

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE LLC, II FOR A FACILITIES PERMIT TO
CONSTRUCTION 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-027

**SUPPLEMENT TESTIMONY AND EXHIBITS
OF MICHAEL MAROUS**

September 20, 2019

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael MaRous. I am the owner and president of MaRous & Company. My business address is 300 South Northwest Highway, Suite 204, Park Ridge, Illinois 60068.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by MaRous & Company as President.

Q. WHAT ARE YOUR RESPONSIBILITIES?

A. I am a consultant to Crowned Ridge Wind II, LLC ("CRW II") on the impact of the CRW II wind project on property values. I was specifically retained by CRW II to prepare an independent market analysis of the potential impact, if any, the CRW II wind project ("Project") would have on the value of the properties in the general area of the Project in Deuel, Codington, and Grant Counties. The market analysis is attached as Exhibit MM-S-1.

Q. PLEASE DESCRIBE YOUR BACKGROUND AND QUALIFICATIONS.

A. I graduated from the University of Illinois at Urbana-Champaign with a B.S. in Urban Land Economics and began my career working with a Chicago real estate appraisal and consulting firm. I founded MaRous & Company in 1980. I have a South Dakota State Certified General Appraisal License, No. 1467CG.

During my career, I have appraised a variety of types of real estate located in more than 25 states and reflecting a total value in excess of \$15 billion. I have done a substantial amount of work on energy-related projects, including wind farm projects such

1 as the Deuel Harvest Wind Project in Deuel County, Prevailing Wind Park Energy
2 Facility in Bon Homme County, Hutchinson County, and Charles Mix County, the
3 Dakota Range Wind Projects I, II, and III in Codington County and Grant County, and
4 the Crocker Wind Farm in Clark County, Triple H Wind Project, Hyde County, Tatanka
5 Ridge Wind Farm in Deuel County, and Sweetland farm in Hand County, all of which are
6 in South Dakota. I have worked on a number of other wind farm projects in Kansas,
7 Indiana Illinois, Iowa, Ohio, and Minnesota.

8 More information on my background is set forth in my statement of
9 qualifications, which is at the end of Exhibit MM-S-1.
10

11 **Q. HAS THIS TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR**
12 **DIRECT SUPERVISION?**

13 A. Yes.
14

15 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE SOUTH DAKOTA**
16 **PUBLIC UTILITIES COMMISSION?**

17 A. Yes, in Docket Nos. EL17-055 (Crocker Wind), EL18-003 (Dakota Range I and II),
18 EL18-026 (Prevailing Wind), EL18-046 (Dakota Range III), and EL18-053 (Deuel
19 Harvest).
20

21 **Q. PLEASE DESCRIBE THE PURPOSE OF YOUR SUPPLEMENTAL**
22 **TESTIMONY.**

23 A. The purpose of my supplemental testimony is to address the comments raised at the
24 August 26, 2019 public input hearing that the Project will negatively impact property
25 values.
26

1 **Q. DO YOU AGREE WITH THE COMMENTERS AT THE AUGUST 26, 2019**
 2 **PUBLIC INPUT MEETING THAT ASSERTED THE CR II PROJECT WILL**
 3 **NEGATIVELY IMPACT PROPERTY VALUES?**

4 A. No, the Market Analysis that I conducted (Exhibit MM-S-1) does not show that property
 5 values will be negatively impacted by the Project.

6 Let me start by providing an overview of the Market Analysis. The Market
 7 Analysis shows the work that I did to study the question of whether there will be property
 8 value impacts if the Project is constructed as proposed. The Market Analysis explains
 9 background information about the Project and the Project area. It then examines,
 10 describes, and analyzes available data regarding the interactions, if any, between wind
 11 turbines and property values in South Dakota and similar locales. The Market Analysis
 12 also includes references to peer-reviewed literature that explored the same issue, although
 13 in different places.¹ Finally, the Market Analysis presents my conclusions.

¹ Some of the widely accepted, large-scale, peer-reviewed literature that I considered and find particularly informative are the following:

Brian Guerin, Jason Moore, Jamie Stata, and Scott Bradfield (2012). Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario: 2012 Assessment Base Year Study. Municipal Property Assessment Corporation.

Jason Moore, Jamie Stata, and Scott Bradfield (2016). Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario: 2016 Assessment Base Year Study. Municipal Property Assessment Corporation.

Corey Lang and James Opaluch (2013). Effects of Wind Turbines on Property Values in Rhode Island. Environmental and Natural Resource Economics, University of Rhode Island.

Richard J. Vyn and Ryan M. McCullough (2013). The Effects of Wind Turbines on Property Values in Ontario: Does Public Perception Match Empirical Evidence? University of Guelph, Canada.

Carol Atkinson-Palombo and Ben Hoen (2014). Relationship between Wind Turbines and Residential Property Values in Massachusetts.

Q. WHAT CONCLUSIONS DO YOU DRAW FROM THE RESULTS OF THE MARKET ANALYSIS?

A. Having studied the potential impacts of wind farm projects on properties in South Dakota and across the Midwest, the data consistently shows that property values are not negatively impacted by proximate wind farm projects. As set forth above, my analysis, testimony on behalf of Commission Staff in past proceedings, my prior market analyses (including sales data, interviews with market participants, real estate professionals and assessors), and peer-reviewed literature all indicate that there is no market evidence to support a conclusion that proximity to wind turbines negatively affects proximate rural residential or agricultural property values.

Q. ARE YOUR RESULTS CONSISTENT WITH OTHER STUDIES AND ANALYSES?

A. Yes. My conclusions are consistent with my conclusions in other market analyses I have performed, including those filed in prior South Dakota Public Utilities Commission proceedings. Those analyses were filed with the Commission in Docket Nos. EL18-053 (Deuel Harvest), EL18-026 (Prevailing Wind Park), EL18-003 (Dakota Range), and EL17-055 (Crocker). My conclusions are also consistent with the work of Mr. David Lawrence (an appraiser who testified on behalf of the Commission Staff in the Crocker and Dakota Range proceedings), the Commission's prior findings, information from

University of Connecticut and Lawrence Berkeley National Laboratory.

Wichita State University (2019) The study's data is based on 23 operational Wind projects in Kansas which came online between 2005 to 2015. The study and its results suggest that property values do not spike once the project is completed.

For additional discussion of the relevant literature, see pages 72-73 of the Market Analysis.

1 assessors and market participants in South Dakota and elsewhere, and the findings in
2 widely-accepted, large-scale peer-reviewed studies.

3
4 **Q. ONE OF THE COMMENTERS, GREG RICHTER, COMMENTED THAT HE**
5 **HAD DIFFICULTY SELLING HIS HOUSE AT A REASONABLE PRICE**
6 **BECAUSE OF THE PROPOSED CRW II PROJECT. DO HIS COMMENTS**
7 **CHANGE YOUR CONCLUSIONS?**

8 A. No. I have reviewed the information for Mr. Richter's house at 16525 462nd. Ave.,
9 Waverly South Dakota. It is situated on 2.65 acres, located on a gravel road. The 18-
10 year-old frame tri-level home appears to contain approximately 1,600 square feet above
11 grade. It has 3 bedrooms and 2.5 baths, of which one bedroom is in the basement. There
12 is also a modern pole building and a 2-car garage. There are 24 pictures on the listing
13 sheet and the condition, decorating, and appeal appears to be good.

14 The house has been on the market for 5 months with the last asking price of
15 \$329,000 or \$205.62 per square foot. The price per square foot appears to be very high in
16 the market. I confirmed with the broker that a buyer withdrew their offer with the reason
17 of the proposed wind farm. However, because of the high price for the size of the home,
18 the data does not necessarily support that the proposed wind farm is the sole reason that
19 the property has not sold.

20 For example, my experience with proposed wind farms is that the unknown and
21 uncertainty during the planning process has the potential for the largest potential negative
22 impact on value. However, once the wind farm is completed and operating the fear
23 dissipates and there is no negative impact on value.

1 **Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL TESTIMONY?**

2 **A. Yes, it does.**

1 STATE OF ____IL____)

) ss

COUNTY OF __Cook____)

I, Michael MaRous, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.

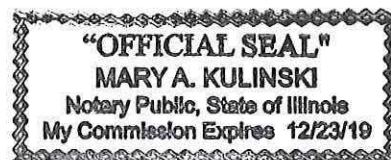

Michael MaRous

Subscribed and sworn to before me this 19 day of
September 2019.

SEAL


Notary Public

My Commission Expires 12/23/19



MARKET IMPACT ANALYSIS
CROWNED RIDGE WIND II
CODINGTON, DEUEL, AND GRANT COUNTY, SOUTH DAKOTA

September 18, 2019

Crowned Ridge Wind II, LLC, an indirect wholly owned subsidiary of NextEra Energy Resources, LLC
700 Universe Boulevard
Juno Beach, Florida 33408

Attention: Daryl Hart – Director of Renewable Business Development

Subject: Market Impact Analysis
Crowned Ridge Wind II
Codington, Deuel, and Grant County, South Dakota

Dear Mr. Hart,

In accordance with your request, the proposed development of the Crowned Ridge Wind II in Codington, Deuel, and Grant County, South Dakota, has been analyzed and this market impact analysis has been prepared.

MaRous & Company has conducted similar market impact studies for a variety of clients and for a number of different proposed developments over the last 39 years. Clients have ranged from municipalities, counties, and school districts, to corporations, developers, and citizen's groups. The types of proposals analyzed include: commercial developments such as shopping centers and big-box retail facilities; religious facilities such as mosques and mega-churches; residential developments such as high-density multifamily and congregate-care buildings and large single-family subdivisions; recreational uses such as skate parks and lighted high school athletic fields; and industrial uses such as waste transfer stations, landfills, and quarries.

MaRous & Company has conducted numerous market studies of energy-related projects. The wind-related projects include the following by state:

- ✧ **Illinois** - Grand Ridge V and Otter Creek wind farms in LaSalle County, Pleasant Ridge Wind Farm in Livingston County, Walnut Ridge Wind Farm in Bureau County, McLean County Wind Farm in McLean County, Radford's Run Wind Farm in Macon County, Midland Wind Project in Henry County, Harvest Ridge Wind Project in Douglas County, and Lincoln Land Wind in Morgan County;
- ✧ **Indiana** - Tippecanoe County Wind Farm in Tippecanoe County and Roaming Bison Wind Farm in Montgomery County;
- ✧ **Iowa** - Ida County and Palo Alto County Wind Farms;
- ✧ **Minnesota** - Freeborn County Wind Farm in Freeborn County;
- ✧ **South Dakota** - Dakota Range Wind Project I, II, & III, in Codington County, Grant County, and Roberts County, Deuel Harvest Wind Farm in Deuel County, Crocker Wind Farm in Clark County, Prevailing Wind Park in Charles Mix County, Bon Homme County, and Hutchinson County, Triple-H Wind Project in Hyde County, Tatanka Ridge Wind Farm in Deuel County, and Sweetland Wind Farm in Hand County;
- ✧ **Kansas** - Neosho Ridge Wind Farm in Neosho County;
- ✧ **New York** - Orangeville Wind Farm in Wyoming County;
- ✧ **Ohio** - Seneca Wind in Seneca County and Republic Wind in Seneca County and Sandusky County.

The solar-related projects include the following by state:

- ✧ **Illinois** - Hickory Point Solar Energy Center in Christian County
- ✧ **Indiana** - Lone Oak Solar Farm in Madison County;
- ✧ **Wisconsin** - Badger Hollow Solar Farm in Iowa County;
- ✧ **Maryland** - Dorchester County Solar Farms in Dorchester County; and
- ✧ **Solar Projects of the Western Regions of the United States of America** - Arizona, Colorado, Nevada, New Mexico, and Utah in the Southwest Region; Idaho and Oregon in the Northwest Region; Texas in the Southern Great Plains Region; General Research in the Northern Great Plains Region.

We also have analyzed the impact of transmission lines on adjacent residential uses and a number of proposed natural gas-fired electric plants in various locations.

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Project Summary

Project Information

Project Name	Crowned Ridge Wind II
Location	Codington, Deuel, and Grant County, South Dakota
<i>Townships</i>	Goodwin, Havana, Kranzburg, Rome, Troy, and Waverly
Project Developer	Crowned Ridge Wind II, LLC An indirect wholly owned subsidiary of NextEra Energy Resources, LLC

Wind Farm Description

Footprint Land Acreage	≈60,996 Acres
<i>Actual Land Acreage Used by Turbines</i>	≈55 Acres or 0.12% of total acreage
Number of Turbines	Up to 132 Turbines
Turbine Specifications	
<i>Type</i>	GE 2.3-MW (117) & GE 2.1-MW (15)
<i>Capacity</i>	2.1-2.3 Megawatts
<i>Tip Height</i>	≈452.5 Feet up to 485.5 Feet
Total Capacity	≈300.6 Megawatts
Setbacks/Noise/Shadow Flicker	Setbacks: <i>State</i> ∴ Turbines shall be set back at least 500 feet or 1.1 times the height of the tower, whichever is greater, from any surrounding property line <i>Codington County</i> ∴ Turbines shall be set back at least 500 feet or 1.1 times the height of the tower, whichever is greater, from any surrounding property line ∴ 550 feet from participating occupied residence, business, church, or school ∴ 1,500 feet from non-participating occupied residence, business, church, or school (within all Districts other than Town Districts) ∴ 5,280 feet from non-participating occupied residence, business, church, or school (within Town Districts) and Municipal Boundaries at the time of Conditional Use Application ∴ 110% of the height of the wind turbine from right-of-way of public roads ∴ 110% the height of the wind turbines from any property line <i>Grant County</i> ∴ 1,500 feet from participating residence, business, church, or school, building owner and/or operated by a governmental entity ∴ 1,500 feet from non-participating residence, business, church, or school, building owned and/or operated by a governmental entity ∴ 5,280 feet from Municipal Boundaries existing at the time of Conditional Use Permit Application ∴ 500 feet or 110% of the vertical height of the wind turbine, whichever is greater, from Public Right-of-Way ∴ 500 feet or 110% of the vertical height of the wind turbine, whichever is greater, from any property line <i>Deuel County</i> ∴ 1,500 feet from existing participating residence, business, and public buildings ∴ 4 times the turbine blade height from existing non-participating residences and businesses ∴ 3 miles from Lake Park District at Lake Cochrane ∴ 2 miles from Lake Alice ∴ 1 mile from Lake Park District at Bullhead Lake ∴ 1 mile from the nearest residence of municipalities of Altamont, Astoria, Brandt, and Goodwin ∴ 1.5 miles from City limits of Gary, Toronto, and Clear Lake (except Sections 11, 12, & 14) ∴ 110% of the turbine blade height from Public Right-of-Way ∴ 110% of the turbine blade height from Property Line Noise & Shadow Flicker: <i>Codington County</i> ∴ 50 dBA at the property line of existing sound receptors ∴ Flicker at any receptor shall not exceed 30 hours per year within the analysis area for all schools, churches, businesses, and occupied dwellings within a 1-mile radius of each turbine within a project <i>Grant County</i> ∴ 45 dBA, including constructive interference effects, measured at 25 feet from the perimeter of existing sound receptors ∴ Flicker at any receptor shall not exceed thirty (30) hours per year within the analysis area for all schools, churches, businesses and occupied dwellings within a one (1) mile radius of each turbine within a project <i>Deuel County</i> ∴ 45 dBA at the perimeter of existing residences, for non-participating residences ∴ Limit for allowable shadow flicker at existing residences to no more than 30 hours
Number of Participants	≈174 Landowners
Participant Acreage	≈29,667 Acres

Ancillary Construction

Collector substation	Operations and maintenance building
Underground 34.5 kV collector lines	Underground fiber optic cable
Meteorological towers	Gravel access roads

Total Cost	≈\$425,000,000
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Purpose and Intended Use of the Study

The purpose of this appraisal assignment is to analyze the impact, if any, on the value of the surrounding rural residential and agricultural properties due to the development of the wind farm. Specifically, this study is designed to address the question of whether the development of the wind farm has an effect on the value of residential uses and/or agricultural land in proximity to the turbines. Any other use or user of this report is considered to be unintended.

Executive Summary

As a result of the market impact analysis undertaken, I concluded that there is no market data indicating the project will have a negative impact on either rural residential or agricultural property values in the surrounding area. Further, market data from South Dakota supports the conclusion that the project will not have a negative impact on rural residential or agricultural property values in the surrounding area. Finally, for agricultural properties that host turbines, the additional income from the wind lease may increase the value and marketability of those properties. The foregoing general conclusions are the result of considerable study of the following information and data:

- ⋄ The use will meet or exceed all the required development and operating standards;
- ⋄ Controls are in place to ensure on-going compliance;
- ⋄ There are significant financial benefits to the local economy and to the local taxing bodies from the development of the wind farm;
- ⋄ The wind farm will create well-paid jobs in the area which will benefit overall market demand;
- ⋄ An analysis of recent residential sales proximate to existing wind farms, which includes residential sales within five times turbine tip height, did not support any finding that proximity to a wind turbine had any impact on property values;
- ⋄ An analysis of agricultural land values in the area and in other areas of the state with wind farms did not support any findings that the agricultural land values are negatively impacted by the proximity to wind turbines;
- ⋄ Studies indicate that wind turbine leases add value to agricultural land;
- ⋄ A survey of County Assessors in 8 South Dakota counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuations;
- ⋄ A survey of County Assessors in 18 Illinois counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuations;

- ✧ A survey of County Assessors in 5 Indiana counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm, and that there were no reductions in assessed valuations;
- ✧ A survey of County Assessors in 21 Kansas counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuations;
- ✧ A survey of County Assessors in 26 Iowa counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuations;
- ✧ A survey of County Assessors in 8 Minnesota counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuations;
- ✧ A survey of County Assessors in 3 Ohio counties in which wind farms are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuations; and
- ✧ A summary of the findings in literature on peer-reviewed studies of wind farms in North America, although not specific to South Dakota reported conclusions that are consistent with our findings.

Definition of Market Value

When discussing market value, the following definition is used:

The most probable price a property should bring in a competitive and open market under all conditions' requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- ✧ Buyer and seller are typically motivated;
- ✧ Both parties are well informed or well advised, and acting in what they consider their own best interests;
- ✧ A reasonable time is allowed for exposure in the open market;
- ✧ Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and

- ∴ The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.¹

Scope of Work and Reporting Process

Information was gathered concerning the real estate market generally and the market of the area surrounding the proposed wind farm specifically. The uses in the surrounding area were considered. The following summarizes the actions taken:

- ∴ Review and analysis of the Codington, Deuel, and Grant County zoning ordinances, and other public documents;
- ∴ Review and analysis of the Application for a Facility Permit submitted by Crowned Ridge Wind II, LLC, to the South Dakota Public Utilities Commission;
- ∴ Review and analysis of the demographics in the area of the proposed wind farm;
- ∴ Review and analysis of data on the general market area of the wind farm, and on the other areas in South Dakota and/or Codington, Deuel, and Grant County in which existing wind farms are located;
- ∴ Review and analysis of data on the market for single-family houses in the immediate area of the proposed wind farm and from other areas in each of the counties from public sources, and from the Codington, Deuel, and Grant County and/or South Dakota public records;
- ∴ Interviews of local real estate professionals concerning recent sales in the area, local market conditions, and the impact of wind turbines on property values in the area;
- ∴ Properties used for development of the matched pairs were physically inspected on the exterior, and photographs of the interiors were reviewed where available;
- ∴ Inspections were performed of the project area and the areas in nearby counties with existing wind farms by Michael S. MaRous in September 18, 2019.

¹ (12 C.F.R. Part 34.42(g); 55 Federal Register 34696, August 24, 1990, as amended at 57 Federal Register 12202, April 9, 1992; 59 Federal Register 29499, June 7, 1994)

This document is considered to conform to the requirements of the *Uniform Standards of Professional Appraisal Practice and Advisory Opinions* (USPAP). This letter is a brief recapitulation of the appraisal data, analyses, and conclusions. Additional supporting documentation is retained in the MaRous and Company office file. There are no extraordinary assumptions or hypothetical conditions included in the market study.

In order to form a judgment concerning the potential impact, if any, on the value of the surrounding residential properties of the approval of the conditional use for the wind farm, I have considered the following:

- ∴ The character and the value of the residential and agricultural properties in the general area of the proposed wind farm;
- ∴ Agricultural land values in Codington, Deuel, and Grant County, and in other South Dakota counties in which wind farms are located;
- ∴ Market trends for both residential and agricultural land up to the past 5 years;
- ∴ The economic impact the proposed wind farm would have on the larger community; and
- ∴ The potential impact on the value of the surrounding residential and agricultural properties.

Description of Area Demographics and Development Area Analysis

CROWNED RIDGE WIND II LOCATION		
Codington County		
2010 Population		27,227 Persons
2019 Population		28,673 Persons
Median Household Income in 2019		\$53,827
Number of Households in 2019		12,147
Number of Housing Units in 2019		13,311
Number of Vacant Housing Units in 2019		1,164
Unemployment Rate		1.6%
Grant County		
2010 Population		7,356 Persons
2019 Population		7,260 Persons
Median Household Income in 2019		\$55,171
Number of Households in 2019		3,073
Number of Housing Units in 2019		3,526
Number of Vacant Housing Units in 2019		453
Unemployment Rate		1.7%
Deuel County		
2010 Population		4,364 Persons
2019 Population		4,466 Persons
Median Household Income in 2019		\$57,285
Number of Households in 2019		1,870
Number of Housing Units in 2019		2,258
Number of Vacant Housing Units in 2019		388
Unemployment Rate		1.2%
Townships - Goodwin, Havana, Kranzburg, Rome, Troy, and Waverly		
2010 Population		1,037 Persons
2019 Population		1,180 Persons
Median Household Income in 2019		\$65,959
Number of Households in 2019		431
Number of Housing Units in 2019		481
Number of Vacant Housing Units in 2019		50
Unemployment Rate		1.1%
Main Roadway Arterials		
North/South	OH-100 and OH-67 extend along the eastern portion of the footprint; OH-19 extends through the center of the footprint; OH-4 extend along the western portion of the footprint	
East/West	US-19 extends through the center of the footprint	

NEAREST CITIES WITHIN THE MARKET AREA OF CROWNED RIDGE WIND II

Kranzburg, South Dakota ≈ Within Project Footprint

2010 Population	172 Persons
2019 Population	171 Persons

Goodwin, South Dakota ≈ Within Project Footprint

2010 Population	146 Persons
2019 Population	173 Persons

Strandburg, South Dakota ≈ Within Project Footprint

2010 Population	72 Persons
2019 Population	70 Persons

South Shore, South Dakota ≈ 5 Miles Northwest of Project Footprint

2010 Population	225 Persons
2019 Population	219 Persons

Watertown, South Dakota ≈ 6 Miles West of Project Footprint

2010 Population	21,492 Persons
2019 Population	22,603 Persons

Clear Lake, South Dakota ≈ 10 Miles South of Project Footprint

2010 Population	1,273 Persons
2019 Population	1,243 Persons

Gary, South Dakota ≈ 15 Miles Southeast of Project Footprint

2010 Population	227 Persons
2019 Population	228 Persons

Site to do Business - <https://www.stdb.com/>

TOP PRIVATE EMPLOYERS IN CODINGTON, DEUEL, AND GRANT COUNTY, SOUTH DAKOTA

Business Name	Business Type
Sanford Clear Lake Medical Center	Health Care
The Good Samaritan Society – Deuel County	Healthcare
South Dakota Partners, Inc	Manufacturing
Watertown School District	Education
Prairie Lakes Healthcare System	Healthcare
Terex Utilities	Utility
Hy-vee	Retail/Grocery
PREMIER Bankcard	Financial
City of Watertown	Government
Worthington Industries	Manufacturing

Deuel Area Development, Inc.- <http://www.deuelarea.com/business-resources/target-industries-in-deuel-county>
Watertown Works- www.watertownworks.com/work/top-employers/

Other Existing Wind Farms Near the Project Area

The closest existing wind farm to the project is the Buffalo Ridge Wind Farm, located predominantly in Brookings County, South Dakota, and approximately 25 miles south of the project footprint. The wind farm is made up of a total of 202 turbines with a total capacity of approximately 286.7 megawatts and came online between 1994 and 2010. Day County Wind Farm is located in Day County, South Dakota, and approximately 50 miles northwest of the project footprint. The wind farm is made up of a total of 66 turbines with a total capacity of approximately 99 megawatts and came online in 2010.

Residential Sales Nearest to the Project Area

Like the majority of South Dakota, this area is primarily rural in nature. In addition to farms, there are single-family houses situated on either smaller lots or larger farmsteads. The following table summarizes examples of the most recent single-family residential sales in the general area of Crowned Ridge Wind II. A map illustrating the location of each of these sales is included in the addenda to this market impact study.

MOST RECENT SINGLE-FAMILY RESIDENTIAL SALES SUMMARY IN THE AREA NEAREST TO CROWNED RIDGE WIND II

No.	Location	Sale Price	Sale Date	Site Size (Acres)	Year Built	Building Size (Sq. Ft.)	Sale Price Per Sq. Ft. of Bldg. Area Incl. Land
1	15332 474 th Ave. Twin Brooks, South Dakota	\$98,000	10/10/17	3.97	N/A	1,296	\$75.62
2	101 E. 1 st Ave. Stockholm, South Dakota	\$114,460	10/1/18	1.33	N/A	2,052	\$55.78
3	217 E. Axel Ave. Strandburg, South Dakota	\$125,500	11/17/18	1.50	1940	2,736	\$45.87
4	1366 27 th St. N.E. Watertown, South Dakota	\$228,000	1/16/18	0.22	2014	2,624	\$86.89
5	17265 460 th Ave. Watertown, South Dakota	\$415,000	12/28/17	2.53	2004	4,170	\$99.52

Project Description

The project is proposed to consist of up to 132 turbines with an individual capacity of 2.1 up to 2.3 megawatts; the turbines have a tip height of 452.5 feet up to 485.5 feet. The total capacity of the wind farm will be approximately 300.6 megawatts, covering approximately 60,996 acres.

The turbines will be constructed to meet applicable standards and will be monitored to ensure compliance with those standards and to limit the impact of noise, and shadow flicker. Additional efforts are being made to limit the impact on avian and wildlife resources in the area.

Roads will be improved both before and after construction to accommodate the installation of the turbines and to repair any damage caused by the construction. Decommissioning Phase road repairs will be undertaken.

The total project cost will be approximately \$425,000,000. Ancillary construction includes gravel access roads, underground collector lines, a collector substation, an operations and maintenance building, meteorological towers, and underground fiber optic cable and junction boxes.

