the parcels involved in the range of adjoining parcel numbers identified next to the green line. The numbers match up to the following chart showing adjoining parcels.

The adjoining uses include a column identifying the present use. We have identified Residential categories that may or may not include an existing home. We have also identified Agri/Res land which is farm land with an existing home on one parcel. We have also identified Agricultural land which would include vacant land with silviculture, pasture land, or row crops but no home site. We have also measured the distance from each identified home to the closest solar panel or other electrical equipment. Under the Distance Home/Panel column, N/A indicates an adjoining parcel that does not have a home on it.

GIS Aerial Map



Red Outline on Parcels involved in project. Green line used to identify adjoining parcels with associated numbers noted for those parcels.

Surrounding Uses

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
1	151-006-100-002-09	Garms	2.91	Residential	0.15%	1.05%	325
2	151-006-107-063-00	Merchant	19.56	Residential	1.02%	1.05%	N/A
3	151-006-100-003-10	LaFrienere	21.66	Agricultural	1.13%	1.05%	N/A
4	151-006-200-001-01	LaFrienere	30.11	Agricultural	1.57%	1.05%	N/A
5	151-006-200-004-00	LaFrienere	2.24	Residential	0.12%	1.05%	N/A
6	151-006-200-002-00	Tromble Bay	3.44	Residential	0.18%	1.05%	N/A
7	151-006-200-003-00	Tromble Bay	28.49	Agricultural	1.49%	1.05%	N/A
8	152-031-400-006-00	LaFrienere	20.19	Agricultural	1.06%	1.05%	N/A
9	152-032-301-001-00	LaFrienere	79.20	Agri/Res	4.14%	1.05%	870
10	152-032-100-005-00	Acheson	236.30	Agri/Res	12.35%	1.05%	1,165
11	151-005-100-004-00	Schoolcraft	0.99	Residential	0.05%	1.05%	350
12	151-005-100-003-02	Ptasnik	41.22	Agricultural	2.15%	1.05%	N/A
13	151-005-100-002-00	Dowling	6.79	Residential	0.35%	1.05%	350
14	151-005-300-001-01	Cleary	5.17	Residential	0.27%	1.05%	N/A
15	151-005-300-001-00	Cleary	10.08	Residential	0.53%	1.05%	N/A
16	151-005-300-002-00	Cleary	1.15	Residential	0.06%	1.05%	355
17	151-005-300-003-00	Cleary	9.24	Residential	0.48%	1.05%	N/A
18	151-006-400-001-06	Stead	2.13	Residential	0.11%	1.05%	390
19	151-005-200-001-00	Hart	64.32	Agri/Res	3.36%	1.05%	1,910
20	151-005-400-001-00	Ptasnik	154.12	Agricultural	8.06%	1.05%	N/A
21	151-008-200-001-01	Barlett	27.58	Agri/Res	1.44%	1.05%	515
22	151-009-100-002-00	Wolf	4.37	Residential	0.23%	1.05%	N/A
23	151-009-100-001-00	Wolf	2.34	Residential	0.12%	1.05%	665
24	151-004-300-002-06	Bethel	9.13	Residential	0.48%	1.05%	1,230
25	151-004-300-002-05	Kwiatkowski	57.84	Agricultural	3.02%	1.05%	N/A
26	151-009-100-004-04	Stump	4.91	Residential	0.26%	1.05%	300
27	151-009-100-004-01	Stump	4.88	Residential	0.26%	1.05%	440
28	151-004-316-160-00	Kwiatkowski	2.16	Residential	0.11%	1.05%	350
29	151-004-400-001-00	Mousseseau	10.01	Residential	0.52%	1.05%	345
30	151-004-300-001-02	Nordman	67.34	Agri/Res	3.52%	1.05%	2,205
31	151-004-100-003-00	Ortiz	1.00	Residential	0.05%	1.05%	850
32	151-004-200-003-00	Hart	1.85	Residential	0.10%	1.05%	N/A
33	151-004-200-002-00	Hart	76.16	Agri/Res	3.98%	1.05%	1,030
34	151-004-400-002-00	Putsey	24.04	Agricultural	1.26%	1.05%	N/A
35	151-004-400-003-00	Chamberlain	24.00	Agricultural	1.25%	1.05%	N/A
36	151-004-400-004-00	Chamberlain	11.35	Residential	0.59%	1.05%	525
37	151-009-200-001-04	Jordon	9.78	Residential	0.51%	1.05%	N/A
38	151-009-200-001-06	Ross	9.91	Residential	0.52%	1.05%	365
39	151-009-200-001-03	Grant	9.97	Residential	0.52%	1.05%	N/A
40	151-009-200-001-02	Schmitt	14.83	Residential	0.78%	1.05%	1,080

Surrounding Uses

#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
41	151-010-100-010-03	Herr	0.89	Residential	0.05%	1.05%	N/A
42	151-010-100-018-00	Smith	39.13	Agricultural	2.05%	1.05%	N/A
43	151-009-300-002-00	Johnston	1.10	Residential	0.06%	1.05%	345
44	151-009-300-001-02	Johnston	3.90	Residential	0.20%	1.05%	N/A
45	151-009-300-001-01	Stelmasek	2.25	Residential	0.12%	1.05%	390
46	151-008-400-001-01	Provo	1.94	Residential	0.10%	1.05%	425
47	151-008-400-002-00	Meyer	1.92	Residential	0.10%	1.05%	560
48	151-010-300-001-00	Cross	38.17	Agricultural	2.00%	1.05%	N/A
49	151-010-300-002-00	Peiknik	39.16	Agricultural	2.05%	1.05%	N/A
50	151-015-100-001-00	Cramblett	79.60	Agricultural	4.16%	1.05%	N/A
51	151-016-200-008-00	Zalewski	9.97	Residential	0.52%	1.05%	N/A
52	151-016-200-007-00	Zalewski	10.21	Residential	0.53%	1.05%	N/A
53	151-016-200-006-00	Zalewski	10.15	Residential	0.53%	1.05%	365
54	151-016-200-005-00	Way	10.09	Residential	0.53%	1.05%	N/A
55	151-016-200-004-00	Panyard	10.07	Residential	0.53%	1.05%	N/A
56	151-016-200-003-01	Durfey	2.05	Residential	0.11%	1.05%	385
57	151-016-200-002-00	Baumgartner	10.03	Residential	0.52%	1.05%	310
58	151-016-200-001-00	Boyd	10.04	Residential	0.52%	1.05%	N/A
59	151-016-100-008-00	Boyd	10.05	Residential	0.53%	1.05%	N/A
60	151-016-100-007-00	Boyd	10.39	Residential	0.54%	1.05%	N/A
61	151-016-100-006-00	Boyd	10.39	Residential	0.54%	1.05%	300
62	151-016-100-005-00	Laughhunn	10.38	Residential	0.54%	1.05%	N/A
63	151-016-100-004-00	Boyd	10.41	Residential	0.54%	1.05%	330
64	151-016-100-003-00	Boyd	10.43	Residential	0.55%	1.05%	N/A
65	151-016-100-001-00	Rogers	8.02	Residential	0.42%	1.05%	N/A
66	151-017-200-002-02	Boyd	30.50	Agricultural	1.59%	1.05%	N/A
67	151-017-200-001-00	Andersen	31.22	Agricultural	1.63%	1.05%	N/A
68	151-008-300-008-00	Layman	37.93	Agricultural	1.98%	1.05%	630
69	151-008-300-004-03	Layman	6.52	Residential	0.34%	1.05%	N/A
70	151-008-300-004-02	Runyon	3.08	Residential	0.16%	1.05%	685
71	151-008-300-004-01	Mara	3.57	Residential	0.19%	1.05%	N/A
72	151-008-300-003-01	Styburski	1.31	Residential	0.07%	1.05%	700
73	151-008-300-002-00	Thomas	1.21	Residential	0.06%	1.05%	N/A
74	153-B02-000-001-00	Beals	0.30	Residential	0.02%	1.05%	N/A
75	153-B02-000-058-00	Beals	0.69	Residential	0.04%	1.05%	N/A
76	153-B02-000-049-00	Beals	1.13	Residential	0.06%	1.05%	N/A
77	151-007-213-121-00	Beethem	44.72	Agricultural	2.34%	1.05%	N/A
78	151-008-100-002-00	Twin Lakes	69.08	Agricultural	3.61%	1.05%	N/A
79	151-008-100-003-00	Stead	8.67	Residential	0.45%	1.05%	910
80	151-008-100-001-00	Twin Lakes	0.92	Residential	0.05%	1.05%	N/A

Surrounding Uses

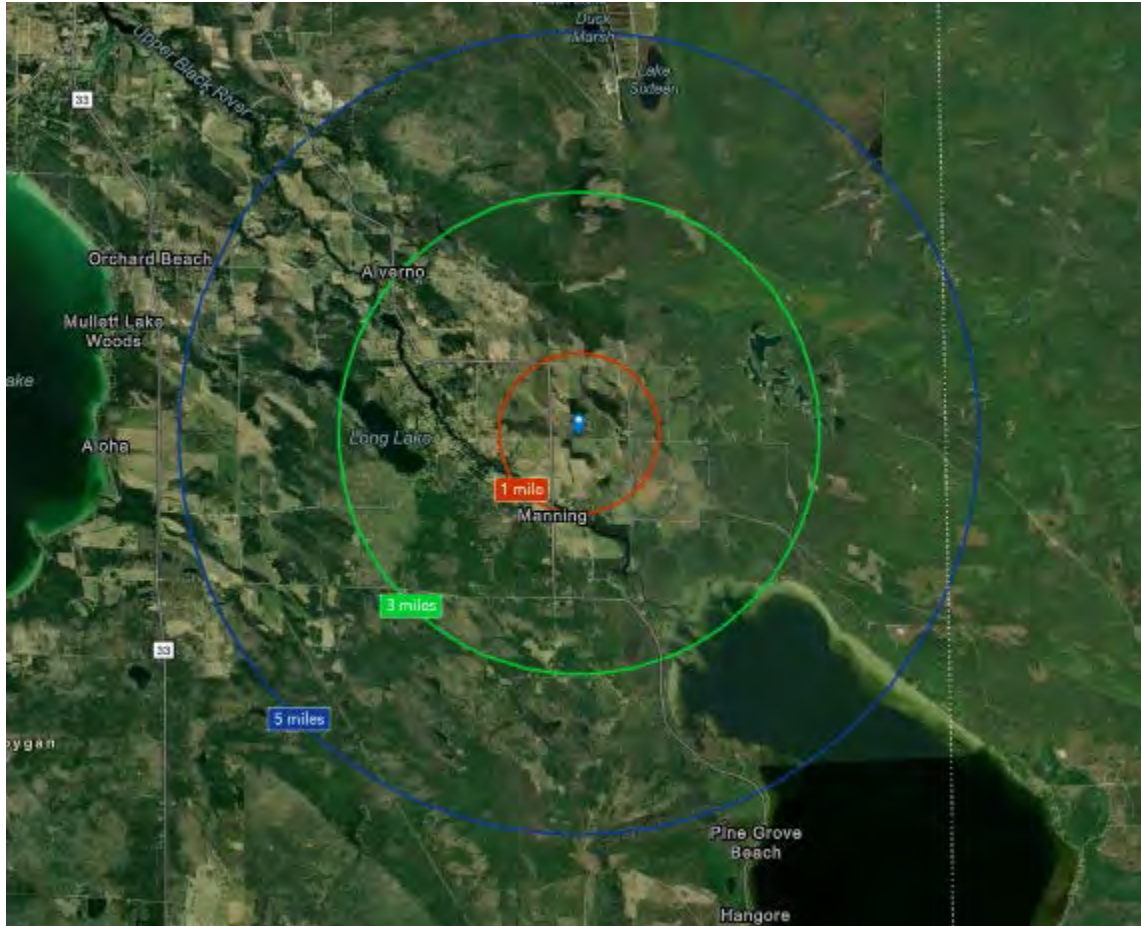
#	MAP ID	Owner	GIS Data		Adjoin	Adjoin	Distance (ft)
			Acres	Present Use	Acres	Parcels	Home/Panel
81	151-005-300-006-00	Johnson	0.61	Commercial	0.03%	1.05%	N/A
82	151-005-300-007-00	Heythaler	0.74	Commercial	0.04%	1.05%	N/A
83	151-005-300-005-00	Kuczynski	2.37	Residential	0.12%	1.05%	N/A
84	151-007-200-002-00	Daniels	45.05	Agricultural	2.36%	1.05%	N/A
85	151-007-200-001-01	Daniels	30.86	Agricultural	1.61%	1.05%	N/A
86	151-006-400-001-04	Stevens	1.97	Residential	0.10%	1.05%	N/A
87	151-006-400-001-04	Stevens	5.96	Residential	0.31%	1.05%	990
88	151-006-300-004-00	Hart	39.41	Agri/Res	2.06%	1.05%	1,240
89	151-006-300-002-01	Carlson	5.16	Residential	0.27%	1.05%	N/A
90	151-006-300-001-01	Carlson	9.77	Residential	0.51%	1.05%	820
91	153-001-408-071-00	Moulder	1.16	Residential	0.06%	1.05%	915
92	153-001-400-003-01	Moulder	19.01	Residential	0.99%	1.05%	860
93	153-001-200-002-05	Morrow	10.01	Residential	0.52%	1.05%	360
94	153-001-200-002-08	Speed	9.82	Residential	0.51%	1.05%	350
95	153-001-200-002-10	Clarmont	26.69	Agri/Res	1.40%	1.05%	465

Total	1912.940	100.00%	100.00%	665
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Demographics Around Subject Property

I have pulled demographic data around a 1-mile, 3-mile and 5-mile radius from the middle of the solar project as shown on the following pages.

As can be seen in the following pages, the population in all three rings show nominal projected growth.





Housing Profile

49721
49721, Cheboygan, Michigan
Ring: 1 mile radius

Prepared by Esri
Latitude: 45.52974
Longitude: -84.34410

Population		Households	
2020 Total Population	80	2024 Median Household Income	\$62,924
2024 Total Population	79	2029 Median Household Income	\$72,441
2029 Total Population	79	2024-2029 Annual Rate	2.86%
2024-2029 Annual Rate	0.00%		

Housing Units by Occupancy Status and Tenure	Census 2020		2024		2029	
	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	55	100.0%	56	100.0%	55	100.0%
Occupied	32	58.2%	32	57.1%	32	58.2%
Owner	29	52.7%	30	53.6%	30	54.5%
Renter	3	5.5%	2	3.6%	2	3.6%
Vacant	26	47.3%	24	42.9%	23	41.8%

Owner Occupied Housing Units by Value	2024		2029	
	Number	Percent	Number	Percent
Total	29	100.0%	29	100.0%
<\$50,000	0	0.0%	0	0.0%
\$50,000-\$99,999	2	6.9%	2	6.9%
\$100,000-\$149,999	4	13.8%	4	13.8%
\$150,000-\$199,999	6	20.7%	5	17.2%
\$200,000-\$249,999	5	17.2%	5	17.2%
\$250,000-\$299,999	3	10.3%	3	10.3%
\$300,000-\$399,999	5	17.2%	6	20.7%
\$400,000-\$499,999	2	6.9%	2	6.9%
\$500,000-\$749,999	2	6.9%	2	6.9%
\$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		\$235,000	
Average Value	\$260,345		\$266,379	



Housing Profile

49721
49721, Cheboygan, Michigan
Ring: 3 mile radius

Prepared by Esri
Latitude: 45.52974
Longitude: -84.34410

Population		Households	
2020 Total Population	954	2024 Median Household Income	\$66,487
2024 Total Population	962	2029 Median Household Income	\$76,782
2029 Total Population	966	2024-2029 Annual Rate	2.92%
2024-2029 Annual Rate	0.08%		

Housing Units by Occupancy Status and Tenure	Census 2020		2024		2029	
	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	803	100.0%	816	100.0%	799	100.0%
Occupied	416	51.8%	425	52.1%	429	53.7%
Owner	383	47.7%	396	48.5%	401	50.2%
Renter	33	4.1%	29	3.6%	28	3.5%
Vacant	385	47.9%	391	47.9%	370	46.3%

Owner Occupied Housing Units by Value	2024		2029	
	Number	Percent	Number	Percent
Total	395	100.0%	401	100.0%
<\$50,000	7	1.8%	6	1.5%
\$50,000-\$99,999	28	7.1%	24	6.0%
\$100,000-\$149,999	54	13.7%	47	11.7%
\$150,000-\$199,999	78	19.7%	69	17.2%
\$200,000-\$249,999	71	18.0%	73	18.2%
\$250,000-\$299,999	45	11.4%	47	11.7%
\$300,000-\$399,999	65	16.5%	77	19.2%
\$400,000-\$499,999	21	5.3%	26	6.5%
\$500,000-\$749,999	24	6.1%	29	7.2%
\$750,000-\$999,999	2	0.5%	3	0.7%
\$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	\$221,479		\$237,329	
Average Value	\$253,101		\$270,948	



Housing Profile

49721
49721, Cheboygan, Michigan
Ring: 5 mile radius

Prepared by Esri
Latitude: 45.52974
Longitude: -84.34410

Population		Households	
2020 Total Population	1,780	2024 Median Household Income	\$66,293
2024 Total Population	1,830	2029 Median Household Income	\$76,798
2029 Total Population	1,843	2024-2029 Annual Rate	2.99%
2024-2029 Annual Rate	0.14%		

Housing Units by Occupancy Status and Tenure	Census 2020		2024		2029	
	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	1,473	100.0%	1,502	100.0%	1,473	100.0%
Occupied	764	51.9%	784	52.2%	796	54.0%
Owner	703	47.7%	730	48.6%	743	50.4%
Renter	61	4.1%	54	3.6%	53	3.6%
Vacant	684	46.4%	718	47.8%	677	46.0%

Owner Occupied Housing Units by Value	2024		2029	
	Number	Percent	Number	Percent
Total	731	100.0%	744	100.0%
<\$50,000	12	1.6%	11	1.5%
\$50,000-\$99,999	55	7.5%	49	6.6%
\$100,000-\$149,999	100	13.7%	88	11.8%
\$150,000-\$199,999	144	19.7%	127	17.1%
\$200,000-\$249,999	132	18.1%	136	18.3%
\$250,000-\$299,999	84	11.5%	87	11.7%
\$300,000-\$399,999	115	15.7%	136	18.3%
\$400,000-\$499,999	37	5.1%	46	6.2%
\$500,000-\$749,999	47	6.4%	58	7.8%
\$750,000-\$999,999	4	0.5%	5	0.7%
\$1,000,000-\$1,499,999	1	0.1%	1	0.1%
\$1,500,000-\$1,999,999	0	0.0%	0	0.0%
\$2,000,000+	0	0.0%	0	0.0%
Median Value	\$220,644		\$235,662	
Average Value	\$254,378		\$271,337	

II. Methodology and Discussion of Issues

Standards and Methodology

I conducted this analysis using the standards and practices established by the Appraisal Institute and 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 Michigan 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 first type of analysis employed is a Sale/Resale Analysis. This methodology is outlined in **Real Estate Damages**, Third Edition, Pages 35-36 by Randall Bell PhD, MAI and published by the Appraisal Institute. This is a type of Paired Sales Analysis (see next paragraph) that compares the sale of the same property Before and After a change in the market to see if there is any impact on the property value due to that change. In this analysis I have used the Federal Housing Finance Agency Home Price Index to identify typical appreciation in the property market and compared that to the change in value on a home Before a solar farm was announced and After the solar farm was built. No other adjustments were required as I have attempted to focus on homes without renovations and with typical upkeep during the intervening period.

The second 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 33-35 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. A wide range of noise studies have found them consistent with agricultural and residential areas. The noise is even less 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.

Market Imperfection

Throughout this analysis, I have specifically considered the influence of market imperfection on data analysis. Market imperfection is the term that refers to the fact that unlike a can of soup at the supermarket or in your online shopping cart, real estate cannot be comparison shopped for the best price and purchased at the best price for that same identical product. Real estate products are always similar and never identical. Even two adjacent lots that are identical in almost every way have a slight difference in location. Once those lots are developed with homes, the number of differences begin to multiply, whether it is size of the home, landscaping, layout, age of interior upfit, quality of interior upfit, quality of maintenance and so on.

Neoclassical economics indicates a perfectly competitive market as having the following: A large number of buyers and sellers (no one person dominates the market), no barriers or transaction costs, homogeneous product, and perfect information about the product and pricing. Real estate is clearly not homogeneous. The number of buyers and sellers for a particular product in a particular location is limited by geography, financing, and the limited time period within a property is listed. There are significant barriers that limit the liquidity in terms of time, costs and financing. Finally, information on real estate is often incomplete or partial – especially at the time that offers are made and prices set, which is prior to appraisals and home inspections. So real estate is very imperfect based on this definition and the impact of this is readily apparent in the real estate market.

What appear to be near-identical homes that are in the same subdivision will often sell with slight variations in price. When multiple appraisers approach the same property, there is often a slight variation among all of those conclusions of value, due to differences in comparables used or analysis of those comparables. This is common and happens all of the time. In fact, within each appraisal, after making adjustments to the comparables, the appraiser will typically have a range of values that are supported that often vary more than +/-5% from the median or average adjusted value.

Based on this understanding of market imperfection, it is important to note that very minor differences in value within an impact study do not necessarily indicate either a negative or positive impact. When the impacts measured fall within that +/-5%, I consider this to be within typical market variation/imperfection. Therefore it may be that there is a negative or positive impact identified if the impact is within that range, but given that it is indistinguishable from what amounts to the

background noise or static within the real estate data, I do not consider indications of +/-5% to support a finding of a negative or positive impact.

Impacts greater than that range are, however, considered to be strong indications of impacts that fall outside of typical market imperfection. I have used this as a guideline while considering the impacts identified within this report.

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 over 600 MWs in size showing no impact on property value.

III. Research on Solar Farms

A. *Appraisal Market Studies*

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

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

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

This study addresses impacts on value from eight different solar farms in 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 study concluded 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, North Carolina, 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."

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.” Mr. Beck indicated in the interview if landscaping screens were employed he would not see any drop in value.

NorthStar Appraisal Company – Impact Analysis for Nichomus Run Solar, Pilesgrove, New Jersey, 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.

MR Valuation Consulting, LLC – The Kuhl Farm Solar Development and The Fischer Farm Solar Development – New Jersey, 2012

Mr. Mark Pomykacz, MAI MRICS with MR Valuation Consulting, LLC considered a matched pair analysis for sales near these solar farms. The sales data presented supported a finding of no impact on property value for nearby and adjoining homes and concludes that there is no impact on marketing time and no additional risk involved with owning, building, or selling properties next to the solar farms.

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

Ms. Mary Clay, MAI reviewed a report by Kirkland Appraisals in this case and also provided a differing opinion of impact. Having testified opposite Ms. Clay, she has stated that she does not confirm her data and does not use an appropriate method for time adjustments.

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

Kevin T. Meeks, MAI – Corcoran Solar Impact Study, Minnesota, 2017

Mr. Kevin Meeks, MAI reviewed a report by Kirkland Appraisals in this case and also provided additional research on the topic with additional paired sales. The sales he considered are well presented and show that they were confirmed by third parties and all of the broker commentary is aligned with the conclusion that the adjoining solar farms considered had no impact on the adjoining home values.

Mr. Meeks also researched a 100 MW project in Chisago County, known as North Star Solar Garden in MN. He interviewed local appraisers and a broker who was actively marketing homes adjoining that solar farm to likewise support a finding of no impact on property value.

John Keefe, Chisago County Assessor, Chisago County Minnesota Assessor’s Office, 2017

This study was completed by the Chisago County Minnesota Assessor’s Office on property prices adjacent to and in close vicinity of a 1,000-acre North Star solar farm in Minnesota. The study concluded that the North Star solar farm had “no adverse impact” on property values. Mr. Keefe further stated that, “It seems conclusive that valuation has not suffered.”

Tim Connelly, MAI – Solar Impact Study of Proposed Solar Facility, New Mexico, 2023

This study is a detailed review of an Impact Study completed by Kirkland Appraisals, LLC for Rancho Viejo Solar. It goes through all of the analysis and confirms the applicability and reliability of the methods and conclusions. Mr. Connelly, MAI concurs that “the proposed solar project will not have a negative impact on market value, marketability, or enjoyment of property in the immediate vicinity of the proposed project.”

Donald Fisher, ARA, 2021

Donald Fisher has completed a number of studies on solar farms and was quoted in February 15, 2021 stating, “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 the installation of solar farms went up higher than time trends.”

Jennifer N. Pitts, MAI - Study of Residential Market Trends Surrounding Six Utility-Scale Solar Projects in Texas, 2023

This study was completed by Real Property Analytics with Ms. Pitts along with Erin M. Kiella, PhD, and Chris Yost-Bremm, PhD. This analysis considered these solar farms through different stages of the market from announcement of the project, during construction, and after construction. They found no indication of a negative impact on sales price, the ratio of sales price to listing price, or the number of Days on Market. They also researched individual sales and interviewed local brokers who confirmed that market participants were knowledgeable of the solar projects and did not result in a negative impact on sales price or marketing time.

Michael S. MaRous, MAI, CRE – Market Impact Analysis Langdon Mills Solar, Columbia County, Wisconsin, 2023

This study was completed by MaRous & Company and signed by Michael S. MaRous. This analysis included consideration of solar projects in 13 states including 7 solar projects in Wisconsin. This includes 22 matched pairs with a conclusion on Page 70 that states “there does not appear to have been any measurable negative impact on surrounding residential property values due to the proximity of a solar farm.”

This analysis was further supported by Assessor Surveys including assessors in Wisconsin which found no instance of an assessor in Wisconsin identifying any negative impacts from solar farms on adjoining property values.

Conclusion of Impact Studies

Of the 11 studies noted 9 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 initial 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."

More recently in August 2022, Donald Fisher, ARA, MAI and myself led a webinar on this topic for the ASFMRA discussing the issues, the university studies and specific examples of solar farms having no impact on adjoining property values.

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

Megan Day reports from 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 South Carolina, Georgia, and North Carolina.

IV. University Studies

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

A. *University of Texas at Austin, May 2018*

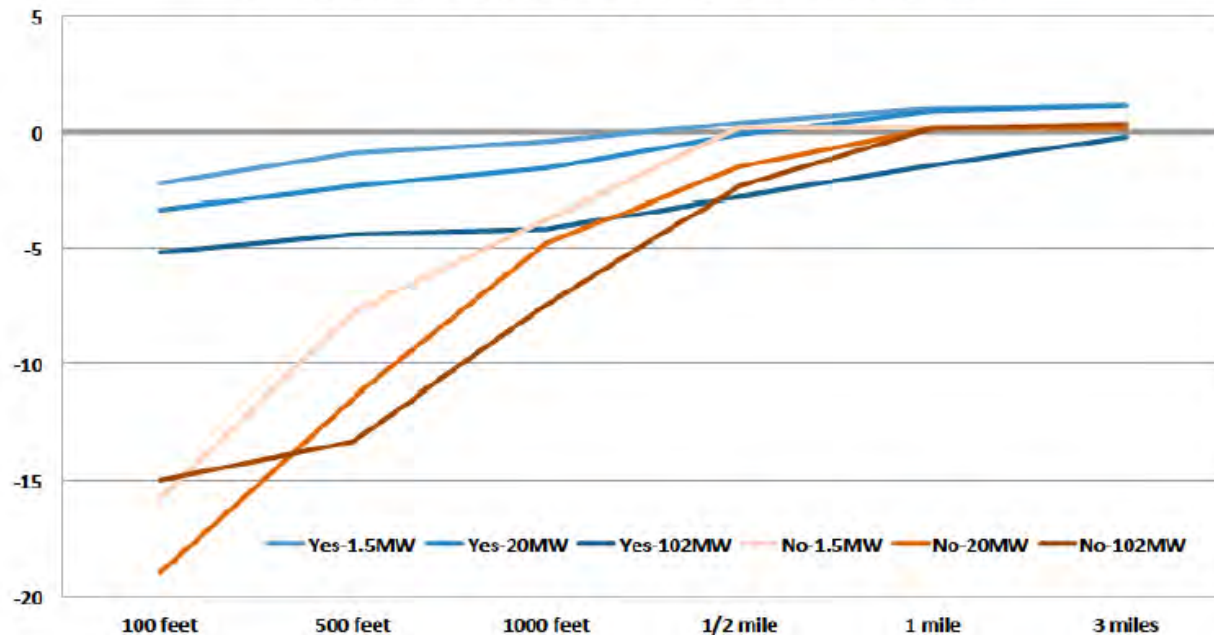
An Exploration of Property-Value Impacts Near Utility-Scale Solar Installations

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

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

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

**Chart B.2 - Estimates of Property Value Impacts (%) by Size of Facility,
Distance, & Respondent Type**
Have you assessed a home near a utility-scale solar installation?



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, shown on Page 23 of that study, 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.

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 Grant Township of Cheboygan County, which has a population of 828 population for 2024 based on HomeTownLocator using Census Data and a total area of 48.71 square miles. This indicates a population density of 17 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.

Township Of Grant Data & Demographics (As of July 1, 2024)

POPULATION		HOUSING	
Total Population	828 (100%)	Total HU (Housing Units)	890 (100%)
Population in Households	828 (100.0%)	Owner Occupied HU	367 (41.2%)
Population in Families	601 (72.6%)	Renter Occupied HU	31 (3.5%)
Population in Group Quarters ¹	0	Vacant Housing Units	492 (55.3%)
Population Density	17	Median Home Value	\$225,391
Diversity Index ²	16	Average Home Value	\$259,673
		Housing Affordability Index ³	99

INCOME		HOUSEHOLDS	
Median Household Income	\$57,567	Total Households	398
Average Household Income	\$75,608	Average Household Size	2.08000000000
% of Income for Mortgage ⁴	25%	Family Households	244
Per Capita Income	\$36,343	Average Family Size	2
Wealth Index ⁵	71		

C. University of Rhode Island, 2023

House of the rising sun: The effect of utility-scale solar arrays on housing prices

The University of Rhode Island published this study completed by the same researchers as the prior Rhode Island study, Vasundhara Gaur and Corey Lang. This study focused on Massachusetts and Rhode Island and found the opposite of the prior study. This study indicates that they found 1.5% to 3.6% declines in property value within 0.5 miles of a solar array and that this is mostly driven by solar projects found on agricultural land.

D. 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 Lab (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.

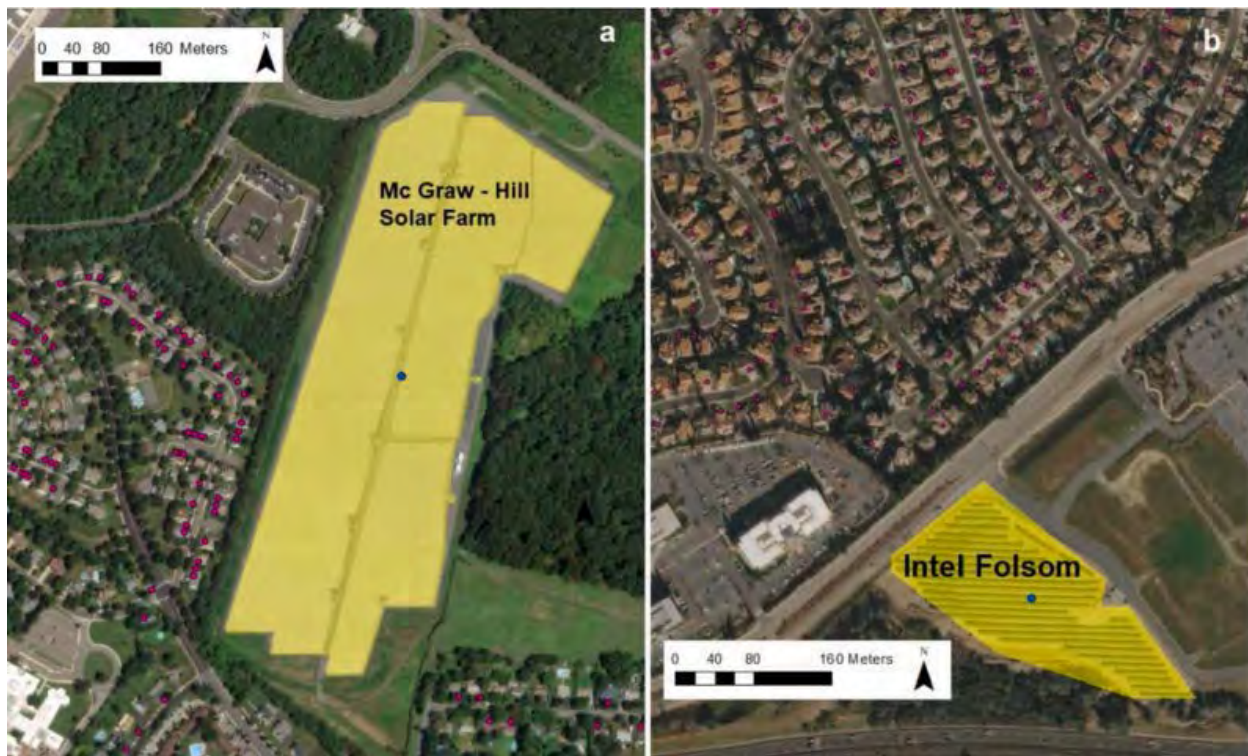
This analysis concludes on Page 21 of the study “Although there are no direct effects of solar farms on nearby agricultural land values, we do find evidence that suggests construction of a solar farm may create a small, positive, option -value for land owners that is capitalized into land prices. Specifically,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

E. Lawrence Berkeley National Lab, March 2023

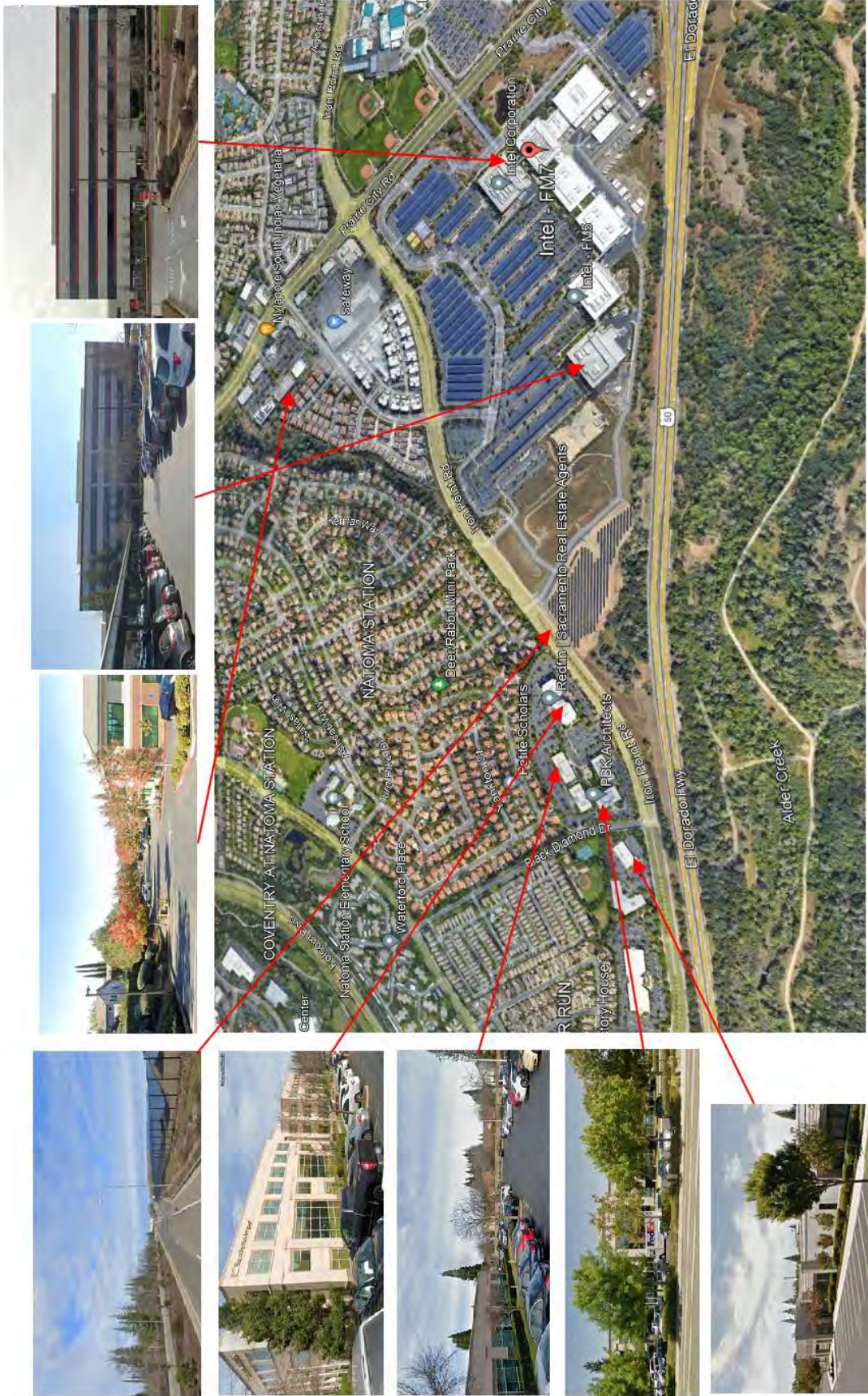
Shedding light on large-scale solar impacts: An analysis of property values and proximity to photovoltaics across six U.S. states

This study was completed by researchers including Salma Elmallah, Ben Hoen, K. Sydney Fujita, Dana Robson, and Eric Brunner. This analysis considers home sales before and after solar farms were installed within a 1-mile radius and compared them to home sales before and after the solar farms at a 2-4-mile radius. The conclusion found a 1.5% impact within 0.5 mile of a solar farm as compared to homes 2-4 miles from solar farms. This is the largest study of this kind on solar and addresses a number of issues, but also does not address a number of items that could potentially skew these results. First of all, the study found no impact in the three states with the most solar farm activity and only found impacts in smaller sets of data. The data does not in any way discuss actual visibility of solar farms or address existing vegetation screens. This lack of addressing this is highlighted by the fact that they suggest in the abstract that vegetative shading may be needed to address possible impacts. Another notable issue is the fact that they do not address other possible impacts within the radii being considered. This lack of consideration is well illustrated within the study on Figure A.1 where they show satellite images of McGraw Hill Solar Farm in NJ and Intel Folsom in CA. The Folsom image clearly shows large highways separating the solar farm from nearby housing, but with tower office buildings located closer to the housing being considered. In no place do they address the presence of these towers that essentially block those homes from the solar farm in some places. An excerpt of Fig. A.1. is shown below.



For each of these locations, I have panned out a little further on Google Earth to show the areas illustrated to more accurately reflect the general area. For the McGraw Hill Solar Farm you can see there is a large distribution warehouse to the west along with a large office and other industrial uses. Further to the west is a large/older apartment complex (Princeton Arms). To the east there are more large industrial buildings. However, it is even more notable that 1.67 miles away to the west is Cranbury Golf Club. Given how this analysis was set up, these homes around the industrial buildings are being compared to homes within this country club to help establish impacts from the solar farm. Even considering the idea that each set is compared to itself before and after the solar farm, it is not a reasonable supposition that homes in each area would appreciate at the same rates even if no solar farm was included. Furthermore the site where the solar farm is located and all of the surrounding uses not improved with residential housing to the south are zoned Research Office (RO) which allows for: manufacturing, preparation, processing or fabrication of products, with all activities and product storage taking place within a completely enclosed building, scientific or research laboratories, warehousing, computer centers, pharmaceutical operations, office buildings, industrial office parks among others. Homes adjoining such a district would likely have impacts and influences not seen in areas zoned and surrounded by zoning strictly for residential uses.





On the Intel Folsom map I have shown the images of two of the Intel Campus buildings, but there are roughly 8 such buildings on that site with additional solar panels installed in the parking lot as shown in that image. I included two photos that show the nearby housing having clear and close views of adjoining office parking lots. This illustrates that the homes in that 0.5-mile radius are significantly more impacted by the adjoining office buildings than a solar farm located distantly that are not within the viewshed of those homes. Also, this solar farm is located on land adjoining the Intel Campus on a tract that is zoned M-1 PD, which is a Light Industrial/Manufacturing zoning. Furthermore, the street view at the solar farm shows not only the divided four-lane highway that separates the office buildings and homes from the solar farm, but also shows that there is no landscaping buffer at this location. All of these factors are ignored by this study. Below is another image of the Folsom Solar at the corner of Iron Point Road and Intel West Driveway which shows just how close and how unscreened this project is.



Compare that image from the McGraw Hill Street view facing south from County Rte 571. There is a distant view and much of the project is hidden by a mix of berms and landscaping. The analysis makes no distinction between these projects.



The third issue with this study is that it identifies impacts following development in areas where they note that “more adverse home price impacts might be found where LSPVPS (large-scale photovoltaic project) displace green space (consistent with results that show higher property values near green

space).” The problem with this statement is that it assumes that the greenspace is somehow guaranteed in these areas, when in fact, they could just as readily be developed as a residential subdivision and have the same impacts. They have made no effort to differentiate loss of greenspace through other development purposes such as schools, subdivisions, or other uses versus the impact of solar farms. In other words, they may have simply identified the impact of all forms of development on property value. This would in fact be consistent with the comments in the Rhode Island study where the researchers noted that the loss of greenspace in the highly urban areas was likely due to the loss of greenspace in particular and not due to the addition of solar panels.

Lastly, the study primarily focuses on smaller and older solar facilities. These facilities were in many cases built during the initial development of the utility scale solar industry where there were fewer requirements for vegetative buffers and setbacks. Approximately 95% of their data focuses on 1 to 5 megawatt projects. This focus on older and smaller sites does not accurately capture current development standards or practices as the industry has progressed over the past two decades to improve and protect neighbor’s from potential negative impacts.

Despite these three shortcomings in the analysis – the lack of differentiating landscape screening, the lack of consideration of other uses within the area that could be impacting property values, and the lack of consideration of alternative development impacts – the study still only found impacts between 0 and 5% with a conclusion of 1.5% within a 0.5-mile radius. As discussed later in this report, real estate is an imperfect market and real estate transactions typically sell for much wider variability than 5% even where there are no external factors operating on property value.

I therefore conclude that the minor impacts noted in this study support a finding of no impact on property value. Most appraisals show a variation between the highest and lowest comparable sale that is substantially greater than 1.5% and this measured impact for all its flaws would just be lost in the static of normal real estate transactions.

F. Loyola University Chicago by Simeng Hao and Gilbert Michaud, 2024
Assessing Property Value Impacts Near Utility-Scale Solar in the Midwest

This was originally part of the Master’s Thesis by Simeng Hao in 2023 but updated for publication.

This study considered 70 utility-scale facilities built in the Midwest from 2009 to 2022 using data from the Lawrence Berkley National Laboratory. Using the difference-in-differences, method he found that proximity to solar project increased property values by 0.5% to 2.0%.

Furthermore, the research in this project shows that solar farms tend to be located in places with lower average home values by 2 to 3% compared to other random adjoining zip codes. This is not to say those areas are depressed, but those rural areas on average have lower prices than more suburban or urban areas nearby. This highlights the problem with a number of the studies on this issue in that they compare home values near the solar project to homes further from the solar project, but they are largely identifying the difference between rural and less-rural areas. The impact range identified by the Berkeley Study for example is exactly in line with that random difference identified by Simeng Hao.

The original Master’s Thesis included a summary of seven other studies including many of those noted above that considered a total of 3,296 projects with results ranging from 1.7% decline in value to no impact. Only 2 of the studies identified found negative results that ranged from 0.82% to 1.7% impact on property value, while the other five studies found no consistent negative impact.

Given that 5 of the 7 studies identified show no negative impact and the analysis by Mr. Hao shows a positive relationship up to 2%, I consider this analysis to support my conclusions on no impact on property value. While statistical studies note impacts of +/- 2%, as noted earlier in this report, market imperfection is generally greater than that rate and supports a conclusion of no impact. Essentially, while the statistical studies are showing minor variation, applying that to any one particular property

whether plus or minus, would be unsupportable given that market imperfection is greater than that purported adjustment.

G. *Purdue University by Binayak Kunwar, 2024*

Impact of Commercial and Utility-Scale Solar Energy on Farmland Price

This was completed as part of the Master of Science Thesis by the author to the Department of Agricultural Economics at Purdue University. This study focuses on farmland prices between 2015 and 2020 in Indiana. This study identified a premium up to 2.1% for higher priced farmland in proximity to solar projects. The study further identified adjustments for differences in farm size, crop productivity and proximity to urban areas. The study interestingly notes that the higher priced farmland is both with high productivity and closer to urban areas, while the enhancement from adjoining or nearby solar is greatest on those types of farmland. So farms near solar farms and closer to towns actually receive a greater enhancement than those further from town.

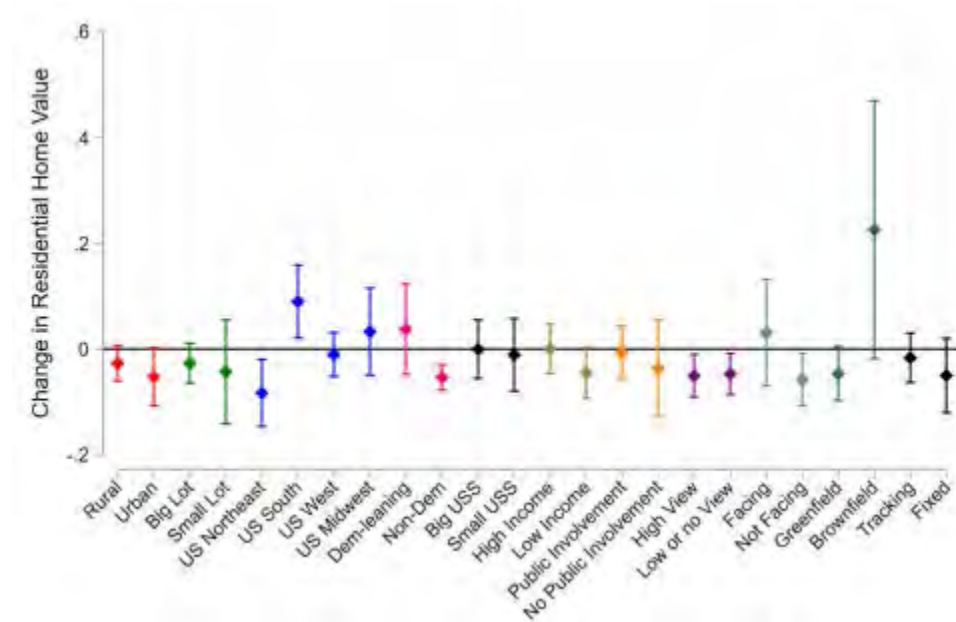
H. *Virginia Polytechnic Institute and Sates University by Chenyang Hu et al, 2025*

Impact of large-scale solar on property values in the United States: Diverse effects and causal mechanisms

This study follows a similar pattern of the Lawrence Berkeley study using analysis looking at properties within 3 miles of existing solar farms and comparing that data to property data 3 to 6 miles away. The findings of this study indicate a reduction in value for homes within 0.5-miles of 7.2% if it has no view of the project or 7.9% if it has a view of the project. It also concluded on a 4.8% impact up to 3 miles away. The same study concluded on an increase in value for undeveloped or farm land by an average of 19.4% within 2 miles of a solar project.

This study, like the other studies that use this methodology, assumes that it is reasonable to compare home sales data within the 3-mile radius to activity in the outer ring area. However, this assumption fails to show that this is a reasonable assumption. In countless examples of solar projects we have identified across the country, the 3 to 5 mile radius includes towns and higher development areas closer to town and necessarily is showing a difference between rural values and town values. The Loyola University study illustrates this effect as outlined above.

This study also concluded that there are different factors that can influence these impacts. As shown in the chart below the lines above the line show positive impacts with the biggest positive impact being solar projects in Brownfield areas, but also includes positive impacts in the South, Midwest, Democrat leaning area, and facing of the panels.



Summary of University Studies

I have shown in the chart below a breakdown of the conclusions from these studies. The Low end of the range is showing the greatest negative or lowest positive while the High end is the lowest negative and highest positive. Where the impacts are positive they are showing an increase in value from proximity to a solar project.

The overall range is -7.9% to a +19.04% with an average between -2.81% and +2.88%. These ranges are clearly hovering in a nominal range that correspond with Market Imperfection as identified earlier in this report. With a range that tight, it is not a significant impact shown by these studies and is suggesting a positive potential that is almost as great as the negative potential.

These generalized studies do not address landscaping screens, differences in school districts, physical conditions of the homes, considerations for higher priced subdivisions near lower priced subdivisions, ages of homes, renovations or updates, whether the homes were on gravel or paved roads, lot size differences, amenity differences, lot premiums for river or conservation adjacency, and there was no data verification to identify atypical motivations of buyers and sellers. These generalized studies suggest a level of precision that should be considered with caution by appraisers for adjustments as they do not account for those other factors and they fall within typical market imperfection.