Project Benefits

Taxes	
Total Revenue	Estimated total to be approximately \$37,250,000 over the 25-year life of the project
Beneficiary Totals over the Life of the Project	State of South Dakota ≈ 11,760,000; Deuel County ≈ \$4,460,000; Codington County ≈ \$4,320,000; Grant County ≈ \$140,000; School Districts ≈ \$12,750,000; Townships ≈ \$3,820,000
Land Agreements	
Participating Landowner Lease Payments	Payments will be made in excess of approximately \$40,000,000 in total over the contracted term of the Project.
Job Creation	
Temporary/Construction	≈250 Construction Jobs
Permanent	≈7-12 Permanent Jobs
Induced Impacts due to Construction	
Indirect Impacts	Permit payments to the county and anticipated increase in household spending to local businesses

Market Impact Analysis

A market impact analysis is undertaken to develop an opinion as to whether the proposed wind farm will have an effect on the value of residential uses and/or agricultural land in proximity to the turbines. This analysis includes:

- ⋄ A matched pair analysis considering the impact on value of residential properties proximate to a wind farm in South Dakota, as well as matched pairs developed and analyzed of residential properties in counties with similar demographics, land use, and economic characteristics of other states in the Midwest, specifically, Illinois, Indiana, Kansas, Minnesota, and Iowa;
- ⋄ The value of agricultural land in Codington, Deuel, and Grant County and in other counties with existing wind farms;
- ⋄ Interviews of local and national real estate professionals;
- ⋄ The results of a survey of assessors in South Dakota, Illinois, Indiana, Kansas, Minnesota, and Iowa with existing wind farms in their respective jurisdictions; and
- ⋄ The results of several academic and peer-reviewed studies on the impact of wind turbines on residential property values.

Matched Pair Analysis

A matched pair analysis is a methodology which analyzes the importance of a selected characteristic, in this instance proximity to a wind turbine, to the value of a property.² This technique compares the sale of a property in proximity to the selected characteristic to the sale of a similar property in the same market area and under similar market conditions but without the proximity to the selected characteristic.

It is difficult to find properties that are identical except for proximity to a wind turbine, and which also occurred under substantially similar market conditions, especially in rural areas. Many sales in the area are also conducted privately from family member to family member, or passed down from generation to generation, causing there to be a lack of sale information. Additionally, in many cases, the properties in these types of transactions do not sell at full value. The matched pair analysis accounts for different adjustments that must be made to account for the differences in the paired properties.

Data from similar Midwestern states that have a strong presence of wind turbines, similar demographics, similar economics, and similar agricultural characteristics, have also been analyzed.

Details of the sales included in this analysis are retained in my office files; maps in the addenda to this report illustrate the location of the properties. Unless otherwise indicated, none of the purchasers in these transactions appear to own any other property in proximity, and none of the transactions appear to have a wind turbine lease associated with the property.

² See the discussion "Paired Sales Analysis" and "Sale/Resale Analysis" in Bell, Randall, *MAI, Real Estate Damages, Applied Economics and Detrimental Conditions*, Second Edition, Appraisal Institute, 2008, pages 25-27.

South Dakota Analysis - Brookings County Matched Pair No. 1

The Buffalo Ridge Wind Farms are located in Brookings County in the East-Central region of South Dakota and consist of 129 turbines that began commercial operations in 2009. Both phases I and II are located primarily in Brookings County. Phase I came online in 2009 with 24 turbines generating approximately 50.4 MW of power. Phase II was much larger, following the first phase the next year in 2010 with 105 turbines generating approximately 210 MW of power. A property located at 21088 487th Avenue, Elkton, South Dakota, sold in October 2016 for \$183,000. The nearest turbine is approximately 1,028 feet to the south of this property.

This property is compared with a similar property located at 5705 Rathum Loop, Brookings, South Dakota, that sold in June 2015, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 487th Avenue property to the closest wind turbines.



BROOKINGS COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	21088 487 th Ave. Elkton, SD 57026	5705 Rathum Loop Brookings, SD 57006
Distance from Turbine	1,028 Feet	N/A
Sale Date	October 14, 2016	June 5, 2015
Sale Price	\$183,000	\$142,000
Sale Price/Sq. Ft. (A.G.)	\$66.64	\$68.33
Year Built	2003	1973
Building Size (Sq. Ft.)	2,746	2,078
Lot Size (Acres)	8.00	0.49
Style	One-story, frame (vinyl) 5 bedrooms, 3 bath	One-story; frame (vinyl) 3 bedrooms, 1 bath
Basement	Partial	Crawlspace/Partially finished
Utilities	Central air; Forced-air heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	1-car attached garage patio, deck, utility buildings	1-car attached garage; 3-car detached garage; patio, deck, utility buildings



21088 487th Avenue



5705 Rathum Loop

Both the 487th Avenue property and the Rathum Loop property are ranch-style houses. However Rathum Loop appears to contain only three bedrooms, whereas 487th Avenue has five bedrooms. An upward adjustment of Rathum Loop for the superior building style of 487th Avenue is required. In the case of the Rathum Loop property, there are utility buildings, a detached three-car garage, and a one-car attached garage; however, the 487th Avenue property has a just one larger utility building and an attached one-car garage. A downward adjustment for the superior outbuildings of Rathum Loop is required. The 487th Avenue building is of newer construction, and Rathum Loop is approximately 50 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. An upward adjustment of Rathum Loop is required due to 487th Avenue's newer vintage. An upward adjustment is made for the larger building size of the 487th Avenue property. The 487th Avenue property is also situated on a much larger lot than that of the Rathum Loop property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree. The Rathum Loop property has a superior location to the 487th Street property due to its close proximity to the town of Brookings, requiring a downward adjustment.

Considering the adjustments noted in the following table for the older vintage and smaller size of the Rathum Loop property and for the superior market conditions of the 487th Avenue property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 487th Avenue property.

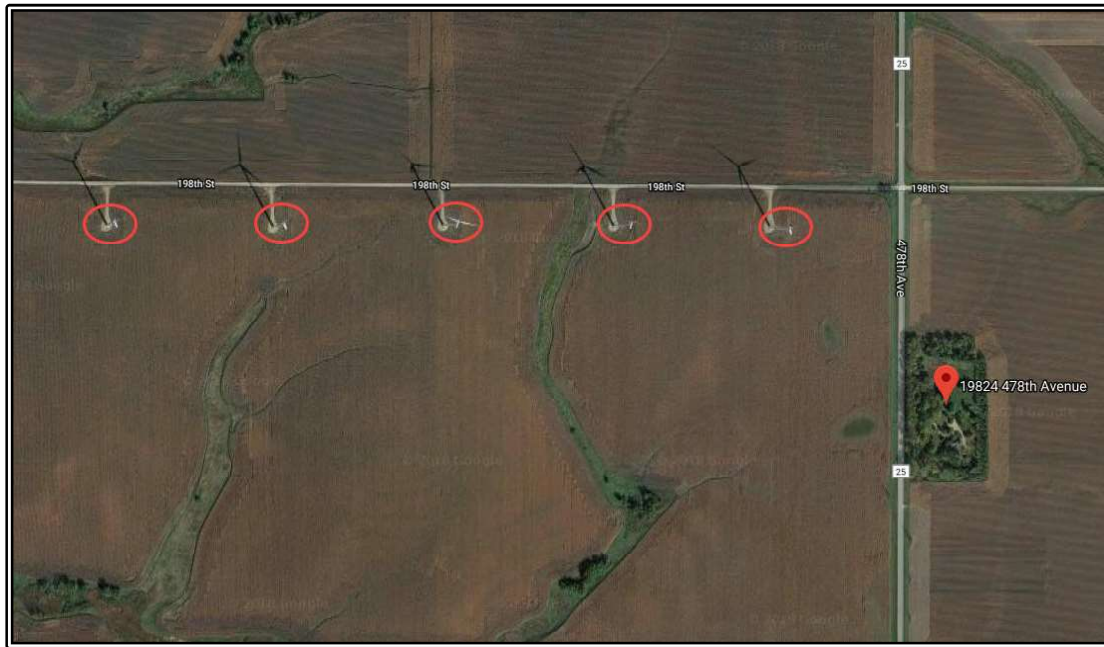
ADJUSTMENT GRID MATCHED PAIR NO. 1										
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	5705 Rathum Loop Brookings, South Dakota	+	+	+	+	-	+	○	○	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 2

A property located at 19824 478th Avenue, Toronto, South Dakota, sold in March 2011 for \$235,000. The nearest turbine is approximately 1,548 feet to the northwest of this property.

This property is compared with a similar property located at 20485 475th Avenue, Brookings, South Dakota, that sold in August 2016, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 478th Avenue property to the closest wind turbines.



BROOKINGS COUNTY MATCHED PAIR NO. 2

	2A - Proximate to a Wind Turbine	2B - Not Proximate to a Wind Turbine
Address	19824 478 th Ave. Toronto, SD 57268	20485 475 th Ave. Brookings, SD 57002
Distance from Turbine	1,548 Feet	N/A
Sale Date	March 14, 2011	August 10, 2016
Sale Price	\$235,000	\$300,000
Sale Price/Sq. Ft. (A.G.)	\$100.38	\$129.53
Year Built	1998	2016
Building Size (Sq. Ft.)	2,341	2,316
Lot Size (Acres)	9.50	19.10
Style	1.5-story, frame (stone/vinyl) 3 bedrooms, 1.2 bath	One-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	Partial	Full
Utilities	Radiant floor heat; Well & septic	Central air; Geothermal heat; Well & septic
Other	1-car attached garage	3-car attached garage



19824 478th Avenue



20485 475th Avenue

Although the 478th Avenue property is a 1.5-story house and the 475th Avenue property is a ranch-style house, the two houses are of equivalent size. In the case of the 475th Avenue property, there is an attached three-car garage, while the 478th Avenue property has an attached one-car garage. A downward adjustment for the superior outbuildings of 475th Avenue is required. The 475th Avenue building is of newer construction than 478th Avenue property. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of 475th Avenue is required for its newer vintage, as well as a downward adjustment of 475th Avenue for its superior market conditions. The 475th Avenue property is situated on a much larger lot than that of the 478th Avenue property requiring a downward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree. The 475th Avenue property has a superior location to the 478th Avenue property due to its close proximity to the town of Brookings, requiring a downward adjustment.

ADJUSTMENT GRID MATCHED PAIR NO. 2

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
2B	20485 475 th Ave. Brookings, South Dakota	-	-	O	-	-	O	-	-	-
+	Positive adjustment based on comparable being inferior in comparison to property #2A									
-	Negative adjustment based on comparable being superior in comparison to property #2A									
O	No adjustment necessary									

Considering the adjustments noted in the following table for the newer vintage and superior market conditions of the 475th Avenue property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 478th Avenue property.

South Dakota Analysis - Brookings County Matched Pair No. 3

A property located at 20937 486th Avenue, Elkton, South Dakota, sold in December 2011 for \$175,000. The nearest turbine is approximately 1,433 feet to the northeast of this property.

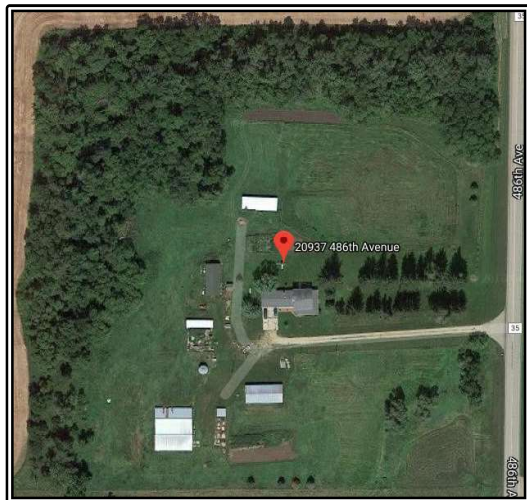
This property is compared with a similar property located at 518 West 44th Street S, Brookings, South Dakota, that sold in October 2017, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 486th Avenue property to the closest wind turbines.



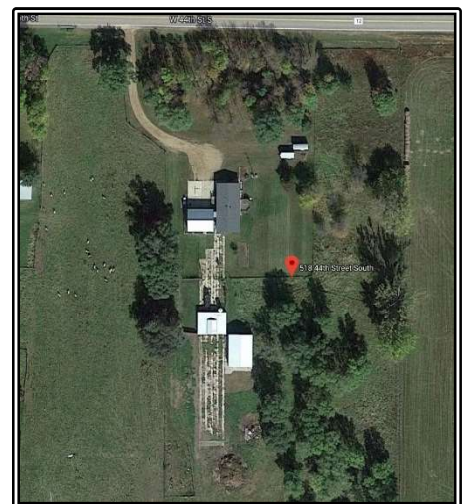
BROOKINGS COUNTY MATCHED PAIR NO. 3

	3A - Proximate to a Wind Turbine	3B - Not Proximate to a Wind Turbine
Address	20937 486 th Ave. Elkton, SD 57026	518 W. 44 th St. S Brookings, SD 57006
Distance from Turbine	1,433 Feet	N/A
Sale Date	December 1, 2011	October 9, 2017
Sale Price	\$175,000	\$175,900
Sale Price/Sq. Ft. (A.G.)	\$79.26	\$104.70
Year Built	1918	1990
Building Size (Sq. Ft.)	2,208	1,680
Lot Size (Acres)	14.28	4.55
Style	Two-story, frame (vinyl) 4 bedrooms, 2 bath	One-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	Partial	Crawlspace
Utilities	Central air; Forced-air heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	2-car attached garage	2-car detached garage



20937 486th Avenue

518 W. 44th Street S



The 486th Avenue property is a two-story house, and the 44th Street South property is a one-story house, and the 486th Avenue has an extra bedroom. The superior style and number of bedrooms of the 486th Avenue property require an upward adjustment. In the case of the outbuildings, both properties have a two-car garage. The 44th Street South building is of newer construction than 486th Avenue property, which is 100 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of 44th Street South is required for its newer vintage, as well as a downward adjustment of 44th Street South for its superior market conditions. The 486th Avenue property is situated on a much larger lot than that of the 44th Street South property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions of the 44th Street South property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 486th Avenue property.

ADJUSTMENT GRID MATCHED PAIR NO. 3										
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
3B	518 W. 44 th St. S. Brookings, South Dakota	-	-	+	+	O	+	+	O	O
+	Positive adjustment based on comparable being inferior in comparison to property #3A									
-	Negative adjustment based on comparable being superior in comparison to property #3A									
O	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 4

A property located at 19636 475th Avenue, Toronto, South Dakota, sold in November 2013 for \$530,000. The nearest turbine is approximately 2,309 feet to the southeast of this property.

This property is compared with a similar property located at 46246 214th Street, Volga, South Dakota that sold in December 2016, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 475th Avenue property to the closest wind turbines.



BROOKINGS COUNTY MATCHED PAIR NO. 4

	4A - Proximate to a Wind Turbine	4B - Not Proximate to a Wind Turbine
Address	19636 475 th Ave. Toronto, SD 57268	46246 214 th St. Volga, SD 57071
Distance from Turbine	2,309 Feet	N/A
Sale Date	November 21, 2013	December 21, 2016
Sale Price	\$530,000	\$317,000
Sale Price/Sq. Ft. (A.G.)	\$151.60	\$182.81
Year Built	1989	2001
Building Size (Sq. Ft.)	3,496	1,734
Lot Size (Acres)	13.00	10.43
Style	One-story; frame (vinyl) 5 bedrooms, 3 bath	One-story; frame (vinyl) 4 bedrooms, 3 bath
Basement	Partial	Full
Utilities	Central air; Forced-air heat; Well & septic	Central air; Geothermal heat; Well & septic
Other	3-car attached garage; two commercial utility buildings; gazebo	1-car attached garage; 2-car detached garage



19636 475th Avenue



46246 214th Street

Both the 475th Avenue property and the 214th Street property are a one-story ranch style house. In the case of the outbuildings, the 475th Avenue property is superior with two large commercial-style utility buildings and a three-car attached garage compared to the 214th Street property with a two-car detached garage and a one-car attached garage. The superiority of the 475th Avenue buildings requires an upward adjustment. The 214th Street building is of newer construction than 475th Avenue property. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of 214th Street is required for its newer vintage, as well as a downward adjustment of 214th Street for its superior market conditions. The 475th Avenue property is situated on a larger lot than that of the 214th Street property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions of the 214th Street property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 475th Avenue property.

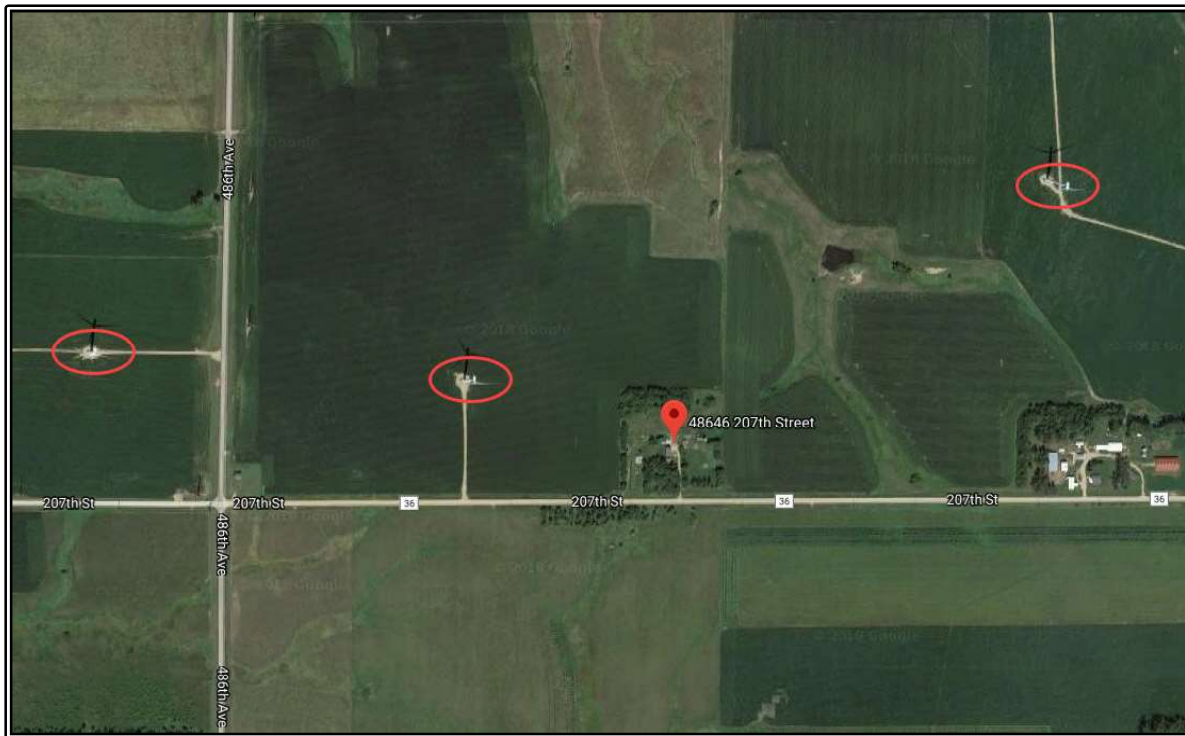
ADJUSTMENT GRID MATCHED PAIR NO. 4										
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
4B	46246 214 th St. Volga, South Dakota	-	-	+	+	O	O	-	-	+
+	Positive adjustment based on comparable being inferior in comparison to property #4A									
-	Negative adjustment based on comparable being superior in comparison to property #4A									
O	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 5

A property located at 48646 207th Street, Elkton, South Dakota, sold in March 2014 for \$190,000. The nearest turbine is approximately 1,118 feet to the west of this property.

This property is compared with a similar property located at 5705 Rathum Loop, Brookings, South Dakota, that sold in June 2015, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 207th Street property to the closest wind turbines.



BROOKINGS COUNTY MATCHED PAIR NO. 5

	5A - Proximate to a Wind Turbine	5B - Not Proximate to a Wind Turbine
Address	48646 207 th St. Elkton, SD 57026	5705 Rathum Loop Brookings, SD 57006
Distance from Turbine	1,118 Feet	N/A
Sale Date	March 26, 2014	June 5, 2015
Sale Price	\$190,000	\$142,000
Sale Price/Sq. Ft. (A.G.)	\$87.96	\$68.33
Year Built	1936	1973
Building Size (Sq. Ft.)	2,160	2,078
Lot Size (Acres)	6.95	0.49
Style	Two-story, frame (vinyl) 3 bedrooms, 3 bath	One-story; frame (vinyl) 3 bedrooms, 1 bath
Basement	Partial	Crawlspace/Partially finished
Utilities	Central air; Forced-air heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	1-car attached garage; 2-car detached garage	1-car attached garage; 3-car detached garage; patio, deck, utility buildings



48646 207th Street

5705 Rathum Loop



Although the 207th Street property is a two-story house and the Rathum Loop property is a ranch-style house, the two houses are of equivalent size. However, an upward adjustment to Rathum Loop is required for the superior building style of 207th Street property. In the case of the Rathum Loop property, there are utility buildings, a detached three-car garage, and a one-car attached garage. In comparison, the 207th Street property has an attached one-car garage and a detached two-car garage. A downward adjustment for the superior outbuildings of Rathum Loop is required. Although the Rathum Loop building is of newer construction, it is still approximately 50 years old. The 207th Street property is closer to 80 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. A downward adjustment of Rathum Loop is required for its newer vintage, as well as a downward adjustment of Rathum Loop for its superior market conditions. The 207th Street property is situated on a much larger lot than that of the Rathum Loop property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree. The Rathum Loop property has a superior location to the 207th Street property due to its close proximity to the town of Brookings, requiring a downward adjustment.

Considering the adjustments noted in the following table for the newer vintage and superior market conditions, yet smaller lot size of the Rathum Loop property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 207th Street property.

ADJUSTMENT GRID MATCHED PAIR NO. 5										
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
5B	5705 Rathum Loop Brookings, South Dakota	-	-	○	+	-	+	○	○	-
+	Positive adjustment based on comparable being inferior in comparison to property #5A									
-	Negative adjustment based on comparable being superior in comparison to property #5A									
○	No adjustment necessary									

South Dakota Analysis - Brookings County Matched Pair No. 6

A property located at 20922 485th Avenue, Elkton, South Dakota, sold in August 2010 for \$180,000. The nearest turbine is approximately 1,959 feet to the south, as well as twelve other turbines within approximately a half mile to the east, of this property.

This property is compared with a similar property located at 46464 218th Street, Volga, South Dakota, that sold in November 2014, which is not located proximate to any wind turbines. The salient details of these two properties are summarized in the table below.

The following aerial map illustrates the relationship of the 485th Avenue property to the closest wind turbines.



BROOKINGS COUNTY MATCHED PAIR NO. 6

	6A - Proximate to a Wind Turbine	6B - Not Proximate to a Wind Turbine
Address	20922 485 th Ave. Elkton, SD 57026	46464 218 th St. Volga, SD 57071
Distance from Turbine	1,959 Feet	N/A
Sale Date	August 4, 2010	November 14, 2014
Sale Price	\$180,000	\$190,600
Sale Price/Sq. Ft. (A.G.)	\$107.14	\$113.45
Year Built	1992	1918
Building Size (Sq. Ft.)	1,680	1,680
Lot Size (Acres)	13.35	15.00
Style	One-story; frame (vinyl) 4 bedrooms, 2 bath	Two-story; frame (vinyl) 5 bedrooms, 2 bath
Basement	Partial	Full
Utilities	Central air; Geothermal heat; Well & septic	Central air; Forced-air heat; Well & septic
Other	1-car attached garage	1-car detached garage



20922 485th Avenue



46464 218th Street

The 218th Street property is a two-story house with five bedrooms, and the 485th Avenue property is a one-story ranch style house with four bedrooms. The superior style of the 218th Street property requires a downward adjustment. In the case of the outbuildings, both properties have a one-car garage. The 485th Avenue building is of newer construction than the 218th Street property, which is 100 years old. Both properties are considered to be in normal condition by the Brookings County Assessor. An upward adjustment of 218th Street is required for 485th Avenue's newer vintage, as well as a downward adjustment of 218th Street for its superior market conditions. The 218th Street property is situated on a larger lot than that of the 485th Avenue property requiring an upward adjustment; however, both lots are surrounded by agricultural and pastureland, which mitigates the size differential to some degree.

Considering the adjustments noted in the following table for the older vintage, yet superior market conditions of the 218th Street property, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the 485th Avenue property.

ADJUSTMENT GRID MATCHED PAIR NO. 6

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
6B	46464 218 th St. Volga, South Dakota	-	+	○	○	○	-	-	+	○
+	Positive adjustment based on comparable being inferior in comparison to property #6A									
-	Negative adjustment based on comparable being superior in comparison to property #6A									
○	No adjustment necessary									

Matched Pair Analysis – Illinois, Indiana, Minnesota, Iowa, and Kansas

In addition to analyzing sales in the subject project area, we have researched sales in proximity to several existing wind farms in rural areas of Illinois, Indiana, Minnesota, Iowa, and Kansas in order to discover whether residential property values in these areas were impacted by their locations. The following are the results of the most recent of these studies.

As with the research from South Dakota, details of these sales are retained in my office files; maps in the addenda to this report illustrate the location of these matched pairs. Unless otherwise indicated, none of the purchasers in these transactions appear to own any other property in proximity, and none of the transactions appear to have a wind turbine lease associated with the property.

Illinois Analysis - Macon County Matched Pair No. 1

Macon County Matched Pair #1 considers the recent sale of a property located at 8873 North Glasgow Road, Warrensburg, that is 1,855 feet from the nearest wind turbine located within the subject, the Triple H Wind Project, with approximately four additional turbines visible from the property to the north and west.

This sale is compared with a similar property located at 1511 Hunters View Drive, Mount Zion, that sold in June 2013. The location is in a suburban setting, but the area is still very rural in nature. The salient details of these two properties are summarized in the table below.

MACON COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1A - Prior Sale	1B - Not Proximate to a Wind Turbine
Address	8873 North Glasgow Rd. Warrensburg, IL 62573	8873 North Glasgow Rd. Warrensburg, IL 62573	1511 Hunters View Dr. Mount Zion, IL 62549
Distance from Turbine	1,855 Feet	NA	NA
Sale Date	June 12, 2017	March 25, 2014	June 31, 2013
Sale Price	\$214,000	\$184,000	\$193,000
Sale Price/Sq. Ft. (A.G.)	\$124.35	\$106.91	\$91.90
Year Built	2006	2006	2006
Building Size (Sq. Ft.)	1,721	1,721	2,100
Lot Size (Acres)	1.04	1.35	0.21
Style	1-story, frame (vinyl) 4 bedrooms, 2 bath	1-story, frame (vinyl) 3 bedrooms, 2 bath	2-story, frame (vinyl/brick) 4 bedrooms; 2.1 bath
Basement	Full; partially finished	Full; unfinished	Full; finished
Utilities	Geothermal heat & cooling; Well & septic	Geothermal heat & cooling; Well & septic	Central Air; Forced-air heat; Public Sewer
Other	2.5-car attached garage; front porch and deck	2.5-car attached garage; front porch	3-car attached garage; patio



8873 North Glasgow Road

1511 Hunters View Drive



The house at 8873 North Glasgow Road, is located approximately 8 miles northwest of Decatur, in a rural area. According to the Macon County Assessor's records, this house previously sold in March 2014 for \$184,000. This indicates an increase in value of approximately 16% during a period in which residential sale prices generally were not increasing. There is no lease for a wind turbine on this property. According to the most recent selling broker, there was an issue with the well test; the yard was dug up to find the well and to treat the problem. The yard has since returned to normal condition. The broker also stated that the house is in excellent condition and showed very well. The sellers added a wrap-around deck and finished part of the basement to add a fourth bedroom. The seller was being relocated and was offered a low price for the relocation fee; the sellers put the house on the market on their own and were able to sell it within six weeks, for greater than the asking price.

The house on Hunters View Drive has a similar, rural location, yet is situated in a suburban setting, and is approximately 4 miles south of Decatur. Although this house sits on a smaller lot than the Glasgow Road property, this is offset by the extra bedroom and by the second floor. The property is not near a wind farm.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	1511 Hunters View Drive Mount Zion, Illinois	+	0	-	+	-	0	0	+	0
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
0	No adjustment necessary									

The comparison will be made to the June 2017 date of sale because it is most similar to the sale of the Hunters View Drive property.

Upward adjustments are made for the superior market conditions, larger lot size, and geothermal heating and cooling system of the Glasgow Road property. Downward adjustments are made for the superior building size of the Hunters View Drive property. When the adjustments noted above are made to the sale price of the Hunters View Drive property, the two properties have essentially the same sale price per square foot value. Therefore, although the Hunters View Drive house is larger, the higher per foot sales price for the Glasgow Road house is justified by its superior condition and amenities, and its larger lot size. Thus, the difference in the sales price does not support the conclusion that there is any diminution in value resulting from the proximity of the Glasgow Road property to wind turbines. This is further supported by the subsequent sale of the Glasgow Road property, at which time the 2017 sale price increased by \$17.44 per square foot over the 2014 sale price.

Illinois Analysis - McLean County Matched Pair No. 1

McLean County Matched Pair No. 1 considers the sale of a house located at 29394 E 850 North Road, Ellsworth, that sold in November 2015 for \$207,000. This house is located approximately 1,865 feet from the nearest turbine, and there are several turbines visible to the north and east. The following photograph is of the turbines visible from the house, with the majority visible in the distance.



This property is compared with a similar property located at 26298 E 1000 North Road, Downs, that sold in March 2015 for \$220,000. This property is not located near wind turbines; however, there are some visible more than 1 mile to the east. Market conditions are considered to be similar. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

MCLEAN COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	29394 E 850 North Rd. Ellsworth, IL 61737	26298 E 1000 North Rd. Downs, IL 61736
Distance from Turbine	1,865 Feet	N/A
Sale Date	November 17, 2015	March 11, 2015
Sale Price	\$207,000	\$220,000
Sale Price/Sq. Ft. (A.G.)	\$86.25	\$82.71
Year Built	1978	1978
Building Size (Sq. Ft.)	2,400	2,660
Lot Size (Acres)	1.70	2.49
Style	Two-story, frame (vinyl/brick) 4 bedrooms; 2 bath	Two-story, frame (vinyl) 4 bedrooms; 2 bath
Basement	Full, finished	Full, finished
Utilities	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic
Other	2-car detached garage; patio, deck, small shed	2.5-car attached garage; large storage shed



29394 E 850 North Road

26298 E 1000 North Rd.



Both houses are of similar construction type, vintage, and size. Both had been updated recently, with the house at 29394 E 850 North Road having been updated more extensively than the other. Both have finished basements; however, basement build-out in the house at 26298 E 1000 North Road is not completely finished. The house at 26298 E 1000 North Road has a large shed with a drive-in door. The superior interior features and the larger shed are offset by the approximately ½-acre larger site size of the property at 26298 E 1000 North Road. Both houses are located on paved roads.

ADJUSTMENT GRID MATCHED PAIR NO. 1										
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	26298 E 1000 North Rd. Downs, Illinois	○	○	○	-	○	○	○	○	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

Downward adjustments are made for the superior lot size and outbuildings of the 26298 E 1000 North Road property. When the adjustments noted above are made to the sale price of the 26298 E 1000 North Road property, the two properties have essentially the same sale price per square foot value. Thus, the difference in the sales price does not support the conclusion that there is any negative impact on value resulting from the proximity of the 29394 E 850 North Road property to wind turbines.

Illinois Analysis - McLean County Matched Pair No. 2

McLean County Matched Pair No. 2 considers the sale of a house located at 25156 E 1400 North Road, Ellsworth, that sold in November 2015 for \$196,000. This house is located approximately 2,210 feet from the nearest turbine, but there are several turbines proximate to the south, southeast, and southwest.

The following photograph is of the turbines visible from the property.



This property is compared with a similar property located at 787 E 1300 North Road, Sibley, that sold in March 2015 for \$125,000. This property is not located near wind turbines. Market conditions are considered to be similar. Although this property is located in Ford County, both properties have similar, rural locations. The salient details of these two properties are summarized in the table below.

MCLEAN COUNTY MATCHED PAIR NO. 2

	2A - Proximate to a Wind Turbine	2B - Not Proximate to a Wind Turbine
Address	25156 E 1400 North Rd. Ellsworth, IL 61737	787 E 1300 North Rd. Sibley, IL 61773
Distance from Turbine	2,210 Feet	N/A
Sale Date	November 1, 2015	March 13, 2015
Sale Price	\$196,000	\$125,000
Sale Price/Sq. Ft. (A.G.)	\$66.58	\$49.56
Year Built	1890	1900
Building Size (Sq. Ft.)	2,944	2,522
Lot Size (Acres)	4.14	3.36
Style	Two-story, frame (vinyl) 4 bedrooms; 2 bath	Two-story, frame (vinyl) 4 bedrooms; 2 bath
Basement	Full, finished	Full, partially finished
Utilities	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic
Other	1-car attached garage; porch; machine shop	2-car detached garage; deck, large shed



25156 E 1400 North Road

787 E 1300 North Road



Both houses are of similar construction type, vintage, and size. Both have been remodeled in the recent past. The E 1400 North Road house has a large freestanding garage/machine shed that has water and electricity, which is superior to the older shed on the site of the E 1300 North Road house. Also, the site size of the E 1400 North Road house is approximately $\frac{3}{4}$ acre larger than the E 1300 North Road house. Both factors are reflected in its higher sale price.

ADJUSTMENT GRID MATCHED PAIR NO. 2

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
2B	787 E 1300 North Rd. Sibley, Illinois	○	○	+	+	○	○	○	○	○
+	Positive adjustment based on comparable being inferior in comparison to property #2A									
-	Negative adjustment based on comparable being superior in comparison to property #2A									
○	No adjustment necessary									

Upward adjustments are made for the larger building size and the larger lot size of the E 1400 North Road property. When the adjustments noted above are made to the sale price of the E 1300 North Road property, the two properties have a similar sale price per square foot value. Thus, the difference in the sales price does not support the conclusion that there is any negative impact on value resulting from the proximity of the E 1400 North Road property to wind turbines.

Illinois Analysis - McLean County Matched Pair No. 3

McLean County Matched Pair No. 3 considers the sale of a house located at 25017 E 1400 North Road, Ellsworth, that sold in September 2015 for \$159,000. This house is located approximately 1,573 feet from the nearest turbine, and there are several turbines proximate to the south, southeast, and southwest.

The following photograph is of the turbines visible from the property.



This property is compared with a similar property located at 10837 Yankee Town Road, Farmer City, that sold in October 2016 for \$134,000. This property is not located near wind turbines. Market conditions are considered to be slightly superior at the date of sale of this property. Although this house is located in DeWitt County, both properties have similar rural locations. The salient details of these two properties are summarized in the table below.

MCLEAN COUNTY MATCHED PAIR NO. 3

	3A - Proximate to a Wind Turbine	3B - Not Proximate to a Wind Turbine
Address	25017 E 1400 North Rd. Ellsworth, IL 61737	10837 Yankee Town Rd. Farmer City, IL 61842
Distance from Turbine	1,573 Feet	N/A
Sale Date	September 3, 2015	October 3, 2016
Sale Price	\$159,000	\$134,000
Sale Price/Sq. Ft. (A.G.)	\$81.45	\$68.37
Year Built	1880	1908
Building Size (Sq. Ft.)	1,952	1,960
Lot Size (Acres)	2.87	4.00
Style	Two-story, frame (vinyl) 4 bedrooms; 2 bath	Two-story, frame (vinyl) 4 bedrooms; 2 bath
Basement	Full, finished	Full, finished
Utilities	Central air; Propane heat; Well & septic	Central air; Propane heat; Well & septic
Other	No separate garage; large shed with drive-in doors; other farm buildings	No separate garage; large shed with drive-in doors; other farm buildings



25017 E 1400 North Road

10837 Yankee Town Road



Both houses are of similar construction type, vintage, and size. Both have been remodeled and updated. Neither property has a garage; both have large buildings with drive-in doors for cars and other equipment. Both properties have other farm buildings on the site. The Yankee Town Road house has a site that is approximately 1.25 acres larger than that of the E 1400 North Road house.

ADJUSTMENT GRID MATCHED PAIR NO. 3

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
3B	10837 Yankee Town Rd. Farmer City, Illinois	-	○	○	-	○	○	○	○	○
+	Positive adjustment based on comparable being inferior in comparison to property #3A									
-	Negative adjustment based on comparable being superior in comparison to property #3A									
○	No adjustment necessary									

Downward adjustments are made for the superior market conditions and larger lot size of the E 1400 North Road property. When the adjustments noted above are made to the sale price of the Yankee Town Road property, the E 1400 North Road property appears to have a superior sale price per square foot value to that of the Yankee Town Road property. Thus, the difference in the sales price does not support the conclusion that there is any negative impact on value resulting from the proximity of the E 1400 North Road property to wind turbines.

Illinois Analysis - Livingston County Matched Pair No. 1

Livingston County Matched Pair No. 1 considers the sale of a property in Livingston County that is located proximate to the Cayuga Ridge Wind Farm. Cayuga Ridge construction began in 2009, and the wind farm came fully online in March 2010. The house at 23090 N 2500 East Road, Odell, is 2,322 feet east of a wind turbine, 3,229 feet west of a wind turbine, and 3,440 feet south of a wind turbine. The following photograph illustrates the location of this house (on the right in the picture) relative to the nearest turbines.



This sale is compared with a similar property located at 16101 E 1400 North Road in Pontiac that is not proximate to a wind turbine. The salient details of these two properties are summarized in the table below.

LIVINGSTON COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	23090 N 2500 East Rd. Odell, IL 60460	16101 E 1400 North Rd. Pontiac, IL 61764
Distance from Turbine	2,322 Feet	N/A
Sale Date	August 15, 2013	November 18, 2013
Sale Price	\$205,000	\$167,500
Sale Price/Sq. Ft. (A.G.)	\$108.41	\$89.33
Year Built	1971	1967
Building Size (Sq. Ft.)	1,891	1,875
Lot Size (Acres)	3.63	3.27
Style	One-story; brick 4 bedrooms, 1.1 bath	One-story; brick 3 bedrooms, 2 bath
Basement	Full, partially finished	Crawl space
Utilities	Central air; Electric heat; Well & septic	Central air; Propane heat; Well & septic
Other	2-car detached garage; 2 pole barns; 60 x 90 shed (subsequently demolished)	1-car attached garage; 30 x 40 shed; 64 x 42 machine shop



23090 N 2500 East Road

16101 E 1400 North Road



Both properties are located in the Pontiac High School district. The lot sizes are similar; however, the Odell property is approximately 1/3-acre larger. The houses are of similar construction vintage and are of equivalent size. The condition of both is assumed to be similar. The Odell property has an additional bedroom and is superior in that it has a full, partially finished basement and a larger garage. However, the Pontiac property has two full bathrooms, a first-floor laundry room, and propane gas heat. The outbuildings of the Odell property were in poor condition and were demolished subsequent to the sale; therefore, the Pontiac property is considered superior in that regard, which offsets the smaller size of the garage.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	16101 E 1400 North Rd. Pontiac, Illinois	o	o	o	o	o	o	+	o	o
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
o	No adjustment necessary									

An upward adjustment is made for the superior basement of the N 2500 East Road property. When the adjustments noted above are made to the sale price of the E 1400 North Road property, the N 2500 East Road property appears to have a superior sale price per square foot value to that of the E 1400 North Road property. Thus, the difference in the sales price does not support the conclusion that there is any negative impact on value resulting from the proximity of the N 2500 East Road property to wind turbines.

Illinois Analysis - Henry County Matched Pair No. 1

Henry County Matched Pair No. 1 considers the sale of a house located at 6158 East 1270th Street, Cambridge, that sold in April 2016 for \$120,000. This house is located approximately 1,610 feet from the nearest turbine, and there are several turbines visible in each direction.

The following photograph is an aerial view of the turbines visible surrounding the house.



This property is compared with a similar property located at 17675 N 400th Avenue, Cambridge, that sold in March 2017 for \$110,000. This property is not located near wind turbines; however, there are some visible more than 1 mile to the west. Market conditions are considered to be similar. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

HENRY COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	6158 E 1270 th St. Cambridge, IL 61238	17675 N 400 th Ave. Cambridge, IL 61238
Distance from Turbine	1,610 Feet	N/A
Sale Date	April 29, 2016	March 1, 2017
Sale Price	\$120,000	\$110,000
Sale Price/Sq. Ft. (A.G.)	\$63.03	\$73.33
Year Built	1907	1907
Building Size (Sq. Ft.)	1,904	1,500
Lot Size (Acres)	1.20	5.00
Style	Two-story; frame (vinyl) 3 bedrooms, N/A bath	Two-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	N/A	N/A
Utilities	Well & septic	Forced-air heat; Well & septic
Other	2-car detached garage; workshop attached to garage; pole barn	2-car detached garage; Chicken coop; Tree farm and small orchard



6158 E 1270th Street



17675 N 400th Avenue

Both houses are of similar construction type, vintage, and market condition. Both houses were constructed in 1907, but the 400th Avenue house appears to be in better condition. Both do not have basements; however, both have the same number of bedrooms. The 1270th Street house has a large two car garage with an added large area on the north end of the garage that could be used as a workshop and a separate barn. The superior size and the superior outbuildings of the 1270th Street property are offset by the approximately 4½-acre larger site size, the superior utilities, and the site amenities of the 400th Avenue property.

ADJUSTMENT GRID MATCHED PAIR NO. 1

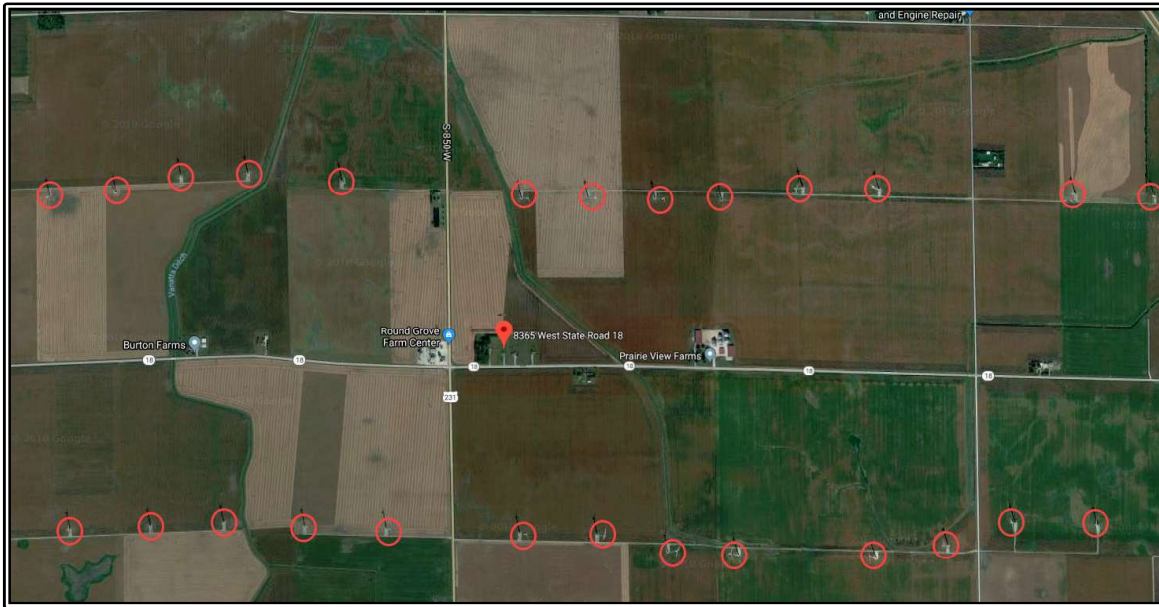
SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	17675 N 400 th Ave. Cambridge, Illinois	○	○	+	-	○	○	○	+	○
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

A downward adjustment is made for the larger lot size of the N 400th Avenue property. Upward adjustments were made for the larger building size and superior utilities of the East 1270th Street property. When the adjustments noted above are made to the sale price of the N 400th Avenue property, the two properties have a similar sale price per square foot value. Thus, the difference in the sales price does not support the conclusion that there is any negative impact on value resulting from the proximity of the East 1270th Street property to wind turbines.

Indiana Analysis - White County Matched Pair No. 1

White County Matched Pair No. 1 considers the sale of a house located at 8365 West State Road 18, Brookston, that sold in December 2017 for \$159,900. This house is located approximately 2,340 feet from the nearest turbine of the Meadow Lake Wind Farm, which came online in 2009, and there are several turbines visible in each direction.

The following photograph is an aerial view of the turbines visible surrounding the house.



This property is compared with a similar property located at 1105 South Airport Road, Monticello, that sold in December 2017 for \$173,200. This property is not located near wind turbines. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

WHITE COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	8365 W State Road 18 Brookston, IN 47923	1105 S Airport Rd. Monticello, IN 47960
Distance from Turbine (Ft.)	2,340	N/A
Sale Date	December 27, 2017	December 18, 2017
Sale Price	\$159,900	\$173,200
Sale Price/Sq. Ft. (A.G.)	\$90.34	\$70.78
Year Built	2003	1927
Building Size (Sq. Ft.)	1,770	2,447
Lot Size (Acres)	2.09	1.64
Style	One-story; frame (brick) 3 bedrooms, 2 bath	Two-story; frame (vinyl) 5 bedrooms, 2.5 bath
Basement	Crawlspace	Partial/Crawlspace
Utilities	Central air; forced-air heat; well & septic	Central air; other heating; well & septic
Other	2-car attached garage; deck	1-car attached garage; 2-car detached garage; pool



8365 West State Road 18



1105 South Airport Road

The house at 8365 West State Road 18, is located approximately 2,400 feet away from the nearest turbine, in a rural area. Both houses are located in a similar rural location, have similar utilities, and were sold in similar market conditions. The 8365 West State Road 18 property is of superior vintage and has a superior lot size. The 1105 South Airport Road property has a superior building size, a superior building style, and has a superior basement and outbuildings.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1105 S Airport Rd. Monticello, IN 47960	O	+	-	+	O	-	-	O	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
O	No adjustment necessary									

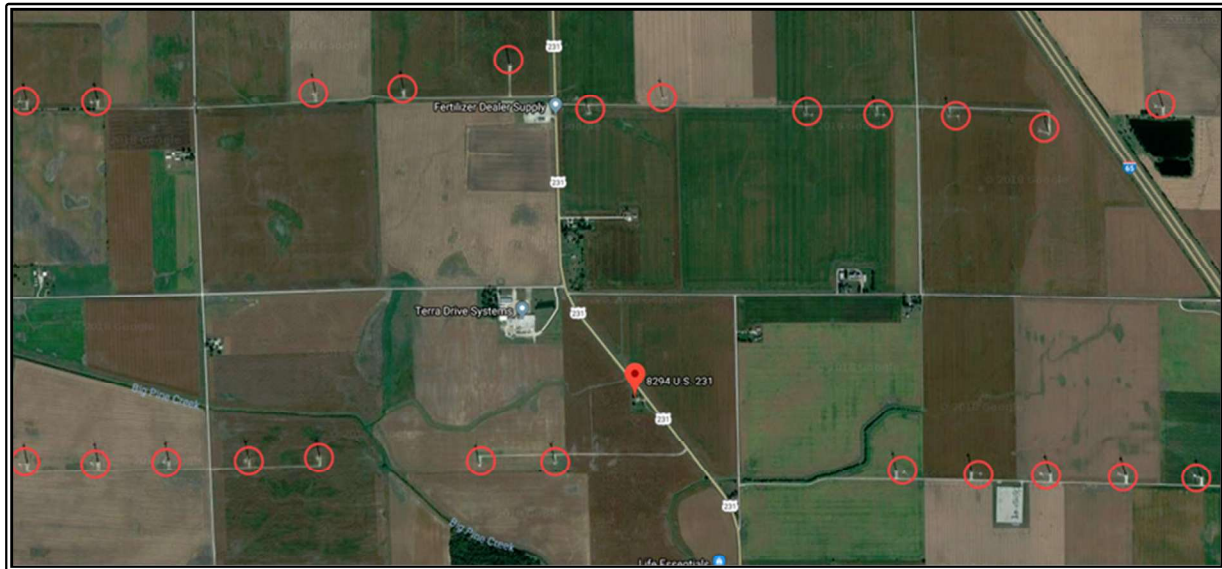
Upward adjustments are made to the 1105 South Airport Road property for the superior vintage and the larger lot size of the 8365 West State Road 18 property. Downward adjustments are made for the superior building size, building style, basement, and outbuildings of the 1105 South Airport Road property compared to those features of the 8365 West State Road 18 property. The two properties have essentially the same location, utilities, and were sold in similar market conditions. Therefore, although the 1105 South Airport Road property give the impressions of being superior in many categories, the much higher per square foot sale price for the 8365 West State Road 18 property appears to not support a finding that there is a negative impact on value resulting from the proximity of the 8365 West State Road 18 property to a wind turbine.

Indiana Analysis - White County Matched Pair No. 2

White County Matched Pair No. 2 considers the sale of a house located at 8294 South US Highway 231, Brookston, that sold in September 2016 for \$157,000. This house is located approximately 1,410 feet from the nearest turbine of the Meadow Lake Wind Farm, which came online in 2009, and there are several turbines visible in each direction.

This property is compared with a similar property located at 6288 East Ash Court, Monticello, that sold in June 2017 for \$150,800. This property is not located near wind turbines. Market conditions are considered to be similar. The salient details of these two properties are summarized in the following table.

The following photograph is an aerial view of the turbines visible surrounding the house.



WHITE COUNTY MATCHED PAIR NO. 2

	2A - Proximate to a Wind Turbine	2B - Not Proximate to a Wind Turbine
Address	8294 S US Highway 231 Brookston, IN 47923	6288 E Ash Ct. Monticello, IN 47960
Distance from Turbine (Ft.)	1,410	N/A
Sale Date	September 23, 2016	June 22, 2017
Sale Price	\$157,000	\$150,800
Sale Price/Sq. Ft. (A.G.)	\$80.60	\$59.23
Year Built	1926	1968
Building Size (Sq. Ft.)	1,948	2,546
Lot Size (Acres)	1.35	1.44
Style	One-story; frame (vinyl)	Two-story; frame (vinyl/brick)
Basement	5 bedrooms, 2 bath Crawlspace	5 bedrooms, 2.5 bath Crawlspace
Utilities	Central air; forced-air heat; well & septic	Central air; forced-air heat; well & septic
Other	2-car attached garage	1-car attached garage; 2-car detached garage; deck



8294 South US Highway 231



6288 East Ash Court

The house at 8294 South US Highway 231, is located approximately 1,410 feet away from the nearest turbine, in a rural area. Both houses have a similar lot size, a similar rural location, have similar basements, and similar utilities. The 6288 East Ash Court property is of superior building size, building style, vintage, outbuildings, and was sold in superior market conditions.

ADJUSTMENT GRID MATCHED PAIR NO. 2

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
2B	6288 E Ash Ct. Monticello, IN 47960	-	-	-	O	O	-	O	O	-
+	Positive adjustment based on comparable being inferior in comparison to property #2A									
-	Negative adjustment based on comparable being superior in comparison to property #2A									
O	No adjustment necessary									

Downward adjustments were made for the superior market conditions, vintage, building size, building style, and outbuildings of the 6288 East Ash Court property compared to the 8294 South US Highway 231 property. The two properties have essentially the same location, lot size, basement, and utilities. Therefore, although the 6288 East Ash Court property give the impressions of being superior in many categories, the much higher per square foot sale price for the 8294 South US Highway 231 property appears to support the conclusion that there is not any negative impact in value resulting from the proximity of the 8294 South US Highway 231 property to a wind turbine.

Minnesota Analysis - Freeborn County Matched Pair No. 1

Freeborn County, Minnesota, is located north adjacent to central Iowa. Matched Pair #1 considers the sale of a property in the footprint of the Bent Tree Wind Farm in Freeborn County, which has been operational since February 2011. The house is located at 69525 305th Street, Hartland, sold in March 2016. This house is approximately 2,375 feet from the nearest turbine; there are several turbines located to the south and southeast.

This sale is compared with a similar property located at 70308 240th Street, Albert Lea, that sold in May 2016. Wind turbines are visible from the house, but the turbines are more than 1.5 miles away. The location is very rural in nature. Market conditions are considered to be substantially similar at the dates of sale. The salient details of these two properties are summarized in the table below.

FREEBORN COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	69525 305 th Street. Hartland, MN 56042	70308 240 th Street. Albert Lea, MN 56007
Distance from Turbine	2,375 Feet	NA
Sale Date	March 31, 2016	May 16, 2016
Sale Price	\$89,000	\$100,000
Sale Price/Sq. Ft. (A.G.)	\$57.12	\$61.80
Year Built	1880	1925
Building Size (Sq. Ft.)	1,558	1,618
Lot Size (Acres)	5.51	4.01
Style	Farmhouse; frame (vinyl) 3 or 4 bedrooms, 2 bath	Farmhouse; frame (vinyl) 3 bedrooms, 2 bath
Basement	Full, unfinished	Partial, unfinished
Utilities	No central air; propane heat; Well & septic	Central air; natural gas heat; Well & septic
Other	2-car detached garage; deck, outbuildings	2.5-car detached garage; deck, outbuildings



69525 305th Street



70308 240th Street

Both properties are older, farm-house style and of frame construction with vinyl siding. They are somewhat similar in size. However, the 240th Street house is superior to the 305th Street house in condition; it is classified by the Assessor as being in better condition and is described in the online listing as having been renovated recently. The 305th Street house does not have central air conditioning, and does not have natural gas available; however, the 240th Street house has both. Both the central air conditioning and the availability of natural gas are considered superior factors for 240th Street requiring a downward adjustment. An upward adjustment for the full basement of 305th Street compared to the partial basement of 240th Street.