Table 2: Breakdown of University Study Findings

	Source	Type	Year	Low	High	Conclusion Note on Proximity
A	UTA	Published Study	2018	-5.00%	1.00%	1000 feet
B	URI	Published Study	2020	-1.70%	0.00%	-1.70% 1 mile 0.00% 1mile rural
C	URI	Published Study	2023	-3.60%	-1.50%	1/2 mile
D	GATech	Published Study	2020	0.00%	0.00%	Farmland
E	Lawrence	Published Study	2023	-5.60%	0.00%	-2.30% 1/4 mile -1.50% 1/2 mile -0.80% 1/2 to 1 mile
F	Loyola	Published Study	2024	0.50%	2.00%	Proximity
G	Purdue	Masters Thesis	2024	0.80%	2.10%	Proximity
H	VATech	Published Study	2025	-7.90%	19.40%	-7.20% 1/2 mile -4.80% 3 mile 19.40% Farmland - 2 mi
Average				-2.81%	2.88%	
Median				-2.65%	0.50%	
High				0.80%	19.40%	
Low				-7.90%	-1.50%	
Residential						
Average				-3.21%	-0.17%	
Median				-3.60%	0.00%	
High				0.80%	2.10%	
Low				-7.90%	-4.80%	
Farmland						
Average				9.70%	9.70%	
Median				9.70%	9.70%	
High				19.40%	19.40%	
Low				0.00%	0.00%	

V. Assessor Surveys

I have completed surveys of assessors in a number of states and I have shown the breakdown of those responses below. I have not had any assessor indicate a negative adjustment due to adjacency to a solar farm in any state. These responses total 189 with 172 definitively indicating no negative adjustments are made to adjoining property values, 17 providing no response to the question, and 0 indicating that they do address a negative impact on adjoining property value.

Summary of Assessor Surveys

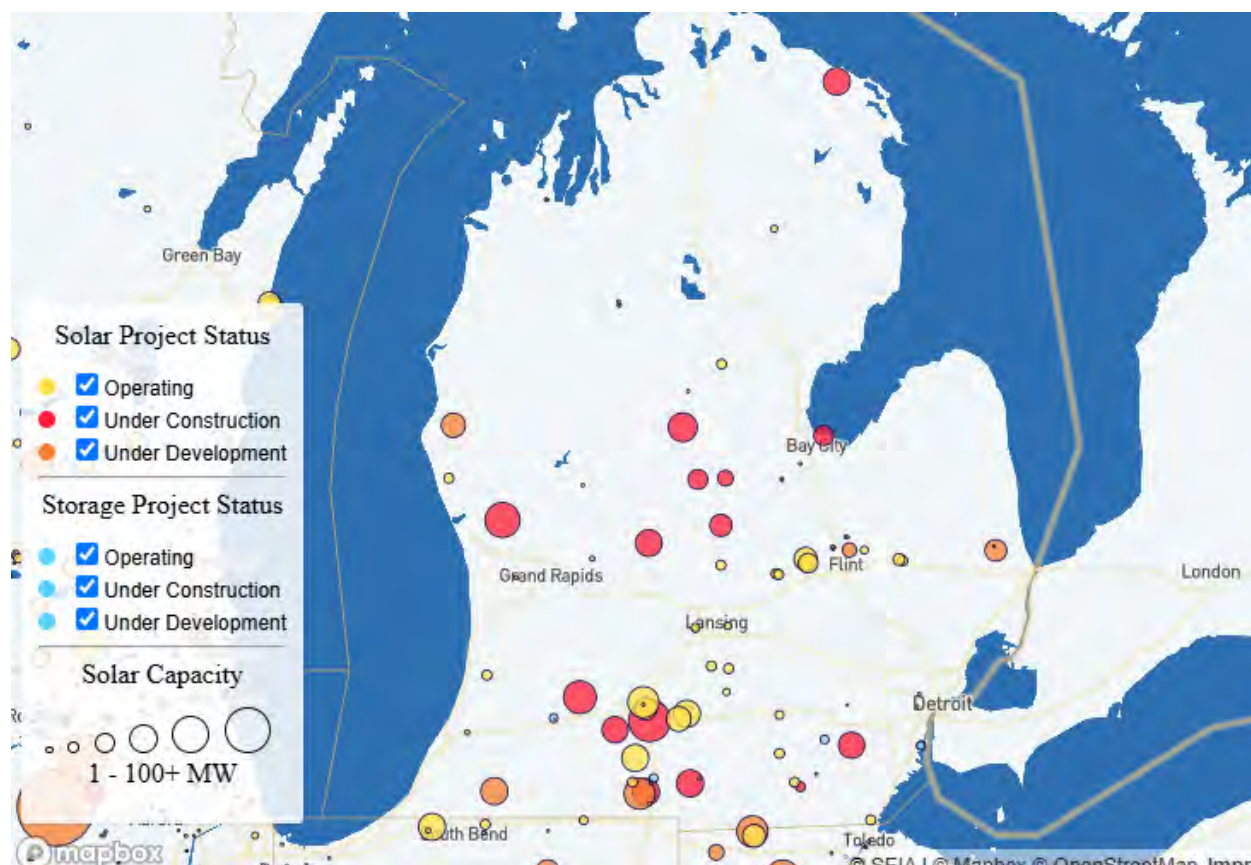
State	Responses	No Impact	Yes Impact	No Comment
North Carolina	39	39		
Virginia	17	17		
Indiana	31	31		
Colorado	15	8		7
Georgia	33	33		
Kentucky	10	6		4
Mississippi	4	2		2
New Mexico	5	5		
Ohio	24	20		4
South Carolina	11	11		
Totals	189	172	0	17

VI. Summary of Solar Projects In and Around Michigan

I have researched the solar projects in Michigan. I identified the solar farms through the Solar Energy Industries Association (SEIA) Major Projects List and then excluded the roof mounted facilities. I focused on solar farms over 5 MW.

I was able to identify several solar farms in Michigan that met those criteria though there are a number of projects that are currently under development or construction. Finding usable paired sales is not possible around these as they are not complete, though I note that they do have similar locations with primarily agricultural and residential adjoining uses.

The map below was taken from the Solar Energy Industries Association Major Projects Map showing solar farms in Michigan that are operating, under development and under construction.

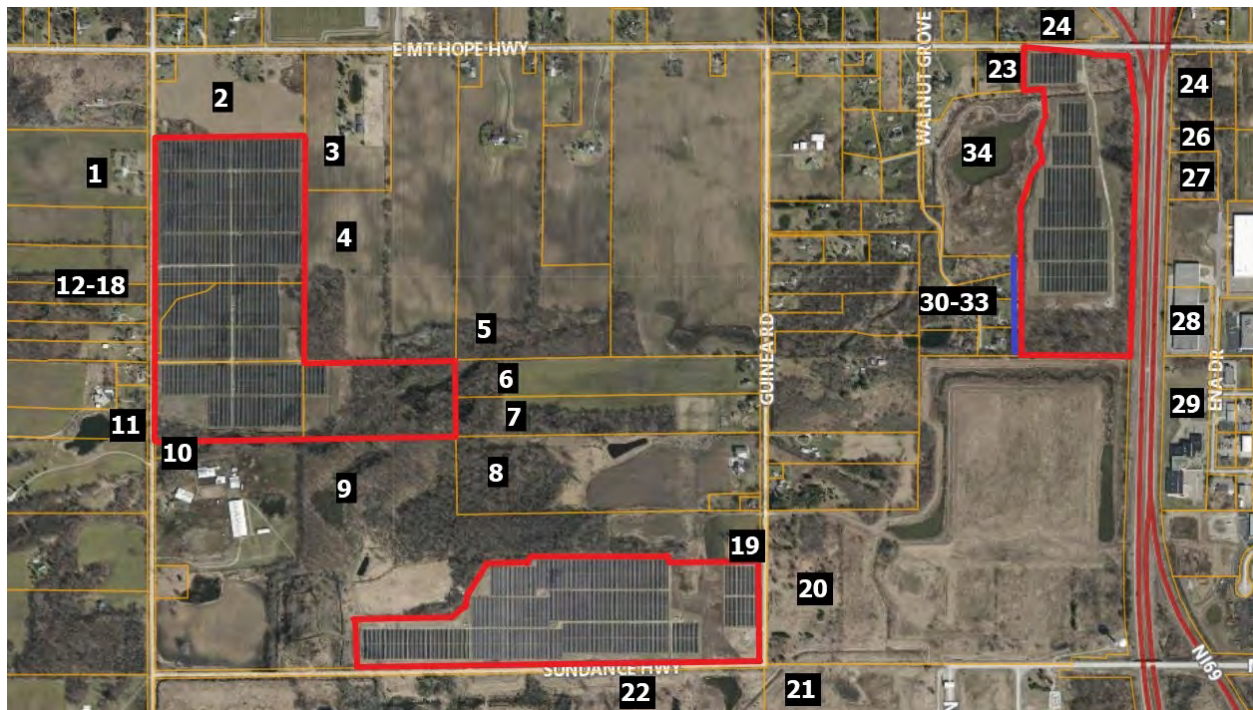


On the maps on the following pages, all maps are oriented with the top of the page being north. The maps show an outline of the project area with numbered adjoining parcels similar to what was done earlier in this report. Where multiple small parcels are located in close proximity, I have drawn green lines and cited the range of those parcel numbers. The maps were gathered from the local GIS with tax map and aerial overlay included though in some cases I have used GoogleEarth which has more up to date aerial imagery.

The numbering on each solar farm shown on the following pages is the Kirkland Appraisals File Number for that Solar Project. Some of the maps number the adjoining parcels, while others do not have the adjoining parcels numbered. We have maps in our files numbering adjoining parcels, but in some cases we have updated the maps since that process.

Parcel # Name	County	City	Output (MW)	Total	Used	Avg. Dist	Closest	Adjoining Use by Acre			
				Acres	Acres	to home	Home	Res	Agri	Agri/Res	Com
626 Delta Combined	Eaton	Grand Ledge	24	190	190	904	145	6%	16%	11%	68%
629 Watervliet	Berrien	Watervliet	4.6	87.55	30	766	190	32%	36%	32%	0%
630 Demille	Lapeer	Lapeer	28.4	311.4	160	398	260	10%	68%	0%	22%
Turrill	Lapeer	Lapeer	19.6	230	143	N/A	110	N/A	N/A	N/A	N/A
Bullhead	Hillsdale	Jonesville	2	156.5	16	1,591	1,224	19%	57%	24%	1%
734 DG Amp Bowling	Wood	Bowling Grn, OH	20	237	160	1,240	1,240	1%	99%	0%	0%
Lyons Rd	Shiawassee	Owosso	20	250	250	465	155	24%	45%	6%	25%
Assembly	Shiawassee	Flint	239	1200	N/A	N/A	N/A	N/A	N/A	N/A	N/A
River Fork	Calhoun	Sheridan Twshp	149	1800	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bingham	Clinton	St. Johns	20	150	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tecumseh	Lenawee	Britton	1.2	20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total Number of Solar Farms			11								
Average			47.98	421.1	135.6	894	475	15%	54%	12%	19%
Median			20.00	230.0	160.0	835	190	14%	51%	9%	11%
High			239.00	1800.0	250.0	1591	1240	32%	99%	32%	68%
Low			1.20	20.0	16.0	398	110	1%	16%	0%	0%

626: Delta 1, 2 and 3 Solar, Nixon Road, Grande Ledge, Eaton County, MI



This project was built in 2018 and divided into three phases. Most of the adjoining uses are residential and agricultural with a number of larger commercial and industrial uses. The closest adjoining home is 145 feet from the nearest panel and the average distance is 904 feet.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	5.78%	44.12%
Agricultural	15.53%	11.76%
Agri/Res	10.64%	17.65%
Industrial	67.81%	23.53%
Commercial	0.24%	2.94%
Total	100.00%	100.00%

629: Watervliet Solar Farm, Red Arrow Hwy, Watervliet, Berrien County, MI



This project was built in 2016 and located on 30 acres out of an 87.55-acre parent tract for a 4.6 MW solar farm with the closest home at 190 feet from the closest solar panel with an average distance of 766 feet.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	32.11%	84.21%
Agricultural	36.02%	10.53%
Agri/Res	31.87%	5.26%
Total	100.00%	100.00%

I did identify one adjoining home sale to this solar farm – Parcel 3 in the map above. This property sold on April 15, 2018 for \$165,000 for a 3 BR/2BA home built in 2006 with an attached 2 car garage and 1,070 square feet of gross living area. This works out to a purchase price of \$152.78 per square foot. I did not attempt a matched pair from this home sale as it is separated from the solar farm by railroad tracks which could cloud any conclusions drawn from such a matched pair. Matched pairs work best when you can isolate only 1 difference to test for and the only way this would reasonably work in this situation would be to find similar home sales along a similar railroad corridor in that area. I did look for such a thing and found no reasonable sales for consideration.

630: Demille Solar, Demille Rd, Lapeer, Lapeer County, MI



This project was built in 2017 and located on 160 acres out of a parent tract of 311.40 acres for a 28.4 MW solar farm with the closest home at 260 feet from the closest solar panel with an average distance of 398 feet.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	9.88%	62.96%
Agricultural	68.38%	22.22%
Industrial	21.73%	14.81%
Total	100.00%	100.00%

Turrill Solar, Lapeer, Lapeer County, MI



This 19.6 MWAC solar farm in Lapeer, Lapeer County, Michigan was built in May of 2017. This solar farm has residential uses to its north, south and west and primarily industrial and warehouse uses to the east. The total parcel area is approximately 230 acres and the solar panels occupy approximately 143 acres. The closest home is to the north at approximately 110 feet from the closest point on the home to the panel.

Bullhead Project, Jonesville, Hillsdale County, MI



This project was built in 2021 and adjoins a mix of residential and agricultural properties. This is a smaller project at 2 MW on 16 acres.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	18.54%	46.67%
Agricultural	56.64%	40.00%
Agri/Res	23.59%	6.67%
Commercial	1.23%	6.67%
Total	100.00%	100.00%

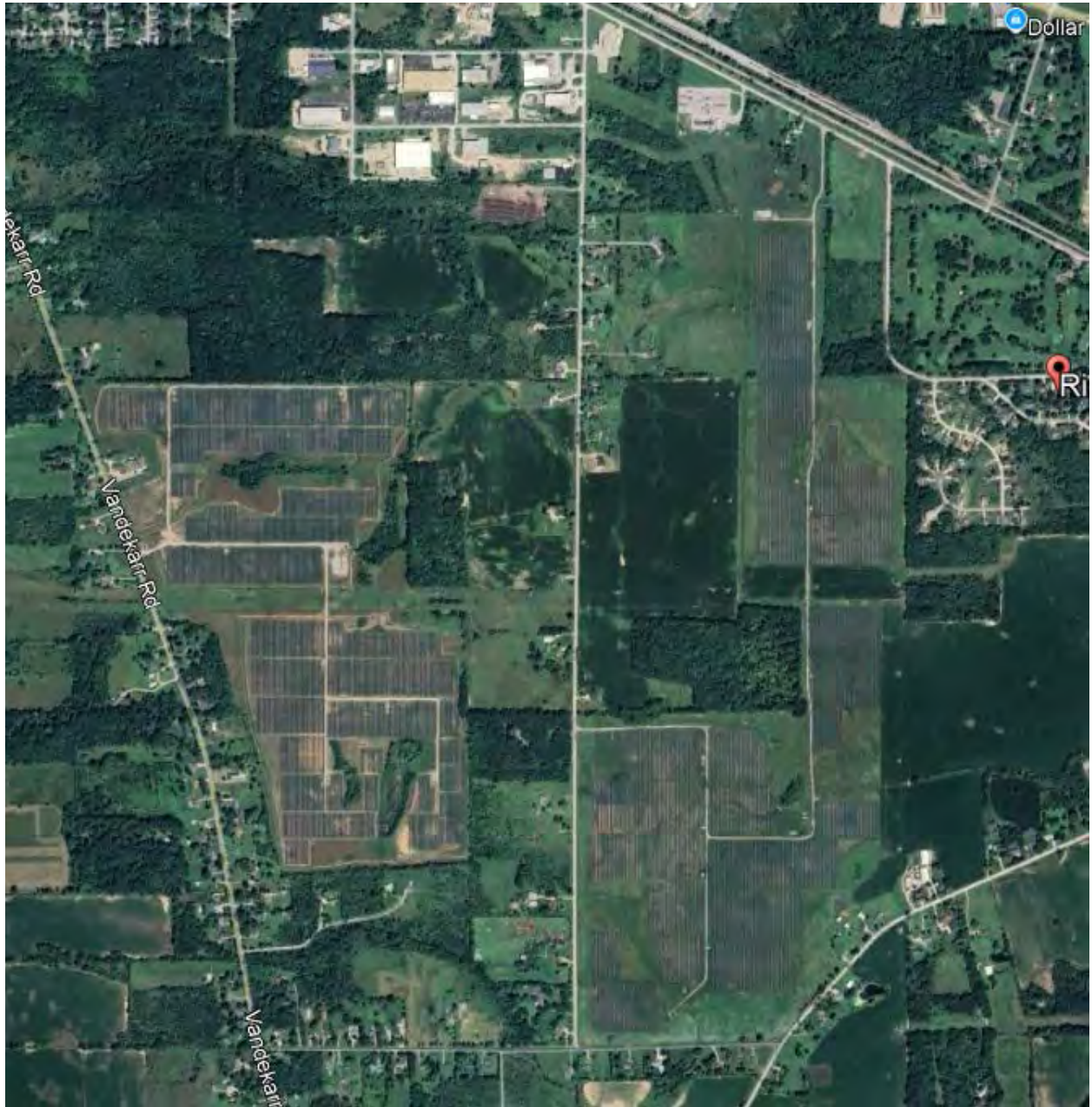
734 – DG Amp Bowling Green, Bowling Green, Wood County, OH



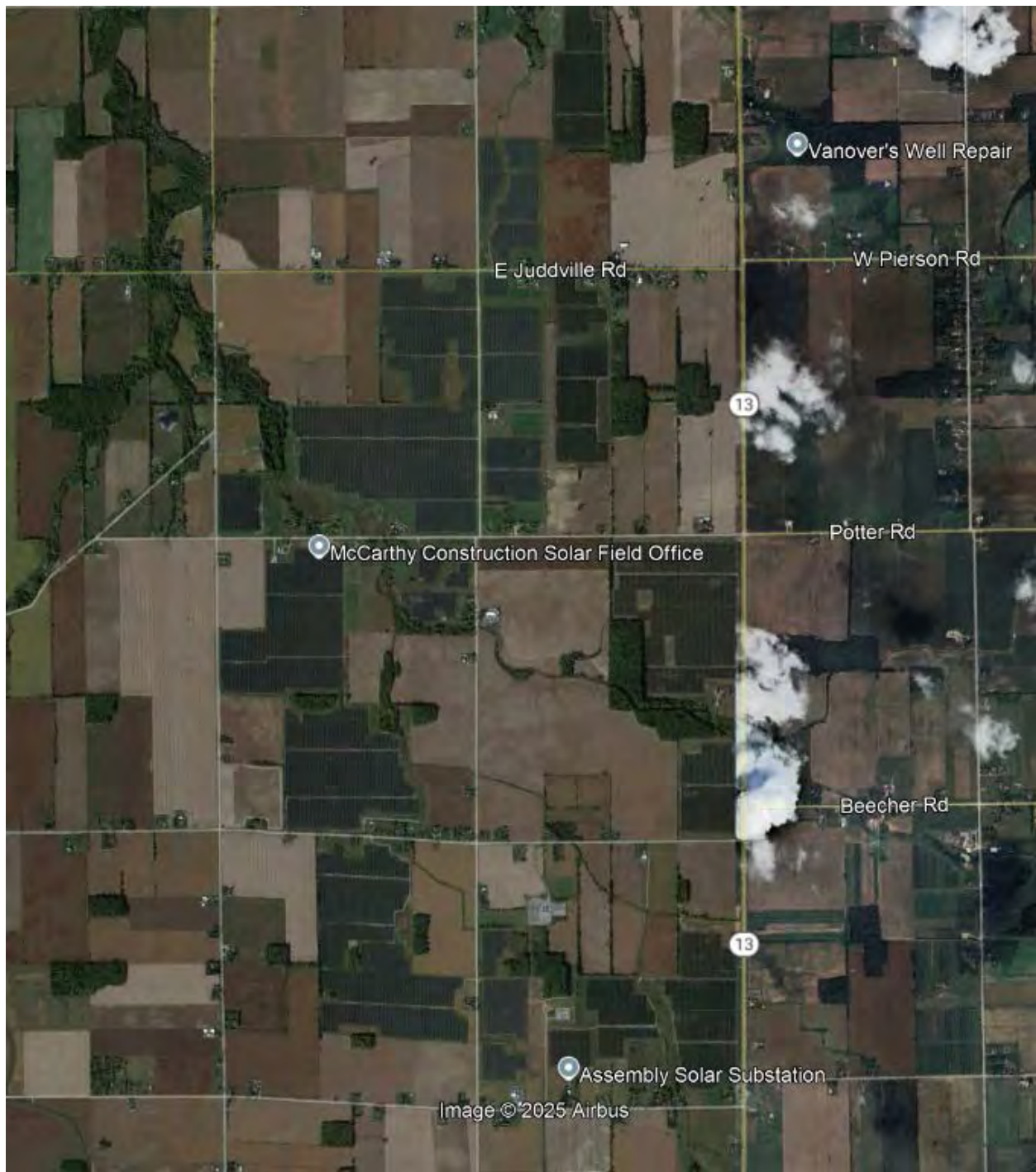
This project was built in 2017 and adjoins mostly agricultural properties.

Adjoining Use Breakdown

	Acreage	Parcels
Residential	0.55%	15.38%
Agricultural	99.45%	84.62%
Total	100.00%	100.00%

Lyons Rd Solar and Midcontinent Solar, Owosso, Shiawassee County, MI

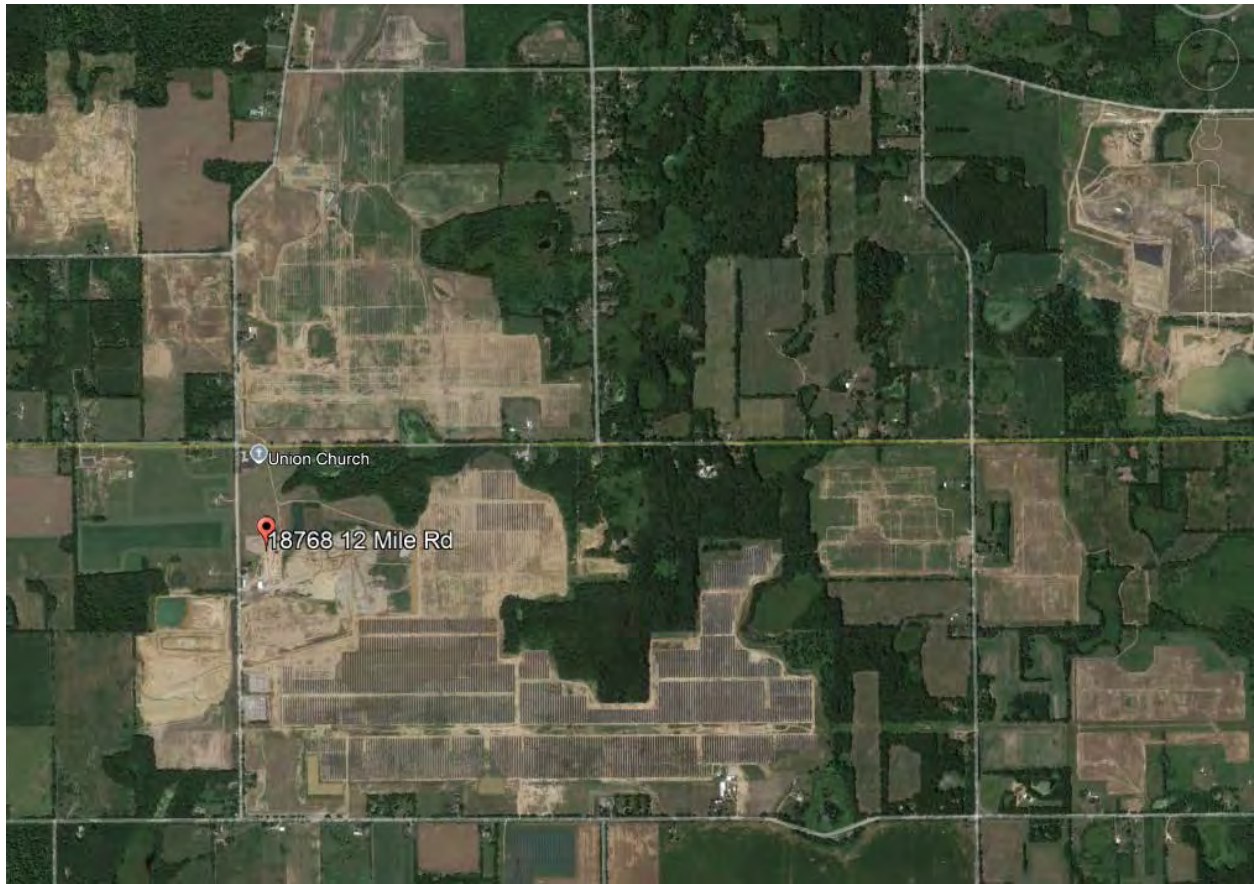
The Lyons Solar Project is 20 MW and is the eastern solar project in the map above and was built in 2024. The Midcontinent Solar is 20 MW and was built in 2023.