The house on 240th Street has a site size approximately 1.5 acres smaller than that of the 305th Street house. However, this is more than offset by its location on a hard-surface road, as well as the proximity to Interstate 90 access and to the city of Albert Lea.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	70308 240 th St. Albert Lea, Minnesota	○	-	○	○	-	○	+	-	○
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

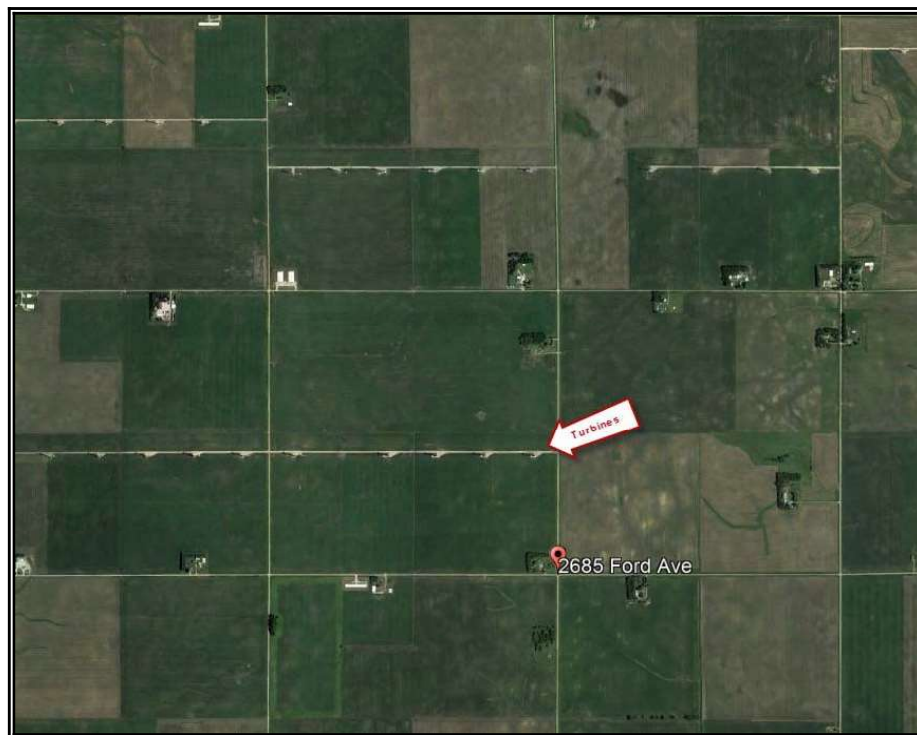
When the adjustments noted above for superior condition, air conditioning, and the availability of natural gas are made to the sale price of the 240th Street house, the two properties have essentially the same per square foot value. In other words, the higher per foot sale price for the 240th Street house is justified by its superior condition and amenities. Thus, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the sale price of the property at 69525 305th Street.

Iowa Analysis - Hancock County Matched Pair No. 1

Hancock County is located in northern Iowa and is a largely rural county, primarily agricultural in nature. The county has two areas of wind turbines, the Hancock County Wind Farm in the southeast portion of Hancock County and the Crystal Lake Energy Center in the northwest portion of Hancock County.

Crystal Lake I Wind Farm is located in Hancock County in north central Iowa and consists of 100 turbines that began commercial operations in 2008. Phases II and III located primarily in Winnebago County, added another 80 and 44 turbines, respectively, and began operations in approximately 2009. A property located at 2685 Ford Avenue, Britt, sold in May 2016, for \$155,400. The sale previously sold in October 2012 for \$150,000. The nearest turbine is approximately 2,000 feet to the north and west of this property.

The following aerial map illustrates the relationship of the Ford Avenue property to the closest wind turbines.



This property is compared with a similar property located at 2855 Taft Avenue that sold in December 2014 and is not located proximate to any wind turbines. Market conditions between December 2014 and May 2016 are considered to have been stable in this area of Iowa. The salient details of these two properties are summarized in the table below.

HANCOCK COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	2685 Ford Ave. Britt, IA 50423	2855 Taft Ave. Garner, IA 50438
Distance from Turbine	2,020 Feet	NA
Sale Date	May 20, 2016	December 22, 2014
Sale Price	\$155,400	\$190,000
Sale Price/Sq. Ft. (A.G.)	\$81.62	\$94.25
Year Built	1959	1975
Building Size (Sq. Ft.)	1,904	2,016
Lot Size (Acres)	2.08	1.22
Style	Ranch; frame (metal siding) 3 bedrooms, 2 bath	Split level; frame 3 bedrooms, 2 bath
Basement	Full, finished	None; slab
Utilities	Central air; Well & septic	In-wall air; Electric heat; Well & septic
Other	2-car attached garage; 1-car detached garage; patio, porch, shed	2.5-car attached garage; patio, deck, utility buildings



2685 Ford Avenue



2855 Taft Avenue

Although the Ford Avenue property technically is a ranch-style house, and the Taft Avenue property is a split-level-style house, both properties have lower levels that comprise a family room and an additional room. An upward adjustment for the superior market condition of the Ford Avenue property is made. In the case of the Ford Avenue property, the additional lower-level room is a kitchen, and the basement square footage is not included in the building size, and an upward adjustment is made for this feature. In the case of the Taft Avenue property, the lower level is not below grade, and the area, which includes a family room and a bedroom, is included in the square footage. The Taft Avenue building is of newer construction, and a downward adjustment is made; however, the Ford Avenue property has been adequately maintained. Both properties are considered to be in normal condition by the Hancock County Assessor. An upward adjustment is made for the central air of Ford Avenue compared to the in-wall air of Taft Avenue. The Ford Avenue property is situated on a larger lot than that of the Taft Avenue property; however, both lots have wooded areas along the rear property line, which mitigate the size differential to a large degree.

ADJUSTMENT GRID MATCHED PAIR NO. 1

SALE NO.	ADDRESS	SALE DATE	YEAR BUILT	BUILDING SIZE	LOT SIZE	LOCATION	STYLE	BASEMENT	UTILITIES	OUT-BUILDINGS
1B	2855 Taft Ave. Garner, Iowa	+	-	○	○	-	+	-	+	○
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

When the adjustments noted above for newer construction and the superior above-grade location of the second family room are made to the sale price of the Taft Avenue house, the two properties have essentially the same per square foot value. In other words, the higher per foot sales price for the Taft Avenue house is justified by its superior condition and location. Thus, the difference in the sale price does not support the conclusion that proximity to the wind turbines had a negative impact on the value of the Ford Avenue property.

Kansas Analysis - Coffey County Matched Pair No. 1

Coffey County Matched Pair No. 1 considers the sale of a house located at 2045 Trefoil Road Northeast, Waverly, that sold in November 2018 for \$162,500. This house is located approximately 1,960 feet from the nearest turbine of the Waverly Wind Farm, which came online in 2016, and there are several turbines visible in each direction.

The following photograph is an aerial view of the turbines visible surrounding the house.



This property is compared with a similar property located at 1804 North C Street, Le Roy, that sold in June 2018 for \$120,000. This property is not located near wind turbines. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

COFFEY COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	2045 Trefoil Rd. NE Waverly, KS 66871	1804 North C St. Le Roy, KS 66857
Distance from Turbine (Ft.)	1,960	N/A
Sale Date	November 19, 2018	June 15, 2018
Sale Price	\$162,500	\$120,000
Sale Price/Sq. Ft. (A.G.)	\$113.80	\$39.53
Year Built	1977	2002
Building Size (Sq. Ft.)	1,428	3,036
Lot Size (Acres)	12.00	0.50
Style	One-story; frame (vinyl) 3 bedrooms, 2 bath	One-story; frame (brick) 4 bedrooms, 3 bath
Basement	Full, unfinished walkout	Full, partial finished
Utilities	Central air; forced-air heat/heat pump; well & septic	Central air; forced-air heating; well & septic
Other	Fully stocked pond	2-car attached garage; 2-car detached garage; porch



2045 Trefoil Road Northeast



1804 North C Street

The house at 2045 Trefoil Road Northeast, is located approximately 1,960 feet away from the nearest turbine, in a rural area. Both houses are located in a similar rural location with paved roads, have similar utilities, have similar basements, and were sold in similar market conditions. The 2045 Trefoil Road Northeast property has a superior lot size. The 1804 North C Street property has a superior vintage, a superior building size, a superior building style, and has superior outbuildings.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1804 North C St. Le Roy, KS 66857	O	-	-	+	O	-	O	O	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
O	No adjustment necessary									

Upward adjustments are made to the 1804 North C Street property for the larger lot size of the 2045 Trefoil Road Northeast property. Downward adjustments are made for the superior vintage, building size, building style, and outbuildings of the 1804 North C Street property compared to those features of the 2045 Trefoil Road Northeast property. The two properties have essentially the same location, utilities, and were sold in similar market conditions. Therefore, although the 1804 North C Street property gives the impression of being superior in many categories, the much higher per square foot sale price for the 2045 Trefoil Road Northeast property appears to not support a finding that there is a negative impact on value resulting from the proximity of the 2045 Trefoil Road Northeast property to a wind turbine.

Kansas Analysis - Harper County Matched Pair No. 1

Harper County Matched Pair No. 1 considers the sale of a house located at 330 Northwest 150th Road, Harper, that sold in July 2017 for \$385,000. This house is located approximately 1,330 feet from the nearest turbine of the Flat Ridge II Wind Farm, which came online in 2013, and there are several turbines visible in each direction.

This property is compared with a similar property located at 750 Northeast 110th Road, Danville, that sold in January 2017 for \$174,900. This property is not located near wind turbines. Market areas are considered to be similar. The salient details of these two properties are summarized in the following table.

The following photograph is an aerial view of the turbines visible surrounding the house.



HARPER COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	330 NW 150 th Rd. Harper, KS 67058	750 NE 110 th Rd. Danville, KS 67036
Distance from Turbine (Ft.)	1,330	N/A
Sale Date	July 14, 2017	January 1, 2017
Sale Price	\$385,000	\$174,900
Sale Price/Sq. Ft. (A.G.)	\$120.46	\$73.49
Year Built	1997	1955
Building Size (Sq. Ft.)	3,196	2,380
Lot Size (Acres)	5.20	5.92
Style	One-story; frame (stone)	Two-story; frame (brick)
Basement	5 bedrooms, 4 bath Partial, finished	4 bedrooms, 2 bath N/A
Utilities	Other cooling; forced-air heat; well & septic	Other cooling; other heat; well & septic
Other	2-car attached garage; farm building; pond, deck, patio, fire pit	1-car attached garage; 2-car detached garage; round top building & extra structure



330 Northwest 150th Road

750 Northeast 110th Road



The house at 330 Northwest 150th Road, is located approximately 1,330 feet away from the nearest turbine, in a rural area. The 330 Northwest 150th Road property is of superior vintage and superior building size. The 750 Northeast 110th Road property has superior outbuildings compared to 330 Northwest 150th Road. Both houses were sold in similar market conditions, located in a similar rural location, have similar lot sizes, similar building styles, similar basements, and have similar utilities.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	750 NE 110 th Rd. Danville, KS 67036	○	+	+	○	○	○	○	○	-
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

Upward adjustments were made for the superior vintage and building size of the 330 Northwest 150th Road property compared to the 750 Northeast 110th Road property. Downward adjustments were made for the superior outbuildings of the 750 Northeast 110th Road property compared to those of the 330 Northwest 150th Road property. The two properties have essentially the same market conditions, location, style, basement, and utilities. Therefore, although the two properties give the impression of being similar in many categories, the much higher per square foot sale price for the 330 Northwest 150th Road property appears to support the conclusion that there is not any negative impact in value resulting from the proximity of the 330 Northwest 150th Road property to a wind turbine.

Kansas Analysis - Pratt County Matched Pair No. 1

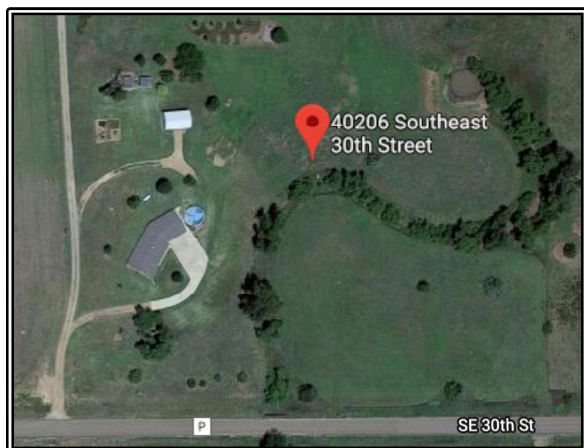
Pratt County Matched Pair No. 1 considers the sale of a house located at 40206 Southeast 30th Street, Pratt, that sold in January 2018 for \$195,000. This house is located approximately 2,710 feet from the nearest turbine of the Ninnescah Wind Farm, which came online in 2016, and there are several turbines visible towards the southern direction of the property.

The following photograph is an aerial view of the turbines visible surrounding the house.



This property is compared with a similar property located at 1517 Eastland Place, Pratt, that sold in December 2017 for \$230,000. This property is not located near wind turbines. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

PRATT COUNTY MATCHED PAIR NO. 1		
	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	40206 SE 30 th St. Pratt, KS 67124	1517 Eastland Pl. Pratt, KS 67124
Distance from Turbine (Ft.)	2,710	N/A
Sale Date	January 29, 2018	December 11, 2017
Sale Price	\$195,000	\$230,000
Sale Price/Sq. Ft. (A.G.)	\$106.56	\$59.85
Year Built	2002	2010
Building Size (Sq. Ft.)	1,830	3,843
Lot Size (Acres)	10.01	0.29
Style	One-story; frame (brick) 3 bedrooms, 2 bath	One-story; frame (brick) 5 bedrooms, 3 bath
Basement	N/A	Full, finished
Utilities	Central air; propane gas heat; well & septic	Central air; forced-air heating; public water & sewer
Other	2-car attached garage; 3-bay work shed & storage building; deck, patio, pool, pond, creek	2-car attached garage; cul-de-sac; porch & deck



40206 Southeast 30th Street



1517 Eastland Place

The house at 40206 Southeast 30th Street, is located approximately 2,710 feet away from the nearest turbine, in a rural area. Both houses are of similar building styles, are of similar vintage, and were sold in similar market conditions. The 40206 Southeast 30th Street property has a superior lot size and superior outbuildings. The 1517 Eastland Place property has a superior building size, a superior basement, a superior location on a paved cul-de-sac, and has superior utilities.

ADJUSTMENT GRID MATCHED PAIR NO. 1

Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	1517 Eastland Pl. Pratt, KS 67124	O	O	-	+	-	O	-	-	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
O	No adjustment necessary									

Upward adjustments are made to the 1517 Eastland Place property for the larger lot size and superior outbuildings of the 40206 Southeast 30th Street property. Downward adjustments are made for the superior building size, location, basement, and utilities of the 1517 Eastland Place property compared to those features of the 40206 Southeast 30th Street property. The two properties have essentially the same style, vintage, and were sold in similar market conditions. Therefore, although the 1517 Eastland Place property gives the impression of being superior in many categories, the much higher per square foot sale price for the 40206 Southeast 30th Street property appears to not support a finding that there is a negative impact on value resulting from the proximity of the 40206 Southeast 30th Street property to a wind turbine.

Kansas Analysis - Ford County Matched Pair No. 1

Ford County Matched Pair No. 1 considers the sale of a house located at 12396 Backtrail Road, Spearville, that sold in March 2017 for \$235,000. This house is located approximately 6,705 feet, or approximately 1.27 miles, from the nearest turbine of the Spearville Wind Farm, which came online in 2006; however, any distance greater than 4,000 feet, or approximately 0.75 miles, from a turbine cannot be considered proximate and is not considered viable for use in a proper matched pair analysis. Although the distance to the nearest turbine does not allow for a viable analysis, the lack of population and sales performed at arm's length created the need for the analysis of data that is beyond what is deemed typical for a matched pair sales analysis.

This property is compared with a similar property located at 11447 U.S. Highway 50, Wright, that sold in February 2016 for \$145,000. This property is not located near wind turbines. Both properties are situated in rural locations. The salient details of these two properties are summarized in the table below.

The following photograph is an aerial view of the turbines visible surrounding 12396 Backtrail Road.



FORD COUNTY MATCHED PAIR NO. 1

	1A - Proximate to a Wind Turbine	1B - Not Proximate to a Wind Turbine
Address	12396 Backtrail Rd. Spearville, KS 67876	11447 U.S. Hwy. 50 Wright, KS 67882
Distance from Turbine (Ft.)	6,705	N/A
Sale Date	March 17, 2017	February 8, 2016
Sale Price	\$235,000	\$145,000
Sale Price/Sq. Ft. (A.G.)	\$167.86	\$92.47
Year Built	2001	1999
Building Size (Sq. Ft.)	1,400	1,568
Lot Size (Acres)	6.62	9.00
Style	One-story; frame (wood) 3 bedrooms, 3 bath	One-story; frame (vinyl) 3 bedrooms, 2 bath
Basement	Full, finished	Partial
Utilities	Other cooling; other heating; well & septic	Other cooling; other heating; well & septic
Other	10-car attached garage; deck	2-car attached garage; carport; deck



12396 Backtrail Road

11447 U.S. Highway 50



The house at 12396 Backtrail Road, is located approximately 6,705 feet away from the nearest turbine, in a rural area. Both houses are located in a similar rural location, have similar building style, have similar utilities, and have similar vintage. The 12396 Backtrail Road property was sold in superior market conditions, has a superior basement, and has superior outbuildings compared to the 11447 U.S. Highway 50 property. The 11447 U.S. Highway 50 property has a superior building size and a superior lot size compared to the 12396 Backtrail Road property.

ADJUSTMENT GRID MATCHED PAIR NO. 1										
Sale No.	Address	Sale Date	Year Built	Building Size	Lot Size	Location	Style	Basement	Utilities	Out-Buildings
1B	11447 U.S. Hwy. 50 Wright, KS 67882	+	○	-	-	○	○	+	○	+
+	Positive adjustment based on comparable being inferior in comparison to property #1A									
-	Negative adjustment based on comparable being superior in comparison to property #1A									
○	No adjustment necessary									

Upward adjustments are made to the 11447 U.S. Highway 50 property for the superior market conditions, basement, and outbuildings of the 12396 Backtrail Road property. Downward adjustments are made for the superior building size and lot size of the 11447 U.S. Highway 50 property compared to those features of the 12396 Backtrail Road property. The two properties have essentially the same location, vintage, style, and utilities. Therefore, although the two properties give the impression of being similar in many categories, the much higher per square foot sale price for the 12396 Backtrail Road property appears to not support a finding that there is a negative impact on value resulting from the distance of the 12396 Backtrail Road property to a wind turbine.

Matched Pair Analysis Conclusions

Studies in South Dakota and studies in rural counties of Indiana, South Dakota, Minnesota, Iowa, and Kansas comparing sales of properties proximate to wind turbines with similar properties selling under similar market conditions without proximity to wind turbines have not discovered any sales in which proximity to wind turbines appears to have had a negative impact on property values. Therefore, the conclusion is that there does not appear to have been any measurable negative impact on surrounding residential property values due to the proximity of a wind farm.

Agricultural Land Values

Agricultural land values are typically tied to the productivity of the land and to the commodity prices of crops like corn and soybeans. Other factors include favorable interest rates, and the supply of land compared to the number of buyers. The third-quarter 2018 agricultural credit conditions survey, *Low crop prices, trade worrying ag lenders*, from the 9th District, which includes South Dakota, and is published by the Federal Reserve of Minneapolis, stated that “[t]hough harvests in some areas were stalled by heavy late-season rains, crop production this year was strong, hitting records in some Ninth District states. But low crop prices and trade woes dealt a financial blow to farmers from July through September 2018, according to the Federal Reserve Bank of Minneapolis’ third-quarter (October) agricultural credit conditions survey.” The survey also stated that “[l]and values were stable on average across district states, and interest rates on loans rose modestly from the previous quarter. The outlook for the fourth quarter is similar, with lenders in the district generally expecting farm incomes to decrease further.”³

The *South Dakota Agricultural Land Market Trends, 1991-2019*, produced by South Dakota State University,⁴ reported non-irrigated agricultural cropland values in the northeast region of South Dakota averaged \$4,606 per acre in 2019 and \$4,546 per acre in 2018, while pastureland still remains at a much lower value of \$1,876 per acre in 2019 and \$2,178 per acre in 2018. The most likely buyer of agricultural land in South Dakota is an existing farmer or investor, with neighboring farmers paying higher prices than investors. The prognosis appears that land values of all cropland have held steady since 2018. The following table, chart, and map illustrate values as of February 1, 2019, by region, including Deuel County in the northeast region.

³ <https://www.minneapolisfed.org/publications/agricultural-credit-conditions-survey/low-crop-prices-trade-worrying-ag-lenders>, Federal Reserve Bank of Minneapolis

⁴ <https://extension.sdstate.edu/sites/default/files/2019-06/P-00117.pdf>, 2018 SDSU South Dakota Farm Real Estate Survey

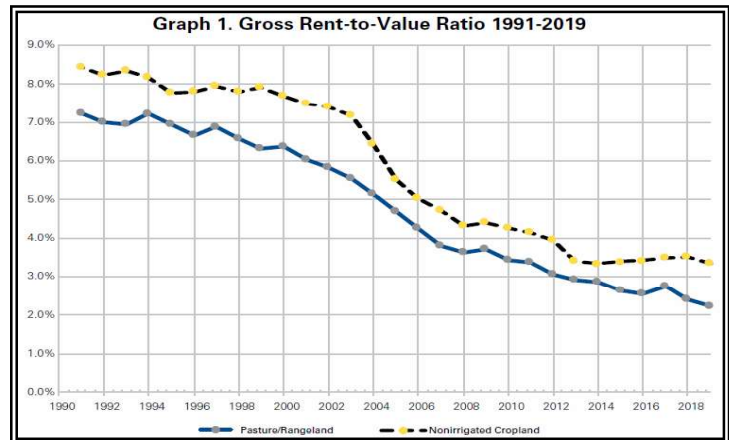
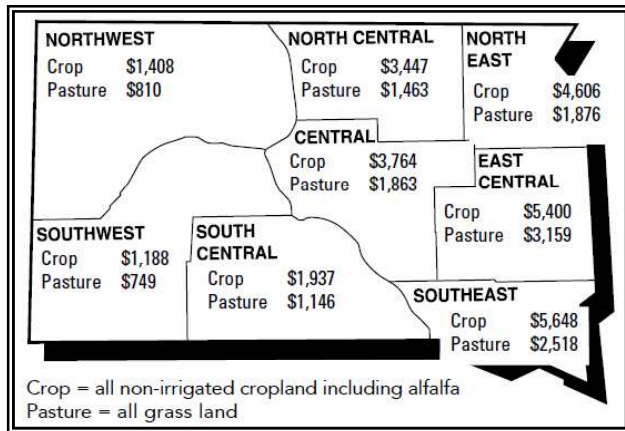


Table 4. Average reported value and annual percentage change in value of South Dakota agricultural land by type of land by region, February 2014-2019.

Type of Land	South-east	East Central	North-east	North Central	Central	South Central	South-west	North-west	STATE
dollars per acre									
Nonirrigated Cropland									
Average value, 2019	\$5,648	\$5,400	\$4,606	\$3,447	\$3,764	\$1,937	\$1,188	\$1,408	\$3,747
Average value, 2018	\$6,361	\$6,237	\$4,546	\$3,534	\$3,347	\$2,125	\$1,207	\$1,369	\$3,937
Average value, 2017**	\$5,569	\$6,160	\$4,654	\$4,030	\$3,291	\$2,203	\$1,427	\$1,142	\$3,903
Average value, 2016	\$5,653	\$6,116	\$4,613	\$4,177	\$3,843	\$2,168	\$1,264	\$1,187	\$4,094
Average value, 2015	\$5,887	\$6,329	\$5,066	\$4,275	\$3,895	\$2,283	\$1,347	\$1,193	\$4,265
Annual % change 19/18	-11.2%	-13.4%	1.3%	-2.5%	12.5%	-8.8%	-1.6%	2.8%	-4.8%
Pasture/ Rangeland**									
Average value, 2019	\$2,518	\$3,159	\$1,876	\$1,463	\$1,863	\$1,146	\$749	\$810	\$1,203
Average value, 2018	\$2,829	\$2,624	\$2,178	\$1,718	\$1,882	\$1,241	\$839	\$781	\$1,252
Average value, 2017**	\$2,450	\$2,546	\$2,089	\$1,914	\$2,011	\$1,150	\$887	\$650	\$1,215
Average value, 2016	\$2,566	\$2,781	\$2,028	\$1,957	\$2,219	\$1,330	\$715	\$760	\$1,222
Average value, 2015	\$2,719	\$2,727	\$2,136	\$1,758	\$2,100	\$1,338	\$851	\$630	\$1,187
Annual % change 19/18	-11.0%	20.4%	-13.8%	-14.8%	-1.0%	-7.7%	-10.7%	3.8%	-3.9%

Source: 2019 and earlier South Dakota Farm Real Estate Market Surveys

*cropland now includes all alfalfa acres

** 2017 pasture land variable has been redefined and includes all grass acres

Statewide average land values are based on 2002 land use weights

Type of Land	Southeast	East Central	Northeast	North Central	Central	Western
dollars per acre						
Irrigated land						
Average value, 2019	\$7,300	\$6,000	***	***	\$3,972	\$2,182
High Productivity	***	\$7,320	***	***	\$5,942	\$2,636
Low Productivity	***	\$4,680	***	***	\$3,462	\$1,955
Average value, 2018	\$6,876	\$6,500	\$5,417	\$4,808	\$4,375	\$2,035
Average value, 2016	\$6,717	\$6,350	\$6,143	\$5,250	\$4,314	\$2,688
Average value, 2015	\$7,330	\$6,750	***	\$7,000	\$4,380	\$2,450
Average value, 2014	\$7,940	\$7,190	\$6,250	\$6,340	\$4,430	\$1,490
Annual % change 19/18	6.2%	-7.7%	***	***	-9.2%	7.2%

Source: 2019 and earlier South Dakota Farm Real Estate Market Surveys

Statewide average land values are based on 2002 land use weights

SUMMARY OF RECENT LAND SALES NEAREST TO THE CROWNED RIDGE WIND II						
No.	Owner Mailing Address & Parcel Identification	Sale Price	Sale Date	Land Area (Acres)	NCCPI	Sale Price Per Acre
1	17260 Kranzburg Avenue Goodwin, South Dakota Codington County - 116N 51W – 2 APN: 002032					
	Land Sale #1 - 1 Field	\$129,000	11/15/16	80.43	44.8	\$1,603.88
2	110 28 th Avenue Southeast Watertown, South Dakota Codington County - 116N 51W – 15 APN: 002108					
	Land Sale #2 - 1 Field	\$155,000	6/30/16	39.32	45.3	\$3,942.01
3	P.O. Box 21 Goodwin, South Dakota Deuel County - 116N 50W – 8, 17 APN: 5969					
	Land Sale #3 - 1 Field	\$400,000	6/23/16	103.76	38.4	\$3,855.05
4	46527 189 th Street Estelline, South Dakota Deuel County - 115N 50W – 21, 22, 27 APN: 1878 & 5608					
	Land Sale #4 - 2 Fields	\$574,710	10/3/17	185.00	53.7	\$3,106.54
5	17260 Kranzburg Avenue Goodwin, South Dakota Codington County - 116N 51W – 11 APN: 002089					
	Land Sale #5 - 1 Field	\$815,900	11/16/16	198.25	41.0	\$3,127.72
Summary Averages:					44.6	\$3,127.04
Codington County Averages:					39.0	
Deuel County Averages:					35.6	
Grant County Averages:					36.6	

The above summary of land sales⁵ reveal that the agricultural land nearest to the area of the project footprint is of above-average quality for, with an average National Commodity Crop Productivity Index of 44.6 compared to the Codington, Deuel, and Grant County overall average National Commodity Crop Productivity Indexes of 39.0, 35.6, and 36.6, respectively. Therefore, adding wind turbines and land leases should only add value to the land prices and farm revenue benefit of the above-average land, and then benefit the land prices and farm revenue of the parcels with average or below-average land by adding an extra steady income stream. Research found there were no appropriate sales in Grant County for this analysis.