Assembly Solar, Assembly Solar II and III, Lennon, Shiawassee County, MI

This project was built in 3 phases. Assembly Solar was built in 2020 for a 50 MW project. Assembly Solar II was built in 2021 for a 110 MW project. Assembly Solar III was built in 2022 for a 79 MW project. Combined these three projects are a 239 MW project in this area.

Bingham Solar, St. Johns, Clinton County, MI

This project was built in 2020. The adjoining uses are a mix of residential and agricultural uses. This is a 20 MW project on 150 acres.

Calhoun Solar, Battle Creek, Calhoun County, MI

This project was built in 2025 and the aerial map shown above shows it still under construction. The adjoining uses are a mix of residential and agricultural uses. This is a 200 MW project on approximately 2,500 acres.

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

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

Wherever I have looked at solar farms, I have derived a breakdown of the adjoining uses to show what adjoining uses are typical for solar farms and what uses would likely be considered consistent with a solar farm use similar to the breakdown that I've shown for the subject property earlier in this report. 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 use mix in over 90% of the solar farms I have looked at. This same mix of adjoining uses and distances to home is found at the proposed solar project. 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 where there are sufficient setbacks and/or landscaping screens.

On the following pages, I have considered matched pair data specific to the area around Michigan. I searched home sales in Michigan, Indiana and Ohio.

I have also included a brief summary of data pulled nationally as additional support for these findings.

A. *Michigan and Adjoining State Data*

I have focused first on Michigan and then on adjoining states. Additional data from adjoining states is included for additional support.

On the charts that followed I have used the following shorthand as needed:

GBA/GLA – Gross Building Area/Gross Living Area – these terms are interchangeable for a dwelling

BR/BA – Bedrooms/Bathrooms

Br Ranch – Brick ranch

YB – Year Built

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



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

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

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

Adjoining Residential Sales After Solar Farm Built

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

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

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

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1126 Don Wayne	0.47	5/16/2018	\$160,000	1971	1,900	\$84.21	3/2.5	2-Car	Ranch	Brick,FinBsmt	310
Not	70 Sterling Dr	0.32	8/2/2018	\$137,500	1960	1,800	\$76.39	3/1.5	1-Car	Ranch	Brick	
Not	3565 Garden Dr	0.34	5/15/2019	\$165,000	1960	2,102	\$78.50	3/1.5	2-Car	Ranch	Brick	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	
Adjoins	1126 Don Wayne								\$160,000		-3%	
Not	70 Sterling Dr	-\$603		\$7,563	\$6,111	\$10,000	\$5,000		\$165,571	-3%		
Not	3565 Garden Dr	-\$3,374		\$9,075	-\$12,685	\$5,000			\$163,016	-2%		

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

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1138 Don Wayne	0.47	8/28/2019	\$191,000	1975	2,128	\$89.76	4/1.5	2-Car	2-Story	Brick	380
Not	1331 W Genessee	0.45	10/25/2019	\$160,707	1940	1,955	\$82.20	4/1.5	Drive	1.5 Story	Vinyl/UnBsmt	
Not	1128 Gwen Dr	0.47	8/24/2018	\$187,500	1973	2,040	\$91.91	3/2.5	2-Car	2 Story	Brick/UnBsmt	
Not	1227 Oakridge	1.05	6/11/2017	\$235,000	1980	2,500	\$94.00	4/2.5	2-Car	2 Story	Brk/PFinBsmt	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	
Adjoins	1138 Don Wayne								\$191,000		-1%	
Not	1331 W Genessee	-\$524		\$16,874	\$11,377		\$10,000		\$198,434	-4%		
Not	1128 Gwen Dr	\$3,887		\$1,875	\$6,471	-\$10,000			\$189,733	1%		
Not	1227 Oakridge	\$10,667	-\$10,000	-\$5,875	-\$27,974	-\$10,000			\$191,818	0%		

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

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

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Dist.
Adjoins	1174 Alice Dr	0.54	1/14/2019	\$165,000	1973	1,400	\$117.86	3/1.5	2-Car	Ranch	Brick/Fin Bsmt	280
Not	1127 Don Wayne	0.51	9/23/2019	\$176,900	1974	1,452	\$121.83	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1135 Gwen Dr	0.43	7/26/2019	\$205,000	1967	1,671	\$122.68	3/2	2-Car	Ranch	Brick/Ufin Bsmt	
Not	1160 Beth Dr	0.46	6/20/2019	\$147,500	1970	1,482	\$99.53	4/1.5	2-Car	Ranch	Brick/Fin Bsmt	
Solar	Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	
Adjoins	1174 Alice Dr								\$165,000		2%	
Not	1127 Don Wayne	-\$2,504		-\$885	-\$5,068	-\$5,000			\$163,443	1%		
Not	1135 Gwen Dr	-\$2,223		\$6,150	-\$26,597	-\$5,000			\$177,330	-7%		
Not	1160 Beth Dr	-\$1,301		\$2,213	-\$6,529				\$141,883	14%		

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

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

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



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

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

The first is 1060 Cliff Drive that sold in September 2018. I compared this to multiple nearby home sales as shown below.

Adjoining Residential Sales After Solar Farm Built

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GBA	BR/BA	Park	Style	Other	Distance
Adjoins	1060 Cliff Dr	1.03	9/14/2018	\$200,500	1970	2,114	\$94.84	4/2.5	2-Car	2 Story	Brick	290
Not	1331 W Genessee	0.45	10/25/2019	\$160,707	1940	1,955	\$82.20	4/1.5	Drive	1.5 Story	Vinyl/Unfin Bsmt	
Not	1128 Gwen Dr	0.47	8/24/2018	\$187,500	1973	2,040	\$91.91	3/2.5	2-Car	2 Story	Brick/Unfin Bsmt	
Not	1227 Oakridge	1.05	6/11/2017	\$235,000	1980	2,500	\$94.00	4/2.5	2-Car	2 Story	Brk/Prt Fin Bsmt	

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

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

Adjoining Residential Sales After Solar Farm Built

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

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

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

3. Matched Pair – DG Amp Piqua, Piqua, Miami County, OH



This project is located on the southeast corner of Manier Street and N Washington Road, Piqua, OH. There are a number of nearby homes to the north, south and west of this solar farm.

The adjoining sale at 6060 N Washington is a brick range fronting on a main road. I did not adjust the comparables for that factor despite the subdivision exposure on those comparables was superior. I considered the difference in lot size to be balancing factors. If I adjusted further for that main road frontage, then it would actually show a positive impact for adjoining the solar farm.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
22	Adjoins	6060 N Washington	0.80	10/30/2019	\$119,500	1961	1,404	\$85.11	3/1	2 Gar	Br Rnch	Updates
	Not	1523 Amesbury	0.25	5/7/2020	\$119,900	1973	1,316	\$91.11	3/2	Gar	Br Rnch	Updates
	Not	1609 Haverhill	0.17	10/17/2019	\$114,900	1974	1,531	\$75.05	3/1	Gar	Br Rnch	Updates
	Not	1511 Sweetbriar	0.17	8/6/2020	\$123,000	1972	1,373	\$89.58	4/2	Gar	Br Rnch	Updates

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							\$119,500			155
-\$1,920		-\$7,194	\$6,414	-\$5,000	\$7,500	\$0	\$119,700	0%		
\$126		-\$7,469	-\$7,625		\$7,500	\$0	\$107,432	10%		
-\$2,913		-\$6,765	\$2,222	-\$5,000	\$7,500	\$0	\$118,044	1%		
									4%	

I also considered a home fronting on Plymouth Avenue which is one lot to the west of the solar farm with a rear view towards the solar farm. After adjustments this set of matched pairs shows no impact on the value of the property due to proximity to the solar farm.

Adjoining Residential Sales After Solar Farm Approved

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
	Nearby	1011 Plymouth	0.21	2/24/2020	\$113,000	1973	1,373	\$82.30	4/2	Gar	1.5 Stry	Fnce/Shd
	Not	1630 Haverhill	0.32	8/18/2019	\$94,900	1973	1,373	\$69.12	4/2	Gar	1.5 Stry	N/A
	Not	1720 Williams	0.17	12/4/2019	\$119,900	1968	1,682	\$71.28	4/1	2Gar	1.5 Br	Fnce/Shd
	Not	1710 Cambridge	0.17	1/22/2018	\$116,000	1968	1,648	\$70.39	4/2	Det 2	1.5 Br	Fnce/Shd

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							\$113,000			585
\$1,519		\$0	\$0			\$10,000	\$106,419	6%		
\$829		\$2,998	-\$17,621	\$5,000			\$111,105	2%		
\$7,459		\$2,900	-\$15,485				\$110,873	2%		
									3%	

I considered a home located at 6010 N Washington that sold on August 3, 2021. This property was sold with significant upgrades that made it more challenging to compare, but I focused on similar older brick ranches with updates in the analysis. The comparables suggest an enhancement to this property due to proximity from the solar farm, but it is more likely that the upgrades at the subject were superior. Still this strongly supports a finding of no impact on the value of the property due to proximity to the solar farm.

Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
24	Adjoins	6010 N Washington	0.80	8/3/2021	\$176,900	1961	1,448	\$122.17	4/2	2 Gar	Br Ranch	Updates
	Not	1244 Severs	0.19	10/29/2021	\$149,900	1962	1,392	\$107.69	3/2	Gar	Br Ranch	Updates
	Not	1515 Amesbury	0.19	5/5/2022	\$156,500	1973	1,275	\$122.75	3/2	2 Gar	Br Ranch	Updates
	Not	1834 Wilshire	0.21	12/3/2021	\$168,900	1979	1,265	\$133.52	3/2	2 Gar	Br Ranch	Updates

Adjoining Sales Adjusted									Avg	
Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
							\$176,900			155
-\$1,099		-\$750	\$4,221		\$7,000		\$159,273	10%		
-\$3,627		-\$9,390	\$16,988				\$160,471	9%		
-\$1,736		-\$14,357	\$19,547				\$172,354	3%		
									7%	

I considered a home located at 6240 N Washington that sold on October 15, 2021. The paired sale located at 532 Wilson included a sunroom that I did not adjust for. The -4% impact from that sale is related to that property having a superior sunroom and not related to proximity to the solar farm. The other two comparables strongly support that assertion as well as a finding of no impact on the value of the property due to proximity to the solar farm.

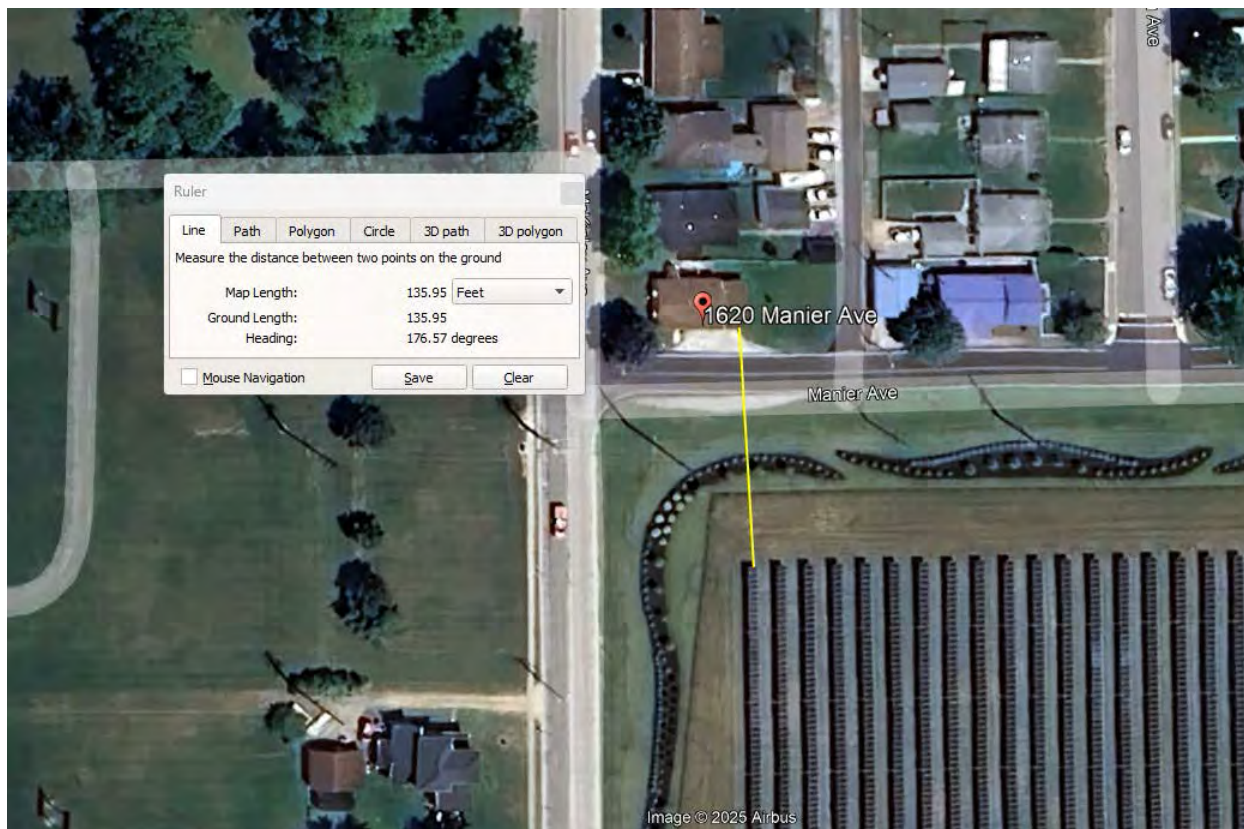
Adjoining Residential Sales After Solar Farm Built

Parcel	Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
	Adjoins	6240 N Washington	1.40	10/15/2021	\$155,000	1962	1,582	\$97.98	2/1	Det 3	Ranch	
	Not	1408 Brooks	0.13	8/20/2021	\$105,000	1957	1,344	\$78.13	3/1	Drive	Ranch	
	Not	532 Wilson	0.14	7/29/2021	\$159,900	1948	1,710	\$93.51	3/2	Det Gar	Ranch	Sunroom
	Not	424 Pinewood	0.17	5/20/2022	\$151,000	1960	1,548	\$97.55	4/2	Gar	Ranch	

Adjoining Sales Adjusted

Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
							\$155,000			160
\$496		\$2,625	\$13,016		\$15,000		\$136,136	12%		
\$1,051		\$11,193	-\$9,575	-\$10,000	\$8,000		\$160,569	-4%		
-\$2,761		-\$2,265	\$2,653	-\$10,000	\$7,000		\$145,627	6%		
									5%	

I identified a sale of 1620 Manier Avenue that is across the street from the solar farm at 135 feet from the nearest panel. This home sold on October 29, 2024 for \$110,000 after being listed for \$120,000. This home last sold on October 23, 2020 for \$65,000. I reached out to Edward Miller the buyer's broker for the 2020 purchase and the seller's broker for the 2024 purchase. Mr. Miller indicated that they got a very good deal at \$15,000 off the asking price in 2020 based on an all cash offer and purchasing from an estate that was trying to liquidate the asset fast. No significant updates were completed between 2020 and 2024 and while they listed the property at \$120,000 they knew that was too high and would have to negotiate down. Mr. Miller indicated that they did not see the solar as a negative influence on the marketing or price of the property. When they set the price they considered nearby sales not next to the solar project with no adjustments and the buyer's agent never discussed the solar as a reason to negotiate the price down.



Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	1620 Manier	0.13	10/27/2024	\$110,000	1955	925	\$118.92	3/1	Crprt	Vinyl	N/A
Not	720 Wilson	0.22	2/2/2024	\$100,700	1926	928	\$108.51	2/1	Street	Vinyl	N/A
Not	1407 Brook	0.13	7/11/2024	\$99,900	1920	827	\$120.80	2/1	Street	Vinyl	N/A
Not	639 Clark	0.17	8/18/2023	\$94,500	1953	825	\$114.55	2/1	Street	Vinyl	N/A

Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
1620 Manier								\$110,000			135
720 Wilson	\$4,028		\$0	-\$130		\$5,000		\$109,598	0%		
1407 Brook	\$999		\$0	\$4,735		\$5,000		\$110,634	-1%		
639 Clark	\$5,670		\$0	\$4,582		\$5,000		\$109,752	0%		
										0%	

After comparing the subject to these three nearby homesales, the range of indicated impacts is 0 to -1%. This strongly supports the comments by the broker that the solar project had no impact on the value of the home. This is despite the 135 foot proximity to the nearest panel and the minimal nature of the landscaping screen as shown in the Google Street View image below at this home site.



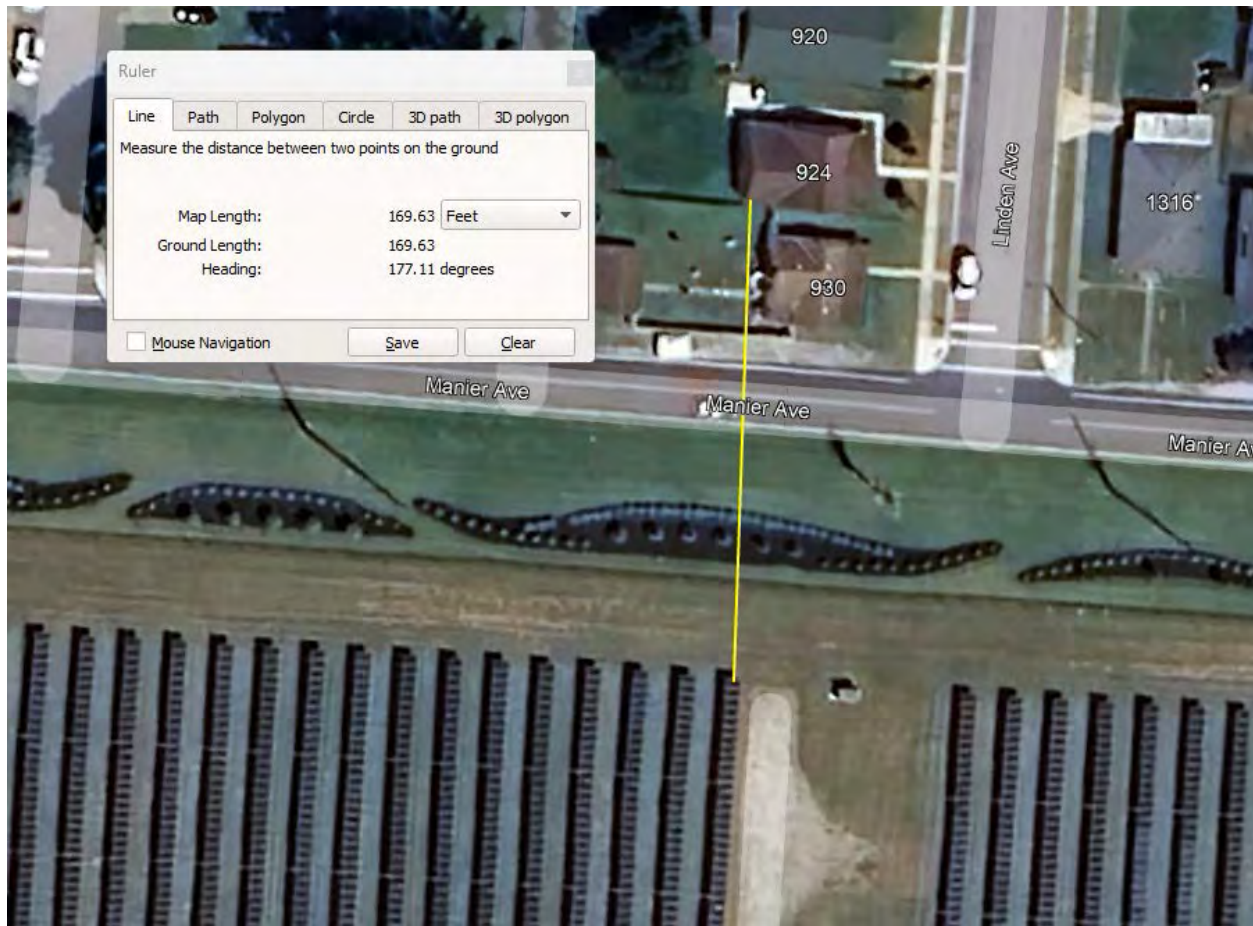
I considered 924 Linden Avenue that is 170 feet from the nearest panel and one parcel off from the solar project as shown in the following map. This home was purchased in August 2023 for \$58,000 then sold on January 29, 2024 for \$99,800 and then immediately put back on the market for \$159,900 with the last sale being \$160,000 on March 21, 2024 for this 936 s.f. home built in 1948 on 0.13 acres with 3 BR and 1 BA. I reached out to the broker Niki Miller but did not receive a call back about these multiple sales. The property was significantly upgraded with new kitchen and bathroom and more based on the listing and clearly seen in the photos of the listing.

In the paired sales analysis I have identified the comparables as either having updates or not. The 801 Boal Avenue sale had a remodelled bathroom and new flooring, roof and insulation, but the kitchen was not updated so I did adjust for that difference in the comparable. The 761 Gordon Street sale had a complete remodel noted, though that was in 2012 and not recently.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Nearby	924 Linden	0.13	3/21/2024	\$160,000	1948	936	\$170.94	3/1	Street	Vinyl	Updates
Not	906 Blaine	0.13	5/6/2024	\$112,500	1955	1,015	\$110.84	2/1	Street	Vinyl	
Not	801 Boal	0.28	5/8/2024	\$130,000	1952	912	\$142.54	3/1	Drive	Vinyl	Updates
Not	761 Gordon	0.16	9/23/2024	\$167,000	1956	1,099	\$151.96	3/1	Drive	Vinyl	Updates

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
924 Linden								\$160,000			170
906 Blaine	-\$1,125		\$0	-\$3,502	\$10,000		\$40,000	\$157,873	1%		
801 Boal	-\$1,300		\$0	\$1,368			\$20,000	\$150,068	6%		
761 Gordon	-\$5,010		\$0	-\$9,908				\$152,082	5%	4%	

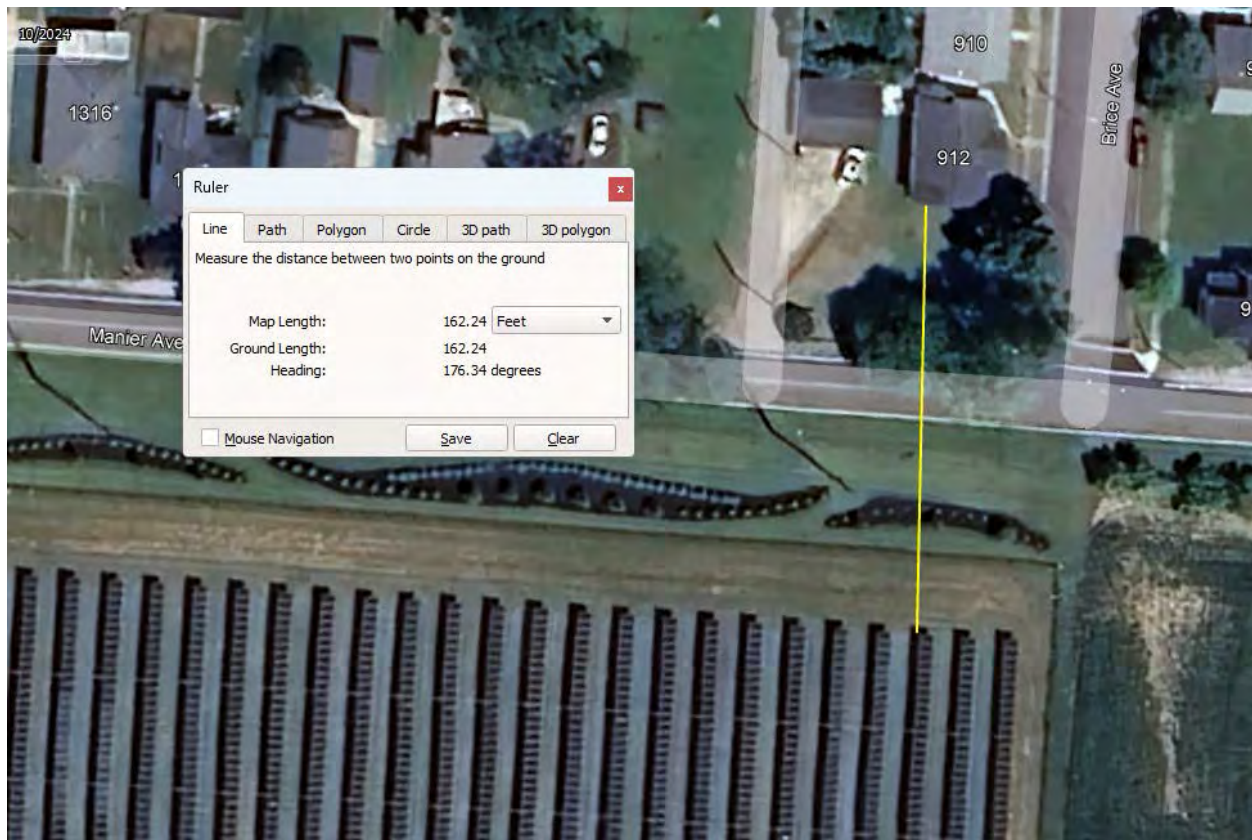


I considered a sale of 912 Brice Avenue on August 23, 2023 for \$148,000 for this 3 BR, 1 BA ranch built in in 1958 on a 0.09 acre lot. This home is about 165 feet from the nearest panel as shown on the following map. I spoke with Kathy Henne the listing broker with Re/Max who indicated that the solar project had no impact on the marketing time or the sales price.

Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Nearby	912 Brice	0.09	8/23/2023	\$148,000	1958	816	\$181.37	2/1	Det2Gar	Vinyl	
Not	1010 Brook	0.14	8/4/2022	\$125,000	1954	952	\$131.30	3/1	D1.5Gar	Vinyl	
Not	515 Manier	0.17	7/8/2022	\$142,000	1949	960	\$147.92	2/1.5	Det2Gar	Vinyl	PrtFinBsmt
Not	609 Cottage	0.24	4/1/2022	\$110,000	1932	960	\$114.58	2/1	Det2Gar	Vinyl	

Adjoining Sales Adjusted

Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	Avg % Diff	Distance
912 Brice								\$148,000			165
1010 Brook	\$12,500			-\$7,143		\$7,000		\$137,357	7%		
515 Manier	\$14,200			-\$8,520	-\$5,000			\$142,680	4%		
609 Cottage	\$17,600			-\$6,600				\$121,000	18%	10%	

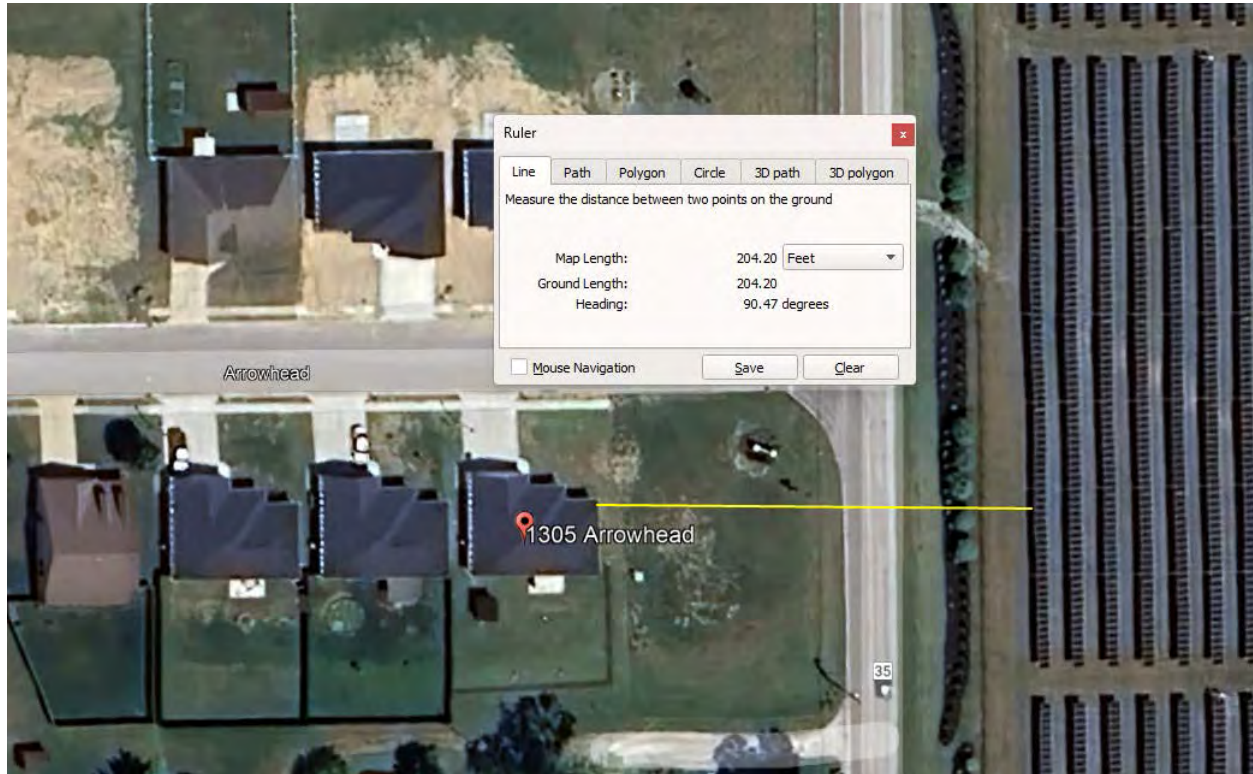


The analysis shown above supports a finding of a positive impact on property value. The comparable that required the least adjustment shows the largest increase in value. However, that sale was still during a period of rapid price increases in 2022. While I adjusted these home sales based on the FHFA HPI, it still could be that that sale as the oldest sale was significantly underpriced. The comparable sale at 515 Manier Avenue is near a hardwood manufacturing plant that may be impacting this home value as well. This leaves 1010 Brook as the best remaining comparable. This set of comparables was challenging in that I was attempting to focus on homes with garages in this area and most homes in this area do not have garages. The premium for a 2-car garage suggested by these comparables was over 20% and I did not want to make such large adjustments to homes that had no garages. Focusing on this one example supports a finding of +7% impact from proximity to the solar farm, which is a mild positive. I note that if I did consider similar homes in this area without garages, I would be looking at a set of comparables similar to what I compared to 1620 Manier Avenue earlier in this section. Even increasing those homes by \$30,000 for the lack of a 2-car garage (which would be too high of an adjustment for these older garages) shows substantial positive implications due to proximity to the solar project. I also note that since this transaction, the buyers of this home also purchased the adjoining residential lot for an additional \$9,000 for that lot that separates this home from the solar project on September 5, 2024.

I also identified three new construction home sales on Arrowhead Drive that sold in 2022. I have reached out to the builder regarding those homes, but these homes sold between \$250,000 and \$275,000 each and were located within 350 feet of the solar farm. These sales show that the presence of the solar farm is not inhibiting new home construction in proximity to the solar farm. The closest of these homes is 1305 Arrowhead Drive that sold on February 11, 2022 for \$250,000 for this ranch with 3 BR, 2 BA, 1,581 s.f. and 2-car garage that is 205 feet from the nearest solar panel with minimal landscaping as shown in the streetview image following the aerial map.

I attempted a paired sales analysis, but the only recent homes with similar characteristics are in this same subdivision and the sales in that same time period are all within close proximity to the solar

project as well, which makes analysis problematic. I simply show this here and that the main entrance to this development exists facing out onto this solar farm as shown in the map below.

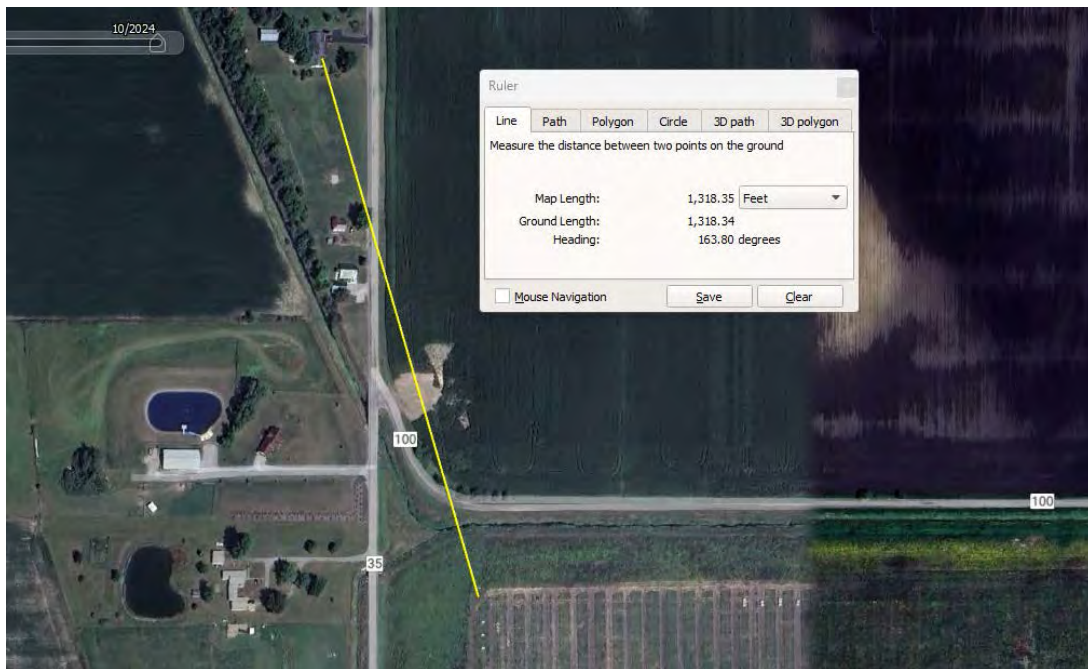


4. Matched Pair – Hardin Solar I and II, Alger, Hardin County, OH



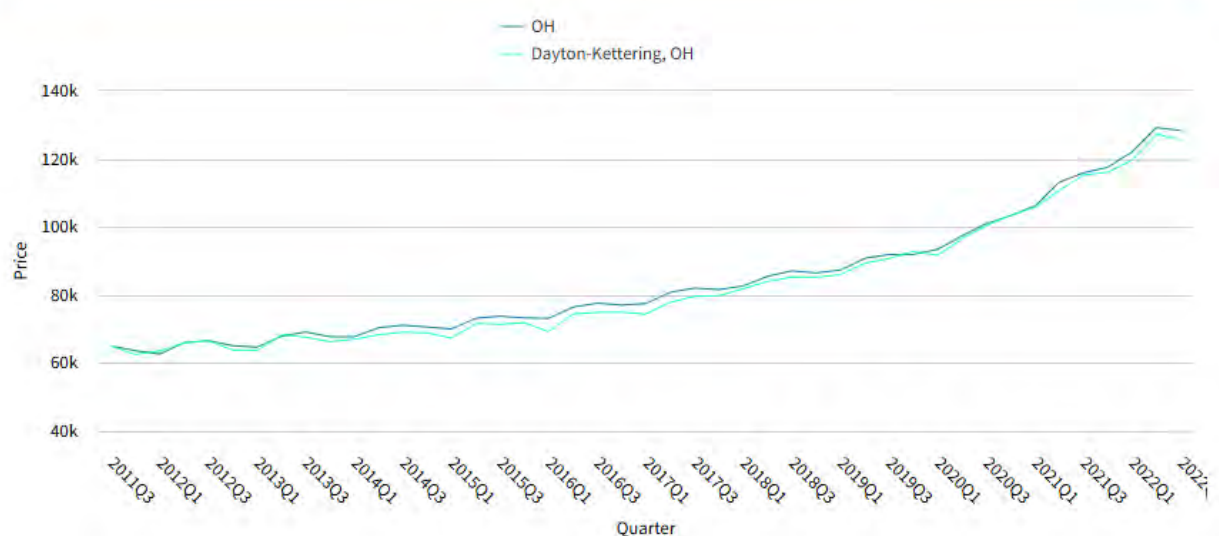
This 150 MW project was built in 2021 and adjoins mostly agricultural properties. The closest home is 220 feet from the nearest panel.

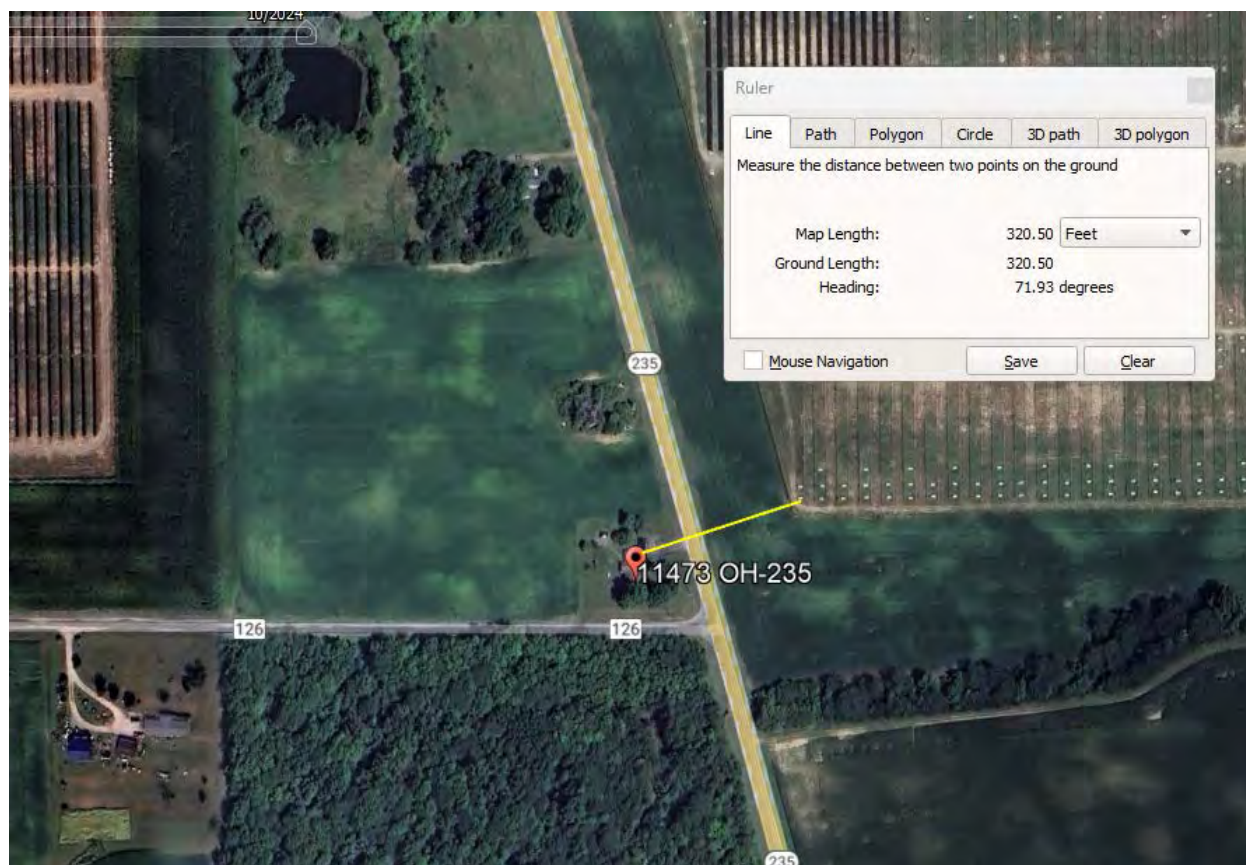
I identified a sale at 8797 Country Road, Alger that sold on December 9, 2022 for \$205,000. This home is over 1300 feet from the nearest panel and there are several intervening properties. I have not attempted analysis of this.



I identified a sale at 11473 State Route 235, Alger that sold on November 30, 2022 for \$133,500 for this 1,296 s.f. ranch with 3 BR, 1 BA home built in 1963 on 1 acre. This home is 320 feet from the nearest panels across the street and 1,025 feet from the panels to the rear (see map on next page). The prior sale for this home was in August 2011, which was before any notice of the solar farm. I compared this sale from 2011 and applied the FHFA HPI appreciation rate for this area to derive the typical appreciation for a home over the intervening time as shown below and this indicates an anticipated value of \$125,553 for the area. This indicates a difference from the actual sales price after that time period of +6%.

Estimated Value for MSA: \$125,553	Estimated Value for State: \$128,339	MSA Percentage Change: 93.16%
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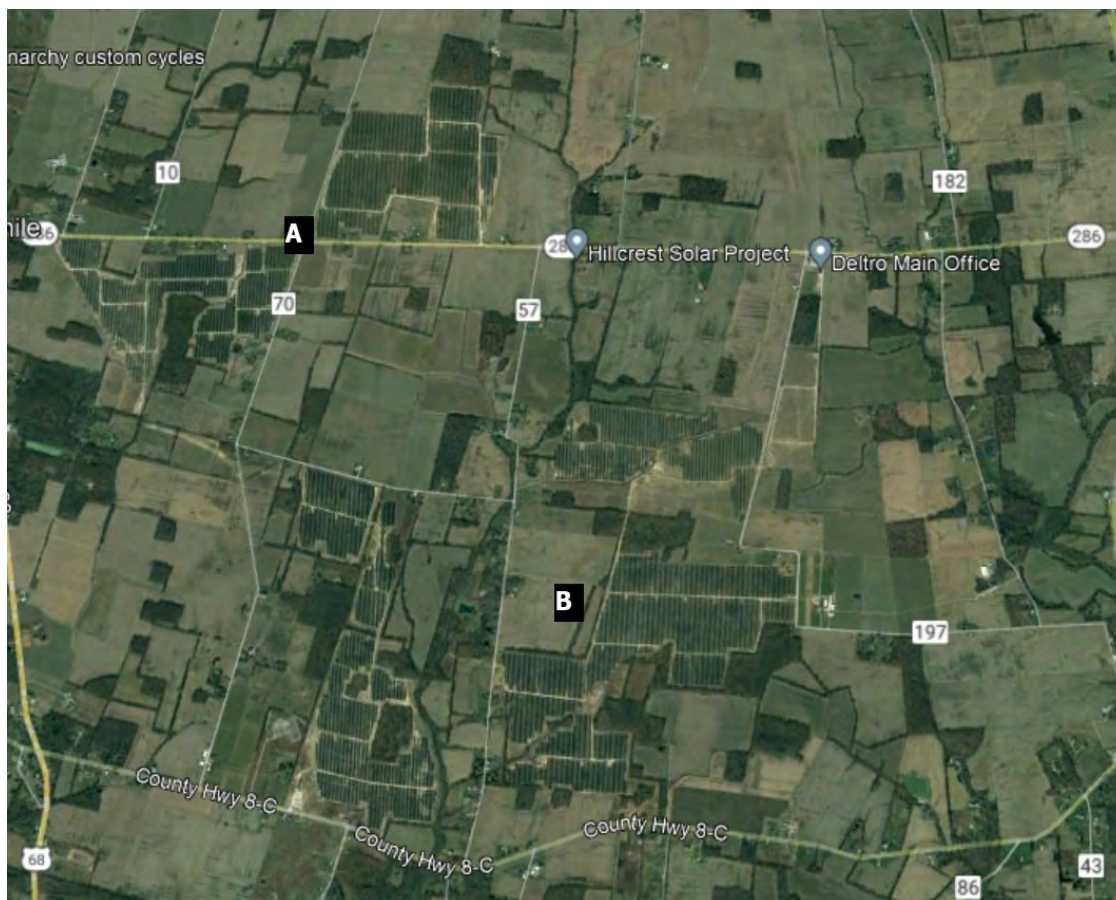




I identified a sale at 3010 CR 130 on December 29, 2022 for \$130,000, but this appears to be a family transfer and I made no further analysis on this home sale.

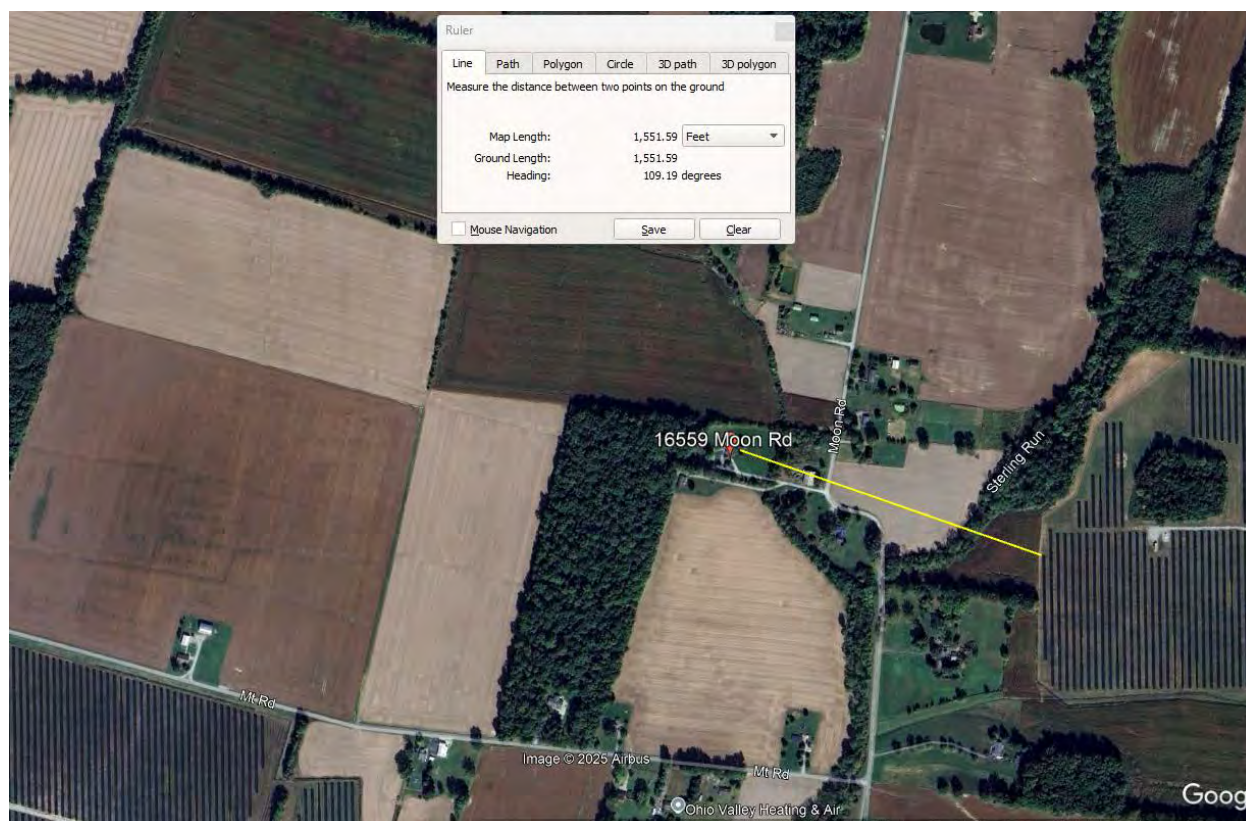
I identified a sale at 13160 SR 235 on August 15, 2022 for \$405,000, but this was purchased out of an estate and I was not able to confirm this sale with a broker involved with the transaction. Having done a number of estate appraisals, it is frequent that the estate is not a typically motivated seller and without confirmation it is unclear if this is an arm's length, market transaction.

5. Matched Pair – Hillcrest Solar, Mount Orab, Brown County, OH



This 200 MW project was built in 2020 and adjoins a mix of residential and agricultural properties. The closest home is 100 feet from the nearest panel and the average distance is 856 feet. There are 66 homes on adjoining parcels out of 144 adjoining parcels.