⁵ AcreValue Pro - <https://www.acrevalue.com/>

Agricultural Land Sales near Wind Farms

The research was not exhaustive, however, reported sale in November 2017 was to be associated with wind turbines within Jerauld County, South Dakota, which is home to the Wessington Springs Wind Farm and has similar demographics as the project area. The property is situated on pastureland of poor quality with significant topography issues, which would reflect a lower price per acre than the region's average price of \$2,011 per acre. However, the sale included multiple wind turbine leases, and sold with an above average price per acre of \$2,800, which signifies a direct correlation to the benefit associated with the turbines on the land.

Another search in Illinois discovered there was one reported sale of agricultural land close to wind turbines located in McLean County, Illinois, in March 2013. The farm, comprised of two tracts, was considered “highly desirable” with a productivity rating of 135 and 132 respectively (the low end of the excellent range.) The report commented, “...the wind turbine lanes were not a nuisance as they ran the same direction as the farm is planted (north–south.)” In 2014, there were three sales of farms with wind turbines in Region 4, which includes the counties of Marshall, Woodford, Mason, Putnam, Livingston, McLean, and Tazewell. The report stated, “In general, investors may have paid a premium for the wind turbine. High quality farmland with wind turbines is stable.”

Wind turbines typically are considered to be of significant benefit to farmers. For example, Iowa farmers interviewed by the *Omaha World Herald*, were positive about the stable income as opposed to the vicissitudes of commodity prices.⁶ Franklin County, Iowa reported lowering real estate taxes for the county as a whole because of the taxes generated by the wind turbines in that county. Support for good prices comes from the lack of land for sale, stable commodity prices, and low interest rates. Marginal land in areas where wind turbines are located or proposed is popular with investors.⁷

A report was discovered for Illinois, the *2016 Illinois Land Values and Lease Trends*, indicated that the impact of wind turbine leases is being experienced in McLean, Livingston, and Woodford counties, where turbine leases have provided “income diversification, beyond agriculture, which makes these tracts more attractive to an outside investor.”⁸ Further, they noted that “investors are still paying a little more of a premium for the wind turbines just as they had in the past few years.”⁹ The report notes that the premium is related directly to the number of years left on the lease.

⁶ http://www.omaha.com/money/turning-to-turbines-as-commodity-prices-remain-low-wind-energy/article_2814e2cf-83a3-5 47d-a09e-f039e935f399.html Accessed September 18, 2017.

⁷ <http://www.agriculture.com/farm-management/farm-land/farmland-sales-hard-to-find-as-growers-hold-tight-keeping-land-value> Accessed September 18, 2017.

⁸ Klein, David E., and Schnitkey, Gary, 2016 *Illinois Land Values and Lease Trends*, Illinois Society of Professional Farm Managers and Rural Appraisers, Page 38.

⁹ *Ibid.* Page 42.

An updated report was discovered for Illinois, an article titled *Wind Energy and Farmland Values* in the *2018 Illinois Land Values and Lease Trends*, indicated that as of March 22, 2018, Illinois was home over to 27 wind projects that individually have a nameplate capacity of 50 megawatts or greater.

Understanding Illinois and its major involvement in wind energy have allowed for several positive side effects besides allowing for cleaner energy. The first benefit is that it appears to impact land values in a positive way significantly. The typical capitalization rate for well-managed farmland in Illinois is usually between 2.5% to 3.5%. The capitalization rate for land with lease payments associated with wind projects is approximately 9%; appearing to be both far more lucrative and more efficient use of the land. A few more of the positive improvements that are associated with wind projects is that the municipalities within the project area typically create plans with the project developers to repair and improve roads that were used during construction. In addition, the land that is undeveloped by the project developer is available for the discretionary use of the landowners. Different improvements like paved areas around turbines and gravel roads are left once the work is completed. With any improvements, there are always concerns and potential issues that may come to mind, but it appears that with each wind turbine project completed in Illinois derives a far better outcome than worse, when speaking of land values.¹⁰

Overall, it appears that there is little or no relationship between agricultural land values and the location of wind farms, with productivity being the driving force behind land values. However, wind farm lease revenue does appear to increase the marketability and value of the land benefiting from the lease.

Real Estate Professionals & Assessor Surveys 2016-2019

Real estate professionals from the surrounding market areas and in the Midwest were contacted to discuss market conditions, specific market transactions, and to investigate whether they had experience with or knowledge of any impact of wind farms on residential property values.

Jim Aesoph of Aesoph Real Estate, Inc. is a broker with 27 years of experience in northeast South Dakota. MaRous and Company contacted Mr. Aesoph due to his highly regarded reputation in the region. He stated that he contacted the assessors of the adjacent Codington, Grant, and Roberts counties to discuss land prices in each respective county, and each of them informed Mr. Aesoph that they are not aware of any effect on land prices due to new wind projects in the area. He also stated that 5 years ago land prices were roughly \$6,000 per acre, and now the average acre price is approximately \$4,000. The reduction in land prices, he mentioned, is not due to the wind project, but due to the production of corn on the land.

Interviews were conducted with six auctioneers throughout South Dakota. Marshall Hansen of Bob Hansen Auction stated that while turbines closer to home could possibly keep a buyer away, in areas of low population the development of turbines has a positive effect on the area. Mr. Hansen also stated that chemicals, such as insecticides, pose a larger impact on wildlife and game birds than turbines. Lenny

¹⁰ Klein, D., Baker, S., Sherrick, B., & Haight, B. (2018). *Wind Energy and Farmland Values*. 2018 Illinois Land Values and Lease Trends.

Burlage of Burlage-Peterson Auctions stated that turbines do not negatively affect residential values but can affect each individual person differently. Jackson Hagerfeld of Advantage Land Company stated that he does see any impact on land from wind turbines, and the recent land sale prices are driven up by the limited amount of properties on the market. Jim Thorpe of Thorpe Realty & Auction stated that turbine leases have positively impacted landowners with turbines on their land. Mr. Thorpe also stated that he had noticed a movement of buyers from larger cities buying properties that are being sold off by the aging population that is moving out of the area. Jeff Juffer of Juffer Incorporated stated that from the existing turbines within the Beethoven Wind Farm footprint have not had any effect, positive or negative, on the local market. Mr. Juffer also states that Avon and the immediate surrounding area is lacking in industry and would benefit from an outside influence to attract businesses to the area. Lastly, Glen Peterson of Peterson Auctioneers states that in the past two years there has been a demand for land that is not dependent on if a turbine is on the land or not, which can be assumed that turbines do not affect land sales in any way, positively or negatively.

Joy Boyd, a local Illinois licensed broker in Christian County, has observed rural residential property values near the existing wind farm, Radford's Run, have not been negatively impacted due to the proximity to a wind turbine. Ms. Boyd also states that during peak farming season, other energy systems, such as solar panels, essentially disappear behind the crops on the land. Ms. Boyd also reported that rural residential properties in the general area overall are accepting of alternative uses for the land due to the proximity of existing intense agricultural uses: agricultural and industrial type buildings, gravel roads, and other intrusive uses of the land. It has been observed that the residents within Christian County and the surrounding counties have consistently agree that the only negative land use possibly impacting property values and buyers' decisions are the existing hog containment facilities within the county.

Real estate professional, Joseph M. Webster, MAI, of Webster & Associates, Inc., Decatur, Illinois, was previously consulted within 2016 and 2017 for his extensive experience with agricultural, commercial, and residential values in the Decatur, and Macon County area, as well as the broader market area. Mr. Webster provided background information on the economic conditions as well as information on agricultural and residential values of the central Illinois area.

Michael Crowley, Sr., SRA of Real Estate Consultants, Ltd., Spring Valley, Illinois was consulted. Mr. Crowley has had extensive experience with wind farm development in Central Illinois, including projects in counties with similar demographics and character, such as Bureau, Whiteside, and Lee counties. Mr. Crowley has been unable to document any loss in property values attributable to the proximity of wind turbines.

Kansas broker, Mandy Collum of United Country Real Estate Professionals, states that the Neosho County residential market is very stable and has been stable over the past couple years. She also states that the county is very rural; therefore, residential sales are limited. Her view on the market indicates that the highest end for the residential market values range is typically \$250,000 and the highest end for the agricultural land values is typically \$3,300 per acre. Ms. Collum also pointed out that the market is demanding residential properties that are modern (which include modern energy sources, such as wind), well maintained, and show well to potential buyers. Properties with these features can be typically valued greater than \$100,000.

Kansas broker, Stephanie Tuggle of Keller Williams Realty Select, states that Neosho County's residential market was affected heavily by the housing crisis that began in 2008 and continued through 2012; however, since 2012 the Neosho market has been slowly recovering and appears to be stable and at the peak of its market potential due to the discovery of some declining values throughout the county and due to values in the state trending downwards. Ms. Tuggle did not comment on her opinion of the range of values for residential properties; however, her opinion of the highest end for the agricultural land values is typically \$3,000 per acre.

David Engelman, Kansas General Certified Appraiser, Wilson County, Kansas, was consulted. Mr. Engelman has had extensive experience with agricultural, commercial, and residential values in the Neosho County area, as well as the broader southeast Kansas market area.

Rick Mummert of Ron Holton Real Estate reported that residential conditions in both Freeborn and Mower counties in Minnesota had been stable through the last 3 years, primarily due to the very rural nature of the area; however, the area is benefitting from the low-interest rates. He reported that the Highway 14 corridor had experienced increases in residential values; in his opinion, the difference was due to the more developed nature of the area and the availability of jobs.

Interviews with brokers proximate to wind farms in other areas of the Midwest yielded similar results. Although a number of them wished to remain anonymous, they stated that they did not believe that the proximity to wind turbines had any bearing on the sale prices of residential properties in the area.

South Dakota Assessors Survey - November 2017, Updated April 2018

In November 2017 my office conducted a survey of the supervisor of assessments or a deputy supervisor in eight counties in South Dakota, then two additional counties in April 2018, in which wind farms with more than 25 turbines currently are operational, and South Dakota has more than nine wind farms with more than 510 wind turbines. As of the third quarter of 2018, the AWEA reported there were 14 wind projects online with 583 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The detailed analysis is attached in the addenda at the end of this report. The following is a summary of the results of that survey:

- ∴ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located;
- ∴ In the past 5 years, the only assessor's office to have experienced a real estate tax appeal based upon wind farm-related concerns was Aurora County, but the appeal was denied by the county. There have been no reductions in assessed valuations related to wind turbines;
- ∴ As the available market data does not support the claim of a negative impact upon residential or agricultural values, residential and agricultural assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm;
- ∴ Virtually all assessors volunteered that the wind farms provided positive economic benefits to their counties and, in fact, had a positive impact on real estate values.

Illinois Assessors Survey - Updated October 2016

In March 2015, and updated in October 2016, my office conducted a survey of the supervisor of assessments or a staff member in 18 counties in Illinois in which wind farms currently are operational. As of the third quarter of 2018, the AWEA reported there were 49 wind projects online with 2,632 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- ∴ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located;

- ∴ In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based on wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines;¹¹
- ∴ As the available market data do not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm;
- ∴ Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Indiana Assessors Survey – January 2019

In January 2019, MaRous & Company conducted a survey of the supervisor of assessments or a staff member in 5 counties in Indiana in which wind farms with more than 25 turbines currently are operational. Of the wind farms with more than 25 turbines, Indiana contains more than 14 wind farms with more than 1,190 wind turbines. As of 2018, the AWEA reported there were approximately 16 wind projects with approximately 1,203 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- ∴ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located;
- ∴ In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines;
- ∴ As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm;
- ∴ Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

¹¹ A lawsuit was apparently filed in 2013 against the Supervisor of Assessments in Vermilion County by a homeowner proximate to wind turbines; however, there has been no further action on the matter.

Kansas Appraiser Survey – January 2019

In January 2019, MaRous & Company conducted a survey of the county appraiser or a staff member in 21 counties in Kansas in which wind farms with more than 25 turbines currently are operational. Of the wind farms with more than 25 turbines, Kansas contains more than 29 wind farms with more than 2,856 wind turbines. As of 2018, the AWEA reported there were approximately 37 wind projects with approximately 2,996 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- ∴ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located;
- ∴ In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based upon wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines;
- ∴ As the available market data does not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm;
- ∴ Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Minnesota Assessors Survey - January 2017

In late January 2017, my office conducted a survey of the supervisor of assessments or a deputy supervisor in eight Minnesota counties where large numbers of wind turbines currently are operational. There are several counties with small numbers of wind turbines that were not included in the survey. As of the third quarter of 2018, the AWEA reported there were 98 wind projects online with 2,428 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- ∴ With one exception, the interviewees reported that there was no market evidence to support a finding that there has been a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, the assessors believed this to be the result of the very rural nature of the area in which the projects are located;

- ∴ The exception, the Dodge County Assessor, reported receiving two complaints from residential property owners regarding the value impact of proximity to wind turbines; however, the Assessor was unable to find data to support the contentions;
- ∴ Without exception, where there was sufficient data to analyze, the County Assessors reported that both residential and agricultural assessed property values within the wind farm footprints had fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm.

Bruce Nielson, Lincoln County Assessor, reported a recent residential transaction in a township in which wind turbines are located that sold \$70,000 higher than the assessor's opinion of market value.

Iowa Assessors Survey - August/September 2017

In August and September 2017 my office conducted a survey of the supervisor of assessments or a staff member in 26 counties in Iowa in which wind farms with more than 25 turbines currently are operational. As of the third quarter of 2018, the AWEA reported there were 107 wind projects online with 4,145 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The following is a summary of the results of that survey:

- ∴ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located;
- ∴ In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based on wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines;
- ∴ As the available market data do not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm;
- ∴ Virtually all assessors volunteered that the wind farms provided positive economic benefits to their counties and, in fact, had a positive impact on real estate values;
- ∴ Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Ohio Auditors Survey – July 2019

In July 2019, MaRous & Company conducted a survey of the County Auditors or a deputy auditor in 3 counties in which wind farms with more than 25 turbines currently are operational. Of the wind farms with more than 25 turbines, Ohio has more than 5 wind farms with more than 327 wind turbines. As of April 2019, the AWEA reported there were approximately 38 wind projects with approximately 382 wind turbines in the state with additional farms being added each year. The interviews were intended to allow the assessment officials to share their experience regarding the wind farm(s) impact upon the market values and/or assessed values of surrounding properties. The detailed analysis is attached in the addenda at the end of this report. The following is a summary of the results of that survey:

- ✧ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located;
- ✧ In the past 18 months, the assessor's offices have not experienced a real estate tax appeal based on wind farm-related concerns. There have been no reductions in assessed valuations related to wind turbines;
- ✧ As the available market data do not support the claim of a negative impact upon residential values, residential assessed values have fluctuated consistently within counties as influenced by market conditions, with no regard for proximity to a wind farm;
- ✧ Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and external influences.

Literature Review

I am familiar with several academic and peer-reviewed studies on the impact of wind turbines on residential property values. There are no peer-reviewed studies for the state of South Dakota. However the following studies are consistent with our findings in South Dakota. These are summarized below:

Municipal Property Assessment Corporation (MPAC) Study, 2008, 2012, and 2016

Ontario, Canada

This study originally was conducted in 2008 and was updated in 2012 and 2016. The conclusions in all three studies are similar: “there is *no statistically significant impact on sale prices* of residential properties in these market areas resulting from proximity to an IWT [Industrial Wind Turbine] when analyzing sale prices.” (2012 Study, Page 5; emphasis in original) Using 2,051 properties and generally accepted time adjustment techniques, MPAC “cannot conclude any loss in price due to the proximity of an IWT.” (2012 Study, Page 29) Further, Appendix G of the 2012 MPAC report “Re-sale Analysis” states in the “Summary of Findings” “MPAC’s own re-sale analysis using a generally accepted methodology for time adjustment factors indicates no loss in price based on proximity to the nearest IWT.”

Lawrence Berkeley National Laboratory (LBNL) Studies, 2009, 2010, 2013, and 2014

Nationwide

The 2009 LBNL study included analysis of 7,489 sales within 10 miles of 11 wind farms and 125 post-construction sales within 1 mile of a wind turbine. The study used rural settings and wind farms of more than 50 turbines, and considered area stigma, scenic vista sigma, and nuisance stigma in varying distances from a wind turbine. The 2010 LBNL study included 7,500 single-family residential sales located in nine states and proximate to 24 wind farms, and 4,937 post-construction sales within 10 miles of a wind turbine. The 2013 LBNL study included 51,276 sales located in nine states and proximate to 67 wind farms, and 376 post-construction sales within 1 mile of a wind turbine. The 2014 LBNL study included over 50,000 sales located in nine states and proximate to 67 wind farms, and 1,198 post-construction sales within 1 mile of a wind turbine. All were located in rural settings and near wind farms of more than 0.5 megawatts. Theses study concentrated on nuisance stigma in varying distances from a wind turbine. The study found no statistically significant evidence that turbines affect sale prices. Neither study found statistical evidence that home values near turbines were affected.

University of Rhode Island, 2013

Rhode Island

Structured similarly to the LBNL studies, this study included 48,554 total sales proximate to 10 wind farms, and 412 post-construction sales within 1 mile of a turbine. These wind farms were mostly small facilities in urban settings. The study included nuisance and scenic vista stigmas. Page 421 of the report stated, “Both the whole sample analysis and the repeat sales analysis indicate that houses within a half mile had essentially no price change ...” after the turbines were erected.

The University of Guelph, Melancthon Township, 2013

Ontario, Canada

This study analyzed two wind farms in the township, using 5,414 total sales and 18 post-construction sales within 1 kilometer of a wind turbine. The study included nuisance and scenic vista stigmas. Page 365 of the study stated that “These results do not corroborate the concerns regarding potential negative impacts of turbines on property values.”

University of Connecticut/LBNL, 2014

Massachusetts

This study included 312,677 total sales proximate to 26 wind farms, and 1,503 post-construction sales within 1 mile of a wind turbine. These wind farms were located in urban settings and primarily were proximate to small wind farms. The study included wind turbines and other environmental amenities/disamenities (including beaches and open spaces/landfills, prisons, highways, major road, and transmission lines) together, for nuisance stigma. “Although the study found the effects from a variety of negative features ... and positive features ... the study found no net effects due to the arrival of turbines.”

Wichita State University, 2019

Kansas

This study strived to decipher and develop a better understanding of wind projects and their effect on rural properties in Kansas. The study’s data is based on 23 operational wind projects in Kansas which came online between 2005 to 2015. The properties and their values, which were appraised at the county level, have sale dates ranging from 2002 to 2018. The study and its results suggest that property values do not spike once the project is completed. Rather, it was noted that they have a more “modest” growth, and that the three-year average for property value growth was 0.3% after a project had been completed and operational.

These studies had a combined number of over 3,700 transactions within 1 mile of operating turbines and found no evidence of value impact.¹²

¹² Although I have read these studies, the substance of these summaries were taken from a seminar conducted by the Appraisal Institute on March 5, 2015.

Conclusions

As a result of the market impact analysis undertaken, I concluded that there is no market data indicating the project will have a negative impact on either rural residential or agricultural property values in the surrounding area. Further, market data from South Dakota, as well as from other states, supports the conclusion that the project will not have a negative impact on rural residential or agricultural property values in the surrounding area. Finally, for agricultural properties that host turbines, the additional income from the wind lease may increase the value and marketability of those properties. These conclusions are based on the following:

- ∴ There are significant financial benefits to the local economy and to the local taxing bodies from the development of the wind farm;
- ∴ The proposed wind farm will create well-paid jobs in the area which will benefit overall market demand;
- ∴ An analysis of recent residential sales proximate to existing wind farms did not support any finding that proximity to a wind turbine had a negative impact on property values;
- ∴ An analysis of agricultural land values in South Dakota did not support any finding that agricultural land values are negatively impacted by the proximity to wind turbines;
- ∴ Reports from South Dakota, Illinois, Iowa, Minnesota, Kansas, and Indiana indicate that wind turbine leases add value to agricultural land; and
- ∴ A survey of County Assessors in 8 South Dakota counties, 18 Illinois counties, 5 Indiana Counties, 21 Kansas counties, 26 Iowa counties, 8 Minnesota counties, and 3 Ohio counties in which wind farms with more than 25 turbines are located determined that there was no market evidence to support a negative impact upon residential property values as a result of the development of and the proximity to a wind farm and that there were no reductions in assessed valuation.

This report is based on market conditions proposed as of September 18, 2019. This market impact study has been prepared specifically for the use of the client and to support the development of the Crowned Ridge Wind II, in Codington, Deuel, and Grant County, South Dakota. Any other use or user of this report is considered to be unintended.

Respectfully submitted,
MaRous & Company

Michael S. MaRous, MAI, CRE
South Dakota Certified General - #1467CG (9/20 expiration)
Illinois Certified General - #553.000141 (9/21 expiration)

Certificate of Report

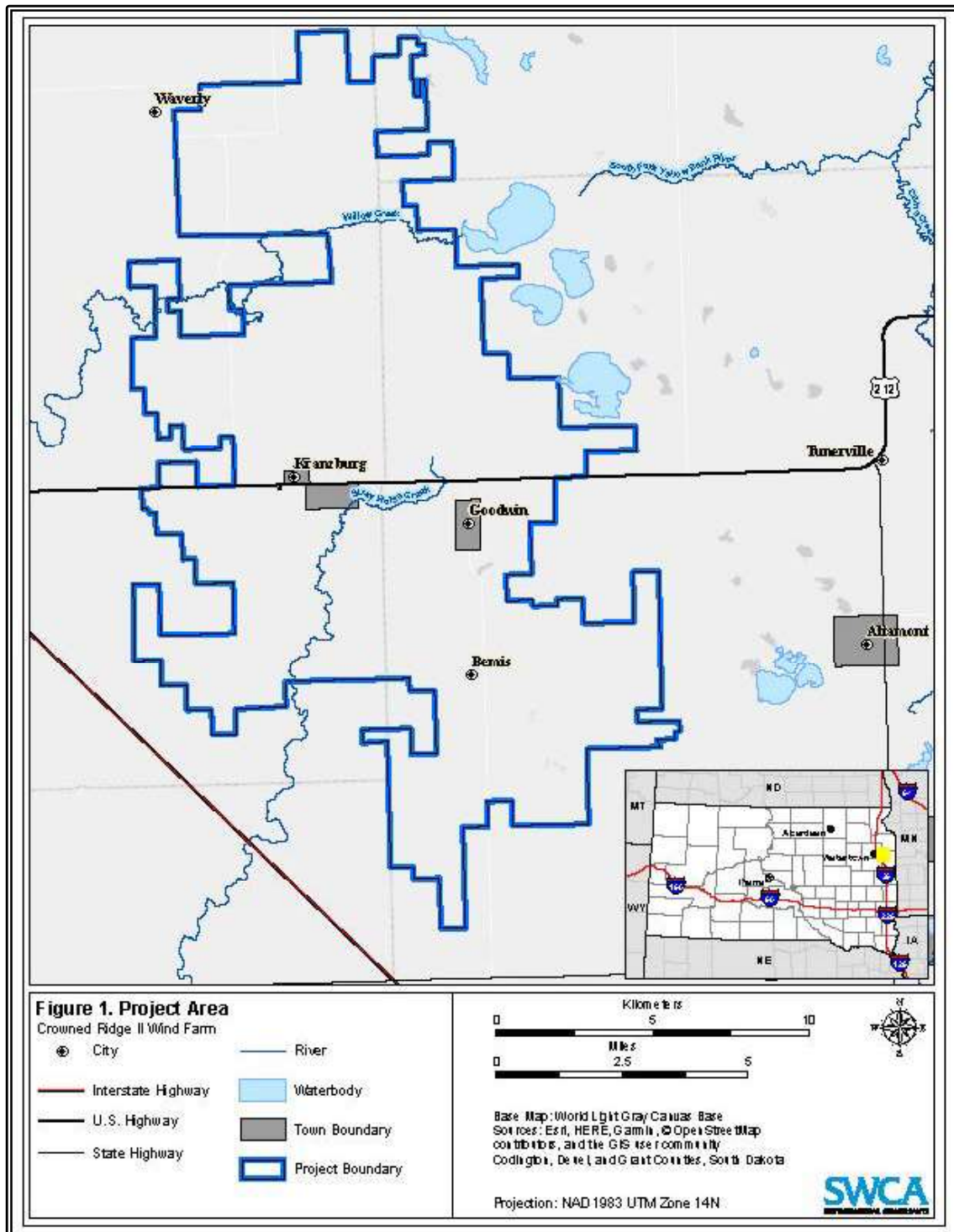
I do hereby certify that:

1. The statements of fact contained in this report are true and correct;
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, conclusions, and recommendations;
3. I have no present or prospective personal interest in the property that is the subject of this report and no personal interest with respect to the parties involved;
4. I have performed no services, as an appraiser or in any other capacity, regarding the property that is the subject of this report within the three-year period immediately preceding acceptance of this assignment;
5. I have no bias with respect to the property that is the subject of the work under review or to the parties involved with this assignment;
6. My engagement in this assignment was not contingent upon developing or reporting predetermined results;
7. My compensation for completing this assignment is not contingent upon the development or reporting of predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal consulting assignment;
9. My analyses, opinions, and conclusions were developed, and this report has been prepared in conformity with the *Uniform Standards of Professional Appraisal Practice*;
10. I have made a personal inspection of the subject of the work under review;
11. Joseph M. MaRous provided significant appraisal review assistance to the person signing this certification;
12. The reported analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Foundation;
12. The use of the report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives; and
13. As of the date of this report, Michael S. MaRous, MAI, CRE, has completed the continuing education requirements for Designated Members of the Appraisal Institute.