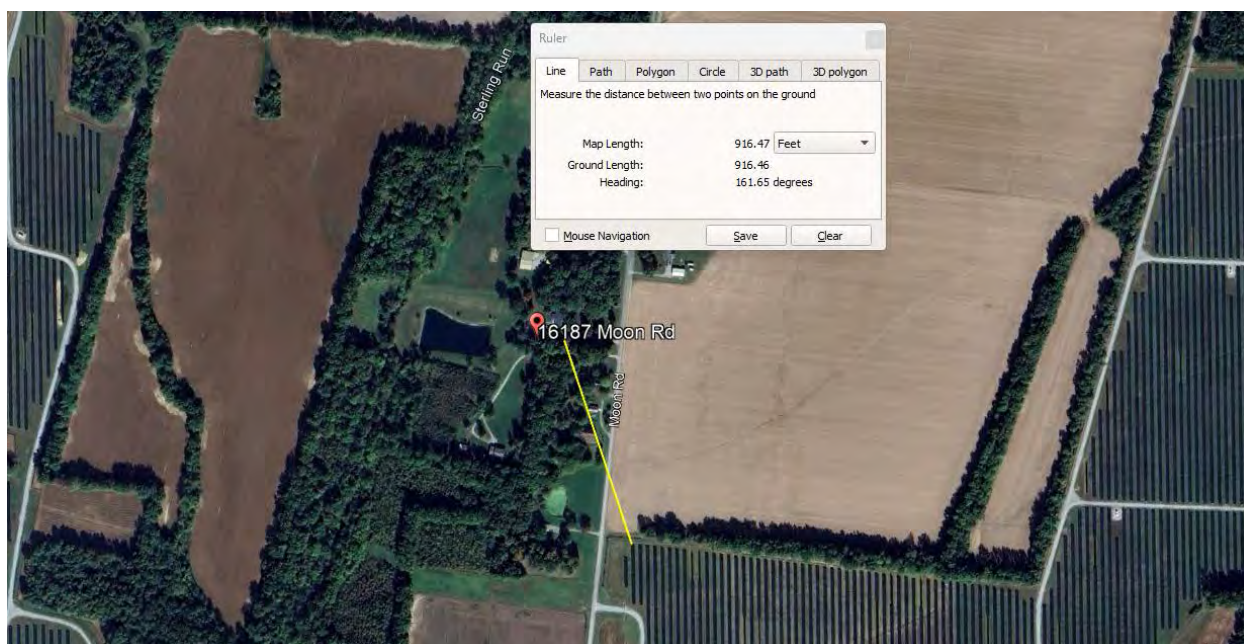
I identified a sale of a home at 16559 Moon Road on December 27, 2023 for \$299,900 for this ranch with 2,736 s.f., 7 BR, 2 BA manufactured home built in 1994 on 6.36 acres. I reached out to Jennifer Wallace the listing broker with Huff Realty 513-474-3500 about this sale. I also reached out to Jane Haupt with Berkshire Hathaway HomeServices at 513-739-4596. Ms. Haupt replied that the presence of the solar project had “absolutely no impact” on the purchase price or her buyer. The fact that this home has 7 bedrooms makes it somewhat unique and difficult to compare to other homes in the area. I have not attempted further analysis. This home is 1,550 feet from the nearest panel as show in the map below and about 2,400 feet from the solar panels to the south.



I identified a sale at that sold on January 26, 2023 for \$110,000 for this 1,620 s.f. home on 12.99 acres with 3 BR, 2 BA built in 1997. This appears to be a manufactured home on large acreage. I was not able to locate a broker associated with this sale.

I identified a sale at 4729 Mount Road, that sold on June 10, 2022 for \$186,000 for a 1,404 s.f. manufactured home with 3 BR, 2 BA built in 1996 on 1.10 acres. The listing notes this as a total renovation with “brand new everything.” Manufactured homes with renovations are problematic for comparison. I did not attempt any analysis but I did reach out to the listing broker Bertha Thomas with Huff Realty at 937-213-2833 for comment.

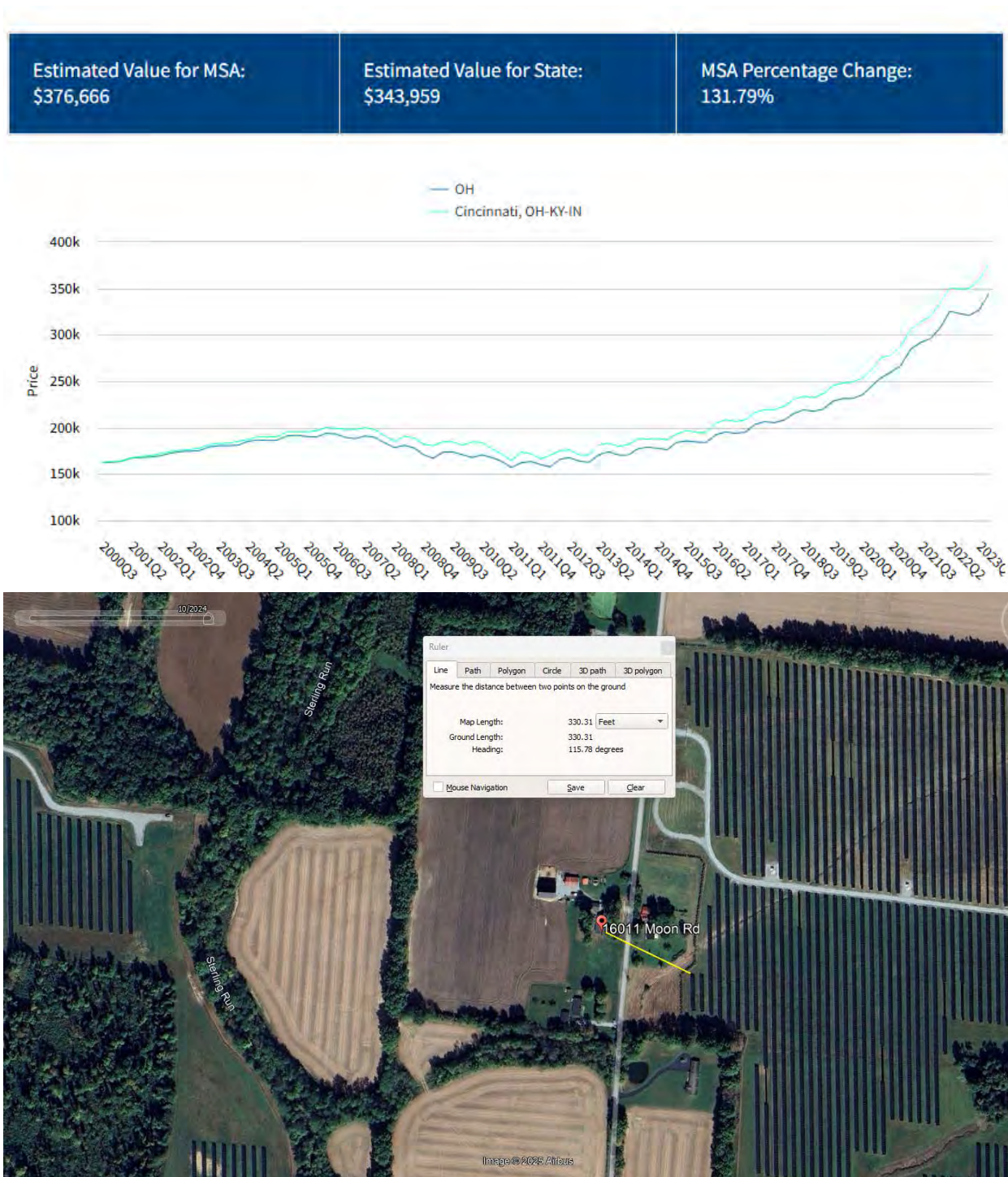
I identified a sale at 16187 Moon Road that sold on June 24, 2022 for \$280,000 by a mother and daughter. This home sold again on October 10, 2023 for \$132,275, but this was just the daughter buying out the mother’s position and was the original plan as the mother was just helping the daughter purchase the property. All of those comments came from the buyer’s broker Trent Ogden with Re/Max. Mr. Ogden further noted that the nearby solar project had no impact on the sales price. This is a double wide manufactured home built in 1991 on 7.08 acres with 2,052 s.f., 4 BR and 2 BA. This home is 915 feet from the closest solar panel and also has panels to the west at 2,040 feet and to the east at 2,350 feet.



I identified a sale at 16103 Moon Road that sold on December 22, 2022 for \$168,900 which is a brick ranch built in 1971 on 4.45 acres with 3 BR, 1 BA, and a small barn and small pond that is 280 feet from the nearest solar panel. This same home sold prior to the solar project on October 8, 2009 for \$55,000. Adjusting that sale upward for time based on the FHFA HPI, the anticipated value was \$104,161 which is significantly lower than the actual sales price, which strongly supports a finding of no impact from the solar farm and instead a substantial enhancement. The property is noted in the listing as needing “personal touches” but the photos show a partially complete renovation of a bathroom, torn carpet in the family room, and some other carpet areas that likely need replacing assuming the stains won’t come out. I reached out to the listing broker, Pamela Shipley with Wyndham-Lyons Realty who indicated that the original price in 2009 was low as she was involved with that sale as well and it was out of an estate. The sale in 2022 was also low as the property had been used as a rental property and had been left in significant disrepair. She indicated that she still had multiple interested parties and that the nearby solar project had no impact on the value. Given the issues related to both the 2009 sale and the 2022 sale, I will not rely on this Sale/Resale analysis.

Ms. Shipley also noted that she sold a doublewide home at 15753 Hillcrest Road on May 8, 2020 for \$175,000 across from the solar project. This home is about 520 feet from the nearest panel and she indicated that the solar project had no impact on the marketing or sales price despite a lot of concern in the area that had occurred prior to the project being approved and built.

I identified a sale at 16011 Moon Road that sold on June 22, 2023 for \$374,500 for this 3,516 s.f. ranch with 3 BR and 2 BA and detached 2-car garage on 17.87 acres. This same property last sold on August 24, 2000 for \$162,500. This is a long time period for a Sale/Resale analysis, which somewhat limits the reliability of this, but the data for that time adjustment is very well supported which balances that out, though it would be stronger if the date range was shorter. The FHFA HPI shows appreciation in this area over that time period to where this property was expected to have appreciated to \$376,666, which indicates an impact of -0.58%. I consider this to be support for a finding of no impact on property value. This home is 330 feet from the nearest panels to the east and 1,380 feet from the nearest panels to the west.

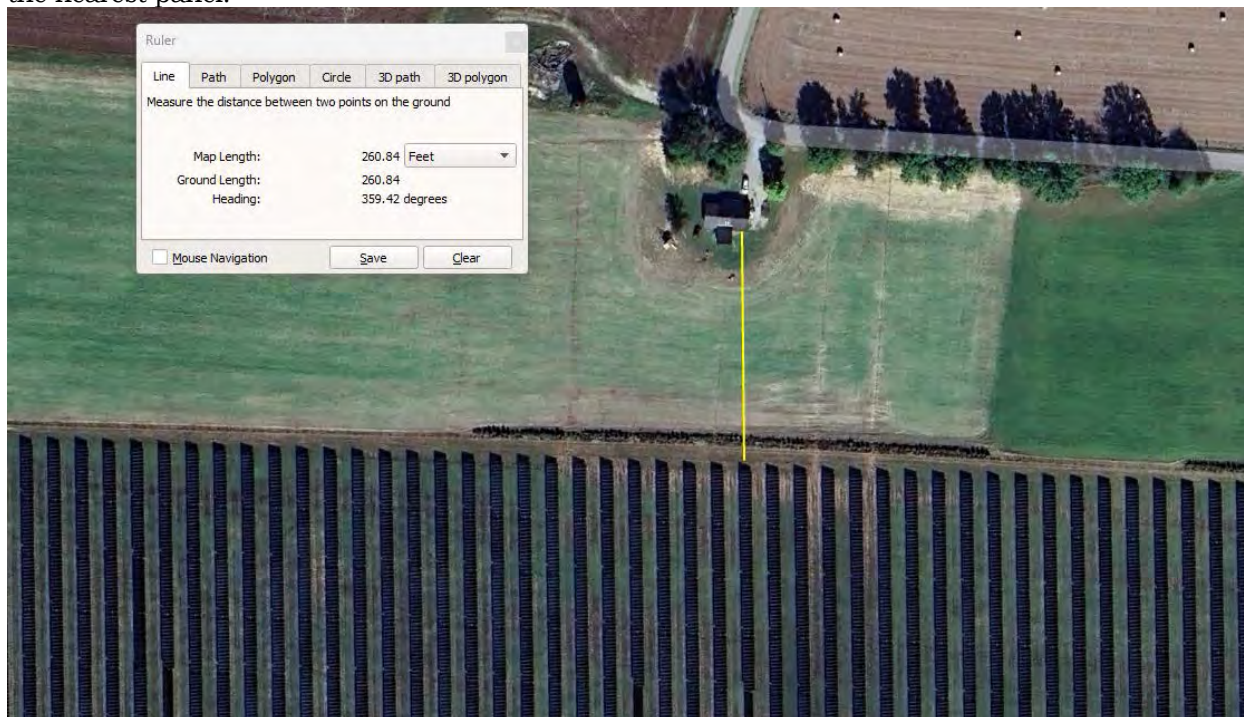


I identified a sale at 4437 SR 286 that sold on January 14, 2024 for \$600,000 for this 4,800 s.f. home built in 2017 with 4 BR, 4.5 BA, with detached 3 car garage, attached one BR in-law suite, heated garage on 4.306 acres. This home site includes an outdoor basketball court, a baseball diamond and closely abuts a number of large metal warehouse buildings that were owned by the sellers of this property. While there is solar across both streets from this property, it has too many unique features for analysis. The property sold for significantly less than the asking price, but that doesn't mean the asking price was correct. With unique properties such as this one the price typically will start high and work down as the market is tested to see how much say a baseball diamond draws value to the property when there are few comparables for establishing this. Given that the improvements are

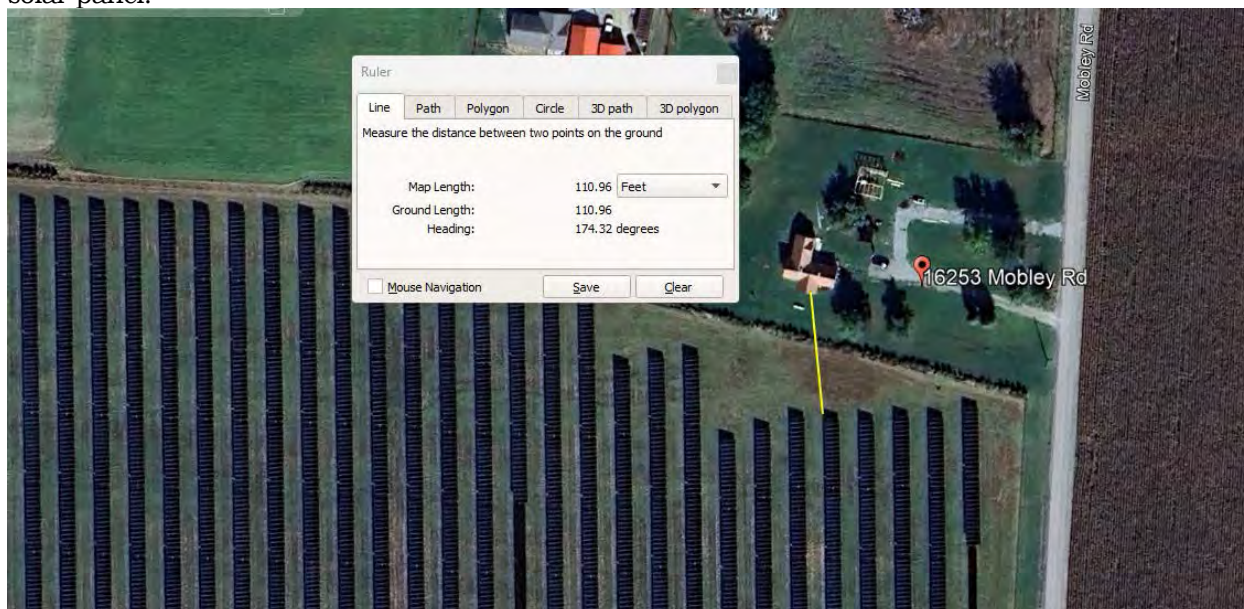
relatively new, a listing price is often based off of initial costs of construction, but high costs of construction does not mean that it is feasible to build such improvements in any given market area. Unique features typically cost more than the value they give in the market. If that were not so, then they would not be unique features in that area, but typical investments that other homeowners would also be making. I reached out to Ragan McKinney with Ragan McKinney Real Estate 937-444-7355 for comments.



I identified a sale at 16387 Mobley Road that sold for \$167,500 on July 20, 2022 for this 3 BR, 1 BA built in 1990 on 20.77 acres. The large acreage associated with this home makes analysis challenging. I reached out to Ragan McKinney with Ragan McKinney Real Estate about this transaction. This home was listed for \$169,900 and sold within 1.5% of that asking price. This home is 260 feet from the nearest panel.



I identified a sale at 16253 Mobley Road that sold for \$125,000 on November 28, 2022 for this 2,368 s.f. home with 3 BR, 1 BA on 1.55 acres. This home was foreclosed on in 2021 and purchased in 2022 by Rice Family Rentals for \$37,000 and fixed up and put back on the market 7 months later. It eventually sold to the current owners at less than the asking price. I reached out to Ragan McKinney with Ragan McKinney Real Estate about this transaction. This home is 110 feet from the nearest solar panel.



6. Matched Pair – Portage Solar, Portage, IN



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

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

Adjoining Residential Sales After Solar Farm Completed

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

Nearby Residential Sales After Solar Farm Completed

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

Adjoining Land Sales After Solar Farm Completed

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

Nearby Land Sales After Solar Farm Completed

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

Residential Sale Adjustment Chart

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

2% adjustment/year
Adjusted to 2017

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

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

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

Land Sale Adjustment Chart

TAX ID	Date Sold	Adjustments 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.

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



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

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

Adjoining Residential Sales After Solar Farm Completed

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

Nearby Not Adjoining Residential Sales After Solar Farm Completed

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

TAX ID	Date Sold	Adjustments		
		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.

8. Anderson 6 Solar, Andreson, Madison County, IN



This 6.8 MW solar project was built in 2022. The homes to the east are within 75 feet of the solar panels shown. The closest home to the south is 155 feet from the nearest panel. The closest home to the west is 115 feet from the nearest panel. The closest home to the north is 85 feet from the nearest panel.

A home located at 2819 S Layton Road, Anderson, IN located to the northwest of this solar farm sold in October 6, 2023 after construction was complete on the solar farm. This home is 345 feet from the nearest panel. This home is a 3 BR, 2 BA 2-story frame construction built in 1899 with significant updates, a detached 2-car garage and 1,946 s.f. on 1.38 acres. The sales price was \$210,000 or \$107.91 per s.f. This home sold in just over 30 days and at a price well above the asking price of \$194,500. I reached out to Dawn Rusk with Keller Williams-Morrison, the broker who listed the property for sale.

This same home sold for \$150,000 in February 2021. Typical appreciation in this market based on the FHFA House Price Index for the Indianapolis-Carmel-Anderson MSA would be 32% over that period, or \$198,000. The actual sales price after the construction of the solar farm was higher than the value before the solar farm. Comparing the sales price of \$210,000 to the anticipated \$198,000 from typical appreciation shows a difference of 6%, suggesting a mild enhancement from the solar farm. However, given the rapid increases in this time frame, this mild difference could be attributable to the minor shifts in months within each quarter as the FHFA HPI is only by quarter. I therefore consider this to be a strong indication of no impact on property value.

Purchase Quarter

2021 Quarter 1

Purchase Value

\$150,000

Valuation Quarter

2023 Quarter 4

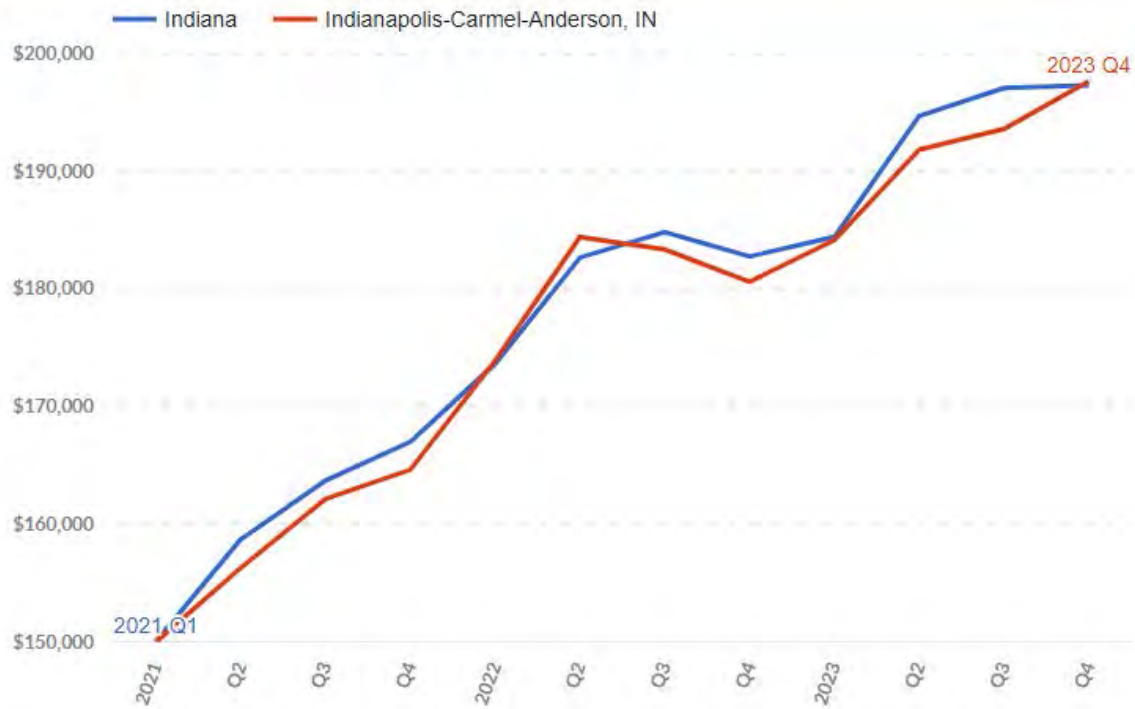
Estimated Value for MSA

\$198,000

Percentage Change

32.0%

X



9. Logansport Solar, Logansport, Cass County, IN



This is a 16 MW solar project built in 2022. The closest adjoining home to the west is 170 feet. The closest adjoining home to the north is 225 feet. The closest adjoining home to the east is 90 feet. The uses to the south are commercial or industrial.

A nearby home at 1015 Pink Street (260 feet to the east of the nearest solar panel sold on December 28, 2021. This was during construction of the solar farm. This home sold for \$135,000 after being listed for sale for \$129,900. It sold within 30 days. This was a 2,048 s.f. home with 4 BR, 2 BA, built in 1954 with 4 garage spaces on 0.49 acres. I spoke with the broker Cindy J Heinzman with Galloway, Murray & Scheetz who indicated that the sellers were simply downsizing and that the solar farm had no impact on the marketing or the sales price of the home.

10. Dunn's Bridge 1, Wheatfield, Jasper and Starke Counties, IN



This is a 435 MW solar project with a 75 MW BESS was under construction in 2023 and expected to be operational by the end of 2024. Based on the current aerial image, the closest adjoining home to the west is 205 feet. The closest adjoining home to the north is 260 feet. The closest adjoining home to the east is 90 feet. The closest home to the south is 260 feet.

I located a nearby sale at 1546 E 1225 N, Wheatfield, IN that sold on February 11, 2022, which would have been after approval of the project, but likely before construction began. This home is 3,130 s.f. home on 15.90 acres built in 2004 and is 910 feet from the nearest panel. The unique size and features make it difficult to compare this home as a paired sale. I reached out to Dan Walstra with Countryside Realty, the buyer's agent for this home, for comments. This home went on the market in December 2021 for \$499,900 and sold in February 2022 for the asking price. According to Mr. Walstra the sales price was not impacted by the solar farm and the buyers were happy with that as an adjoining neighbor as they would be quiet and would not include any new residential development.