Respectfully submitted,
MaRous & Company

Michael S. MaRous, MAI, CRE
South Dakota Certified General - #1467CG (9/20 expiration)
Illinois Certified General - #553.000141 (9/21 expiration)

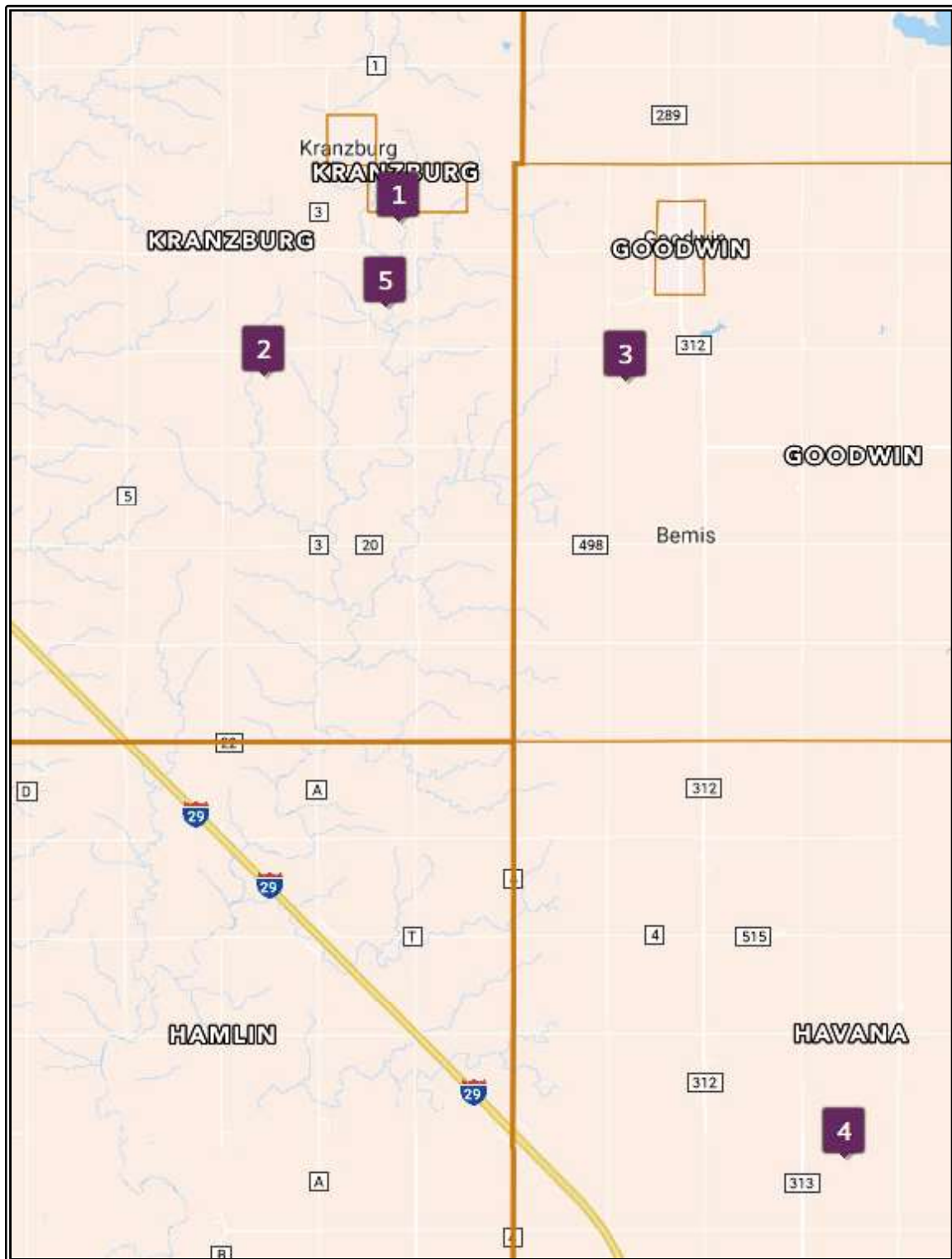
ADDENDA



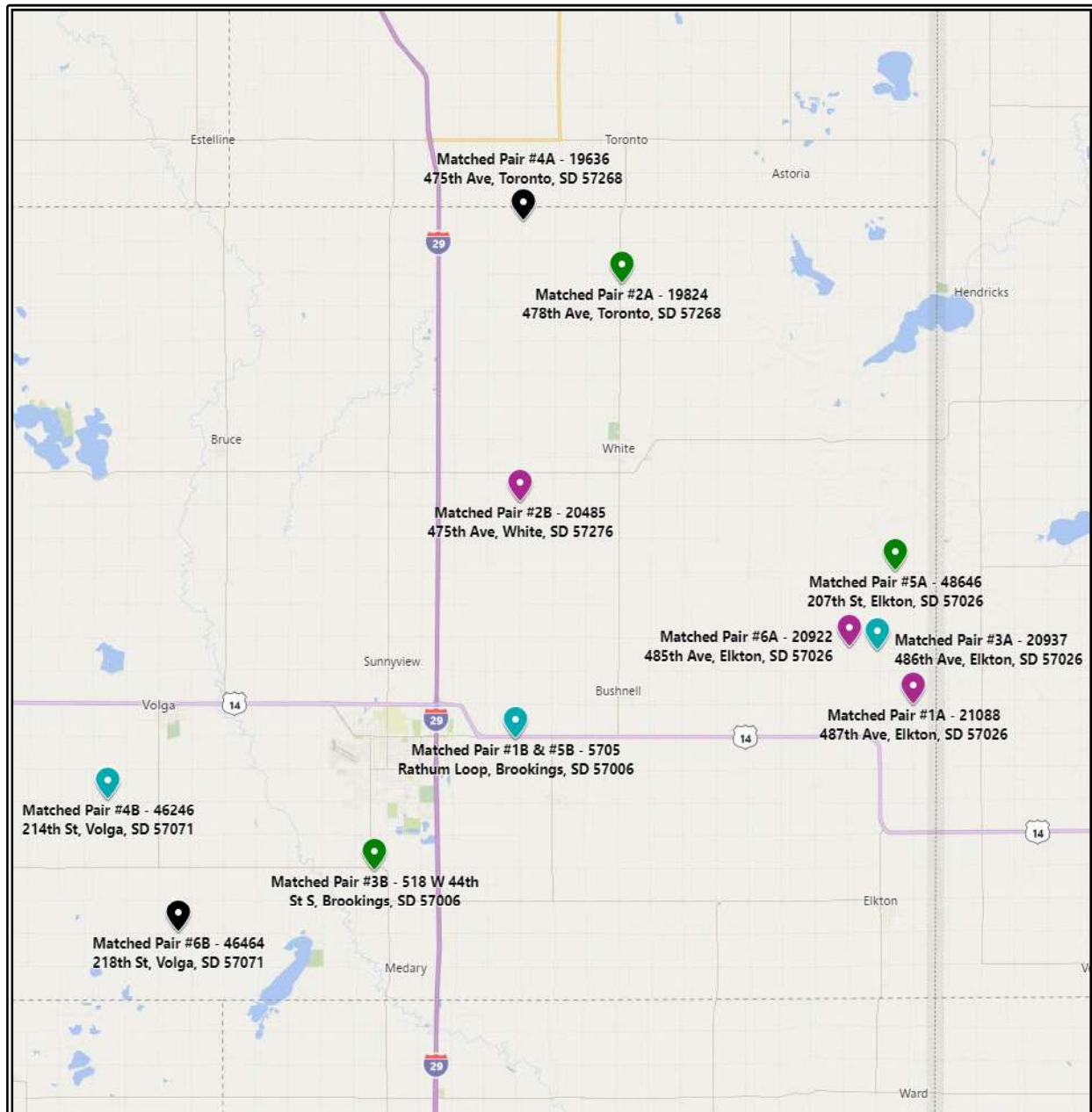
CROWNED RIDGE WIND II FOOTPRINT



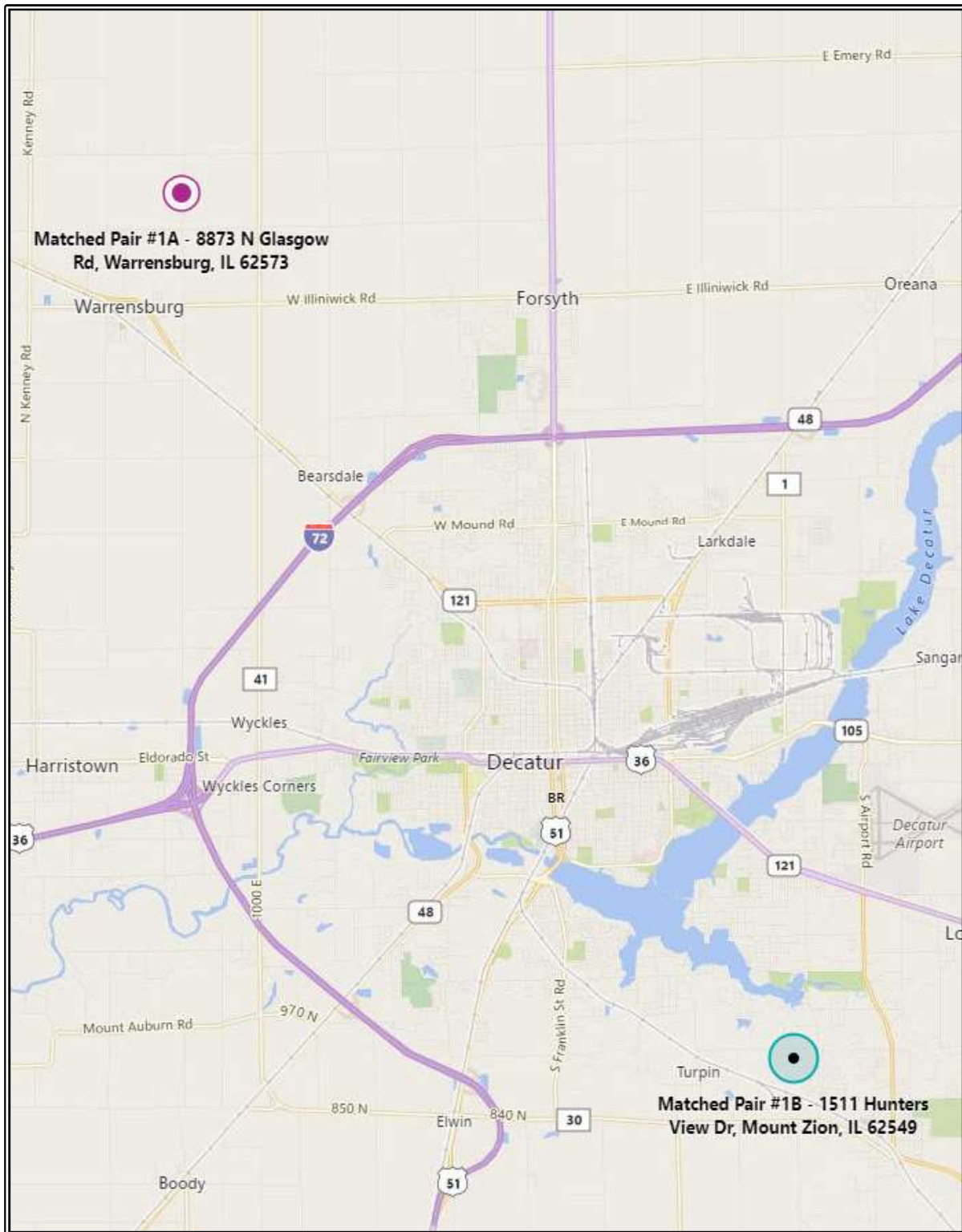
RECENT SINGLE-FAMILY HOUSE SALES LOCATION MAP



LAND SALES LOCATION MAP



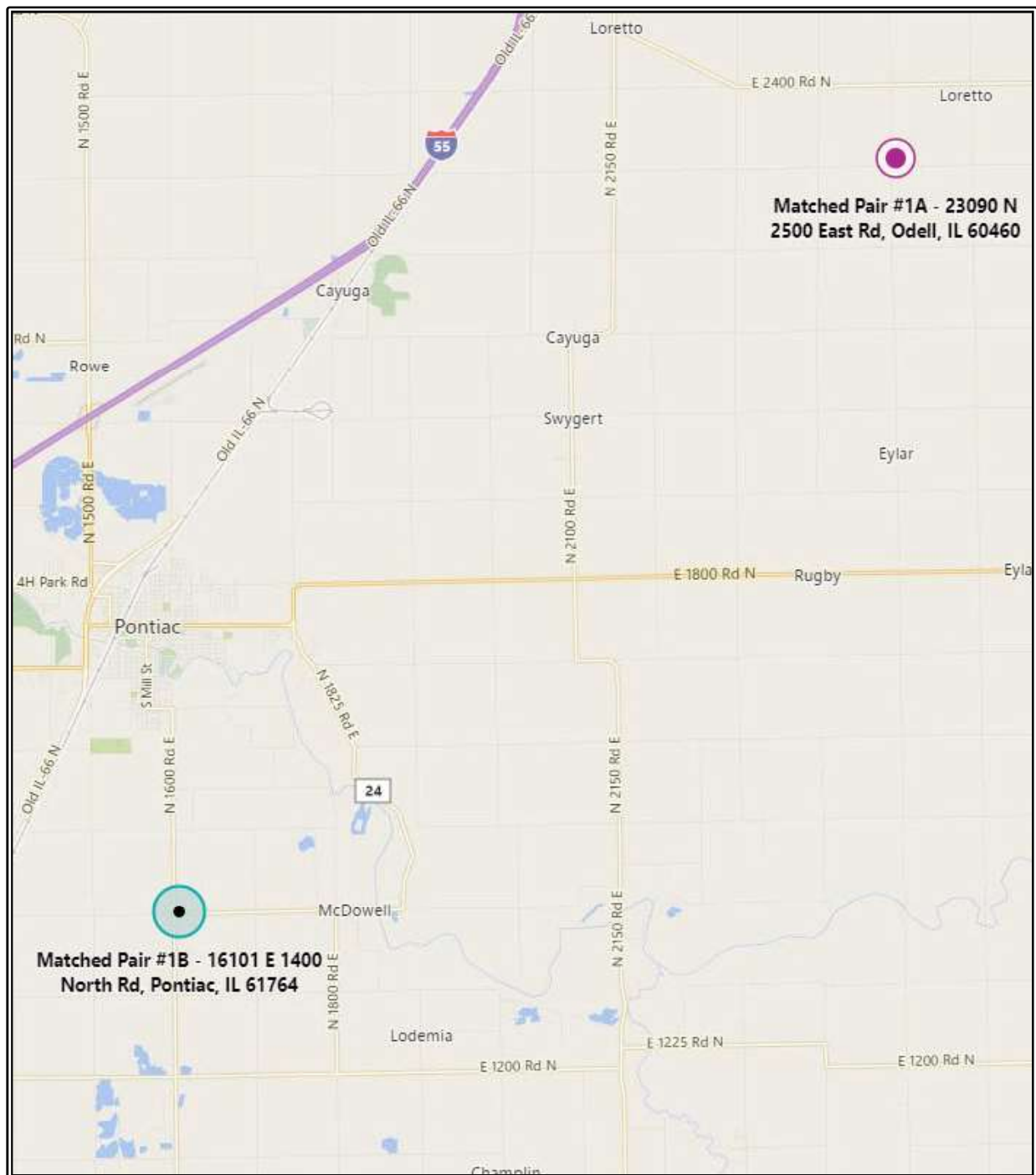
BROOKINGS COUNTY, SOUTH DAKOTA MATCHED PAIR LOCATION MAP



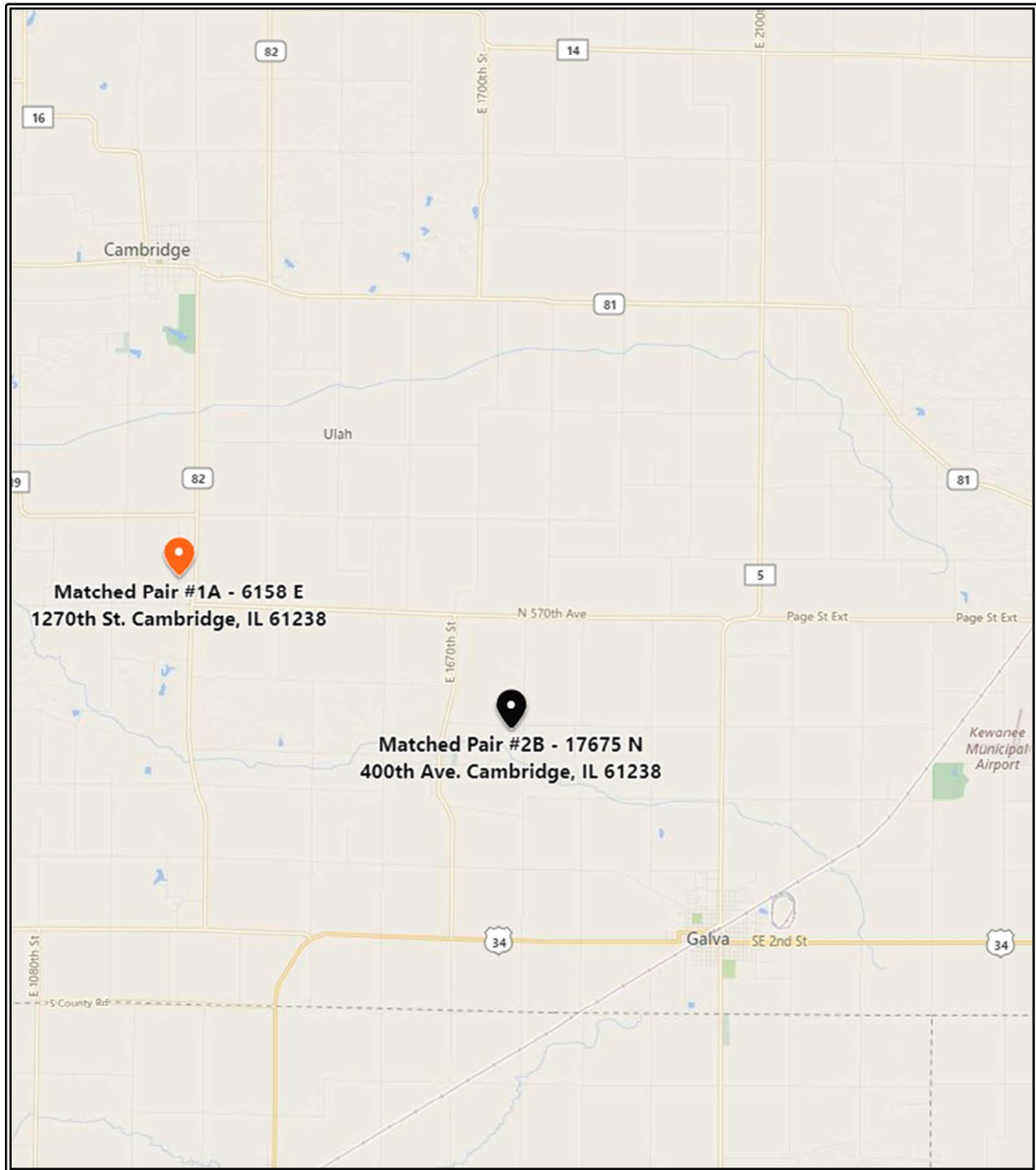
MACON COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



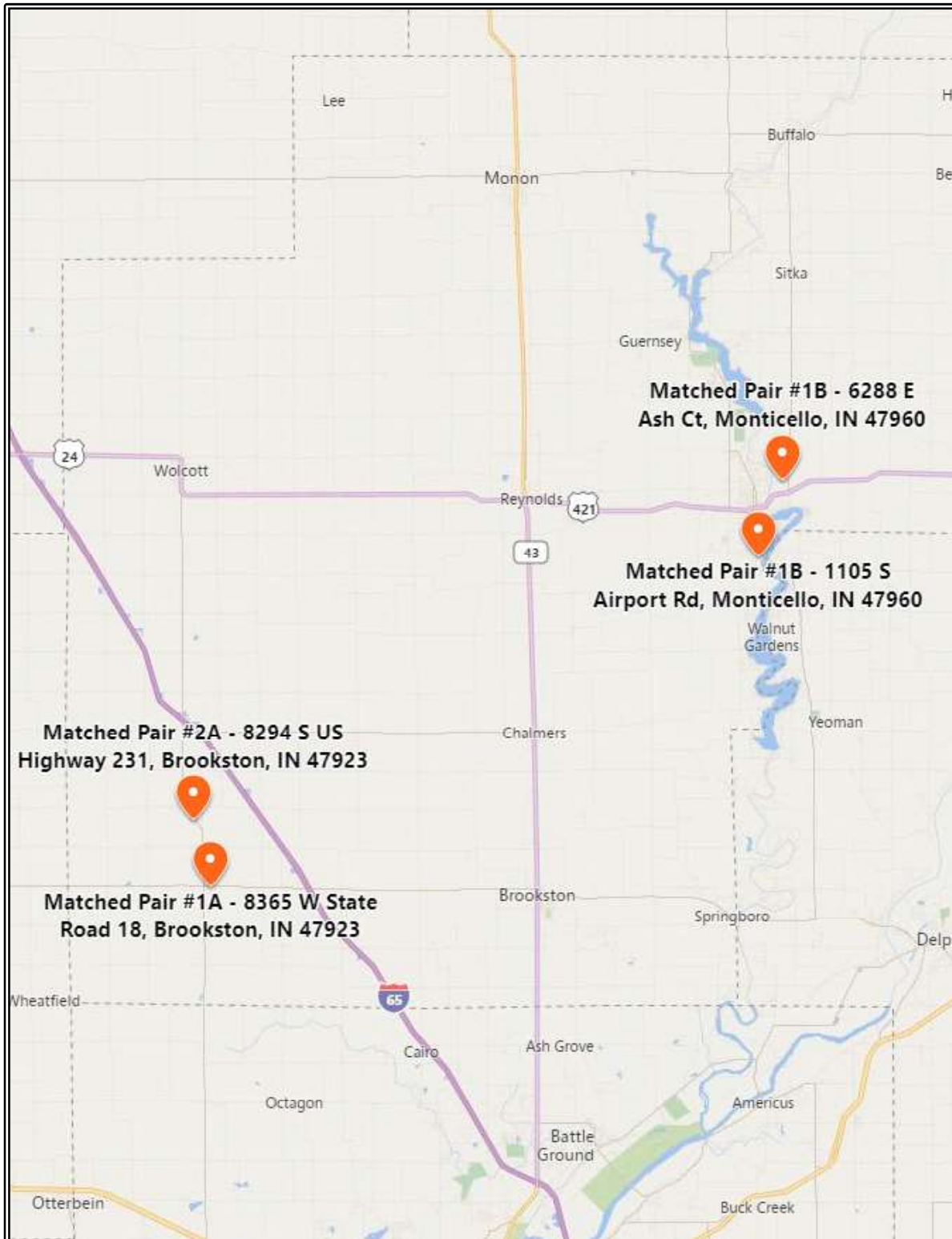
MCLEAN COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



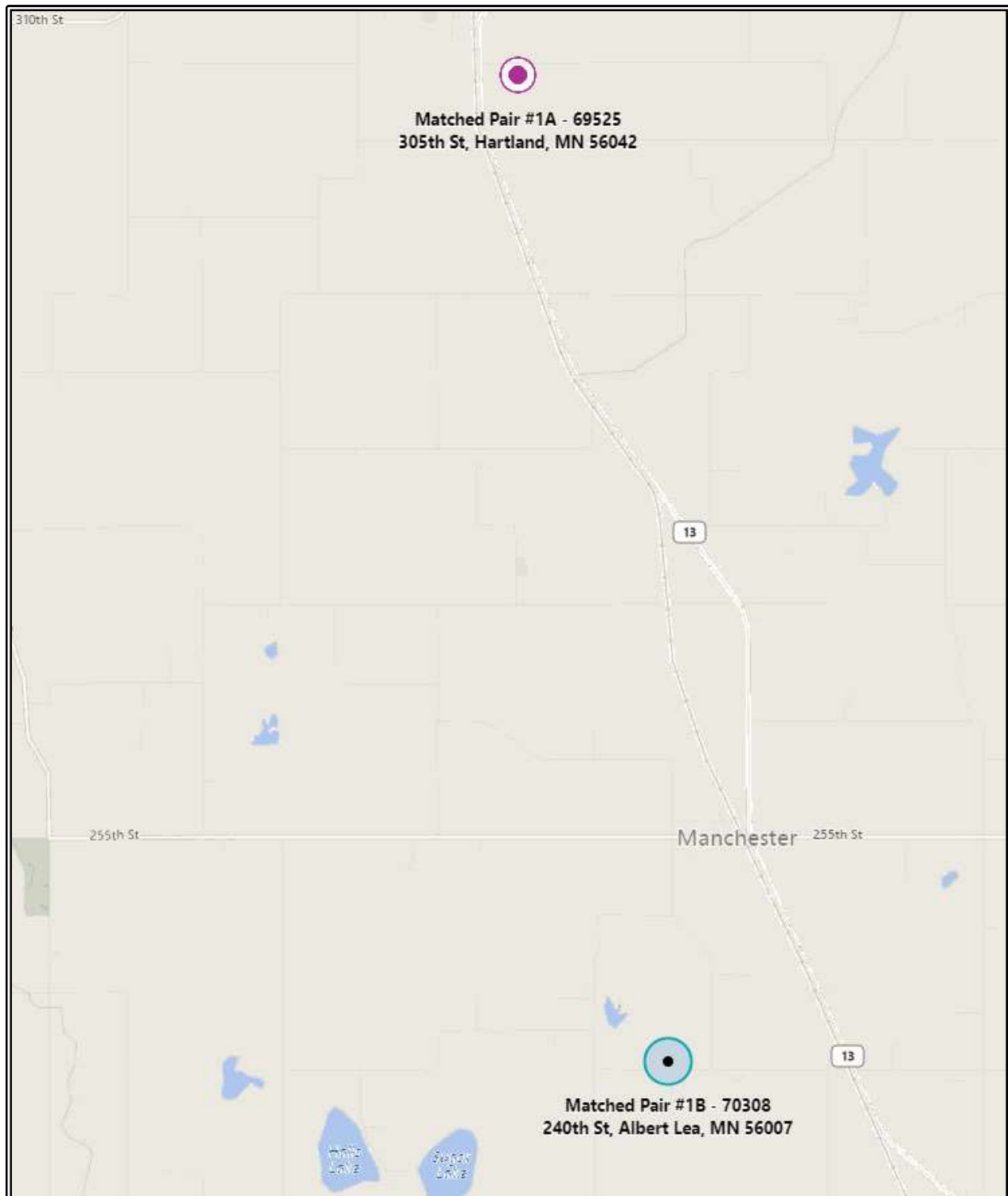
LIVINGSTON COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



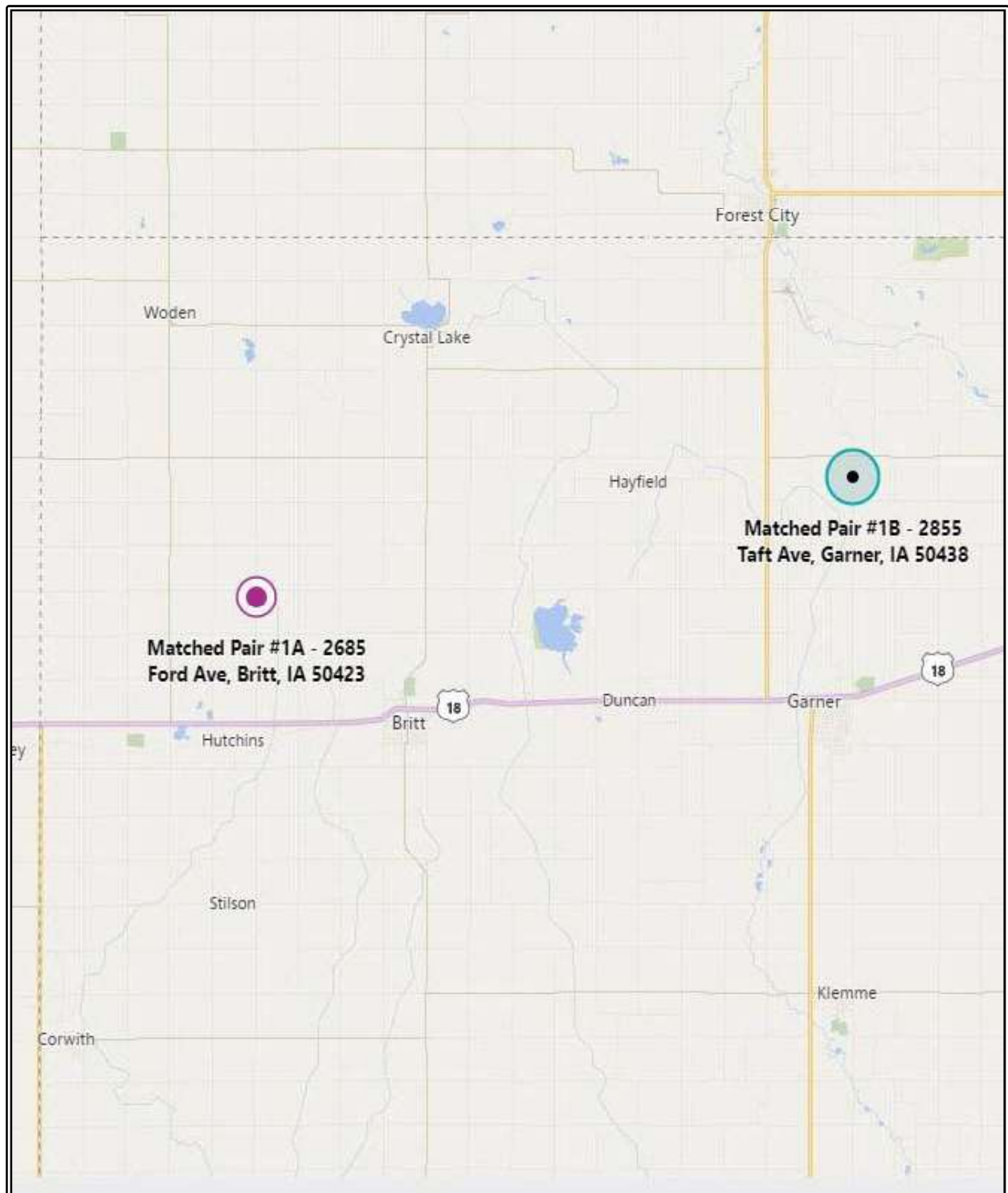
HENRY COUNTY, ILLINOIS MATCHED PAIR LOCATION MAP



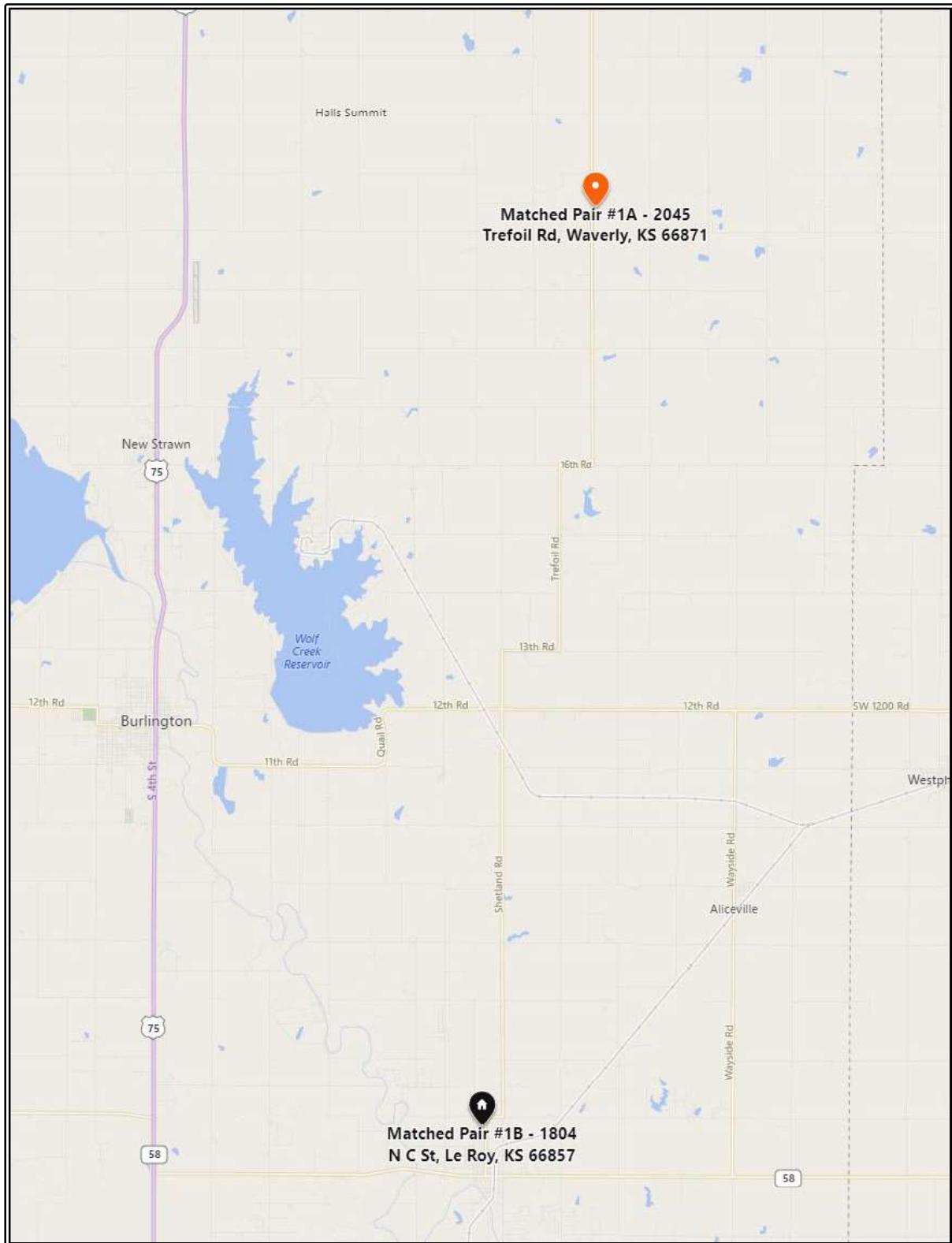
WHITE COUNTY, INDIANA MATCHED PAIR LOCATION MAP



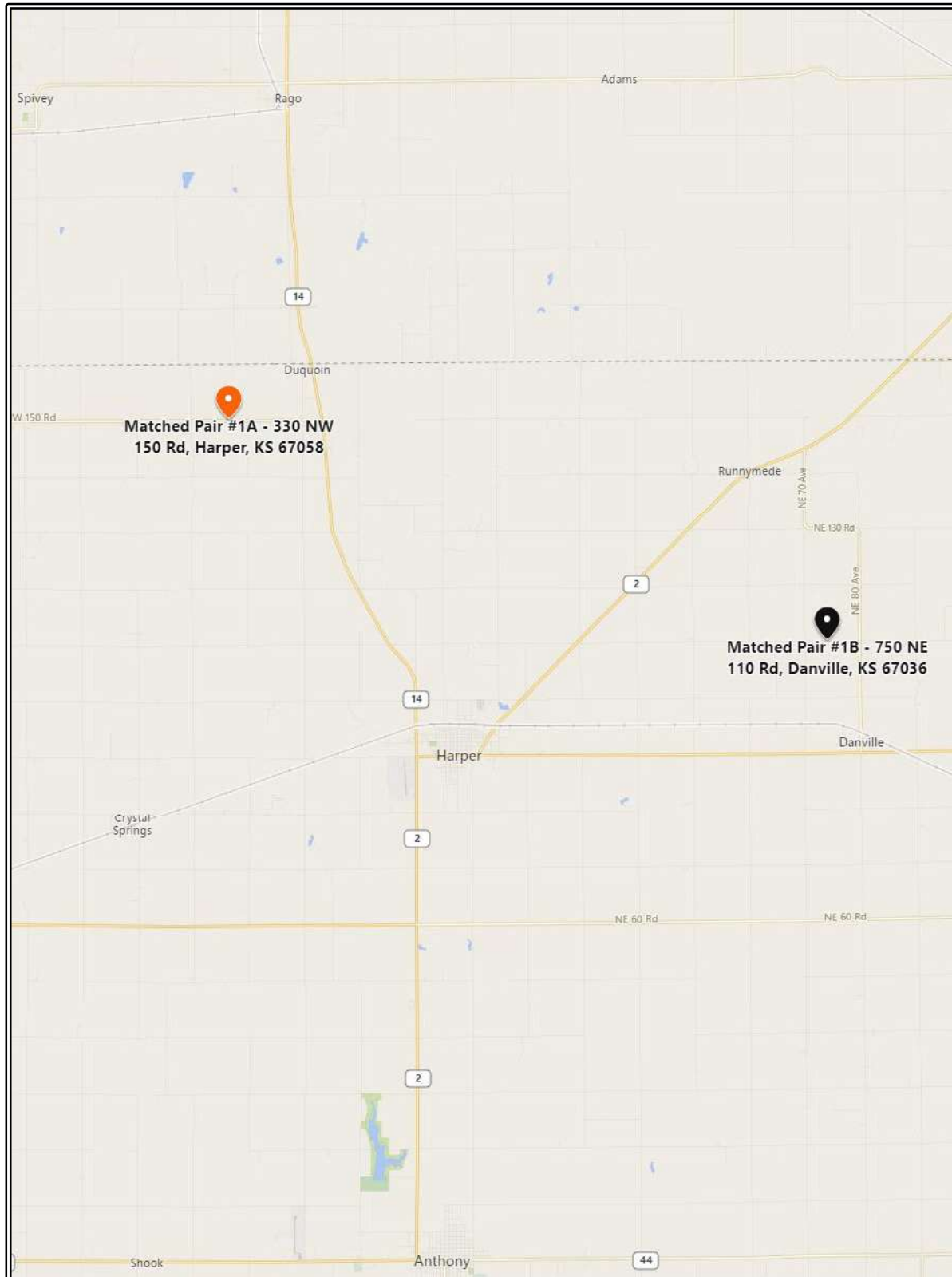
FREEBORN COUNTY, MINNESOTA MATCHED PAIR LOCATION MAP



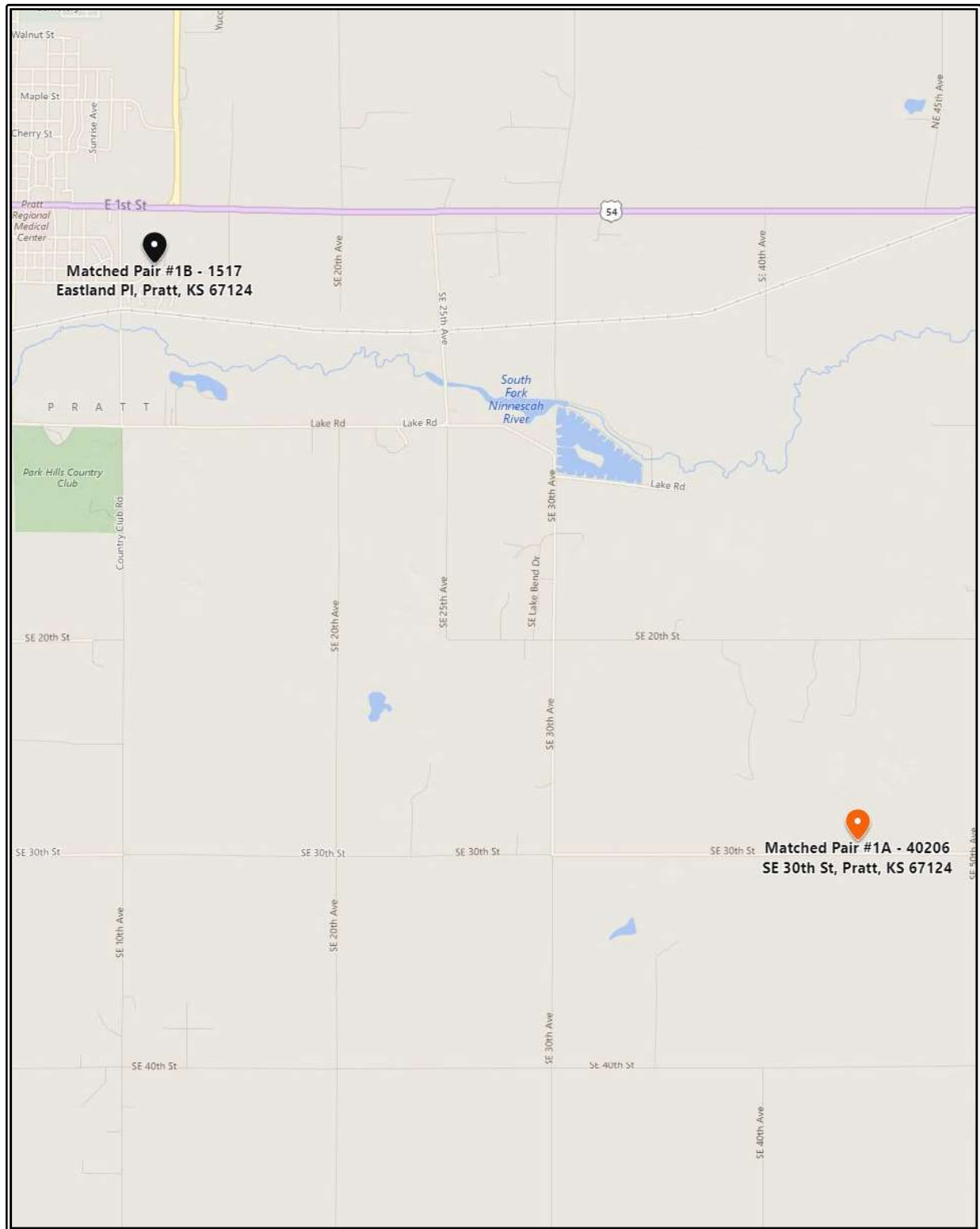
HANCOCK COUNTY, IOWA MATCHED PAIR LOCATION MAP



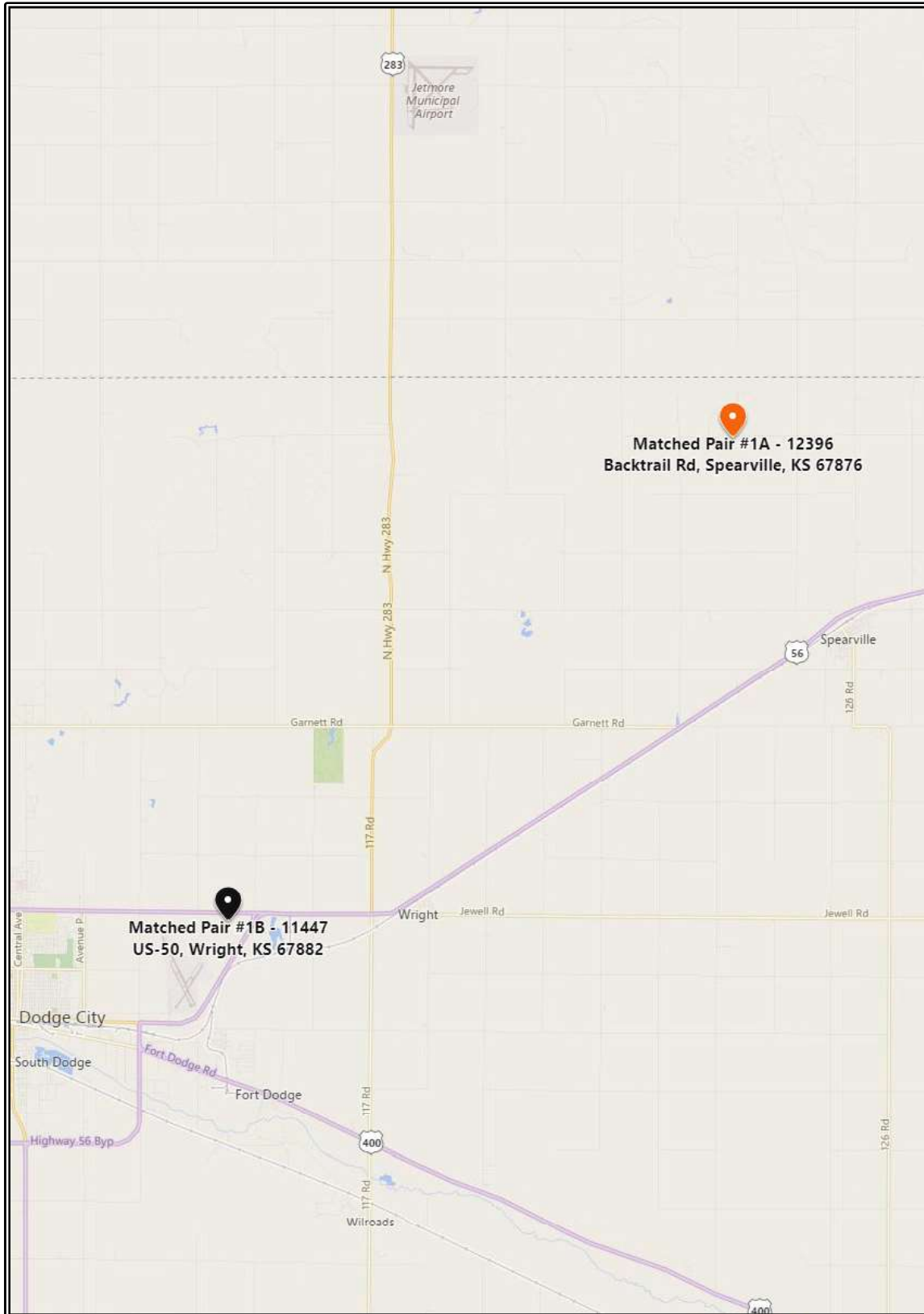
COFFEY COUNTY, KANSAS MATCHED PAIR LOCATION MAP



HARPER COUNTY, KANSAS MATCHED PAIR LOCATION MAP



PRATT COUNTY, KANSAS MATCHED PAIR LOCATION MAP



FORD COUNTY, KANSAS MATCHED PAIR LOCATION MAP

IMPROVED SALE PHOTOGRAPHS



101 East 1st Avenue

15332 474th Avenue



217 East Axel Avenue



1366 27th Street Northeast



17265 460th Avenue



South Dakota County Assessor Survey Analysis

A survey of assessors in 8 counties in South Dakota which wind farms currently are operational has been undertaken. The supervisors or deputy supervisors of assessments were interviewed. The interviews were intended to allow the assessment officials to share their experiences regarding the impact of the wind farm(s) upon the market values and/or the assessed values of surrounding properties. The interviews were conversational but thoroughly discussed residential and agricultural values and impacts. The interviews were conducted on November 7, 2017 and updated on April 12, 2018.

Conclusions of the Study

Based on these interviews:

- ∴ Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a wind farm facility. In some counties, this results from the very rural nature of the area in which the projects are located.
- ∴ In the past 18 months, two assessor's offices have experienced a real estate tax appeal based upon wind farm-related concerns, but the appeals were denied by both counties, Aurora County and Campbell County. As of the date of this report, there are more than 7 wind farms with 400 wind turbines within these counties. There have been no reductions in assessed valuations related to wind turbines.
- ∴ Residential assessed values have fluctuated consistently countywide as influenced by market conditions, with no regard for proximity to a wind farm.
- ∴ Agricultural properties are taxed based upon a productivity formula that is not impacted by market data and by external influences.

Scope of Project

The supervisors or deputy supervisors of assessments were interviewed. Each of the interviewees was familiar with the wind farm(s) located within their respective county. The following is the list of County Supervisors of Assessments/Directors of Equalization contacted and the wind projects in their respective counties as of April 12, 2018:

COUNTY SUPERVISORS OF ASSESSMENTS/DIRECTORS OF EQUALIZATION

Professionals Surveyed and Wind Farms Considered¹³

County	County Assessor (Director of Equalization)	County Assessor Phone Number	Wind Farm *Over 25 Turbines*	Turbine Count	Capacity (MW)	Year Online
Aurora	Leah Vissia	(605) 942-7164	Crow Lake Wind	101	151.5	2010
Brookings	Chris Lilla	(605) 696-8220	Buffalo Ridge Wind Power	24	50.4	2009
	Jacob Brehmer (Deputy)		Buffalo Ridge Wind Power II	105	210	2010
Campbell	Jill Hoogeveen	(605) 955-3577 (Added to Survey 4/12/18)	Campbell County Wind	55	95	2015
Charles Mix	Denise Weber	(605) 487-7382	Beethoven Wind, LLC	43	79.55	2015
Day	Dari Schlotte	(605) 345-9502	Day County Wind	66	99	2010
Hyde	Carrie Stevenson	(605) 852-2070	South Dakota Wind	27	40.5	2003
Jerauld	Janice Bender	(605) 539-9701	Wessington Springs	34	51	2009
McPherson	Lanette Butler	(605) 439-3663 (Added to Survey 4/12/18)	Tatanka Wind Park #2	59	88.5	2008

Maps indicating the number of wind farms used for the survey in each of these counties and the location of all wind farms located in each of these counties at the time of the survey are included at the end of this memorandum.

¹³ AWEA U.S. Wind Industry Map - <http://gis.awea.org/arcgisportal/apps/webappviewer/index.html>

Residential Market Values

Without exception, the interviewees reported that there was no market evidence to support a negative impact upon residential property values as a result of the development of, and the proximity to, a wind farm facility. Either as a request by a county board, in an attempt to appropriately assess newly constructed residences, or to support current assessed values, the supervisors of assessments have been particularly attentive to market activity in the area of the wind farms.

Aurora, Brookings, Day, and McPherson Counties' Supervisors of Assessments all stated that a majority of the wind turbines were placed with grazing and pastureland used for raising cattle. Each one of the assessors made it a point to note that they had personally witnessed the cows grazing right alongside turbines, indicating that the turbines had no effect, of any kind, on the animals.

Ms. Lanette Butler, the McPherson County Supervisor of Assessments, lives proximate to wind farm and is a participating landowner with five wind turbines on her property. She also stated that she is a former employee of Acciona Energia (owner of Tatanka Wind) prior to becoming the McPherson County Supervisor of Assessments and has been pleased with the work the company performs and the strict policies the company carries out for noise and wildlife safety. She also stated that the only way the turbines are audibly noticeable is on very quiet days with very minimal wind.

Residential Assessed Values, Complaints/Tax Appeal Filings

The assessors reported that there have been no successful tax appeal filings based upon wind farm issues. Although there have been two counties with tax appeals that were denied by the county boards in Aurora County and Campbell County

Ms. Carrie Stevenson, the Hyde County Supervisor of Assessments, did mention that the morning on the day the survey was taken Hyde County held its County Commissioners meeting. The topic of some of the meeting revolved around wind farms in the county. In attendance were approximately 30 residents or a little over 2% of the total population of Hyde County. These residents showed up to voice their various complaints to the County Commissioners. The complaints were listened to and validated, yet in the end, there were no changes to property values given.

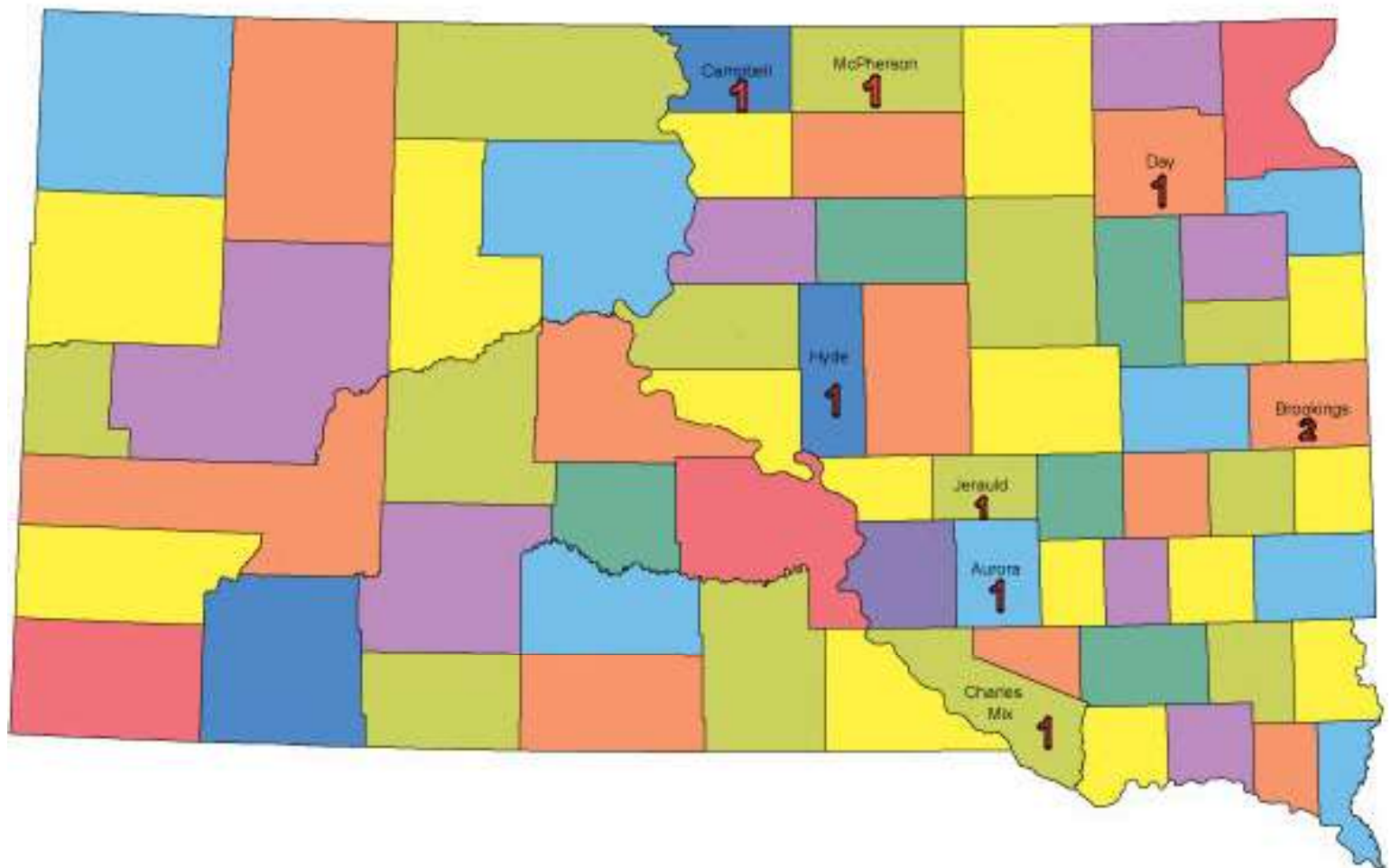
Consistently, the assessors reported that whatever initial concern there may have been regarding property values during the planning and approval stages of the various wind farms dissipated once the wind farm was constructed. Repeatedly, the assessors would state that the revenue that would come into the county and to each individual farmer would outweigh any initial concern that the residents would have about the wind farms joining their communities.