11. Crane Solar Facility, Burns City, Martin County, IN



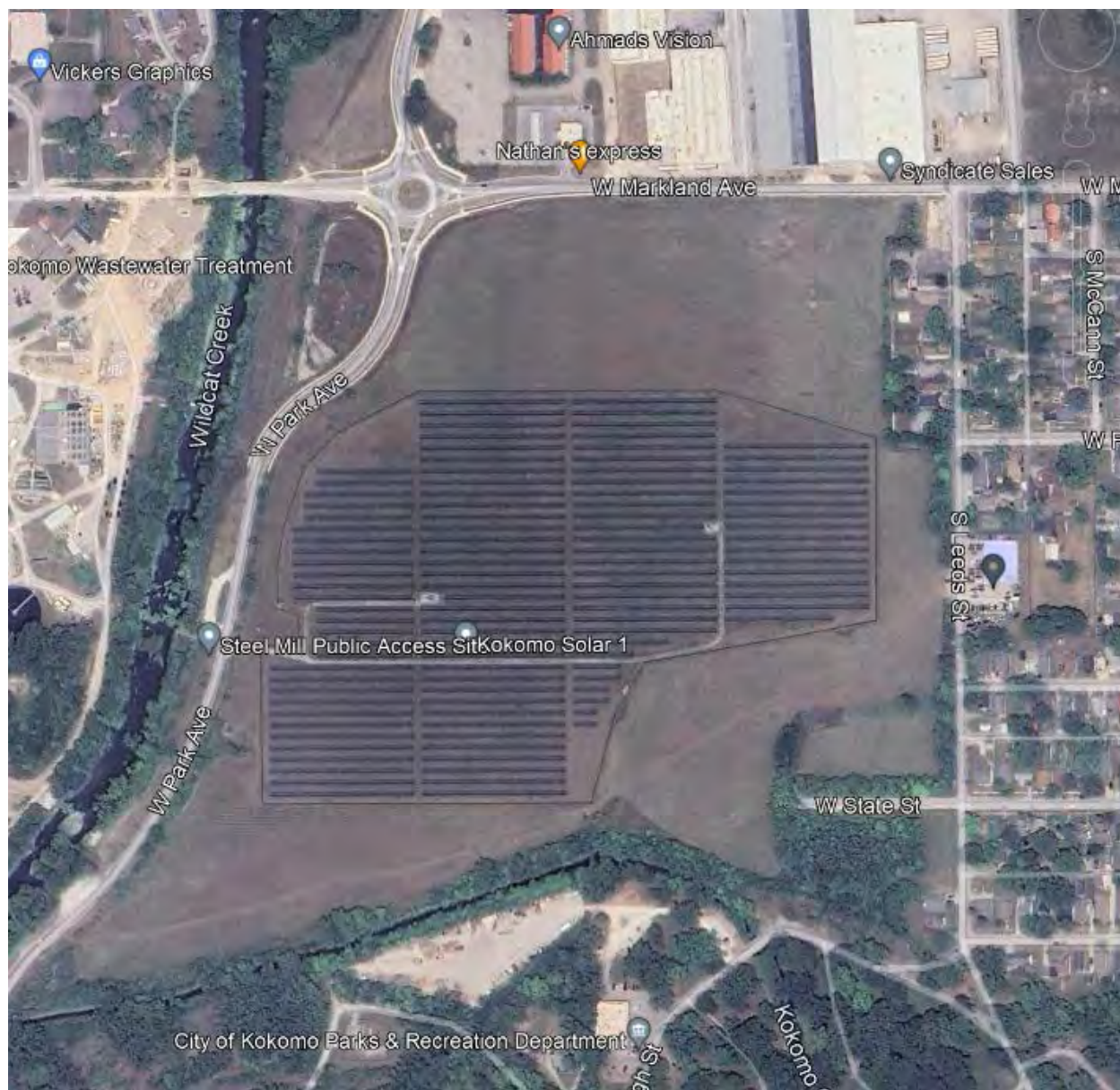
This 24.3 MW solar project built in 2017 is located on the former front nine holes at Eagle View Golf Course at Naval Support Activity Crane.

A home located at 21893 Golf Club Lane, Loogootee sold on September 26, 2022 for \$296,000 for a 2,232 s.f. ranch with 2 BR, 2 BA, with a 3-car garage, built in 1992 on 10 acres. The purchase price works out to \$132.62 per s.f. The assessed land value is 11% of the overall assessed value. This home is 440 feet from the nearest solar panel.

I have compared this to 12889 N US 231, Odon that sold on July 27, 2022 for \$325,000 for a 2,640 s.f. home with 5 BR, 3 BA, with a 3-car garage, built in 1992 on 2.65 acres. The purchase price works out to \$123.11 per s.f. This home is slightly larger which typically has a slightly lower price per square foot. It is also on a smaller lot, which also supports a lower price point. However, this home has 5 BR and 3 BA, which is significantly superior to the comparable. The assessed land value is 7% of the overall assessed value. I have adjusted this upward by \$16,000 for the difference in land value for an adjusted indication of value of \$341,000, or \$129.17 per s.f. Adjusting this downward for size by \$21,081 and downward for the bathroom by \$15,000, the total adjusted value is \$304,919. This indicates a -3% impact on property value, which is within the margin of typical variation. I also did not adjust for the difference in 3 bedrooms. Typically, a 2 BR house sells for less than a 3 BR, so there likely is an impact associated with that difference from 5.

Comparing these two sales, the proximity to the solar farm shows no impact on the property value.

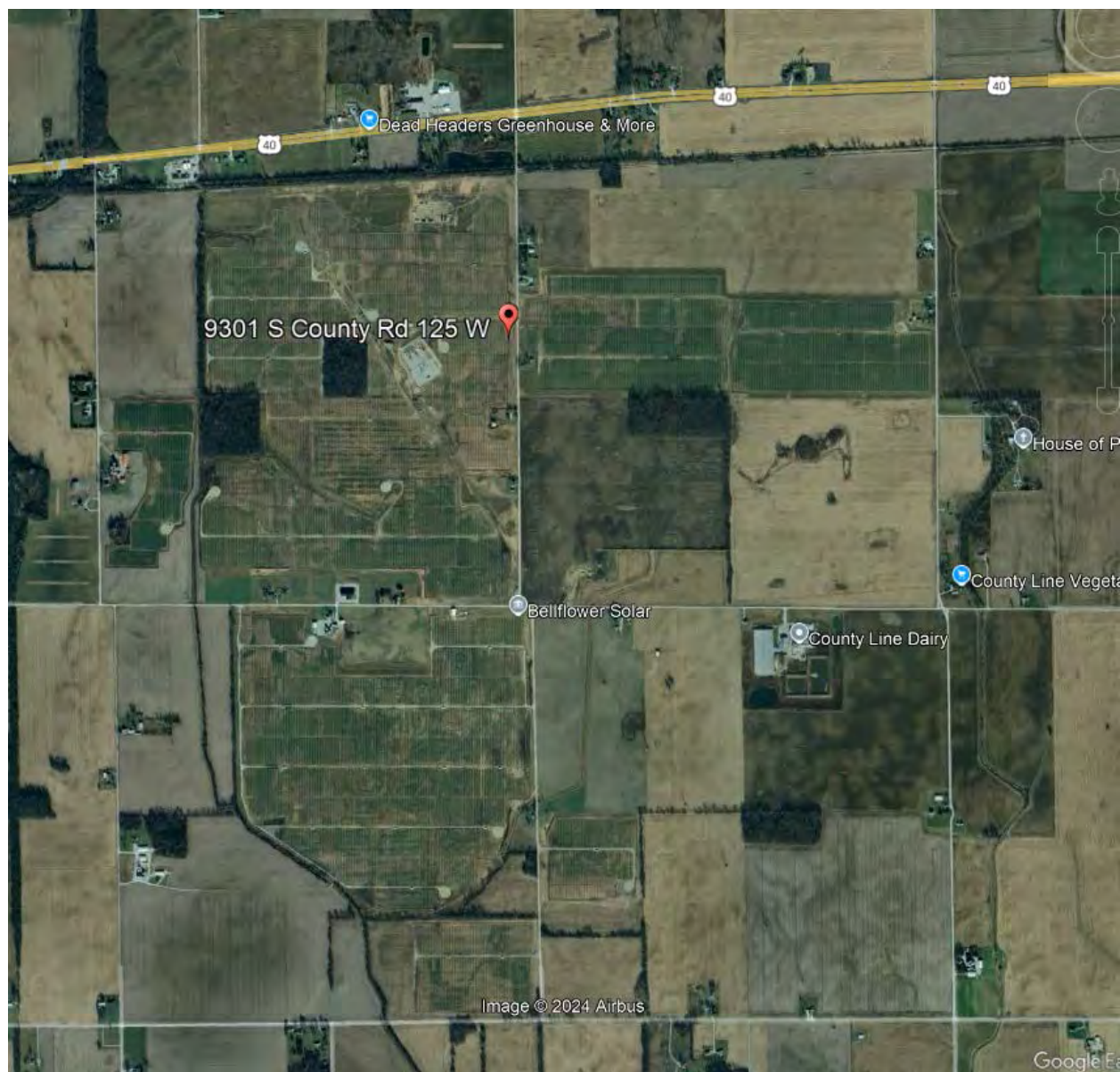
12. Kokomo Solar 1, Kokomo, Howard County, IN



This is a 5.4 MW solar project built in 2016. The closest adjoining home is 145 feet from the closest panel.

That closest home sold on December 21, 2023 for \$129,900 for this 1,252 s.f. ranch at 1049 S. Leeds Street with 2 BR, 1 BA, 2 car garage, built in 1925 on 0.19 acres. This home has a new roof and was fully updated. I reached out to the broker Jennifer Lane with Keller Williams who indicated that the proximity to the solar farm had no impact on the property value or the marketing. She noted that the floorplan was a limitation to the marketing of the home as it only had 2 BR and 1 BA.

13. Bellflower Solar 1, Henry & Rush County, IN



This 152.5 MW solar project is located on the south side of US 40 Highway east of State Road 3. This was built in 2023.

I identified the sale of a home at 2312 W US Highway 40, Spiceland that sold on April 19, 2024 for \$155,000 for a 4 BR, 1 BA, 2,760 s.f. two-story home with a 3-car garage built in 1900 on 4.82 acres. I reached out to Jason Loveless with F.C. Tucker/Crossroads Real Estate who indicated that the marketing and sales price were not negatively impacted by the adjoining solar project. This home is 2,200 feet from the nearest solar panel and were not visible according to the broker. Given the age of the improvements this was a difficult home to complete a paired sales analysis. I have relied on the broker comments for this.

I also looked at the sale of a home located at 9559 S County Road 225 W, Lewisville. This custom built timber/log home sold on January 4, 2024 for \$650,000 for this 3,409 s.f. 3 BR, 3.5 BA, 2 car garage, finished basement home built in 2018 on 3.39 acres. This home is 360 feet from the nearest solar panel. I reached out to Kayla Walker with F.C. Tucker/Crossroads Real Estate about this sale.

She indicated that this home had sold several times in the last few years due to some unfortunate life circumstances for the original owner. That owner apparently tried to buy the home back 6 months after this most recent sale once those issues were resolved but the current owners were not interested. She noted that there was one social media post saying “there is a solar panel project across the road good luck selling,” but no one else responded to that comment. The home sold quickly and the solar project had no impact on the sales price or marketing of this property.

I considered a Sale/Resale analysis on this property due to the unique nature of this home. The most recent sale prior to the solar farm construction was on December 30, 2022 for \$634,000, which would have been after the solar farm was approved and possibly during construction. I therefore have not completed a Sale/Resale analysis on this property. The home sold again on May 17, 2023 for \$635,721 before finally selling on January 4, 2024 for \$650,000.

I have completed the following paired sales analysis on this home.

Adjoining Residential Sales After Solar Farm Built					Eff.					
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style
Adjoins	9559 S CR 225 W	3.88	1/4/2024	\$650,000	2018	3,409	\$190.67	3/3.5	Det. 2 Gar	Timber
Not	9582 S CR 125 E	5.10	7/8/2024	\$725,000	1979	3,851	\$188.26	5/4	2 Gar	
Not	1068 Landmark	1.87	7/17/2023	\$565,900	2020	3,550	\$159.41	4/3.5	3 Gar	
Not	5520 W Riley	5.01	12/8/2022	\$520,500	1998	3,080	\$168.99	3/2.5	3 Gar	Brick

Adjoining Sales Adjusted									Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Total	% Diff	% Diff	Distance
9559 S CR 225 W							\$650,000			360
9582 S CR 125 E	-\$14,778	-\$10,000	\$28,275	-\$33,285	-\$10,000	-\$10,000	\$675,212	-4%		
1068 Landmark	\$10,605	\$20,000	-\$1,132	-\$8,991		-\$15,000	\$571,382	12%		
5520 W Riley	\$22,360	-\$10,000	\$10,410	\$22,240	\$20,000	-\$15,000	\$570,510	12%		
									7%	

These comparables required a fair bit of adjustment, but two of them indicate a positive impact on property value and that includes the comparable requiring the least amount of adjustment. Relying on the average from these three comparables, I derive an impact of +7%.

14. Riverstart Solar, Winchester, Randolph County, IN

This 200 MW solar farm was completed in January 2022.



The home located to the west of the solar farm between the western and eastern side at 6535 S 500 West sold for \$129,900 4BR, 1BA house with a tax card year built of 1900. This 1,592 s.f. dwelling sold February 10, 2022 and is a 2-story house. This property is in close proximity to the solar farm and is 1,205 feet away from the closest panel.

I have compared this to 3 nearby sales to compare them to this property. I have utilized the actual year built per the tax cards for each of these.

Adjoining Residential Sales After Solar Farm Built												
Pa	Solar	Address	Acres	Date Sold	Sales Price	Built	GLA	\$/GLA	BR/BA	Park	Style	Other
	Adjoins	6535 S 500 W	2.00	2/10/2022	\$129,900	1900	1,592	\$81.60	4/1	Park	2 Stry	No wind nearby
	Not	1076 N Old Hwy 27	0.80	2/11/2022	\$149,900	1880	1,719	\$87.20	4/1.5	Det. 2 Gar	1.5 Stry	No solar/wind nearby
	Not	113 N Main St	0.34	10/24/2022	\$142,900	1900	1,872	\$76.34	3/2	2 Gar	2 Stry	No solar/wind nearby
	Not	109 S Main St	0.16	1/23/2023	\$111,000	1860	1,716	\$64.69	3/2	Det. 1 Gar	2 Stry	No solar/wind nearby

Adjoining Sales Adjusted											Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Total	% Diff	% Diff	Distance		
6535 S 500 W							\$129,900			1205		
1076 N Old Hwy 27	\$0	\$10,000	\$8,994	-\$4,430	-\$5,000	-\$10,000	\$149,464	-15%				
113 N Main St	-\$5,716	\$10,000	\$0	-\$8,550	-\$10,000	-\$10,000	\$118,634	9%				
109 S Main St	-\$9,990	\$20,000	\$13,320	-\$3,208	-\$10,000	-\$5,000	\$116,122	11%				
									1%			

This matched pair indicates no impact for being in close proximity to the solar farm.

I have also identified 3928 W 600 South which sold adjoining the solar farm to the north which sold for \$250,000 for a 5BR, 2BA house with a tax card effective year built of 2000. This 2,305 s.f. dwelling sold February 17, 2022 and is a ranch with a detached 2 car garage. This property is in close proximity to the solar farm and is 677 feet away from the closest panel.

Adjoining Residential Sales After Solar Farm Built					Eff.						
Solar	Address	Acres	Date Sold	Sales Price	Built	GBA	\$/GLA	BR/BA	Park	Style	Other
Adjoins	3928 W 600 S	3.00	2/17/2022	\$250,000	2000	2,305	\$108.46	5/2	Det. 2 Gar	Ranch	Wind nearby
Not	1614 S Old Hwy 27	1.10	8/31/2021	\$250,000	2014	2,148	\$116.39	3/2	3 Gar	BR Rnch	No solar/wind
Not	4095 N 1000	2.13	1/14/2022	\$281,250	2010	2,579	\$109.05	3/2.5	2 Gar	BR Rnch	Basement No S/W
Not	3432 S Indian Trail	1.37	3/14/2023	\$280,000	2002	1,927	\$145.30	3/2.5	2 Gar	BR Rnch	No solar/wind

Adjoining Sales Adjusted										Avg	
Address	Time	Site	YB	GLA	BR/BA	Park	Other	Total	% Diff	% Diff	Distance
3928 W 600 S								\$250,000			677
1614 S Old Hwy 27	\$9,315		-\$10,500	\$7,309		-\$10,000	-\$10,000	\$236,124	6%		
4095 N 1000	\$2,096		-\$8,438	-\$11,952	-\$10,000	-\$5,000	-\$10,000	\$237,956	5%		
3432 S Indian Trail	-\$23,934		-\$1,680	\$21,970	-\$5,000	-\$5,000	-\$10,000	\$256,356	-3%		
										3%	

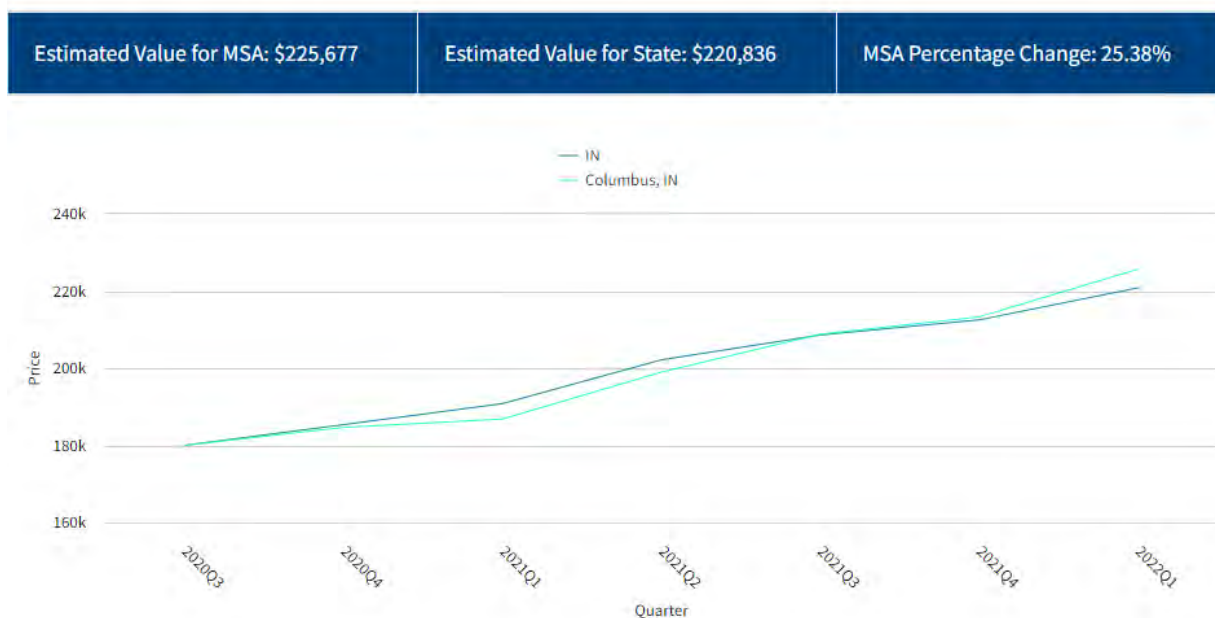
I also considered a Sale/Resale Analysis looking at an earlier sale of this same property prior to the solar farm on July 6, 2020 for \$180,000 and an earlier sale on March 1, 2021 for \$219,000.

Adjusting the 2020 sale upward based on the FHFA HPI, I derive an expected value as of February 2022 of \$225,677, which is lower than the actual closed sales price and shows a 10% premium for the sales price. This strongly supports a finding of no impact on property value.

Adjusting the 2021 sale upward based on the FHFA HPI, I derive an expected value as of February 2022 of \$264,556. This is 6% less than the actual sales price and suggests a mild negative impact.

However blending the two indicators, it suggests a +2% increase in value. Using the blended rate is a better indicator as the increase between 2020 and 2021 was disproportionately higher than typical for the market. This suggests that the 2020 sale may have been a little low for that time, but it is just as likely that the 2021 sale was a little high. Using the average helps to blend these potential market imperfections. In the comparables chart I have blended these sales to reflect that 2% impact.

The Sale/Resale analysis as well as the paired sales analysis support a finding of no impact on property value due to the solar farm.



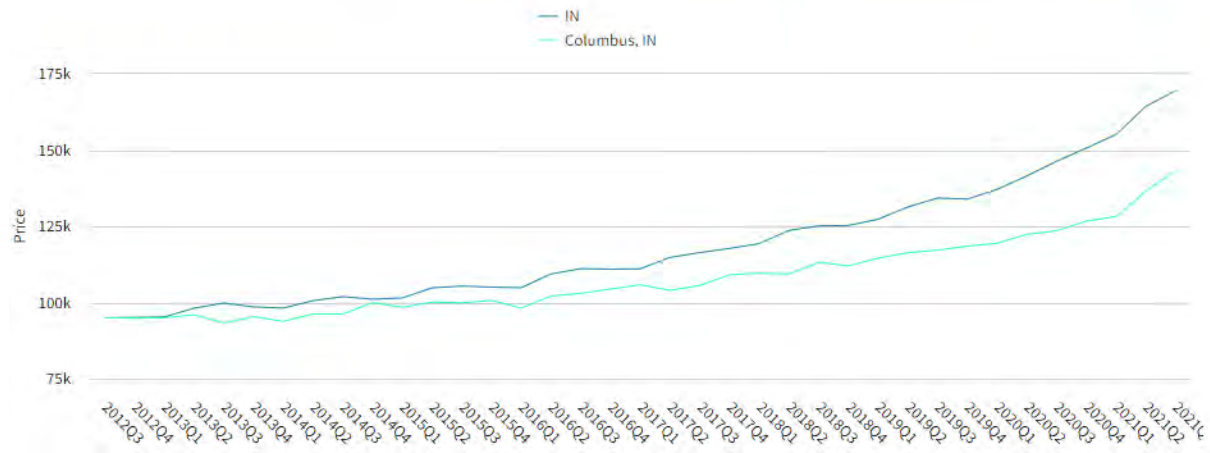
I have also identified 7141 S State Road 1 which sold in close proximity to the solar farm to the west which sold on September 24, 2021 for \$165,000 for a 4BR, 2BA house with a tax card year built of 1900. This 2,040 s.f. dwelling sold September 24, 2021 and is a 2-story house with a 2-car garage. The home includes a 3,240 s.f. pole barn with 3 stalls and fenced pasture. This home is 1,070 feet away from the closest panel. This sold during the construction process of the solar farm. I attempted a paired sales analysis, but the horse improvements on the subject property complicated this. I therefore focused on a Sale/Resale analysis. This home last sold on October 12, 2012 for \$95,000. Adjusting this upward based on the FHFA HPI, the anticipated value of the home as of 9/24/2021 would be \$143,287 based on the MSA or \$169,551 based on the state average. This strongly supports a finding of no impact on property value and actually suggests a positive impact on property value.

Purchase Quarter *	Valuation Quarter *	Purchase Price *	
2012Q3	2021Q3	95000	Submit

Estimated Value for MSA: \$143,287

Estimated Value for State: \$169,551

MSA Percentage Change: 50.83%



VIII. Conclusions from Market Research

A. *Demographic Data from Solar Projects Identified*

The solar developments identified in the earlier section are not all of the ones that I looked at, but all of the ones where I found usable data of some sort. In the following sections, I will address the analysis conclusions based on Sale/Resale Analysis, Paired Sale Analysis, and Broker Comments.

Below I have simply summarized the demographic data around the solar projects identified to illustrate the mix of uses and demographics around these projects.

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 (2020-2024 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	\$47,208	\$187,214
2	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	\$46,839	\$110,361
3	DG Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	\$38,919	\$96,555
4	Hardin	Alger	OH	N/A	150.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	Hillcrest	Mt Orab	OH	N/A	200.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Portage	Portage	IN	56	2.00	0	19%	81%	0%	0%	6,642	\$65,695	\$186,463
7	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	\$61,115	\$167,515
8	Anderson 6	Anderson	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	736	\$77,343	\$181,635
9	Logansport	Logansport	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	4,534	\$51,694	\$122,099
10	Dunns Bdrge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
11	Crane	Burns City	IN	182	24.30	100	N/A	N/A	N/A	N/A	114	\$68,227	\$273,077
12	Kokomo 1	Kokomo	IN	83	5.40	5	30%	36%	0%	34%	8,656	\$50,193	\$168,723
13	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
14	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
Average				133	89.43	21	27%	60%	10%	14%	2,991	\$60,966	\$173,582
Median				134	21.95	10	23%	64%	0%	11%	2200	\$63,405	\$175,600
High				230	435.00	100	75%	97%	58%	34%	8,656	\$78,261	\$273,077
Low				56	2.00	0	3%	16%	0%	0%	45	\$38,919	\$96,555

B. Sale/Resale Analysis

In the market data I was able to identify a number of home sales where I was able to complete a Sale/Resale Analysis. The summary of that data is shown below.

Residential Dwelling Sale/Resale Analysis

Pair	Solar Farm	City	State	Area	MW	Approx		Date	Adj. Sale		
						Distance	Tax ID/Address		Sale Price	Price	% Diff
1	Hardin	Alger	OH	Rural	150	325	11473 OH 235	Nov-22	\$133,500		
							11473 OH 235	Aug-11	\$65,000	\$125,553	6%
2	Hillcrest	Mt Orab	OH	Rural	200	330	16011 Moon	Jun-23	\$374,500		
							16011 Moon	Aug-20	\$162,500	\$376,666	-1%
3	Hillcrest	Mt Orab	OH	Rural	200	16011	11473 OH 235	Nov-22	\$133,500		
							11473 OH 235	Aug-11	\$65,000	\$125,553	6%
4	Bremen	Bremen	IN	Suburban	6.8	310	1141 Gilbert	May-23	\$186,000		
							1141 Gilbert	Jan-22	\$160,000	\$189,000	-2%
5	Riverstart	Winchester	IN	Rural	200	677	3928 W 600 S	Feb-22	\$250,000		
							3928 W 600 S	Mar-21	\$219,000	\$245,000	2%
6	Riverstart	Winchester	IN	Rural	200	1070	7141 S SR 1	Sep-21	\$165,000		
							7141 S SR 1	Oct-12	\$95,000	\$143,287	13%
7	Anderson 6	Anderson	IN	Suburban	6.8	345	2819 S Layton	Oct-23	\$210,000		
							2819 S Layton	Feb-21	\$150,000	\$198,000	6%

	Avg.		
	MW	Distance	Indicated Impact
Average	137.7	2,724	Average 4%
Median	200.0	345	Median 6%
High	200.0	16,011	High 13%
Low	6.8	310	Low -2%

The Sale/Resale Analysis includes 7 examples with impacts ranging from -2% to +13% with an average impact of +4% and a median impact of +6%.