Agricultural Values/Assessed Values

The assessed values of agricultural properties are established based upon a productivity formula and are not driven by market data. Reportedly, assessed values of agricultural properties have been steady or increasing in recent years and are projected to continue increasing for the near future. The assessors reported that no major complaints have been received and/or no tax appeal filings have been filed for agricultural properties within the wind farm footprint.

Based on this survey, it does not appear that the Supervisors of Assessments in the 6 surveyed in South Dakota have reason to believe that the location of wind turbines in their county has had a negative impact on property values.

South Dakota



Map of South Dakota Counties Surveyed

Wind Farm Count by County

25 Turbines or Higher



Note: As depicted on this map from the AWEA, as of the date of this survey, April 12, 2018, the locations of certain wind farms are approximations. In some instances, the wind farms are incorrectly shown to be located in adjacent counties. This map also shows the locations of smaller wind farms, but for the accuracy of this study we have only focused on the farms with 25 turbines or higher.

MICHAEL S. MAROUS **STATEMENT OF QUALIFICATIONS**

Michael S. MaRous, MAI, CRE, is president and owner of MaRous and Company. He has appraised more than \$15 billion worth of primarily investment-grade real estate in more than 25 states. In addition to providing documented appraisals, he has served as an expert witness in litigation proceedings for many law firms; financial institutions; corporations; builders and developers; architects; local, state, county, and federal governments and agencies; and school districts in the Chicago metropolitan area. His experience in partial interest, condemnation, damage impact, easement (including aerial and subsurface), marital dissolutions, bankruptcy proceedings, and other valuation issues is extensive. He has provided highest and best use, marketability, and feasibility studies for a variety of properties. Many of the largest redevelopment areas and public projects, including Interstate 355, the Chicago O'Hare International Airport expansion, the Chicago Midway International Airport expansion, and the McCormick Place expansion, are part of Mr. MaRous' experience. Mr. MaRous also has experience with regard to mediation and arbitration proceedings. Also, he has purchased and developed real estate for his own account.

APPRAISAL AND CONSULTATION EXPERIENCE

Business Parks Distribution Centers	Industrial Properties Manufacturing Facilities Research Facilities	Self-storage Facilities Warehouses
Auto Sales/Service Facilities Banquet Halls Big Box Stores	Commercial Properties Gasoline Stations Hotels and Motels Office Buildings	Restaurants Shopping Centers Theaters
Bowling Alleys Cemeteries Farms Golf Courses Lumber Yards	Special-Purpose Properties Nurseries Riverboat Gambling Facilities Schools Stadium Expansion Issues Solar Farms	Tank Farms Underground Gas Aquifers Utility Corridors Waste Transfer Facilities Wind Farms
Apartment Complexes Condominium Conversions	Residential Properties Condominium Developments Single-family Residences	Subdivision Developments Townhouse Developments
Agricultural Alleys Commercial	Vacant Land Easements Industrial Residential	Rights of Way Streets Vacations
Corporations Financial Institutions	Clients Law Firms Not-for-profit Associations	Private Parties Public Entities

EDUCATION

B.S., Urban Land Economics, University of Illinois, Urbana-Champaign
Continuing education seminars and programs through the Appraisal Institute
and the American Society of Real Estate Counselors, and real estate brokerage classes

PUBLIC SERVICE

Mayor, City of Park Ridge, Illinois (2003-2005)
Alderman, City of Park Ridge, including Liaison to the Zoning Board of Appeals and Planning and Zoning and
Chairman of the Finance and Public Safety Committees (1997-2005)

PROFESSIONAL AFFILIATIONS AND LICENSES

Appraisal Institute, MAI designation, Number 6159
Counselors of Real Estate, CRE designation
Illinois Certified General Real Estate Appraiser, License Number 553.000141 (9/21)
Indiana Certified General Real Estate Appraiser, License Number CG41600008 (6/20)
Wisconsin Certified General Real Estate Appraiser, License Number 1874-10 (12/19)
Minnesota Certified General Real Estate Appraiser, License Number 40330656 (8/20)
Pennsylvania Certified General Real Estate Appraiser, License Number GA004181 (6/21)
Iowa Certified General Real Estate Appraiser, License Number CG03468 (6/21)
South Dakota Certified General Real Estate Appraiser, License Number 1467CG (9/20)
Kansas Certified General Real Estate Appraiser, License Number 19.TP.125 (6/19)
Texas Certified General Real Estate Appraiser, License Number 1380817 (8/20)
Licensed Real Estate Broker (Illinois)

PROFESSIONAL ACTIVITIES

Mr. MaRous is a past president of the Chicago Chapter of the Appraisal Institute. He is former chair and vice-chair of the National Publications Committee and has sat on the board of The Appraisal Journal. In addition, he has served on and/or chaired more than 15 other committees of the Appraisal Institute, the Society of Real Estate Appraisers, and the American Institute of Real Estate Appraisers.

Mr. MaRous served as chair of the Midwest Chapter of the Counselors of Real Estate in 2006 and 2007 and has served on the National CRE Board since 2011. He sat on the Midwest Chapter Board of Directors, the Editorial Board of Real Estate Issues, and on various other committees.

Mr. MaRous also is a past president of the Illinois Coalition of Appraisal Professionals. He also has been involved with many other professional associations, including the Real Estate Counseling Group of America, the Northwest Suburban Real Estate Board, the National Association of Real Estate Boards, and the Northern Illinois Commercial Association of Realtors.

PUBLICATIONS AND PROFESSIONAL RECOGNITION

Mr. MaRous has spoken at more than 20 programs and seminars related to real estate appraisal and valuation.

Author

"Low-income Housing in Our Backyards," *The Appraisal Journal*, January 1996
"The Appraisal Institute Moves Forward," *Illinois Real Estate Magazine*, December 1993
"Chicago Chapter, Appraisal Institute," *Northern Illinois Real Estate Magazine*, February 1993
"Independent Appraisals Can Help Protect Your Financial Base," *Illinois School Board Journal*, November-December 1990
"What Real Estate Appraisals Can Do for School Districts," *School Business Affairs*, October 1990

Awards

Appraisal Institute - George L. Schmutz Memorial Award, 2001
Chicago Chapter of the Appraisal Institute – Heritage Award, 2000
Chicago Chapter of the Appraisal Institute - Herman O. Walther, 1987 (Distinguished Chapter Member)

Reviewer or Citation in the Following Books

Rural Property Valuation, 2017
Real Estate Damages, 1999, 2008, and 2016
Golf Property Analysis and Valuation, 2016
Dictionary of Real Estate Appraisal, Fourth Edition, 2002 and Sixth Edition, 2015
Market Analysis for Real Estate, 2005 and 2014
Appraisal of Real Estate, Twelfth Edition, 2001, Thirteenth Edition, 2008, Fourteenth Edition, 2013
Shopping Center Appraisal and Analysis, 2009
Subdivision Valuation, 2008
Valuation of Apartment Properties, 2007
Valuation of Billboards, 2006
Appraising Industrial Properties, 2005
Valuation of Market Studies for Affordable Housing, 2005
Valuing Undivided Interest in Real Property: Partnerships and Cotenancies, 2004
Analysis and Valuation of Golf Courses and Country Clubs, 2003
Valuing Contaminated Properties: An Appraisal Institute Anthology, 2002
Hotels and Motels: Valuation and Market Studies, 2001
Land Valuation: Adjustment Procedures and Assignments, 2001
Appraisal of Rural Property, Second Edition, 2000
Capitalization Theory and Techniques, Study Guide, Second Edition, 2000
Guide to Appraisal Valuation Modeling Land, 2000
Appraising Residential Properties, Third Edition, 1999
Business of Show Business: The Valuation of Movie Theaters, 1999
GIS in Real Estate: Integrating, Analyzing and Presenting Locational Information, 1998
Market Analysis for Valuation Appraisals, 1995

REPRESENTATIVE WORK OF MICHAEL S. MAROUS

Headquarters/Corporate Office Facilities in Illinois

Fortune 500 corporation facility, 200,000 sq. ft., Libertyville
Corporate headquarters, 300,000 sq. ft. and 500,000 sq. ft., Chicago
Fortune 500 corporation facility, 450,000 sq. ft., Northfield
Major airline headquarters, 1,100,000 million sq. ft. on 47 acres, Elk Grove Village
Former communications facility, 1,400,000 million sq. ft. on 62 acres, Skokie and Niles
Corporate Headquarters, 1,500,000+ sq. ft., Lake County
Former Sears Headquarters Redevelopment Project, Chicago

Office Buildings in Chicago

401 South LaSalle Street, 140,000 sq. ft.
134 North LaSalle Street, 260,000 sq. ft.
333 North Michigan Avenue, 260,000 sq. ft.
171 West Randolph Street, 360,000 sq. ft.
20 West Kinzie Street, 405,000 sq. ft.
55 East Washington Street, 500,000 sq. ft.
10 South LaSalle Street, 870,000 sq. ft.
222 West Adams Street, 1,000,000 sq. ft.
141 West Jackson Boulevard, 1,065,000 sq. ft.
333 South Wabash Avenue, 1,125,000 sq. ft.
155 North Wacker Drive, 1,406,000 sq. ft.
70 West Madison Street, 1,430,000 sq. ft.
111 South Wacker Drive, 1,454,000 sq. ft.
175 West Jackson Boulevard, 1,450,000 sq. ft.
227 West Monroe Street, 1,800,000 sq. ft.
10 South Dearborn Street, 1,900,000 sq. ft.

Hotels in Chicago

One West Wacker Drive (Renaissance Chicago Hotel)
10 East Grand Avenue (Hilton Garden Inn)
106 East Superior Street (Peninsula Hotel)
120 East Delaware Place (Four Seasons)
140 East Walton Place (The Drake Hotel)
160 East Pearson Street (Ritz Carlton)
301 East North Water Street (Sheraton Hotel)
320 North Dearborn Street (Westin Chicago River North)
401 North Wabash Avenue (Trump Tower)
505 North Michigan Avenue (Hotel InterContinental)
676 North Michigan Avenue (Omni Chicago Hotel)
800 North Michigan Avenue (The Park Hyatt)

Large Industrial Properties in Illinois

Large industrial complexes, 400,000 sq. ft., 87th Street and Greenwood Avenue, Chicago
Distribution warehouse, 580,000 sq. ft. on 62 acres, Champaign
Publishing house, 700,000 sq. ft. on 195 acres, U.S. Route 45, Mattoon
AM Chicago International, 700,000± sq. ft. on 41 acres, 1800 West Central Road, Mount Prospect
Nestlé distribution center, 860,000 sq. ft. on 153 acres, DeKalb
U.S. Government Services Administration distribution facility, 860,000 sq. ft., 76th Street and Kostner Avenue,
Chicago Fortune 500 company distribution center, 1,000,000 sq. ft., Elk Grove Village
Caterpillar Distribution Facility, 2,231,000 sq. ft., Morton
Self-storage facilities, various Chicago metropolitan locations

Airport Related Properties

Mr. MaRous has performed valuations on more than 100 parcels in and around Chicago O'Hare International Airport, Chicago Midway International Airport, Palwaukee Municipal Airport, Chicago Aurora Airport, DuPage Airport, and Lambert-St. Louis International Airport

Vacant Land in Illinois

15 acres, office, Northbrook	250 acres, Island Lake
20 acres, residential, Glenview	450 acres, residential, Wauconda
25 acres, Hinsdale	475± acres, various uses, Lake County
55 acres, mixed-use, Darien	650 acres, Hawthorne Woods
68 acres, Roosevelt Road and the Chicago River	650 acres, Waukegan/Libertyville
75 acres, I-88 at I-355, Downers Grove	800 acres, Woodridge
100± acres, various uses, Lake County	900 acres, Matteson
100 acres, Western Springs	1,000± acres, Batavia area
140 acres, Flossmoor	2,000± acres, Northern Lake County
142 acres, residential, Lake County	5,000 acres, southwest suburban Chicago area
160 acres, residential, Cary	Landfill expansion, Lake County
200 acres, mixed-use, Bartlett	

Retail Facilities

20 Community shopping centers, various Chicago metropolitan locations
Big box uses, various Chicago metropolitan locations and the Midwest
Gasoline Stations, various Chicago metropolitan locations
More than 50 single-tenant retail facilities larger than 80,000 sq. ft., various Midwest metropolitan locations

Residential Projects

Federal Square townhouse development project, 118 units, \$15,000,000+ sq. ft. project, Dearborn Place, Chicago
Marketability and feasibility study, 219 East Lake Shore Drive, Chicago
Riverview II, Chicago; Old Town East and West, Chicago; Museum Park Lofts II, Museum Park Tower 4, University Commons, Two River Place, River Place on the Park, Chicago;
Timber Trails, Western Springs, Illinois

Market Impact Studies

Land-fill projects in various locations
Quarry expansions in Boone and Kendall counties
Commercial development and/or parking lots in various communities
Zoning changes in various communities
Waste transfer stations in various communities

Energy Projects

Oakwood Hills Energy Center, McHenry County, Illinois	Orangeville Wind Farm, Wyoming County, New York
Walnut Ridge Wind Farm, Bureau County, Illinois	Deuel Harvest Wind Farm, Deuel County, South Dakota
Radford's Run Wind Farm, Macon County, Illinois	Dakota Range Wind Project I-III, Codington County, Grant County, & Roberts County, South Dakota
Twin Groves Wind Farm, McLean County, Illinois	Crocker Wind Farm, Clark County, South Dakota
Otter Creek Wind Farm, LaSalle County, Illinois	Prevailing Wind Park, Bon Homme County, Charles Mix County, & Hutchinson County, South Dakota
Pleasant Ridge Wind Farm, Livingston County, Illinois	Brookhaven, South Dakota, solar energy production facility
Alta Farms Wind Project II, DeWitt County, Illinois	Badger Hollow Solar Farm, Iowa County, Wisconsin
Harvest Ridge Wind Farm, Douglas County, Illinois	Dorchester County Solar Farm, Dorchester County, Maryland
Midland Wind Farm, Henry County, Illinois	Lone Oak Solar Farm, Madison County, Indiana
McLean County Wind Farm, McLean County, Illinois	Lackawanna Power Plant, Lackawanna County, Pennsylvania
Ida Grove II Wind Farm, Ida County, Iowa	Commonwealth Edison, high tension lines
Tippecanoe County Wind Farm, Tippecanoe County, Indiana	
Roaming Bison Wind Farm, Montgomery County, Indiana	
Neosho Ridge Wind Farm, Neosho County, Kansas	

Business and Industrial Parks

Chevy Chase Business Park, 30 acres, Buffalo Grove
Carol Point Business Center, 300-acre industrial park, Carol Stream, \$125,000,000+ project
Internationale Centre, approximately 1,000 acre-multiuse business park, Woodridge

Properties in Other States

330,000 sq. ft., Newport Beach, California
Former government depot/warehouse and distribution center, 2,500,000 sq. ft. on 100+ acres, Ohio
Shopping Center, St. Louis, Missouri, Office Building, Clayton, Missouri
Condominium Development, South Dakota, South Dakota
Hormel Foods, various Midwest locations
Wisconsin Properties including Lowes, Menards, Milwaukee Zoo, CVS Pharmacy's in Milwaukee, Dairyland
Racetrack, Major Industrial Property in Manawa, Class A Office Buildings and Vacant Land

REPRESENTATIVE CLIENT LISTING OF MICHAEL S. MAROUS

Law Firms

Alschuler, Simantz & Hem LLC Ancel,
Glink, Diamond, Bush,
DiClanni & Krafthefer
Arnstein & Lehr LLP
Berger, Newmark & Fenchel P.C.
Berger Schatz
Botti Law Firm, P.C.
Carmody MacDonald P.C.
Carr Law Firm
Crane, Heyman, Simon, Welch & Clar
Daley & Georges, Ltd.
Day, Robert & Morrison, P.C. Dentons
US LLP
DiMonte & Lizak LLC
DLA Piper
Dreyer, Foote, Streit, Furgason &
Slocum, P.A.
Drinker, Biddle & Reath LLP Figliulo &
Silverman, P.C.
Foran, O'Toole & Burke LLC Franczek
Radelet P.C.
Fredrikson & Byron, P.A.
Freeborn & Peters LLP

Gould & Ratner LLP
Greenberg Traurig LLP
Helm & Wagner
Robert Hill Law, Ltd.
Hinshaw & Culbertson LLP
Holland & Knight LLP
Ice Miller LLP
Jenner & Block
Katz & Stefani, LLC
Kinnally, Flaherty, Krentz, Loran,
Hodge & Mazur PC
Kirkland & Ellis LLP
Klein, Thorpe & Jenkins, Ltd.
McDermott, Will & Emery
Mayer Brown
Michael Best & Friedrich LLP
Morrison & Morrison, Ltd.
Bryan E. Mraz & Associates
Neal, Gerber & Eisenberg, LLP
Neal & Leroy LLC
O'Donnell Haddad LLC
Prendergast & DelPrincipe
Rathje & Woodward, LLC

Righeimer, Martin & Cinquino, P.C.
Robbins, Salomon & Patt, Ltd.
Rosenfeld Hafron Shapiro & Farmer
Rosenthal, Murphey, Coblentz &
Donahue Rubin & Associates, P.C.
Ryan and Ryan, P.C.
Reed Smith LLP
Sarnoff & Baccash
Scariano, Himes & Petrarca, Chtd.
Schiff Hardin LLP
Schiller, DuCanto & Fleck LLP
Schirott, Luetkehans & Garner, LLC
Schuyler, Roche & Crisham, P.C.
Sidley Austin LLP
Storino, Ramello & Durkin
Thomas M. Tully & Associates
Thompson Coburn, LLP
Tuttle, Vedral & Collins, P.C.
Vedder Price
von Briesen & Roper, SC
Winston & Strawn LLP
Worsek & Vihon LLP

Financial Institutions

AmericaUnited Bank Trust
BMO Harris Bank
Charter One
Citibank
Cole Taylor Bank
First Bank of Highland Park
First Financial Northwest Bank

First Midwest Bank
First State Financial
Glenview State Bank
Itasca Bank & Trust Co.
Lake Forest Bank & Trust Co.
MB Financial Bank

Midwest Bank
Northern Trust
Northview Bank & Trust
The Private Bank
Wintrust

Corporations

Advocate Health Care System
Alliance Property Consultants
American Stores Company
Archdiocese of Chicago
Arthur J. Rogers and Company
Avangrid Renewables, LLC
BHE Renewables
BP Amoco Oil Company
Christopher B. Burke Engineering,
Ltd. Cambridge Homes
Canadian National Railroad
Capital Realty Services, Inc.
Chicago Cubs
Children's Memorial Hospital
Chrysler Realty Corporation

Citgo Petroleum Corporation
CorLands
CVS
Edward R. James Partners, LLC
Enterprise Development Corporation
Enterprise Leasing Company
Exxon Mobil Corporation
Hamilton Partners
Hollister Corporation
Imperial Realty Company
Invenergy LLC
Kimco Realty Corporation
Kinder Morgan, Inc.
Lakewood Homes

Lowe's Companies, Inc.
Loyola University Health System
Marathon Oil Corporation
Meijer, Inc.
Menards
Mesirow Stein Real Estate, Inc.
Paradigm Tax Group
Prime Group Realty Trust
Public Storage Corporation
RREEF Corporation
Shell Oil Company
Union Pacific Railroad Company
United Airlines, Inc.

Public Entities

Illinois Local Governments and Agencies

Village of Arlington Heights
Village of Barrington
Village of Bartlett
Village of Bellwood
Village of Brookfield
Village of Burr Ridge
City of Canton
Village of Cary
City of Chicago
Village of Deer Park
City of Des Plaines
Des Plaines Park District
Downers Grove Park District
City of Elgin
Elk Grove Village
City of Elmhurst
Village of Elmwood Park
City of Evanston
Village of Forest Park
Village of Franklin Park

Village of Glenview
Glenview Park District
Village of Harwood Heights
City of Highland Park
Village of Hinsdale
Village of Inverness
Village of Kenilworth
Village of Kildeer
Village of Lake Zurich
Leyden Township
Village of Lincolnshire
Village of Lincolnwood
Village of Morton Grove
Village of Mount Prospect
Village of North Aurora
Village of Northbrook
City of North Chicago
Village of Northfield
Northfield Township
Village of Oak Brook

Village of Orland Park
City of Palos Hills
City of Peoria
City of Prospect Heights
City of Rolling Meadows
Village of Rosemont
City of St. Charles
Village of Schaumburg
Village of Schiller Park
Village of Skokie
Village of South Barrington
Village of Streamwood
Metropolitan Water Reclamation
District of Greater Chicago
City of Waukegan
Village of Wheeling
Village of Wilmette
Village of Willowbrook
Village of Winnetka
Village of Woodridge

County Governments and Agencies

Boone County State's Attorney's Office
Forest Preserve of Cook County
Cook County State's Attorney's Office
DuPage County Board of Review

Forest Preserve District of DuPage
County Kane County
Kendall County Board of Review
Lake County

Lake County Forest Preserve District
Lake County State's Attorney's Office
Morton Township
Peoria County

State and Federal Government Agencies

Federal Deposit Insurance Corporation
U.S. General Services Administration

Illinois Housing Development Authority
Illinois State Toll Highway Authority

Internal Revenue Service
The U.S. Postal Service

Schools

Argo Community High School
District No. 217
Arlington Heights District No. 25
Township High School District No. 214,
Arlington Heights
Barrington Community Unit District
No. 220
Chicago Board of Education
Chicago Ridge District No. 127½
College of Lake County
Community Consolidated School
District No. 15
Community Consolidated School
District No. 146
Community School District No. 200
Consolidated High School
District No. 230
Darien District No. 61
DePaul University

Elk Grove Community Consolidated
District No. 59
Elmhurst Community Unit School
District No. 205
Glen Ellyn School District No. 41
Glenbard High School District No. 87
Indian Springs School District No. 109
LaGrange School District No. 105
Lake Forest Academy
Leyden Community High School
District No. 212
Loyola University
Lyons Township High School District
No. 204
Maine Township High School District
No. 207
Niles Elementary District No. 71
North Shore District No. 112, Highland
Park

Northwestern University
Orland Park School District No. 135
Palatine High School District #211
Rhodes School District No. 84-1/2
Riverside-Brookfield High School
District No. 208
Rosalind Franklin University
Roselle School District No. 12
Schaumburg Community Consolidated
District No. 54
Sunset Ridge School District No. 29
Township High School District No. 211
Township High School District No. 214
Triton College
University of Illinois
Wheeling Community Consolidated
District No. 21
Wilmette District No. 39

JOSEPH M. MaROUS STATEMENT OF QUALIFICATIONS

Joseph M. MaRous is an Energy Consultant with MaRous and Company, with a focus on the renewable and alternative energy industry.

For more details visit: [linkedin.com/in/joemarous](https://www.linkedin.com/in/joemarous)

EDUCATION

Purdue University - West Lafayette, Indiana
Bachelor of Science – Building Construction Management
Focus on residential and green build construction

CERTIFICATIONS

OSHA Safety Certified
Certified Green Build Professional
USPAP Certified

CONSTRUCTION

Professional in the construction industry for 10 years

- Residential
- Commercial
- Industrial
- Municipal
- Tenant Improvement
- Schools
- Media Studios
- Automobile Dealerships

MaROUS & COMPANY

Wind Projects

- Illinois
 - Alta Farms Wind Project II, *Dewitt County*
 - Harvest Ridge Wind Farm, *Douglas County*
 - Lincoln Land Wind Farm, *Morgan County*
 - Midland Wind Farm, *Henry County*
 - McLean County Wind Farm, *McLean County*
 - Radford's Run Wind Farm, *Macon County*
- Indiana
 - Tippecanoe County Wind Farm, *Tippecanoe County*
 - Roaming Bison Wind Farm, *Montgomery County*
- Iowa
 - Ida Grove II Wind Farm, *Ida County*
- Kansas
 - Neosho Ridge Wind Farm, *Neosho County*
- New York
 - Orangeville Wind Farm, *Wyoming County*
- Ohio
 - Seneca Wind, *Seneca County*
 - Republic Wind, *Seneca County & Sandusky County*
- South Dakota
 - Crocker Wind Farm, *Clark County*
 - Deuel Harvest Wind Farm, *Deuel County*
 - Dakota Range Wind Project I-III, *Codington County, Grant County, & Roberts County*
 - Prevailing Wind Park, *Bon Homme County, Charles Mix County, & Hutchinson County*
 - Sweetland Wind Farm, *Hand County*
 - Triple H Wind Farm, *Hyde County*
 - Tatanka Ridge, *Deuel County*

Solar Projects

- Illinois
 - Hickory Point Solar Energy Center, *Christian County*
- Indiana
 - Lone Oak Solar Farm, *Madison County*
- Maryland
 - Dorchester County Solar Farm, *Dorchester County*
- Wisconsin
 - Badger Hollow Solar Farm, *Iowa County*
 - Paris Solar Farm, *Kenosha County*
- Western Regions of the United States of America
 - Southwest Region – *Arizona, Colorado, Nevada, New Mexico, and Utah*
 - Northwest Region – *Idaho and Oregon*
 - Southern Great Plains Region – *Texas*
 - Northern Great Plains Region – *General Research*

Appraisal Assistance

- Vacant Land
- Auto Dealerships
- Religious Facilities
- Residential
- Commercial
- Retail