The closest adjoining home is 310 feet and the range of solar projects range from 6.8 MW up to 200 MW.

The Sale/Resale Analysis uses no appraiser judgement and links the consideration of appreciation to the FHFA Home Price Index. The advantage of this approach is that there is only one factor to address and it is linked to a national source. The disadvantage is that there is generally a more limited pool of homes that are usable in this type of analysis. Homes with significant updates or renovations between sales are less reliable and extended periods of time between the sales could lead to less reliable results.

I have attempted to minimize any usage of homes with updates, though there are a few examples of those as discussed in the data. I have also attempted to minimize the usage of homes with extended period of time between the first and second sale.

The Matched Pairs includes 23 examples with impacts ranging from -4% to +12% with an average impact of +2% and a median impact of +1%.

The closest adjoining home is 135 feet and the range of solar projects range from 8.6 MW up to 200 MW.

The Matched Pair Analysis includes numerous examples and many were also supported with supporting broker data, which strengthens the reliability of these results. Furthermore, these results show a very similar breakdown of values to the Sale/Resale Analysis.

D. Summary of Broker Opinions from Research

From the research identified in the earlier section, I was able to identify and speak with the brokers identified below. The full comments provided by the brokers are shown in the market research, but the summary below shows that 12 of the 12 brokers who had sold a home adjoining a solar development identified no impact on property value. These homes ranged in sales price from \$110,000 up to \$650,000.

Residential Dwelling Matched Pairs Adjoining Solar Farms

#	Solar Farm	City	State	Area	MW	Approx		Date	Sale Price	Impact	Broker
						Distance	Tax ID/Address				
1	Kokomo 1	Kokomo	IN	Urban	5.4	145	1049 S. Leeds	Dec-23	\$129,900	No	Jennifer Lane
2	Logansport	Logansport	IN	Suburban	16	260	1015 Pink	Dec-21	\$135,000	No	Cindy Heinzman
3	Dunns Bridge	Wheatfield	IN	Suburban	435	910	1546 E 1225 N	Feb-22	\$499,900	No	Dan Walstra
4	Bellflower	Spiceland	IN	Rural	152.5	2200	2312 US Hwy 40	Apr-24	\$155,000	No	Jason Loveless
5	Bellflower	Spiceland	IN	Rural	152.5	360	9559 S Cnty Rd 225	Jan-24	\$650,000	No	Kayla Walker
6	Dominion Indy III	Indianapolis	IN	Suburban	11.9	410	5909 Sable	Jun-19	\$169,900	No	Beth Guthrie
7	DG Amp Piqua	Piqua	OH	Suburban	12.6	135	1620 Manier	Oct-24	\$110,000	No	Edward Miller
8	DG Amp Piqua	Piqua	OH	Suburban	12.6	165	912 Brice	Aug-23	\$148,000	No	Kathy Henne
9	Hillcrest	Mount Orab	OH	Rural	200	1550	16559 Moon	Dec-23	\$299,900	No	Jane Haupt
10	Hillcrest	Mount Orab	OH	Rural	200	915	16187 Moon	Jun-22	\$280,000	No	Trent Ogden
11	Hillcrest	Mount Orab	OH	Rural	200	280	16103 Moon	Dec-22	\$168,900	No	Pam Shipley
12	Hillcrest	Mount Orab	OH	Rural	200	520	15753 Hillcrest	May-20	\$175,000	No	Pam Shipley

	Avg.			Sale	No
	MW	Distance		Price	Impact:
Average	133.21	654	Average	\$243,458	12
Median	152.50	385	Median	\$169,400	
High	435.00	2,200	High	\$650,000	
Low	5.40	135	Low	\$110,000	

B. Supporting Data

A. *National Data*

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	AM Best	Goldsboro	NC	38	5.00	2	38%	0%	23%	39%	1,523	\$37,358	\$148,375
2	Mulberry	Selmer	TN	160	5.00	60	13%	73%	10%	3%	467	\$40,936	\$171,746
3	Leonard	Hughesville	MD	47	5.00	20	18%	75%	0%	6%	525	\$106,550	\$350,000
4	Gastonia SC	Gastonia	NC	35	5.00	48	33%	0%	23%	44%	4,689	\$35,057	\$126,562
5	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
6	Tracy	Bailey	NC	50	5.00	10	29%	0%	71%	0%	312	\$43,940	\$99,219
7	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
8	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
9	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	\$70,158	\$187,037
10	Dominion	Indianapolis	IN	134	8.60	20	3%	97%	0%	0%	3,774	\$61,115	\$167,515
11	Mariposa	Stanley	NC	36	5.00	96	48%	0%	52%	0%	1,716	\$36,439	\$137,884
12	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	\$81,022	\$374,453
13	Flemington	Flemington	NJ	120	9.36	N/A	13%	50%	28%	8%	3,477	\$105,714	\$444,696
14	Frenchtown	Frenchtown	NJ	139	7.90	N/A	37%	35%	29%	0%	457	\$111,562	\$515,399
15	McGraw	East Windsor	NJ	95	14.00	N/A	27%	44%	0%	29%	7,684	\$78,417	\$362,428
16	Tinton Falls	Tinton Falls	NJ	100	16.00	N/A	98%	0%	0%	2%	4,667	\$92,346	\$343,492
17	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	\$76,155	\$269,922
18	Candace	Princeton	NC	54	5.00	22	76%	24%	0%	0%	448	\$51,002	\$107,171
19	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	\$80,773	\$320,076
20	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,688	\$183,435
21	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
22	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	\$47,208	\$187,214
23	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	\$46,839	\$110,361
24	Sunfish	Willow Spring	NC	50	6.40	30	35%	35%	30%	0%	1,515	\$63,652	\$253,138
25	Picture Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	\$81,081	\$280,172
26	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	\$80,997	\$292,308
27	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	\$51,410	\$155,208
28	Camden Dam	Camden	NC	50	5.00	0	17%	72%	11%	0%	403	\$84,426	\$230,288
29	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	\$50,355	\$231,408
30	Champion	Pelion	SC	100	10.00	N/A	4%	70%	8%	18%	1,336	\$46,867	\$171,939
31	Eddy II	Eddy	TX	93	10.00	N/A	15%	25%	58%	2%	551	\$59,627	\$139,088
32	Somerset	Somerset	TX	128	10.60	N/A	5%	95%	0%	0%	1,293	\$41,574	\$135,490
33	DG Amp Piqua	Piqua	OH	86	12.60	2	26%	16%	58%	0%	6,735	\$38,919	\$96,555
34	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
35	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
36	Spotsylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
37	Whitehorn	Gretna	VA	N/A	50.00	N/A	N/A	N/A	N/A	N/A	166	\$43,179	\$168,750
38	Altavista	Altavista	VA	720	80.00	N/A	N/A	N/A	N/A	N/A	7	\$50,000	\$341,667
39	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
40	Bremen	Bremen	IN	37	6.80	15	40%	60%	0%	0%	388	\$62,855	\$232,857
41	North Rock	Fulton	WI	472	50.00	N/A	3%	40%	57%	0%	236	\$86,238	\$370,062
42	Wood County	Saratoga	WI	1,200	150.00	N/A	N/A	N/A	N/A	N/A	187	\$74,110	\$204,545
43	Solidago	Isle of Wight	VA	193	20.00	N/A	N/A	N/A	N/A	N/A	62	\$88,375	\$312,500
44	Buckingham	Cumberland	VA	240	39.80	50	4%	6%	90%	0%	120	\$59,445	\$251,562
45	Crane	Burns City	IN	182	24.30	100	N/A	N/A	N/A	N/A	114	\$68,227	\$273,077
46	Kokomo 1	Kokomo	IN	83	5.40	5	30%	36%	0%	34%	8,656	\$50,193	\$168,723
47	White Tail 1	Mowersville	PA	135	13.50	20	2%	73%	25%	0%	254	\$81,086	\$354,297
48	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
49	Kings Bay	Kings Bay	GA	N/A	30.00	N/A	N/A	N/A	N/A	N/A	721	\$102,293	\$364,808
50	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
51	Whitetail 2	St Thomas	PA	293	20.00	N/A	N/A	N/A	N/A	N/A	107	\$85,844	\$274,265
52	Elk Hill 1	Mercersburg	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	791	\$72,722	\$372,932
53	Elk Hill 2	Mercersburg	PA	N/A	15.00	N/A	N/A	N/A	N/A	N/A	454	\$81,208	\$484,672
54	Cottontail 1	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	1,495	\$84,872	\$315,508
55	Cottontail 2	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	707	\$61,415	\$383,896

Matched Pair Summary						Adj. Uses By Acreage					1 mile Radius (2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
56	Grazing Yak	Calhan	CO	272	35.00	N/A	0%	97%	3%	0%	40	\$78,104	\$623,214
57	San Luis Villy	Hooper	CO	308	35.00	N/A	5%	95%	0%	0%	11	\$59,164	\$450,000
58	SR Jenkins	Ft. Lupton	CO	142	13.00	N/A	2%	90%	8%	0%	129	\$114,961	\$802,703
59	Big Horn 1	Pueblo	CO	2,760	240.00	N/A	0%	44%	2%	54%	20	\$75,000	\$400,000
60	Bison/Raw	Wellington	CO	1,160	52.00	N/A	0%	93%	7%	0%	0	\$0	\$0
61	Alamosa	Mosca	CO	163	30.00	N/A	0%	87%	13%	0%	7	\$0	\$0
62	Pioneer	Bennett	CO	611	110.00	N/A	3%	81%	16%	0%	67	\$82,329	\$497,991
63	Sandhill/SunE	Mosca	CO	N/A	10.00	N/A	N/A	N/A	N/A	N/A	4	\$0	\$0
64	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
65	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
66	Mustang	Robbins	NC	50	5.00	N/A	N/A	N/A	N/A	N/A	941	\$54,430	\$369,398
67	North Star	North Branch	MN	1,099	100.00	N/A	18%	73%	7%	2%	218	\$119,700	\$323,413
68	Logansport	Logansport	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	4,534	\$51,694	\$122,099
69	Anderson 6	Anderson	IN	N/A	6.80	N/A	N/A	N/A	N/A	N/A	736	\$77,343	\$181,635
70	Dunns Bdrge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
71	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
72	Mt. Olive Crk	Russell Spr	KY	421	60.00	N/A	N/A	N/A	N/A	N/A	149	\$60,646	\$152,778
73	EW Brown	Harrodsburg	KY	50	10.00	N/A	3%	44%	29%	25%	182	\$68,772	\$294,444
74	Logan Cnty	Russellville	KY	1,100	173.00	N/A	N/A	N/A	N/A	N/A	177	\$54,545	\$284,459
75	Bluebird	La France	SC	N/A	3.00	N/A	N/A	N/A	N/A	N/A	634	\$81,446	\$302,527
76	Centerfield	Chesterfield	SC	N/A	75.00	N/A	N/A	N/A	N/A	N/A	248	\$51,170	\$91,364
77	Harts Mill	Tarboro	NC	N/A	80.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
78	Lenoir	Kinston	NC	N/A	5.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
79	Tate	Castalia	NC	N/A	5.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
80	Hardin	Alger	OH	N/A	150.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
81	Hillcrest	Mt Orab	OH	N/A	200.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average				426	58.16	33	19%	56%	19%	7%	1,046	\$66,621	\$262,918
Median				182	20.00	18	12%	63%	7%	0%	385	\$65,953	\$254,722
High				3,500	617.00	160	98%	98%	94%	54%	8,656	\$127,047	\$802,703
Low				35	3.00	0	0%	0%	0%	0%	0	\$0	\$0

From these 81 solar developments I have identified with 30 Sale/Resale data points, 151 matched pairs, and 31 broker comments as summarized below.

Sale/Resale Comparable Stats

	Avg.			Indicated
	MW	Distance		Impact
Average	65.60	683	Average	5%
Median	35.00	449	Median	4%
High	200.00	2,000	High	15%
Low	2.00	150	Low	-5%

Matched Pair Comparable Stats

	Avg.			Indicated
	MW	Distance		Impact
Average	66.02	555	Average	1%
Median	16.00	413	Median	1%
High	617.00	1,950	High	12%
Low	2.00	135	Low	-10%

B. Larger Solar Farms Data

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 at 617 MW facility.

Matched Pair Summary - @20 MW And Larger						Adj. Uses By Acreage					1 mile Radius (2010-2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
4	Grand Ridge	Streator	IL	160	20.00	1	8%	87%	5%	0%	96	\$70,158	\$187,037
5	Clarke Cnty	White Post	VA	234	20.00	70	14%	39%	46%	1%	578	\$81,022	\$374,453
6	Simon	Social Circle	GA	237	30.00	71	1%	63%	36%	0%	203	\$76,155	\$269,922
7	Walker	Barhamsville	VA	485	20.00	N/A	12%	68%	20%	0%	203	\$80,773	\$320,076
8	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,688	\$183,435
9	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
10	Demille	Lapeer	MI	160	28.40	10	10%	68%	0%	22%	2,010	\$47,208	\$267,214
11	Turrill	Lapeer	MI	230	19.60	10	75%	59%	0%	25%	2,390	\$46,839	\$110,361
12	Picure Rocks	Tucson	AZ	182	20.00	N/A	6%	88%	6%	0%	102	\$81,081	\$280,172
13	Avra Valley	Tucson	AZ	246	25.00	N/A	3%	94%	3%	0%	85	\$80,997	\$292,308
14	Sappony	Stony Crk	VA	322	20.00	N/A	2%	98%	0%	0%	74	\$51,410	\$155,208
15	Grandy	Grandy	NC	121	20.00	10	55%	24%	0%	21%	949	\$50,355	\$231,408
16	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
17	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
18	Spotsylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
19	Whitehorn	Gretna	VA	N/A	50.00	N/A	N/A	N/A	N/A	N/A	166	\$43,179	\$168,750
20	Altavista	Altavista	VA	720	80.00	N/A	N/A	N/A	N/A	N/A	7	\$50,000	\$341,667
21	Solidago	Isle of Wight	VA	193	20.00	N/A	N/A	N/A	N/A	N/A	62	\$88,375	\$312,500
22	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
23	North Rock	Fulton	WI	472	50.00	N/A	3%	40%	57%	0%	236	\$86,238	\$370,062
24	Wood County	Saratoga	WI	1,200	150.00	N/A	N/A	N/A	N/A	N/A	187	\$74,110	\$204,545
25	Buckingham	Cumberland	VA	240	39.80	50	4%	6%	90%	0%	120	\$59,445	\$251,562
26	Crane	Burns City	IN	182	24.30	100	N/A	N/A	N/A	N/A	114	\$68,227	\$273,077
27	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
28	Kings Bay	Kings Bay	GA	N/A	30.00	N/A	N/A	N/A	N/A	N/A	721	\$102,293	\$364,808
29	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
30	Whitetail 2	St Thomas	PA	293	20.00	N/A	N/A	N/A	N/A	N/A	107	\$85,844	\$274,265
31	Elk Hill 1	Mercersburg	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	791	\$72,722	\$372,932
32	Cottontail 1	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	1,495	\$84,872	\$315,508
33	Cottontail 2	York	PA	N/A	20.00	N/A	N/A	N/A	N/A	N/A	707	\$61,415	\$383,896
34	Grazing Yak	Calhan	CO	272	35.00	N/A	0%	97%	3%	0%	40	\$78,104	\$623,214
35	San Luis Vly	Hooper	CO	308	35.00	N/A	5%	95%	0%	0%	11	\$59,164	\$450,000
36	Big Horn 1	Pueblo	CO	2,760	240.00	N/A	0%	44%	2%	54%	20	\$75,000	\$400,000
37	Bison/Raw	Wellington	CO	1,160	52.00	N/A	0%	93%	7%	0%	0	\$0	\$0
38	Alamosa	Mosca	CO	163	30.00	N/A	0%	87%	13%	0%	7	\$0	\$0
39	Pioneer	Bennett	CO	611	110.00	N/A	3%	81%	16%	0%	67	\$82,329	\$497,991
40	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
41	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
42	North Star	North Branch	MN	1,099	100.00	N/A	18%	73%	7%	2%	218	\$119,700	\$323,413
43	Dunns Brdge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
44	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
45	Mt. Olive Crk	Russell Spr	KY	421	60.00	N/A	N/A	N/A	N/A	N/A	149	\$60,646	\$152,778
46	Logan Cnty	Russellville	KY	1,100	173.00	N/A	N/A	N/A	N/A	N/A	177	\$54,545	\$284,459
47	Centerfield	Chesterfield	SC	N/A	75.00	N/A	N/A	N/A	N/A	N/A	248	\$51,170	\$91,364
48	Harts Mill	Tarboro	NC	N/A	80.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
49	Hardin	Alger	OH	N/A	150.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
50	Hillcrest	Mt Orab	OH	N/A	200.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
				Average	660	89.20	14%	66%	18%	5%	448	\$68,164	\$269,520
				Median	400	56.00	7%	74%	5%	0%	166	\$71,098	\$274,265
				High	3,500	617.00	75%	98%	94%	54%	2,446	\$127,047	\$623,214
				Low	121	19.60	0%	0%	0%	0%	0	\$0	\$0

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						Adj. Uses By Acreage					1 mile Radius (2010-2020 Data)		
	Name	City	State	Acres	MW	Topo Shift	Res	Ag	Ag/Res	Com/Ind	Population	Med. Income	Avg. Housing Unit
1	Summit	Moyock	NC	2,034	80.00	4	4%	0%	94%	2%	382	\$79,114	\$281,731
2	Manatee	Parrish	FL	1,180	75.00	20	2%	97%	1%	0%	48	\$75,000	\$291,667
3	McBride	Midland	NC	627	75.00	140	12%	10%	78%	0%	398	\$63,678	\$256,306
4	Innov 46	Hope Mills	NC	532	78.50	0	17%	83%	0%	0%	2,247	\$58,688	\$183,435
5	Innov 42	Fayetteville	NC	414	71.00	0	41%	59%	0%	0%	568	\$60,037	\$276,347
6	Barefoot Bay	Barefoot Bay	FL	504	74.50	0	11%	87%	0%	3%	2,446	\$36,737	\$143,320
7	Miami-Dade	Miami	FL	347	74.50	0	26%	74%	0%	0%	127	\$90,909	\$403,571
8	Spotylvania	Paytes	VA	3,500	617.00	160	37%	52%	11%	0%	74	\$120,861	\$483,333
9	Hattiesburg	Hattiesburg	MS	400	50.00	N/A	10%	85%	5%	0%	1,065	\$28,545	\$129,921
10	North Rock	Fulton	WI	472	50.00	N/A	3%	40%	57%	0%	236	\$86,238	\$370,062
11	Wood County	Saratoga	WI	1,200	150.00	N/A	N/A	N/A	N/A	N/A	187	\$74,110	\$204,545
12	Twiggs	Dry Branch	GA	N/A	200.00	N/A	N/A	N/A	N/A	N/A	15	\$55,000	\$50,000
13	Dougherty	Albany	GA	N/A	120.00	N/A	N/A	N/A	N/A	N/A	30	\$60,354	\$204,167
14	Big Horn 1	Pueblo	CO	2,760	240.00	N/A	0%	44%	2%	54%	20	\$75,000	\$400,000
15	Bison/Raw	Wellington	CO	1,160	52.00	N/A	0%	93%	7%	0%	0	\$0	\$0
16	Pioneer	Bennett	CO	611	110.00	N/A	3%	81%	16%	0%	67	\$82,329	\$497,991
17	Bellflower 1	Lewisville	IN	N/A	152.50	N/A	N/A	N/A	N/A	N/A	45	\$78,261	\$215,789
18	Riverstart	Winchester	IN	N/A	200.00	N/A	N/A	N/A	N/A	N/A	47	\$75,000	\$169,565
19	North Star	North Branch	MN	1,099	100.00	N/A	18%	73%	7%	2%	218	\$119,700	\$323,413
20	Dunns Bdrge	Wheatfield	IN	N/A	435.00	N/A	N/A	N/A	N/A	N/A	208	\$71,098	\$203,986
21	Bedford	Chesapeake	VA	N/A	70.00	N/A	N/A	N/A	N/A	N/A	993	\$127,047	\$509,365
22	Mt. Olive Crk	Russell Spr	KY	421	60.00	N/A	N/A	N/A	N/A	N/A	149	\$60,646	\$152,778
23	Logan Cnty	Russellville	KY	1,100	173.00	N/A	N/A	N/A	N/A	N/A	177	\$54,545	\$284,459
24	Centerfield	Chesterfield	SC	N/A	75.00	N/A	N/A	N/A	N/A	N/A	248	\$51,170	\$91,364
25	Harts Mill	Tarboro	NC	N/A	80.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
26	Hardin	Alger	OH	N/A	150.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	Hillcrest	Mt Orab	OH	N/A	200.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Average				1,080	141	41	13%	63%	20%	4%	416	\$70,169	\$255,296
Median				627	80	2	11%	74%	6%	0%	182	\$72,604	\$236,048
High				3,500	617	160	41%	97%	94%	54%	2,446	\$127,047	\$509,365
Low				347	50	0	0%	0%	0%	0%	0	\$0	\$0

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 a summary of 248 projects ranging in size from 50 MW up to 1,000 MW with an average size of 119.7 MW and a median of 80 MW. The average closest distance for an adjoining home is 365 feet, while the median distance is 220 feet. The closest distance is 50 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.

Total Number of Solar Farms		238							
Researched Over 50 MW									
		Total Acres	Used Acres	Avg. Dist to home	Closest Home	Adjoining Use by Acre			
	Output (MW)					Res	Agri	Agri/Res	Com
Average	119.7	1521.4	1223.3	1092	365	10%	68%	18%	4%
Median	80.0	987.3	805.5	845	220	7%	72%	12%	0%
High	1000.0	19000.0	9735.4	6835	6810	98%	100%	100%	70%
Low	50.0	3.0	3.0	241	50	0%	0%	0%	0%

C. 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, 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.

D. 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.

E. Potential Impacts During Construction

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.

F. Scope of Research

I have researched over 900 solar farms and sites on which solar farms are existing and proposed in Michigan, Ohio, Virginia, Illinois, Tennessee, North Carolina, Kentucky 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 provide 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.

G. 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 sound from a solar farm. The transformer 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. The sound emitted at night is further reduced.

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

4. Traffic

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

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

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

6. Appearance

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



The solar panels are all less than 15 feet high, which means that the visual impact of the solar panels will be similar in height to a typical greenhouse and lower than a single-story residential dwelling. Were the subject property developed with single family housing, that development would have a much greater visual impact on the surrounding area given that a two-story home with attic could be three to four times as high as these proposed panels.

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

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

practical matter. The market often assigns significant value to desirable views irrespective of whether or not such views are protected by law.”

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

This gets back to the point that if a property has development rights and could currently be developed in such a way that removes the viewshed such as a residential subdivision, then 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 how can you claim damages for a less impactful use.

7. Conclusion

On the basis of the factors described above, it is my professional opinion that the proposed solar project 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.

H. Conclusion

The matched pair analysis shows no negative impact in home values due to abutting or adjoining a solar farm as well as no impact to abutting or adjacent vacant residential or agricultural land. The criteria that typically correlates with downward adjustments on property values such as noise, odor, and traffic are not concerns with a solar project, and therefore support a finding of no impact on property value.

Solar farms in very similar areas have been found by hundreds of towns and counties not to have a measurable 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 with 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 meaningful difference in the matched pair data adjoining larger solar farms versus smaller solar farms. The data nationally is consistent with the more specific data located in and around Michigan and the demographic data around those projects make it reasonable to compare to the area around the proposed solar project.

Based on the data and analysis in this report, it is my professional opinion that the proposed solar project 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 is quiet, and there is minimal traffic.

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Professional Experience

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
Hester & Company , Raleigh, N.C. Commercial appraiser	1996 – 2003

Professional Affiliations

MAI (Member, Appraisal Institute) designation #11796	2001
NC State Certified General Appraiser # A4359	1999
VA State Certified General Appraiser # 4001017291	
SC State Certified General Appraiser # 6209	
FL State Certified General Appraiser # RZ3950	
IL State Certified General Appraiser # 553.002633	
KY State Certified General Appraiser # 5522	
OH State Certified General Appraiser # 2021008689	

Education

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

Florida Appraisal Laws and Regulations	2020
Michigan Appraisal Law	2020
Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017
Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014

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